

Trend Study 19B-1-07

Study site name: Sabie Mountain.

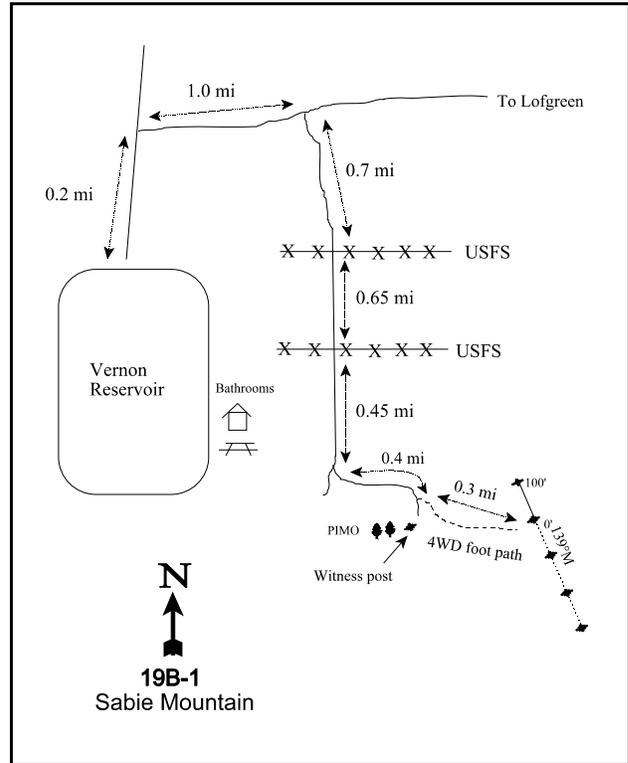
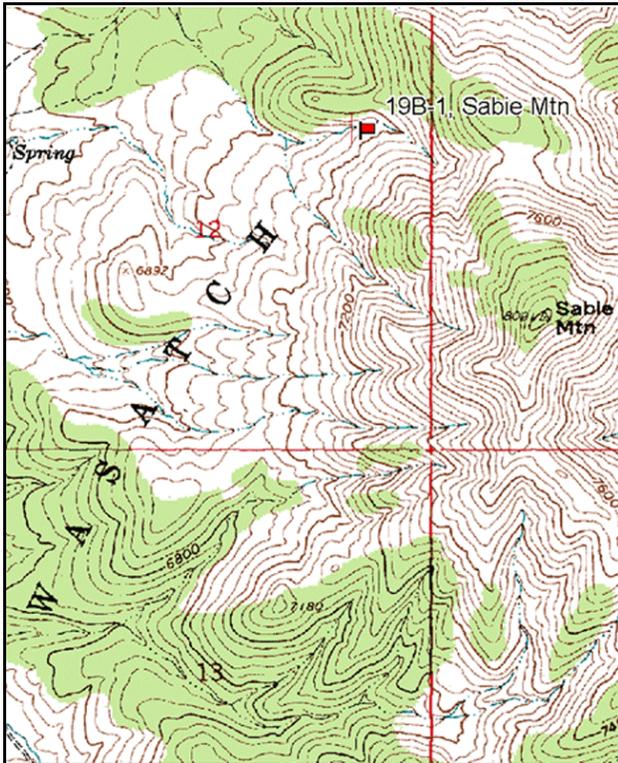
Vegetation type: Big Sagebrush-Grass.

Compass bearing: frequency baseline 319 degrees magnetic. (Lines 2-4 @ 139°M)

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

LOCATION DESCRIPTION

From the North end of Vernon Reservoir, go 0.2 miles north until you reach an intersection. Turn right and go 1 mile on an eastbound road that eventually goes to Lofgreen. At 1 mile turn right onto a southbound road. Go 0.7 miles and cross a USFS fence. Go 0.65 miles and cross another USFS fence. Go 0.45 miles to a “Y” intersection; take the left fork and go 0.4 miles to an intersection of a 4WD footpath going off to the left. The witness post is on the right side of the road between some PIMOs and is ~12" tall. Walk 0.3 miles on the footpath to the 0-foot stake.



Map Name: Sabie Mountain

Diagrammatic Sketch

Township 10S, Range 5W, Section 12

GPS: NAD 83, UTM 12S 384770 E 4425573 N

DISCUSSION

Sabie Mountain - Trend Study No. 19B-1

Study Information

This transitional range study is located on the northwest slope of Sabie Mountain on land administered by the Uinta National Forest [elevation: 7,000 feet (2,134 m), slope: 35%, aspect: northwest]. The nearest water sources are Vernon Creek 1.4 miles (2.3 km) to the west, and Vernon Reservoir 2.3 miles (3.7 km) to the northwest. The range type is mountain big sagebrush-grass, with a mixture of other shrubs. The area had a diverse and productive herbaceous understory, which decreased in 2002 and recovered somewhat in 2007. From the pellet group transect, there were an estimated 7 deer days use/acre (17 ddu/ha) in 1997, 19 deer days use/acre (46 ddu/ha) in 2002, and 22 deer days use/acre (55 ddu/ha) in 2007. Deer use in 2002 was from late spring and early summer, and from winter and early spring in 2007. Cattle use in 1997 was estimated at 14 cattle days use/acre (35 cdu/ha), 5 cattle days use/acre (13 cdu/ha) in 2002, and 11 cattle days use/acre (27 cdu/ha) in 2007. In 2002 and 2007 the cattle pats were approximately one year old, suggesting that the study is likely grazed in the late summer or fall. In 2007, there were an estimated 14 elk days use/acre (35 edu/ha), and the groupings appeared to be from spring and early summer.

Soil

The study lies within the Reywat-Broad-Rock outcrop soil association, and generally consists of shallow to moderately deep, well-drained soil. Depth to bedrock is 20-40 inches (51-102 cm). The soils in this series formed in colluvium and residuum derived from sandstone and quartzite, or basalt and andesite on hillsides, mountains, or plateaus (USDA-NRCS 2007). At the study, soil color is medium dark and has an estimated organic matter content of 4.7%. The soil has a loam to clay loam texture, and it is slightly acidic in reactivity (pH of 6.3). In 1983, some past erosion was apparent, evidenced by a few gullies in the vicinity. Relative bare ground cover increased from 4% in 1997 to 16% by 2007. The abundance of vegetation and litter cover prevents accelerated erosion in most places. Pocket gophers were reportedly active throughout the area and were a source of significant soil disturbance in 1983. This activity has not been reported in any other year. The erosion condition was classified as stable in 2002 and 2007.

Browse

The dominant browse species is mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), though Saskatoon serviceberry (*Amelanchier alnifolia*) and mountain snowberry (*Symphoricarpos oreophilus*) are also present. In 1997, an increased sample area was used to more accurately represent the browse populations. Canopy cover of mountain big sagebrush increased from 23% in 2002 to 26% in 2007. The density of sagebrush increased from 1,799 plants/acre (4,453 plants/ha) in 1983 to 4,580 plants/acre (11,337 plants/ha) by 2002, and decreased to 3,220 plants/acre (7,970 plants/ha) in 2007. The age structure has been relatively similar since 1989. Reproduction and recruitment have been low in all sample years. Decadency has steadily increased in each sample year from 15% in 1983 to 29% by 2007. Dying plants have comprised 0%-14% of the population and were most common in 1997 and 2007. Vigor has been normal, except in 1989 when about one-third of the population showed poor vigor. Annual leader growth averaged 1.2 inches (3 cm) in 2002 and 2007. Browse use on mountain big sagebrush has been light-moderate. Crickets were abundant on the study in 2002 and had noticeably eaten many sagebrush leaves.

The canopy cover of Saskatoon serviceberry was less than 1% in 2002 and 2007. The estimated population density increased from 133 plants/acre (329 plants/ha) in 1983 to 280 plants/acre (693 plants/ha) by 1997, and decreased to 80 plants/acre (198 plants/ha) by 2007. Seedlings have not been sampled in any year. There no young plants sampled in 1983, but they comprised 67% of the population in 1989. Young plants steadily decreased in subsequent sample years, until no young plants were sampled by 2007. Serviceberry decadence has oscillated between increasing and decreasing each sample year and was lowest in 1983 (0% of the population) and highest in 2002 (58% of the population). The serviceberry population has had normal vigor,

except in 1983 when the entire population displayed poor vigor. Browse use on Saskatoon serviceberry has been moderate-high and has resulted in stunted growth form.

Snowberry canopy cover increased from 11% in 2002 to 26% in 2007. Mountain snowberry has the highest density of the shrub species present. The density has ranged from a low of 5,060 plants/acre (12,525 plants/ha) in 1997 to a high of 8,866 plants/acre (21,946 plants/ha) in 1989. In 2007, there were an estimated 6,600 plants/acre (16,337 plants/ha). The population consists primarily of mature plants, and there have been few young since 1997. Browse use has been mostly light on snowberry, and was highest in 1989 when 37% of the population was moderately browsed. Crickets were observed eating snowberry leaves in 2002. Other sampled browse include stickleaf low rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *viscidiflorus*), Oregon grape (*Mahonia repens*), and Woods' rose (*Rosa woodsii*). Singleleaf pinyon (*Pinus monophylla*) had an estimated density of 51 trees/acre (126 trees/ha) in 2002 and 44 trees/acre (109 trees/ha) in 2007. Utah juniper (*Juniperus osteosperma*) had an estimated density of 22 trees/acre (54 trees/ha) in 2002 and 24 trees/acre (59 trees/ha) in 2007.

Herbaceous Understory

Total grass cover declined from 11% in 1997, to 5% in 2002, and slightly increased to 6% in 2007. Mutton bluegrass (*Poa fendleriana*) has been the most abundant grass on the study and has provided 65%-81% of the total grass cover since 1997. Bluebunch wheatgrass (*Agropyron spicatum*) and Sandberg bluegrass (*Poa secunda*) have been sampled at lower frequencies. Other grasses scattered throughout the study include: oniongrass (*Melica bulbosa*), spike fescue (*Leucopoa kingii*), bottlebrush squirreltail (*Sitanion hystrix*), Great Basin wildrye (*Elymus cinereus*), and bulbous bluegrass (*Poa bulbosa*). Cheatgrass (*Bromus tectorum*) is the only annual grass measured and was found in one quadrat in 2007.

Forbs are important to wildlife on this summer/transitional range. Perennial forb cover was 13% in 1997, 3% in 2002, and 5% in 2007. The number of forb species was high between 1983 and 1997, numbering between 25 and 30 species. In 2002, there were only 10 species measured. Although the weather station in herd subunit 19B did not report any precipitation data for 2002, there was a region-wide drought that year (Utah Climate Summaries 2007). The drought is suspected to have caused the decrease in the number of species. The number of forb species recovered somewhat in 2007 to 23 species. Species composition and abundance have also shifted with time. The 23 species present in 2007 included some species not present in 1983 and vice-versa. Interestingly, 1988 and 1989 were drought years, yet the sum of nested frequency for grasses and forbs was highest in 1989 than in any other sample year. The most abundant species have included bastard toadflax (*Comandra pallida*), tapertip hawksbeard (*Crepis acuminata*), one-flower helianthella (*Helianthella uniflora*), silvery lupine (*Lupinus argenteus*), American vetch (*Vicia americana*) and mulesears wyethia (*Wyethia amplexicaulis*).

1989 TREND ASSESSMENT

The browse trend is stable. The density of Saskatoon serviceberry increased by 50%, but the mountain big sagebrush density increased by only 4%. Decadence and young plants increased for both species. The proportion of serviceberry plants exhibiting poor vigor decreased from 100% of the population to 0%, but increased for sagebrush from 0% to 32%. The grass trend is stable. The sum of nested frequency increased by 8%, including a significant increase in nested frequency of mutton bluegrass. The forb trend is slightly up. The sum of nested frequency of perennial forbs increased by 20%. There was a significant increase in tapertip hawksbeard and five additional species were present.

browse - stable (0)

grass - stable (0)

forb - slightly up (+1)

1997 TREND ASSESSMENT

The browse trend is stable. The density of Saskatoon serviceberry increased by 41% and mountain big sagebrush had more than a two-fold increase. The increase in density is partly attributed to the larger sample

area used in 1997, and therefore, the trend was determined from other parameters. Mountain big sagebrush decadence increased from 21% of the population to 25%, and 14% of the population was dying. In addition, there were 720 dead plants/acre (1,782 plants/ha), whereas there hadn't been any previously. The percentages of decadent/dying/dead were greatly in excess of seedlings and young plants. The proportion of sagebrush plants exhibiting poor vigor decreased from 32% of the population to 14%, and browse use remained light-moderate. The trend for grass is stable. The sum of nested frequency of perennial grasses decreased 4%. The forb trend is down. The sum of nested frequency of perennial forbs decreased by 45% and there were significant decreases in the nested frequencies of nine species. The Desirable Components Index (DCI) score is good due to high browse and perennial forb cover and moderate perennial grass cover.

winter range condition (DCI) - good (71) Mid-level potential scale
browse - stable (0) grass - stable (0) forb - down (-2)

2002 TREND ASSESSMENT

The browse trend is stable. Saskatoon serviceberry density decreased from 280 plants/acre (693 plants/ha) to 240 plants/acre (594 plants/ha). Decadence increased from 14% of the population to 58%. Mountain big sagebrush density increased 9% to 4,580 plants/acre (11,337 plants/ha) and decadence changed little, increasing from 25% of the population to 26%. Recruitment remained low, but dying plants decreased from 14% of the population to only 2%. Dead plants decreased to 660 plants/acre (1,633 plants/ha). Browse use remained light, but 24% of the population had been heavily browsed. The grass trend is down. The sum of nested frequency for perennial grasses decreased by 24%, including a significant decrease in the nested frequency of mutton bluegrass. The number of grass species measured declined from eight to four. The forb trend is down. The sum of nested frequency of perennial grasses decreased 75%, and there were no annual forbs measured. Forb cover decreased from 13% to 3%. Drought conditions are suspected to have caused the decline in forb abundance and cover. Cricket use on forbs was noted to be heavy. The DCI score declined to fair due to the decrease in perennial grass and forb cover.

winter range condition (DCI) - fair (55) Mid-level potential scale
browse - stable(0) grass - down (-2) forb - down (-2)

2007 TREND ASSESSMENT

The browse trend is down. The density of mountain big sagebrush and Saskatoon serviceberry decreased by 30% and 67%, respectively. Sagebrush decadency increased to 29% of the population and 10% of the population was classified as dying. There were no seedlings or young plants measured. However, the density of dead plants decreased to 240 plants/acre (594 plants/ha). The decrease in dead plants may be due to the decomposition of previously sampled dead plants. Browse use was light-moderate on sagebrush, but serviceberry was heavily hedged. The grass trend is stable. The sum of nested frequency of perennial grasses decreased by 1% and cheatgrass was sampled for the first time in one quadrat. The forb trend is up. The sum of nested frequency of perennial forbs increased more than two-fold. There were significant increases in the nested frequencies of three forb species. The DCI score decreased to poor-fair due to a decrease in browse cover. The score would have been poor were it not for an increase in perennial forb cover.

winter range condition (DCI) - fair (50) Mid-level potential scale
browse - down (-2) grass - stable (0) forb - up (+2)

HERBACEOUS TRENDS --
Management unit 19B, Study no: 1

T y p e	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
G	Agropyron spicatum	ab ⁵⁹	b ⁹³	ab ⁵³	a ³⁸	a ³⁰	1.65	.47	.50
G	Agropyron trachycaulum	a ⁹	a ⁵	-	-	-	-	-	-
G	Bromus carinatus	a ⁴	-	-	-	a ⁴	-	-	.06
G	Bromus tectorum (a)	-	-	-	-	3	-	-	.00
G	Elymus cinereus	-	-	3	-	-	.41	.03	-
G	Leucopoa kingii	-	a ³	ab ⁷	ab ⁴	b ¹⁶	.18	.15	.16
G	Melica bulbosa	a ¹¹	a ¹⁸	a ⁹	-	a ¹¹	.08	-	.04
G	Poa bulbosa	-	-	3	-	-	.03	-	-
G	Poa fendleriana	a ²⁰⁰	bc ²⁴¹	c ²⁴⁰	ab ¹⁹⁶	a ¹⁷³	7.65	4.25	3.72
G	Poa secunda	b ⁵⁸	a ²³	ab ⁵³	ab ⁴⁷	ab ⁴⁷	1.13	.37	1.21
G	Sitanion hystrix	b ¹⁹	ab ⁶	a ⁵	-	a ¹	.01	-	.03
Total for Annual Grasses		0	0	0	0	3	0	0	0.00
Total for Perennial Grasses		360	389	373	285	282	11.17	5.27	5.72
Total for Grasses		360	389	373	285	285	11.17	5.27	5.73
F	Agoseris glauca	b ²⁹	-	a ¹¹	-	a ⁷	.08	-	.12
F	Allium sp.	b ³²	ab ¹⁰	a ⁵	-	c ¹⁰²	.01	-	.58
F	Arabis sp.	a ²	a ⁹	a ⁶	-	-	.01	-	-
F	Astragalus cibarius	ab ²⁰	b ²⁸	a ²	-	-	.01	-	-
F	Astragalus convallarius	b ⁵⁸	b ⁷⁰	b ⁷⁰	-	a ⁵	2.25	-	.01
F	Balsamorhiza hookeri	a ³	a ²	b ¹⁹	ab ¹⁶	ab ⁶	.66	.42	.22
F	Balsamorhiza sagittata	bc ³⁰	c ⁴⁴	a ¹²	ab ¹³	bc ³⁴	.66	.45	1.34
F	Castilleja linariaefolia	a ¹	a ⁴	-	-	-	-	-	-
F	Calochortus nuttallii	a ¹	a ³	-	-	-	-	-	-
F	Cirsium neomexicanum	ab ¹⁴	b ¹⁴	a ²	-	-	.03	-	-
F	Comandra pallida	a ⁴⁶	a ⁴²	a ⁶⁶	a ⁵¹	a ⁷¹	.90	1.02	.71
F	Collinsia parviflora (a)	-	-	a ²²	-	b ¹⁷⁵	.07	-	.85
F	Crepis acuminata	c ¹⁵⁵	d ²²²	b ⁵⁹	-	a ¹²	.74	-	.19
F	Delphinium nuttallianum	-	a ³	a ⁹	-	a ²	.02	-	.00
F	Erigeron eatonii	-	b ²⁹	a ⁴	-	a ³	.01	-	.00
F	Eriogonum racemosum	bc ²⁰	c ²⁷	c ²¹	ab ⁶	a ²	.28	.03	.03
F	Eriogonum umbellatum	a ⁴	a ³	a ¹⁰	a ⁴	-	.29	.03	-
F	Fritillaria atropurpurea	-	a ³	a ¹	-	-	.00	-	-
F	Helianthella uniflora	b ⁹²	b ¹¹⁴	a ⁶³	a ³⁷	a ³⁸	2.52	.59	.25
F	Hydrophyllum capitatum	-	a ⁴	-	-	a ⁹	-	-	.10

Type	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
F	<i>Lithospermum ruderales</i>	_a 4	_a 2	_a 4	_a 10	_a 3	.03	.21	.00
F	<i>Lomatium grayi</i>	_{ab} 8	_b 17	_a 4	-	_a 3	.04	-	.01
F	<i>Lupinus argenteus</i>	_a 5	_a 2	_b 69	-	_a 5	2.37	-	.10
F	<i>Machaeranthera canescens</i>	_b 26	_b 33	_a 7	-	-	.02	-	-
F	<i>Mertensia oblongifolia</i>	-	_a 15	-	-	_a 12	-	-	.15
F	<i>Microsteris gracilis</i> (a)	-	-	_a 3	-	_a 4	.00	-	.01
F	<i>Orobancha fasciculata</i>	-	1	-	-	-	-	-	-
F	<i>Penstemon subglaber</i>	_a 10	_a 5	_a 5	-	_a 4	.01	-	.01
F	<i>Phlox longifolia</i>	_b 80	_c 124	_b 72	_a 2	_a 3	.37	.00	.06
F	<i>Polygonum douglasii</i> (a)	-	-	6	-	-	.01	-	-
F	<i>Senecio integerrimus</i>	-	_a 3	_a 14	-	_b 35	.22	-	.50
F	<i>Senecio multilobatus</i>	-	-	6	-	-	.06	-	-
F	<i>Taraxacum officinale</i>	-	-	_a 1	_a 1	-	.00	.03	-
F	<i>Tragopogon dubius</i>	4	-	-	-	-	-	-	-
F	<i>Vicia americana</i>	_b 199	_b 191	_a 17	-	_a 1	.13	-	.00
F	<i>Wyethia amplexicaulis</i>	_b 28	_b 28	_b 23	_a 5	_{ab} 21	1.06	.21	.87
F	<i>Zigadenus paniculatus</i>	_b 10	_a 1	-	-	-	-	-	-
Total for Annual Forbs		0	0	31	0	179	0.09	0	0.86
Total for Perennial Forbs		881	1053	582	145	378	12.88	3.02	5.31
Total for Forbs		881	1053	613	145	557	12.97	3.02	6.17

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

BROWSE TRENDS --

Management unit 19B, Study no: 1

Type	Species	Strip Frequency			Average Cover %		
		'97	'02	'07	'97	'02	'07
B	Amelanchier alnifolia	11	11	3	.15	.06	.15
B	Artemisia tridentata vaseyana	91	93	82	22.50	25.46	16.18
B	Chrysothamnus viscidiflorus viscidiflorus	55	25	25	1.48	.37	.44
B	Juniperus osteosperma	3	3	3	.53	.63	.78
B	Mahonia repens	22	8	23	1.11	.06	.17
B	Pinus monophylla	1	1	1	-	1.48	1.82
B	Rosa woodsii	22	26	18	.98	1.35	.70
B	Symphoricarpos oreophilus	82	75	81	9.67	11.79	13.41
Total for Browse		287	242	236	36.43	41.22	33.67

CANOPY COVER, LINE INTERCEPT --

Management unit 19B, Study no: 1

Species	Percent Cover	
	'02	'07
Amelanchier alnifolia	.21	-
Artemisia tridentata vaseyana	23.06	25.95
Chrysothamnus viscidiflorus viscidiflorus	.35	.48
Juniperus osteosperma	.56	1.21
Mahonia repens	.06	.16
Pinus monophylla	1.03	1.60
Rosa woodsii	.33	1.03
Symphoricarpos oreophilus	11.36	25.89

KEY BROWSE ANNUAL LEADER GROWTH --

Management unit 19B, Study no: 1

Species	Average leader growth (in)	
	'02	'07
Artemisia tridentata vaseyana	1.2	1.3

POINT-QUARTER TREE DATA --
Management unit 19B, Study no: 1

Species	Trees per Acre	
	'02	'07
Juniperus osteosperma	22	24
Pinus monophylla	51	44

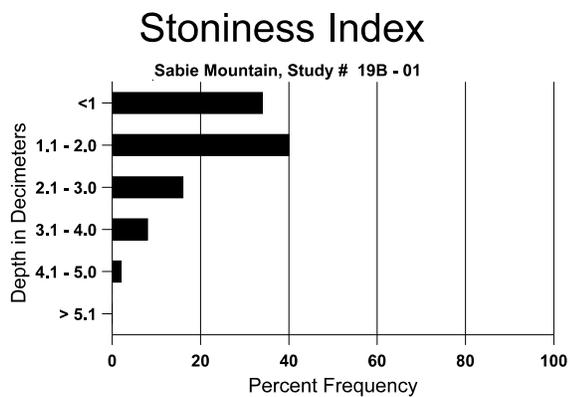
Average diameter (in)	
'02	'07
1.4	2.6
1.6	3.1

BASIC COVER --
Management unit 19B, Study no: 1

Cover Type	Average Cover %				
	'83	'89	'97	'02	'07
Vegetation	3.50	9.75	52.32	47.79	45.73
Rock	12.50	8.75	5.75	7.86	6.12
Pavement	5.00	11.50	5.65	6.34	8.35
Litter	51.75	58.50	57.13	44.81	31.95
Cryptogams	.25	.25	.04	.10	.00
Bare Ground	27.00	11.25	5.33	16.31	17.39

SOIL ANALYSIS DATA --
Herd Unit 19B, Study no: 1, Sabie Mountain

Effective rooting depth (in)	Temp °F (depth)	pH	Clay loam			%OM	ppm P	ppm K	dS/m
			%sand	%silt	%clay				
13.0	52.8 (15.3)	6.3	30.6	41.8	27.6	4.7	10.1	275.2	1.0



PELLET GROUP DATA --
 Management unit 19B, Study no: 1

Type	Quadrat Frequency		
	'97	'02	'07
Rabbit	6	1	31
Elk	1	-	2
Deer	8	8	17
Cattle	-	1	4

Days use per acre (ha)	
'02	'07
-	-
-	14 (35)
19 (46)	22 (55)
5 (13)	11 (27)

BROWSE CHARACTERISTICS --
 Management unit 19B, Study no: 1

		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>Amelanchier alnifolia</i>												
83	133	-	-	133	-	-	50	50	0	-	100	20/3
89	199	-	133	-	66	-	33	67	33	-	0	-/-
97	280	-	120	120	40	-	29	7	14	-	7	19/18
02	240	-	20	80	140	-	33	58	58	-	0	14/22
07	80	-	-	60	20	-	0	100	25	-	0	18/21
<i>Artemisia tridentata vaseyana</i>												
83	1799	-	-	1533	266	-	30	0	15	-	0	22/20
89	1866	-	133	1333	400	-	21	0	21	-	32	26/30
97	4220	80	60	3100	1060	720	20	94	25	14	14	26/32
02	4580	-	40	3340	1200	660	4	24	26	2	2	25/35
07	3220	-	-	2280	940	240	37	17	29	10	12	26/40
<i>Chrysothamnus viscidiflorus viscidiflorus</i>												
83	3666	-	-	3666	-	-	0	0	0	-	0	8/8
89	4332	-	1533	2133	666	-	3	0	15	-	5	18/18
97	2640	-	200	2300	140	20	0	0	5	4	4	13/12
02	800	-	20	200	580	80	5	13	73	25	25	5/7
07	820	60	20	580	220	-	5	5	27	2	22	9/13
<i>Eriogonum microthecum</i>												
83	0	-	-	-	-	-	0	0	-	-	0	-/-
89	200	-	200	-	-	-	33	0	-	-	67	-/-
97	0	-	-	-	-	-	0	0	-	-	0	-/-
02	0	-	-	-	-	-	0	0	-	-	0	-/-
07	0	-	-	-	-	-	0	0	-	-	0	-/-

		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)
Juniperus osteosperma												
83	0	-	-	-	-	-	0	0	-	-	0	-/-
89	0	-	-	-	-	-	0	0	-	-	0	-/-
97	60	-	60	-	-	-	0	0	-	-	0	-/-
02	80	-	40	40	-	-	0	0	-	-	0	-/-
07	80	-	40	40	-	-	0	0	-	-	0	-/-
Mahonia repens												
83	0	-	-	-	-	-	0	0	0	-	0	-/-
89	0	-	-	-	-	-	0	0	0	-	0	-/-
97	2820	-	220	2600	-	-	0	0	0	-	0	3/5
02	420	-	-	380	40	-	0	0	10	-	0	4/5
07	2400	-	160	2240	-	-	0	0	0	-	0	2/3
Pinus monophylla												
83	0	-	-	-	-	-	0	0	-	-	0	-/-
89	0	-	-	-	-	-	0	0	-	-	0	-/-
97	20	20	20	-	-	-	0	0	-	-	0	-/-
02	20	20	-	20	-	-	0	0	-	-	0	-/-
07	20	-	-	20	-	-	0	0	-	-	0	-/-
Rosa woodsii												
83	0	-	-	-	-	-	0	0	0	-	0	-/-
89	0	-	-	-	-	-	0	0	0	-	0	-/-
97	1820	-	840	980	-	-	0	0	0	-	0	8/10
02	1540	-	320	1060	160	-	0	0	10	1	1	9/9
07	1500	-	200	1300	-	40	7	0	0	-	0	13/9
Symphoricarpos oreophilus												
83	6600	-	-	6600	-	-	0	0	0	-	0	22/14
89	8866	200	3466	5000	400	-	32	2	5	-	2	18/17
97	5060	40	260	4720	80	-	0	0	2	-	0	13/20
02	8360	-	40	7340	980	40	0	1	12	.23	.23	12/17
07	6600	-	200	6300	100	-	3	0	2	-	2	13/26