

GOOSEBERRY SPRING - TREND STUDY NO. 9-18-10

Vegetation Type: Mountain Brush

Range Type: Crucial Deer Summer (Fawning habitat), Crucial Elk Winter

NRCS Ecological Site Description: Not Available

Land Ownership: USFS

Elevation: 8157 ft. (2487 m)

Aspect: Southwest

Slope: 12%

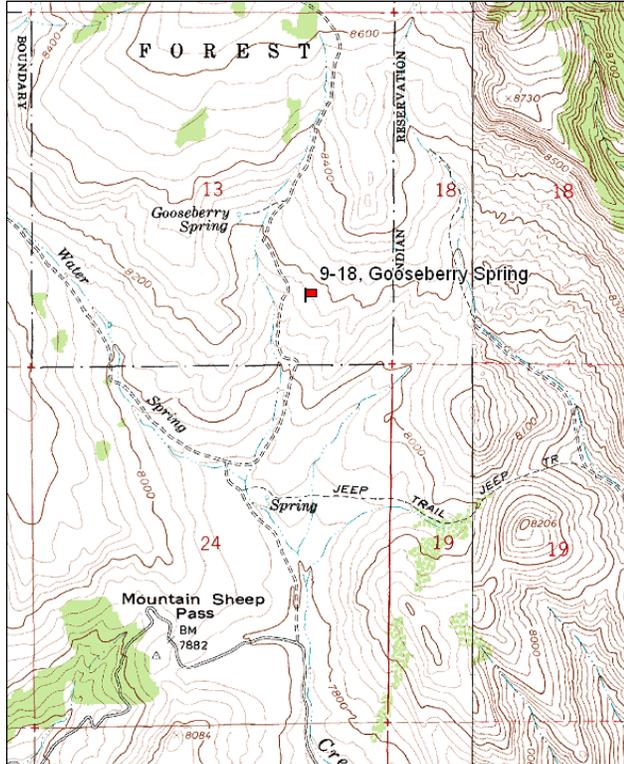
Transect bearing: 47° magnetic

Belt placement: line 1 (16 & 92ft), line 2 (30ft), line 3 (47ft), line 4 (66ft).

Directions:

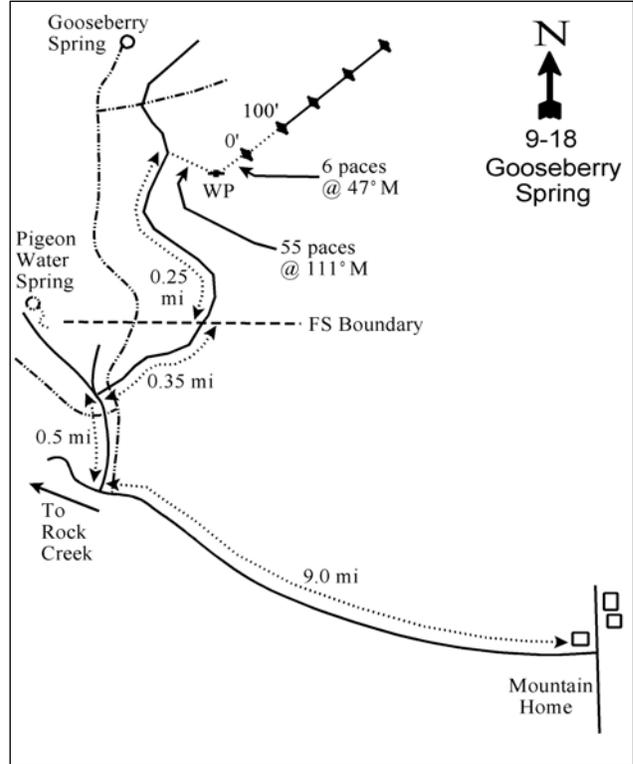
From the town of Mountain Home, travel in a northwest direction toward Rock Creek. Approximately 9.0 miles from Mountain Home, you will come to a dirt road to the right (north). Before the road, there is a sign which points to Pigeon Water Spring. Take the dirt road to the north for 0.5 miles to a three-way fork. Take the right fork for 0.35 miles to the forest boundary. From the fence, continue 0.25 miles to a bend in the road in a small drainage. From the road, the 0-foot baseline stake is approximately 55 paces up the drainage @ 111°M. The 0-foot baseline stake is marked with browse tag, #7196.

Map Name: Dry Mountain



Township: 1N Range: 6W Section: 13

Diagrammatic Sketch:



GPS: NAD 83, UTM 12T 541570 E 4480881 N

## GOOSEBERRY SPRING - TREND STUDY NO. 9-18

### Site Information

Site Description: This study is located on high winter range near Gooseberry Spring on the Ashley National Forest within a mixed mountain brush community with a strong black sagebrush (*Artemisia nova*) component. The baseline runs up a small draw which contains a large number of serviceberry (*Amelanchier utahensis*), snowberry (*Symphoricarpos oreophilus*) and mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*). The side hills are drier and dominated by nearly pure stands of black sagebrush. Grazing in the area is managed by the U.S. Forest Service as part of the Pigeon Water allotment. The area is on the border of crucial winter and crucial summer range for both deer and elk, and is likely used during both seasons. Intense animal use from deer, elk, cattle and possibly domestic sheep was reported in 1982. Pellet group transect data estimated moderately heavy use by elk in 2000 and 2005, but light use in 2010. Estimated use by deer was light in 2000 and 2010, with moderately heavy use in 2005. Estimated cattle use has been light since 2000 (Table - Pellet Group Data). The area is also covered by a very active ant population that infests many of the plants across the site.

Browse: The browse composition is diverse and has provided over half the total vegetation cover since 1995. Preferred key species include serviceberry, mountain big sagebrush, black sagebrush and bitterbrush. Snowberry is also abundant and provides more cover than any other species (Table - Browse Trends). Serviceberry consists of a fairly dense population of moderately large plants, with some plants partially unavailable to animals for browsing due to height or width. Health of the population is generally good with low decadence, good vigor and good recruitment of young plants. Utilization of serviceberry has been moderate to heavy over the course of the study. Mountain big sagebrush is comprised of a moderately dense stand of moderately used plants. The population has had high decadence and poor vigor at times, but both were relatively low in 2010. Recruitment of young mountain big sagebrush plants has been excellent throughout the years. Black sagebrush has a fairly dense population of moderately used plants. The population has generally been a mixture of mature and young plants with low decadence and good vigor. Bitterbrush has a small population of heavily used plants. Despite the heavy use, health of bitterbrush has been good with little decadence and excellent vigor throughout the study years (Table - Browse Characteristics).

Herbaceous Understory: Grasses are diverse and abundant on the site, and are comprised primarily of native perennial species. Dominant grasses on the site are mutton bluegrass (*Poa fendleriana*) and thickspike wheatgrass (*Agropyron dasystachyum*). Kentucky bluegrass (*Poa pratensis*), Sandberg bluegrass (*P. secunda*), sedge (*Carex* sp.) and prairie junegrass (*Koeleria cristata*) are also common. Many forb species are present on the site and combined forb cover is quite high, yet no one species is particularly abundant. Low growing or increaser species are prominent which include rose pussytoes (*Antennaria rosea*), desert phlox (*Phlox austromontana*), Eaton fleabane (*Erigeron eatonii*), aster (*Aster* sp.) and dandelion (*Taraxacum officinale*) (Table - Herbaceous Trends). The forb composition appears to be indicative of many years of heavy grazing.

Soil: Soils have a clay texture and neutral soil reaction (pH 7.0). Phosphorus may have limited availability for plant growth and development at 4.8 ppm (Tiedemann and Lopez 2004) (Table - Soil Analysis Data). Vegetation and litter cover have been abundant and bare ground has been moderately low throughout the sample years. Rock and pavement cover have also been moderately high, providing good protective ground cover (Table - Basic Cover). The soil erosion condition was classified as stable in 2005 and 2010, but pedestals and rills are present on the steeper slopes.

## Trend Assessments

### Browse:

- **1982 to 1988 - up (+2):** There was a large increase in the density of serviceberry plants due to a large increase in the recruitment of young plants. Other preferred browse species remained similar.
- **1988 to 1995 - slightly up (+1):** Differences in density may be related to the larger sample area used in 1995; therefore, trend was determined using other parameters. Decadence of mountain big sagebrush, black sagebrush and serviceberry decreased. Recruitment of young plants also decreased in the three species, but remained good in the serviceberry and black sagebrush population.
- **1995 to 2000 - slightly down (-1):** The density of serviceberry and mountain big sagebrush remained similar, but density of black sagebrush decreased by 33% due to a substantial decrease in the recruitment of young plants. Recruitment of young mountain big sagebrush plants increased from 6% to 13%, but poor vigor increased from 9% to 24% of the population.
- **2000 to 2005 - slightly down (-1):** Mountain big sagebrush density decreased by 31% and decadence increased from 10% to 40%. Poor vigor of big sagebrush increased slightly to 26%. Black sagebrush increased in density and recruitment of young plants increased from 1% to 15% of the population. There was little change in the serviceberry or bitterbrush populations.
- **2005 to 2010 - up (+2):** There was a large increase in the densities of serviceberry, black sagebrush and mountain big sagebrush due in large part to a substantial increase in the recruitment of young plants in all three species. Decadence and poor vigor decreased in all three species, as well. Mountain big sagebrush decadence decreased to 11% and poor vigor decreased to 7%.

### Grass:

- **1982 to 1988 - no trend (NT):** Only quadrat frequency data for grasses are available from 1982, so no trend was given.
- **1988 to 1995 - stable (0):** The perennial grass sum of nested frequency changed little.
- **1995 to 2000 - down (-2):** The sum of nested frequency of perennial grasses decreased by 20% despite an increase in cover from 10% to 14%.
- **2000 to 2005 - slightly up (+1):** The sum of nested frequency of perennial grasses increased by 18% and cover increased to 17%.
- **2005 to 2010 - slightly down (-1):** There was a 14% decrease in the sum of nested frequency of perennial grasses and cover decreased to 13%.

### Forb:

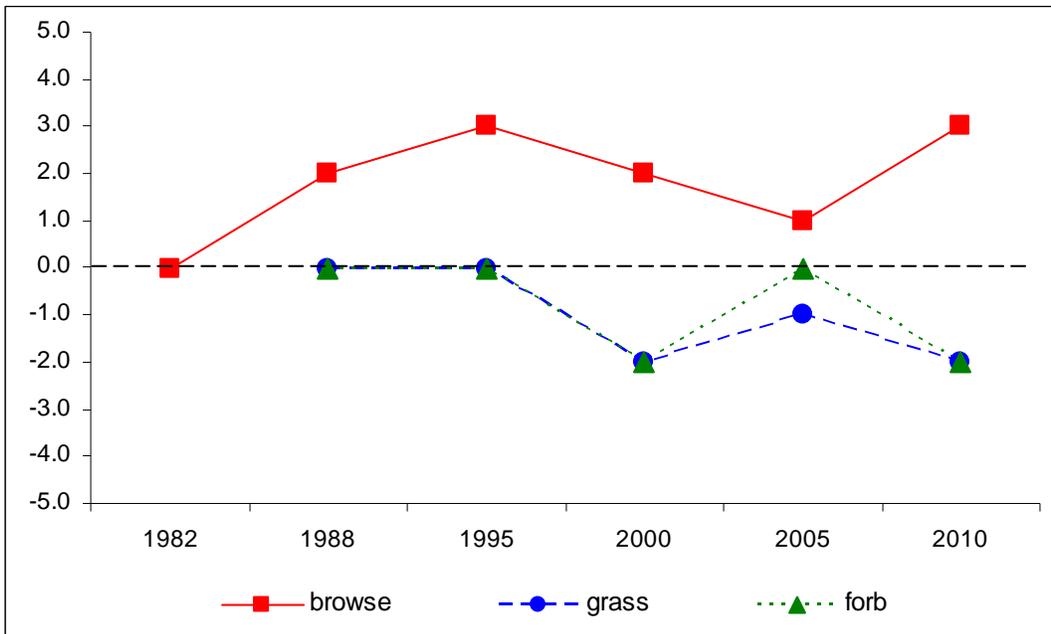
- **1982 to 1988 - no trend (NT):** Only quadrat frequency data for forbs are available from 1982, so no trend was given.
- **1988 to 1995 - stable (0):** The sum of nested frequency of perennial forbs remained similar.
- **1995 to 2000 - down (-2):** The perennial forb sum of nested frequency decreased by 54% and cover decreased slightly from 9% to 8%.
- **2000 to 2005 - up (+2):** The sum of nested frequency increased by 95%, though it is still below 1995 values. Cover of perennial forbs increased to 17%.
- **2005 to 2010 - down (-2):** There was a 34% decrease in the sum of nested frequency and cover decreased to 7%.

DEER DESIRABLE COMPONENTS INDEX - HIGH POTENTIAL SCALE --  
 Management unit 9, study no: 18

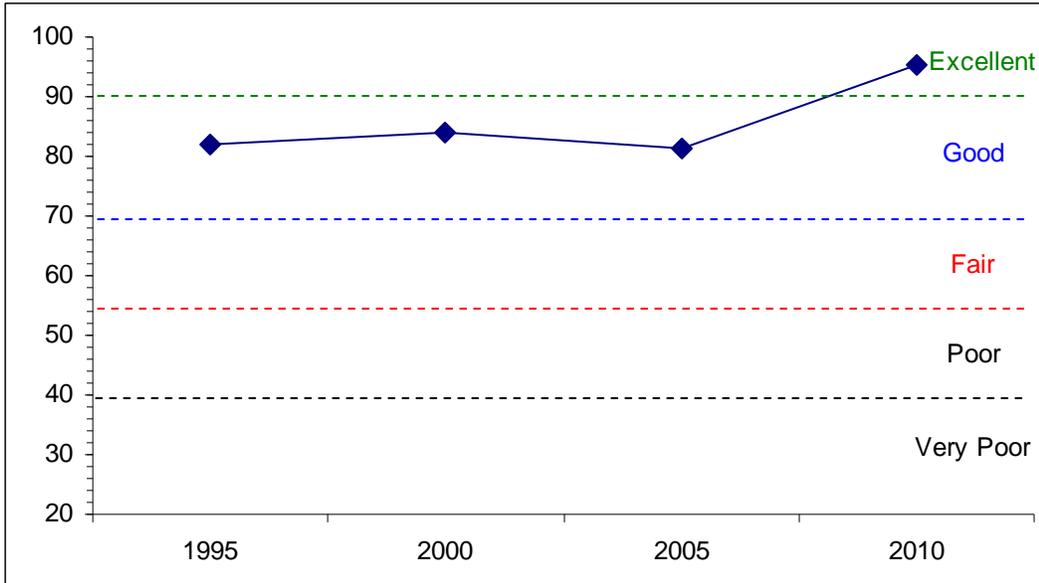
Year	Preferred Browse Cover	Preferred Browse Decadence	Preferred Browse Young	Perennial Grass Cover	Annual Grass Cover	Perennial Forb Cover	Noxious Weeds	Total Score	Ranking
95	30.0	13.4	8.2	20.3	0.0	10.0	0.0	<b>81.9</b>	Good
00	27.2	12.5	6.2	28.0	0.0	10.0	0.0	<b>84.0</b>	Good
05	26.2	9.3	6.0	30.0	0.0	10.0	0.0	<b>81.5</b>	Good
10	30.0	14.0	15.0	26.5	0.0	10.0	0.0	<b>95.5</b>	Excellent

**Trend Summary**

CUMULATIVE RANGE TREND ASSESSMENT--  
 Management unit 9, Study no: 18



DEER DESIRABLE COMPONENTS INDEX TREND, HIGH POTENTIAL--  
 Management unit 9, Study no: 18



HERBACEOUS TRENDS--  
 Management unit 09, Study no: 18

Type	Species	Nested Frequency					Average Cover %			
		'88	'95	'00	'05	'10	'95	'00	'05	'10
G	<i>Agropyron dasystachyum</i>	b237	ab200	ab195	b212	a148	2.40	3.74	4.42	3.15
G	<i>Agropyron spicatum</i>	a-	ab2	a-	ab5	b12	.03	-	.21	.19
G	<i>Bouteloua gracilis</i>	b13	a-	a-	ab8	b18	-	-	.44	.28
G	<i>Bromus anomalus</i>	3	-	4	3	4	-	.01	.03	.03
G	<i>Carex sp.</i>	c99	bc93	a41	a45	ab59	.35	.65	.32	.90
G	<i>Koeleria cristata</i>	a19	a18	a39	b68	ab46	.15	1.14	1.37	.79
G	<i>Oryzopsis hymenoides</i>	-	-	-	3	-	-	-	.03	-
G	<i>Poa fendleriana</i>	a-	bc192	c205	bc190	b171	4.03	6.61	6.17	5.31
G	<i>Poa pratensis</i>	c113	b76	a20	a30	a32	1.81	.75	1.31	.84
G	<i>Poa secunda</i>	b264	a67	a46	a60	a64	.92	.76	1.33	1.39
G	<i>Sitanion hystrix</i>	-	1	-	5	-	.00	-	.04	.00
G	<i>Stipa comata</i>	a2	c27	ab8	bc24	ab7	.29	.18	.52	.09
G	<i>Stipa lettermani</i>	c20	bc25	a2	ab8	ab5	.11	.15	.22	.21
Total for Annual Grasses		0	0	0	0	0	0	0	0	0
Total for Perennial Grasses		770	701	560	661	566	10.13	14.01	16.45	13.23
Total for Grasses		770	701	560	661	566	10.13	14.01	16.45	13.23
F	<i>Agoseris glauca</i>	ab3	b13	a-	b8	ab6	.03	-	.03	.06
F	<i>Allium cernuum</i>	b24	b17	a-	a-	a-	.07	-	-	-
F	<i>Alyssum alyssoides (a)</i>	-	-	-	4	3	-	-	.01	.00
F	<i>Androsace septentrionalis (a)</i>	-	-	-	1	-	-	-	.00	-
F	<i>Antennaria rosea</i>	a1	b22	b34	ab27	ab19	.22	1.04	1.07	.84
F	<i>Arabis sp.</i>	ab4	a2	ab9	b14	a3	.00	.07	.06	.00
F	<i>Aster sp.</i>	39	47	40	46	23	.35	.25	.64	.32
F	<i>Astragalus convallarius</i>	b61	ab34	a16	b59	a19	.42	.32	1.29	.12

Type	Species	Nested Frequency					Average Cover %			
		'88	'95	'00	'05	'10	'95	'00	'05	'10
F	Astragalus sp.	7	-	-	-	-	-	-	-	-
F	Astragalus spatulatus	a10	a-	ab11	b13	c39	-	.71	.14	.40
F	Astragalus tenellus	c71	b29	a6	ab11	ab19	.56	.06	.31	.40
F	Balsamorhiza hookeri	b23	ab30	a7	b25	ab19	.40	.07	.46	.18
F	Balsamorhiza sagittata	-	-	-	2	6	-	-	.15	.06
F	Calochortus nuttallii	a-	b39	a1	b24	a5	.49	.00	.10	.02
F	Castilleja chromosa	bc13	c20	a-	b-	a5	.26	-	.01	.06
F	Castilleja linariaefolia	ab4	b22	a5	ab10	ab17	.18	.03	.07	.14
F	Chaenactis douglasii	1	3	3	2	-	.03	.03	.00	-
F	Cirsium undulatum	b14	ab9	ab7	a2	a1	.07	.09	.18	.03
F	Collinsia parviflora (a)	-	b35	ab9	a17	a8	.29	.07	.04	.01
F	Collomia linearis (a)	-	b27	a-	b22	b12	.16	-	.08	.05
F	Comandra pallida	53	50	27	39	27	.21	.36	.41	.23
F	Cordylanthus ramosus (a)	-	-	-	9	5	-	-	.02	.06
F	Crepis acuminata	a14	bc43	a9	c61	ab18	.32	.07	1.29	.14
F	Cryptantha sp.	-	-	-	2	-	-	-	.00	-
F	Cymopterus sp.	a2	b57	a-	b50	a6	.16	-	.75	.02
F	Cynoglossum officinale	-	2	-	7	-	.00	-	.04	-
F	Erigeron eatonii	c97	b55	a13	b37	a14	.53	.10	.63	.10
F	Eriogonum alatum	7	28	9	10	22	.10	.07	.13	.16
F	Eriogonum racemosum	-	-	-	-	4	-	-	-	.01
F	Eriogonum umbellatum	5	14	9	11	16	.27	.09	.33	.20
F	Euphorbia brachycera	1	-	-	-	-	-	-	-	-
F	Geranium richardsonii	-	1	-	-	1	.03	-	.00	.03
F	Hedysarum boreale	-	-	-	1	3	-	-	.03	.06
F	Hymenoxys acaulis	b24	ab4	a1	ab8	ab6	.06	.03	.04	.01
F	Lappula occidentalis (a)	-	-	-	-	2	-	-	-	.00
F	Lesquerella sp.	3	-	-	-	-	-	-	-	-
F	Leucelene ericoides	-	-	-	6	2	-	-	.04	.06
F	Linum lewisii	3	-	-	2	-	-	-	.00	-
F	Lithospermum sp.	b14	ab8	a5	a1	a2	.01	.03	.00	.03
F	Lupinus argenteus	b77	ab54	ab56	ab69	a50	.98	.89	4.28	1.25
F	Lychnis drummondii	a-	ab5	a3	b11	a-	.01	.03	.10	-
F	Lygodesmia grandiflora	-	1	-	-	-	.01	-	-	-
F	Machaeranthera canescens	-	-	4	-	2	-	.00	-	.00
F	Microsteris gracilis (a)	-	-	-	3	3	-	-	.00	.00
F	Orthocarpus tolmiei (a)	ab11	b19	a-	ab13	a1	.16	-	.03	.00
F	Penstemon caespitosus	a10	a10	a7	ab17	b31	.10	.09	.28	.35
F	Penstemon dolius	8	7	-	-	-	.21	-	-	-
F	Penstemon fremontii	-	-	-	6	-	-	-	.16	-
F	Penstemon humilis	a-	a-	a-	b17	a6	-	-	.22	.01
F	Penstemon pachyphyllus	-	1	8	-	-	.01	.21	-	-
F	Penstemon sp.	b23	b28	a-	a-	a-	.16	-	-	-
F	Penstemon watsonii	-	-	-	4	4	-	-	.18	.03
F	Petradoria pumila	b59	a24	a33	a32	a17	.72	.70	1.02	.20
F	Phlox austromontana	c93	bc71	a34	ab48	ab51	.94	1.39	.60	.92

Type	Species	Nested Frequency					Average Cover %			
		'88	'95	'00	'05	'10	'95	'00	'05	'10
F	Phlox longifolia	bc53	c63	a9	ab27	a11	.22	.09	.16	.02
F	Physaria sp.	-	3	-	-	-	.00	-	-	-
F	Polygonum douglasii (a)	-	c16	a-	bc7	ab3	.03	-	.02	.00
F	Potentilla gracilis	18	17	7	16	19	.13	.04	.29	.31
F	Schoenocrambe linifolia	-	3	-	1	-	.00	-	.00	-
F	Senecio multilobatus	b70	a6	a5	a4	a6	.01	.01	.04	.01
F	Sphaeralcea coccinea	31	20	19	26	14	.10	.41	.30	.17
F	Taraxacum officinale	b16	b16	b10	b14	a-	.05	.07	.15	-
F	Townsendia sp.	-	-	-	-	1	-	-	-	.00
F	Tragopogon dubius	a-	a-	a-	b15	a-	-	-	.28	-
F	Trifolium gymnocarpon	-	-	3	5	6	-	.03	.01	.03
F	Viguiera multiflora	3	-	-	-	-	-	-	-	-
F	Zigadenus elegans	a-	ab3	a-	c11	bc11	.00	-	.06	.07
Total for Annual Forbs		11	97	9	76	37	0.66	0.07	0.23	0.15
Total for Perennial Forbs		959	881	410	801	531	8.54	7.45	16.47	7.16
Total for Forbs		970	978	419	877	568	9.20	7.52	16.70	7.32

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

#### BROWSE TRENDS--

Management unit 09, Study no: 18

Type	Species	Strip Frequency				Average Cover %			
		'95	'00	'05	'10	'95	'00	'05	'10
B	Amelanchier utahensis	48	51	53	57	6.88	6.53	6.52	9.64
B	Artemisia frigida	0	0	1	1	-	-	-	-
B	Artemisia nova	43	35	38	49	4.39	3.34	4.17	4.92
B	Artemisia tridentata vaseyana	64	67	58	61	8.00	6.43	5.02	3.44
B	Chrysothamnus depressus	4	5	3	1	.06	.16	.18	.03
B	Chrysothamnus viscidiflorus lanceolatus	57	44	46	46	2.43	1.68	2.28	1.75
B	Echinocereus sp.	2	1	0	0	.01	.03	-	-
B	Eriogonum corymbosum	1	0	1	4	.15	-	.03	.06
B	Gutierrezia sarothrae	17	17	25	30	.18	.16	1.27	.61
B	Mahonia repens	1	1	2	2	.18	-	.18	-
B	Pediocactus simpsonii	0	0	4	5	-	-	.04	.03
B	Purshia tridentata	19	16	17	19	2.84	3.32	2.61	4.80
B	Quercus gambelii	0	1	0	0	-	-	-	-
B	Ribes cereum cereum	1	0	1	1	.03	-	.63	.38
B	Symphoricarpos oreophilus	63	70	70	72	11.79	10.39	12.44	11.19
B	Tetradymia canescens	5	3	5	4	.03	.00	.06	.01
Total for Browse		325	311	324	352	36.99	32.08	35.47	36.91

CANOPY COVER, LINE INTERCEPT--

Management unit 09, Study no: 18

Species	Percent Cover	
	'05	'10
<i>Amelanchier utahensis</i>	10.48	14.13
<i>Artemisia frigida</i>	.01	-
<i>Artemisia nova</i>	4.80	6.01
<i>Artemisia tridentata vaseyana</i>	5.44	3.98
<i>Chrysothamnus depressus</i>	-	.18
<i>Chrysothamnus viscidiflorus lanceolatus</i>	3.45	2.59
<i>Eriogonum corymbosum</i>	.05	-
<i>Gutierrezia sarothrae</i>	1.63	1.36
<i>Purshia tridentata</i>	4.30	4.50
<i>Ribes cereum cereum</i>	.36	.45
<i>Symphoricarpos oreophilus</i>	20.91	19.56
<i>Tetradymia canescens</i>	-	.08

KEY BROWSE ANNUAL LEADER GROWTH--

Management unit 09, Study no: 18

Species	Average leader growth (in)	
	'05	'10
<i>Amelanchier utahensis</i>	2.2	4.1
<i>Artemisia tridentata vaseyana</i>	1.9	1.5
<i>Purshia tridentata</i>	1.6	2.1

BASIC COVER--

Management unit 09, Study no: 18

Cover Type	Average Cover %					
	'82	'88	'95	'00	'05	'10
Vegetation	8.50	13.00	50.28	48.70	62.87	53.17
Rock	6.50	9.00	11.72	12.62	9.74	11.42
Pavement	2.25	4.50	.95	2.19	1.36	3.96
Litter	54.75	57.00	48.87	47.49	28.22	40.89
Cryptogams	1.75	0	.01	.16	.10	.32
Bare Ground	25.50	16.50	7.05	14.61	12.23	13.14

SOIL ANALYSIS DATA --

Management unit 9, Study no: 18, Study Name: Gooseberry Spring

Effective rooting depth (in)	pH	caly			%OM	PPM P	PPM K	ds/m
		%sand	%silt	%clay				
14.6	7.0	37.9	20.8	41.3	2.2	4.8	240.0	0.8

PELLET GROUP DATA--

Management unit 09, Study no: 18

Type	Quadrat Frequency			
	'95	'00	'05	'10
Rabbit	2	-	7	-
Elk	20	10	17	2
Deer	12	7	18	21
Cattle	4	1	3	5

Days use per acre (ha)		
'00	'05	'10
-	-	-
48 (117)	44 (107)	19 (46)
17 (41)	43 (106)	17 (43)
7 (18)	10 (25)	15 (36)

BROWSE CHARACTERISTICS--

Management unit 09, Study no: 18

Year	Plants per Acre (excluding seedlings)	Age class distribution			Seedling (plants/acre)	Utilization		% poor vigor	Average Height Crown (in)
		% Young	% Mature	% Decadent		% moderate	% heavy		
<b>Amelanchier utahensis</b>									
82	<b>2131</b>	19	72	9	133	31	56	3	45/18
88	<b>3265</b>	69	22	8	1666	31	18	8	47/31
95	<b>1240</b>	26	73	2	40	27	21	0	35/41
00	<b>1380</b>	19	71	10	80	26	35	6	33/34
05	<b>1380</b>	17	68	14	20	16	74	9	43/43
10	<b>1940</b>	35	64	1	-	32	15	4	41/45
<b>Artemisia frigida</b>									
82	<b>0</b>	0	0	-	-	0	0	0	-/-
88	<b>0</b>	0	0	-	-	0	0	0	-/-
95	<b>0</b>	0	0	-	-	0	0	0	-/-
00	<b>0</b>	0	0	-	-	0	0	0	-/-
05	<b>40</b>	0	100	-	-	0	0	0	7/9
10	<b>40</b>	0	100	-	-	0	0	0	7/17
<b>Artemisia nova</b>									
82	<b>1931</b>	41	48	10	-	45	7	10	12/15
88	<b>1798</b>	48	37	15	66	30	0	11	9/14
95	<b>4360</b>	28	67	6	200	47	6	5	10/21
00	<b>2900</b>	1	89	10	200	3	.68	3	12/20
05	<b>4700</b>	15	72	12	1520	2	0	8	10/17
10	<b>6260</b>	43	51	6	440	3	5	3	8/15
<b>Artemisia tridentata vaseyana</b>									
82	<b>3531</b>	15	62	23	-	38	13	26	18/16
88	<b>3064</b>	13	61	26	-	22	2	9	18/14
95	<b>2420</b>	6	86	8	-	60	8	9	21/29
00	<b>2360</b>	13	77	10	60	18	4	24	21/27
05	<b>1640</b>	11	49	40	220	39	15	26	21/32
10	<b>2640</b>	36	53	11	260	9	26	7	20/30

		Age class distribution					Utilization			
Year	Plants per Acre (excluding seedlings)	% Young	% Mature	% Decadent	Seedling (plants/acre)	% moderate	% heavy	% poor vigor	Average Height Crown (in)	
<b>Chrysothamnus depressus</b>										
82	<b>533</b>	0	100	-	-	0	100	38	2/6	
88	<b>532</b>	88	12	-	-	0	0	0	4/5	
95	<b>100</b>	60	40	-	-	0	0	0	6/12	
00	<b>180</b>	11	89	-	-	0	0	0	4/9	
05	<b>220</b>	0	100	-	-	18	0	0	3/7	
10	<b>100</b>	40	60	-	-	0	0	0	-/-	
<b>Chrysothamnus viscidiflorus lanceolatus</b>										
82	<b>4265</b>	11	89	0	-	22	61	22	8/12	
88	<b>6798</b>	69	30	1	66	.98	0	.98	10/12	
95	<b>3220</b>	17	83	0	-	1	0	0	12/13	
00	<b>2160</b>	30	67	4	-	5	6	0	9/10	
05	<b>2240</b>	8	90	2	-	0	0	.89	11/14	
10	<b>2160</b>	1	97	2	20	0	.92	2	11/13	
<b>Echinocereus sp.</b>										
82	<b>0</b>	0	0	-	-	0	0	0	-/-	
88	<b>0</b>	0	0	-	-	0	0	0	-/-	
95	<b>40</b>	50	50	-	-	0	0	0	2/4	
00	<b>20</b>	100	0	-	-	0	0	0	-/-	
05	<b>0</b>	0	0	-	-	0	0	0	-/-	
10	<b>0</b>	0	0	-	-	0	0	0	-/-	
<b>Eriogonum corymbosum</b>										
82	<b>0</b>	0	0	-	-	0	0	0	-/-	
88	<b>0</b>	0	0	-	-	0	0	0	-/-	
95	<b>40</b>	0	100	-	-	0	0	0	7/12	
00	<b>0</b>	0	0	-	-	0	0	0	-/-	
05	<b>20</b>	0	100	-	-	0	0	0	7/6	
10	<b>120</b>	17	83	-	-	0	17	0	9/14	
<b>Gutierrezia sarothrae</b>										
82	<b>0</b>	0	0	-	-	0	0	0	-/-	
88	<b>0</b>	0	0	-	-	0	0	0	-/-	
95	<b>580</b>	24	76	-	-	0	0	0	8/10	
00	<b>1040</b>	4	96	-	-	0	0	0	4/5	
05	<b>3060</b>	11	89	-	-	0	0	0	7/9	
10	<b>2620</b>	2	98	-	-	0	0	0	6/8	
<b>Mahonia repens</b>										
82	<b>0</b>	0	0	-	-	0	0	0	-/-	
88	<b>0</b>	0	0	-	-	0	0	0	-/-	
95	<b>40</b>	0	100	-	-	0	0	0	5/6	
00	<b>60</b>	0	100	-	-	0	0	0	-/-	
05	<b>200</b>	0	100	-	-	0	0	0	4/5	
10	<b>120</b>	0	100	-	-	0	0	0	2/4	

		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>Pediocactus simpsonii</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	0	0	0	-	-	0	0	0	-/-	
95	0	0	0	-	-	0	0	0	-/-	
00	0	0	0	-	-	0	0	0	-/-	
05	160	0	100	-	-	0	0	0	1/2	
10	160	13	88	-	-	0	0	0	1/3	
<i>Purshia tridentata</i>										
82	333	0	100	0	-	0	100	0	13/19	
88	399	33	67	0	-	33	67	0	17/23	
95	520	4	92	4	-	62	4	0	16/38	
00	420	10	90	0	-	24	24	0	19/41	
05	520	0	92	8	-	4	96	0	22/51	
10	620	13	87	0	-	35	48	0	21/53	
<i>Quercus gambelii</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	0	0	0	-	-	0	0	0	-/-	
95	0	0	0	-	-	0	0	0	-/-	
00	80	0	100	-	-	0	0	0	-/-	
05	0	0	0	-	-	0	0	0	-/-	
10	0	0	0	-	-	0	0	0	-/-	
<i>Ribes cereum cereum</i>										
82	0	0	0	-	-	0	0	0	-/-	
88	0	0	0	-	-	0	0	0	-/-	
95	20	0	100	-	-	0	0	0	29/52	
00	0	0	0	-	-	0	0	0	-/-	
05	20	0	100	-	-	0	0	0	39/47	
10	20	0	100	-	-	100	0	0	56/57	
<i>Symphoricarpos oreophilus</i>										
82	14131	28	71	1	399	30	4	3	19/23	
88	14065	66	33	1	2266	5	.47	3	18/17	
95	4400	42	58	0	20	20	5	0	16/28	
00	4240	18	82	0	220	.94	0	0	15/32	
05	5340	15	84	1	-	0	0	1	15/28	
10	6940	14	86	0	20	2	5	0	14/24	
<i>Tetradymia canescens</i>										
82	66	100	0	0	-	0	100	0	-/-	
88	665	70	30	0	-	10	0	0	4/3	
95	240	42	58	0	-	0	0	0	9/8	
00	60	67	33	0	-	0	33	0	6/6	
05	140	71	29	0	-	14	0	0	8/10	
10	100	60	20	20	-	0	0	20	7/10	