

Trend Study 10-7-05

Study site name: Cherry Mesa.

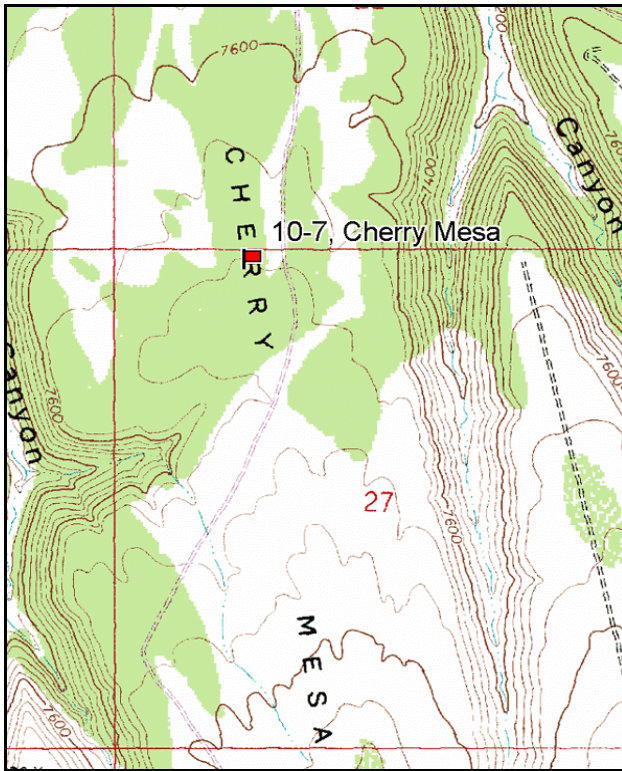
Vegetation type: Chained, Seeded PJ.

Compass bearing: frequency baseline 165 degrees magnetic.

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

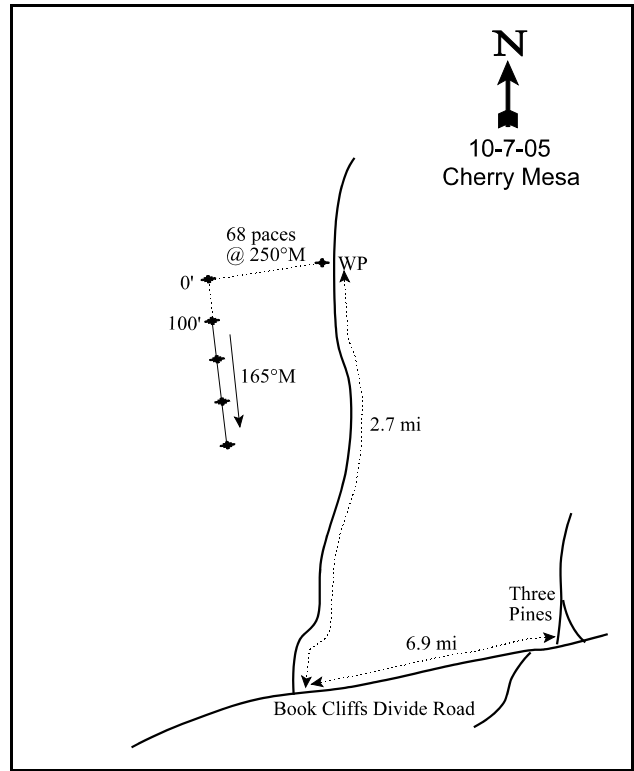
LOCATION DESCRIPTION

From the major intersection at Three Pines, continue southwest along the Book Cliff Divide for 6.9 miles. Turn right off the main road onto the Cherry Mesa road. Go down through the spraying 2.7 miles to a witness post on the left side of the road. Stop, then walk to the west up the ridge, 68 paces at 250°M to the 0-foot baseline stake. It is marked by browse tag #9097. The rest of the 18" green fenceposts marking the study are found to the south at 100 foot intervals.



Map Name: Cedar Camp Canyon

Township 16S, Range 22E, Section 27



Diagrammatic Sketch

GPS: NAD 27, UTM 12S 4361326 N, 630726 E

DISCUSSION

Cherry Mesa - Trend Study No. 10-7

The Cherry Mesa trend study samples an extensive pinyon-juniper chaining on a large block of state land. Elevation at the site is 7,650 feet with a northerly aspect and a gentle slope ranging from 3-7%. This site was monitored in 1997 as a special study to address perceived conflicts over elk and livestock use on the North Book Cliffs. Cattle graze this area on a rotational, deferred system from June through September. Water is a limiting factor on this mesa. There was fresh deer sign and also evidence of winter use during the 1988 reading. Elk were also seen in the general area in 1988 and 30-40 elk were seen in June of 2005. Pellet group data from 1997 indicated 7 deer days use/acre (17ddu/ha), 29 elk days use/acre (72 edu/ha), and 21 cow days use/acre (52 cdu/ha). In 2000, pellet group transect data estimated 21 deer days use/acre (52 ddu/ha), 15 elk days use/acre (37 edu/ha), and 6 cow days use/acre (15 cdu/ha). Pellet group data from 2005 estimated 22 deer days use/acre (55 ddu/ha), 19 elk days use/acre (48 edu/ha), and 4 cow days use/acre (9 cdu/ha).

The fine-textured loam soil is moderately shallow with an average effective rooting depth of just over 11 inches. The surface horizon is extremely gravelly with many of the rocks located in the upper 6 inches. There is a fair amount of litter associated with the plants and also debris and litter left from the chaining. Many plants are slightly pedestalled and there has been obvious soil movement following high intensity rainstorms in the past. Soils are relatively high in organic matter (5.2%) and are neutral in reactivity (pH of 7.3). An erosion class assessment rated erosion as stable in 2005.

Mountain big sagebrush is the dominant species on the site. Some of the sagebrush have characteristics of basin big sagebrush, indicating hybridization between the two subspecies. From 1988 to 2005 the age structure of this sagebrush stand has changed from mostly young to mostly mature and decadent. In 1988, density was estimated at 1,866 mature and 4,400 young plants/acre. In 1995, the density declined due to a reduced number of young (4,400 to 1,540). The number of mature plants increased to 2,620 plants/acre. Much of this change is associated with the greatly increased sample size and better sampling distribution implemented in 1992, which provides more reliable estimates for shrub densities. Density in 2000 was similar to 1995 at 4,200 plants/acre with the young plants making up 16% of the population. In 1995 young plants were 37% of the population. Density declined to 3,400 plants/acre in 2005. The number of young plants decreased to 8% of the population in 2005, but 2,000 seedlings/acre were present. Decadence increased from around 3% from 1988 to 1995, to 10% in 2000, and up to 28% in 2005. The percent of the population classified as dying was 3% in 2000 and 9% in 2005. Utilization has been light to moderate with each reading, with a few plants showing heavy use. These heavier utilized plants would be the ones expressing more characteristics of mountain big sagebrush which is more preferred than basin big sagebrush. Sagebrush cover has been between 10-12% with each reading. The line intercept method estimated 18% cover in 2005.

The small dwarf rabbitbrush has been fairly numerous with an estimated 2,200 plants/acre in 1995, a similar density was estimated (2,240 plants/acre) in 1997, this increased to 3,240 plants/acre in 2000. In 2005, density was back to 2,200 plants/acre. Use was mostly light in 1995 and 1997, but use increased in 2000 and again in 2005. Utilization of this species appears to be primarily from rabbits. The percentage of decadency has been high for dwarf rabbitbrush with each reading.

Preferred species like bitterbrush and true mountain mahogany are scattered throughout the site in low numbers. Bitterbrush density was estimated between 240 and 280 plants/acre since 1997. Use is moderate to heavy as evidenced by the "clubbed" appearance on the majority of the population. Even with this appearance, vigor has been good.

Pinyon and juniper trees are present, but at relatively moderate densities. Point-center quarter estimated Utah juniper density at 87 trees/acre in 1995, 86 trees/acre in 2000, and 78 trees/acre in 2005. Mean juniper

diameter was 2.8 inches in 1995, 5.0 inches in 2000, and 6.5 inches in 2005. Pinyon density was 28 trees/acre in 1995, 41 trees/acre in 2000, and 33 trees/acre in 2005. Diameter has increased from 3.3 inches in 1995, to 4.5 inches in 2000, and to 5.4 inches in 2005. Pinyon trees are large and mature as 67% of the trees sampled were over 12 feet tall and 20% were 8-12 feet tall in 2005. Pinyon cover was 9% and juniper was 3% in 2005.

Herbaceous vegetation has not been as abundant as would be desired for a higher elevation chaining in the mountain big sagebrush type. Grass composition is mainly from native perennial species. The most abundant species are thickspike wheatgrass, mutton bluegrass, a Carex, and blue grama. Sum of nested frequency for grasses has been relatively stable between 1995 and 2005. Grass cover was slightly higher in 2005 at 8%. Forbs have been diverse, but not very abundant. Perennial forb cover has been 2-4% from 1995-2005. The most abundant species includes pussy toes, desert phlox, long leaf phlox, and tapertip hawksbeard. Forb sum of nested frequency substantially decreased in 1997 and again in 2000.

1988 APPARENT TREND ASSESSMENT

Although vegetation cover appears better on this site than at the Little Jim Canyon site (#10-6), basal vegetation cover was estimated to be lower at 3.3%. Pavement (20%) constitutes a large portion of the highly variable surface terrain. Litter covers an additional 65% of the ground surface leaving 11% bare soil. The key browse species, mountain big sagebrush, is vigorous and moderately utilized. A majority of the population consists of young plants (68%) and seedlings are common. The trend appears up. The herbaceous understory is diverse and fairly abundant. The most common grasses include thickspike wheatgrass, a sedge, and mutton grass.

1995 TREND ASSESSMENT

Basic ground cover characteristics have changed somewhat since 1988. Litter cover has declined from 65% to 41%. This is likely a reflection of the effects of drought combined with the decomposition of litter from the original chaining. Percent bare ground declined slightly but not enough to warrant an improving trend. In addition, grasses and forbs contribute 37% of the total vegetation cover. Therefore, trend for soil is considered stable. Trend for mountain big sagebrush is up slightly even though total density has declined. However, with no evidence of die-off, the change is more reflective of the much larger sample size giving more accurate population estimates for shrub species. The number of mature plants has increased from 1,866 plants/acre to 2,620. The proportion of young plants declined from 68% to 37% but this is still high. Percent decadence is low and average height/crown measurements have increased considerably. However, this upward trend in the number of mature plants and increases in size could have a depressing effect on the herbaceous understory. Trend for the herbaceous understory is slightly down, but composition has changed since the last reading. Sum of nested frequency for grasses declined considerably while that of forbs increased slightly. All perennial grasses encountered in 1988 have declined significantly. The Desirable Components Index (see methods) rated this site as fair to good winter range due to good shrub cover and a healthy herbaceous understory.

TREND ASSESSMENT

soil - stable (0)

browse - slightly up (+1)

herbaceous understory - down (-1)

winter range condition (DC Index) - fair to good (64) Mid-level potential scale

1997 TREND ASSESSMENT

Total vegetation cover has decreased to 21% from 32% in 1995. In contrast, pavement cover has increased to 28% since 1995 when it was estimated at 18%. Percent bare ground has also increased slightly from 9% in 1995 to 15% in 1997. Cover is still adequate to protect from erosion, although there is some evidence of

recent soil movement. Soil trend is stable. Mountain big sagebrush density continues to decline with 3,360 plants/acre estimated in 1997. Percent decadence is still low with few dead plants in the area. Browse trend is stable. The nested frequencies for grasses changed little and forbs decreased slightly since 1995. Perennial grasses provide the majority of forage on this winter range and forbs provide little, therefore the trend is effected less by the decrease in forbs. Trend for herbaceous understory is stable. The Desirable Components Index (see methods) rated this site as fair winter range due to fair shrub cover and a fair herbaceous understory.

TREND ASSESSMENT

soil - stable (0)

browse - stable (0)

herbaceous understory - stable (0)

winter range condition (DC Index) - fair (57) Mid-level potential scale

2000 TREND ASSESSMENT

Trend for soil is slightly down. Ground cover characteristics are mixed with vegetation and bare soil both increasing, litter cover remaining stable, and pavement decreasing. The ratio of protective ground cover to bare soil decreased in 2000 but may still be adequate to limit high erosive events, and erosion appears minimal at the present time. Trend for browse is stable. The key species, mountain big sagebrush, has increased in density, and the population still has moderate recruitment from the young age class (16%). Use has increased slightly since 1997, with moderate use remaining the same, but heavy use increasing from 3% to 17% of the population. Percent decadency increased from 1% to 10%, however, this is within the reasonable range for sagebrush. Poor vigor increased to 17% of the population, due most likely to the drought experienced in spring and summer of 2000. Trend for the herbaceous understory is slightly down due to drought. With the dry conditions of 2000, sum of nested frequency decreased for perennial grasses and forbs. Herbaceous species provide little usable forage compared to other chained sites at this elevation. The Desirable Components Index (see methods) rated this site as fair winter range due to fair shrub cover and a fair herbaceous understory.

TREND ASSESSMENT

soil - slightly down (-1)

browse - stable (0)

herbaceous understory - slightly down (-1)

winter range condition (DC Index) - fair (57) Mid-level potential scale

2005 TREND ASSESSMENT

The soil trend is stable. Percent bare ground and the ratio of bare ground to protective ground cover (vegetation, litter, and cryptogams) are unchanged. An erosion condition class assessment rated erosion as stable in 2005. The browse trend is down. Mountain big sagebrush density has declined 20% and percent decadence had increased to 28% from only 10% in 2000. The mature portion of the population has decreased by 32% since 2000. Percent young declined from 16% to 8%, which is about equal to the 9% of the population that were classified as dying. Seedlings were very abundant in 2005. Cover has remained stable at about 12%. The herbaceous understory trend is stable. Sum of nested frequency declined slightly, but cover for grasses increased and forb cover was stable. The herbaceous understory is not as abundant as would be desired at this elevation. The Desirable Components Index (see methods) rated this site as fair winter range due to fair shrub cover and a fair herbaceous understory.

TREND ASSESSMENT

soil - stable (0)

browse - down (-2)

herbaceous understory - stable (0)

winter range condition (DC Index) - fair (53) Mid-level potential scale

HERBACEOUS TRENDS --

Management unit 10 , Study no: 7

Type	Species	Nested Frequency					Average Cover %			
		'88	'95	'97	'00	'05	'95	'97	'00	'05
G	Agropyron dasystachyum	_b 180	_b 158	_b 179	_a 86	_a 55	1.16	1.32	.52	.77
G	Bouteloua gracilis	74	54	42	53	52	.83	.39	.72	1.36
G	Bromus tectorum (a)	-	2	3	-	3	.00	.00	-	.03
G	Carex sp.	_b 139	_a 83	_a 66	_b 148	_b 133	.39	.48	2.16	1.57
G	Koeleria cristata	_a -	_c 80	_b 37	_a 3	_b 42	1.11	.58	.03	.58
G	Oryzopsis hymenoides	_b 33	_a 11	_a 2	_a -	_a -	.07	.03	-	.00
G	Poa fendleriana	_b 116	_a 67	_{bc} 131	_c 177	_{ab} 119	1.71	1.29	3.17	3.55
G	Poa secunda	_a -	_a -	_{ab} 8	_a 1	_b 15	-	.21	.00	.34
G	Sitanion hystrix	_b 82	_a 16	_a 11	_a 1	_a 7	.07	.05	.03	.10
G	Stipa comata	_b 79	_a 1	_a 6	_a 3	_a 9	.00	.01	.03	.13
Total for Annual Grasses		0	2	3	0	3	0.00	0.00	0	0.03
Total for Perennial Grasses		703	470	482	472	432	5.35	4.38	6.68	8.43
Total for Grasses		703	472	485	472	435	5.36	4.39	6.68	8.46
F	Antennaria rosea	_a 11	_a 23	_{ab} 30	_b 40	_{ab} 27	.10	.45	.39	.38
F	Androsace septentrionalis (a)	-	_a -	_b 40	_a 6	_b 29	-	.09	.04	.14
F	Arabis sp.	_b 29	_a 1	_a 4	_a -	_a 4	.03	.01	-	.01
F	Arenaria kingii	-	-	4	-	-	-	.01	-	-
F	Astragalus argophyllus	_a 3	_b 32	_a -	_a 5	_a -	.70	-	.07	-
F	Aster sp.	12	3	1	5	-	.00	.00	.04	-
F	Astragalus sp.	_a -	_a -	_b 13	_a 3	_a 3	-	.09	.00	.01
F	Calochortus flexuosus	-	-	3	-	-	-	.00	-	-
F	Castilleja flava	9	12	9	4	4	.16	.08	.03	.01
F	Chaenactis douglasii	_b 51	_{ab} 20	_{ab} 10	_a -	_{ab} 4	.04	.02	-	.01
F	Chenopodium leptophyllum(a)	-	_a -	_a -	_a -	_b 10	-	-	-	.02
F	Comandra pallida	_{ab} 36	_b 53	_{ab} 38	_{ab} 36	_a 20	.38	.22	.33	.11
F	Crepis acuminata	_a -	_{bc} 53	_c 59	_{bc} 35	_b 30	.30	.53	.22	.18
F	Cryptantha sp.	3	6	2	1	-	.04	.00	.00	-
F	Delphinium nuttallianum	-	2	-	-	-	.01	-	-	-
F	Eriogonum alatum	-	-	-	2	7	-	-	.03	.04
F	Erigeron eatonii	47	38	21	23	22	.45	.14	.12	.11

Type	Species	Nested Frequency					Average Cover %			
		'88	'95	'97	'00	'05	'95	'97	'00	'05
F	<i>Eriogonum umbellatum</i>	_a 19	_a 15	_a 14	_b 34	_{ab} 20	.22	.16	.24	.25
F	<i>Gayophytum ramosissimum</i> (a)	-	_b 54	_a -	_a 2	_b 70	.42	-	.00	.34
F	<i>Gilia</i> sp. (a)	-	_b 111	_a -	_a 3	_a -	.27	-	.01	-
F	<i>Lappula occidentalis</i> (a)	-	_{ab} 8	_b 10	_a -	_{ab} 7	.02	.02	-	.01
F	<i>Lesquerella</i> sp.	_{bc} 50	_{abc} 41	_{ab} 35	_a 18	_c 58	.19	.22	.10	.48
F	<i>Linum lewisii</i>	2	-	2	5	-	-	.00	.01	-
F	<i>Machaeranthera grindelioides</i>	15	17	12	6	5	.37	.10	.04	.01
F	<i>Orthocarpus purpureo-albus</i> (a)	3	-	-	-	-	-	-	-	-
F	<i>Penstemon caespitosus</i>	_a 3	_b 26	_{ab} 11	_a 1	_a 4	.59	.19	.00	.04
F	<i>Pedicularis centranthera</i>	-	-	1	-	-	-	.00	-	-
F	<i>Penstemon pachyphyllus</i>	-	1	2	1	-	.00	.00	.00	-
F	<i>Phlox austromontana</i>	_a -	_b 26	_b 26	_b 23	_b 18	.29	.32	.41	.53
F	<i>Phlox longifolia</i>	_a 12	_b 104	_b 69	_a 37	_a 32	.34	.25	.11	.10
F	<i>Polygonum douglasii</i> (a)	-	_b 91	_b 62	_a 1	_b 62	.25	.14	.00	.15
F	<i>Senecio integerrimus</i>	-	-	-	-	6	-	-	-	.06
F	<i>Senecio multilobatus</i>	3	3	-	-	3	.01	-	-	.03
F	<i>Tragopogon dubius</i>	2	-	-	-	-	-	-	-	-
Total for Annual Forbs		3	264	112	12	178	0.97	0.25	0.06	0.67
Total for Perennial Forbs		307	476	366	279	267	4.27	2.88	2.20	2.39
Total for Forbs		310	740	478	291	445	5.25	3.14	2.26	3.07

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

BROWSE TRENDS --

Management unit 10 , Study no: 7

T y p e	Species	Strip Frequency				Average Cover %			
		'95	'97	'00	'05	'95	'97	'00	'05
B	Artemisia tridentata vaseyana	77	81	80	77	9.96	8.26	11.78	11.56
B	Cercocarpus montanus	1	1	3	3	.18	.00	.38	.63
B	Chrysothamnus depressus	35	26	39	38	1.00	.84	.80	.42
B	Chrysothamnus viscidiflorus viscidiflorus	0	10	8	7	-	.42	.00	.06
B	Gutierrezia sarothrae	7	9	1	5	.18	.08	.00	.00
B	Juniperus osteosperma	0	6	6	7	.93	1.48	2.32	2.99
B	Opuntia sp.	2	2	6	6	.00	-	-	.15
B	Pinus edulis	0	4	4	3	3.03	3.23	4.15	5.84
B	Purshia tridentata	5	11	8	10	.03	.12	.15	.33
B	Symphoricarpos oreophilus	20	22	25	26	3.01	1.63	1.62	1.81
Total for Browse		147	172	180	182	18.37	16.07	21.22	23.81

CANOPY COVER, LINE INTERCEPT --

Management unit 10 , Study no: 7

Species	Percent Cover	
	'00	'05
Artemisia tridentata vaseyana	-	17.54
Cercocarpus montanus	-	.08
Chrysothamnus depressus	-	.33
Chrysothamnus viscidiflorus viscidiflorus	-	.25
Gutierrezia sarothrae	-	.05
Juniperus osteosperma	-	3.38
Opuntia sp.	-	.16
Pinus edulis	5.59	9.10
Purshia tridentata	-	.36
Symphoricarpos oreophilus	-	2.26

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 10 , Study no: 7

Species	Average leader growth (in)
	'05
Artemisia tridentata vaseyana	1.7
Cercocarpus montanus	2.0
Purshia tridentata	1.7

POINT-QUARTER TREE DATA --
Management unit 10 , Study no: 7

Species	Trees per Acre	
	'00	'05
Juniperus osteosperma	86	78
Pinus edulis	41	33

Average diameter (in)	
'00	'05
5.0	6.5
4.5	5.4

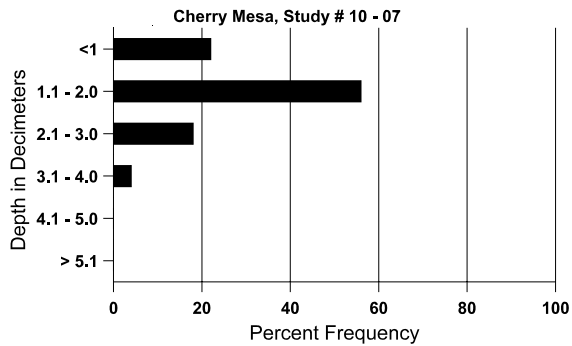
BASIC COVER --
Management unit 10 , Study no: 7

Cover Type	Average Cover %				
	'88	'95	'97	'00	'05
Vegetation	3.25	31.70	21.11	29.38	31.99
Rock	0	.88	.16	.00	.04
Pavement	20.00	18.21	27.87	18.42	20.90
Litter	65.25	41.33	41.40	41.26	36.90
Cryptogams	.25	.20	1.19	.42	.30
Bare Ground	11.25	9.14	15.18	25.53	27.02

SOIL ANALYSIS DATA --
Herd Unit 10, Study # 7, Study Name: Cherry Mesa

Effective rooting depth (in)	Temp °F (depth)	pH	% sand	% silt	% clay	%OM	ppm P	ppm K	dS/m
11.2	55.0 (12.8)	6.8	48.0	30.0	22.0	4.1	9.4	89.6	0.8

Stoniness Index



PELLET GROUP DATA --

Management unit 10 , Study no: 7

Type	Quadrat Frequency			
	'95	'97	'00	'05
Rabbit	12	11	48	58
Elk	4	8	9	13
Deer	4	7	10	22
Cattle	1	7	2	-

Days use per acre (ha)	
'00	'05
-	-
15 (37)	19 (48)
21 (53)	22 (55)
6 (15)	4 (9)

BROWSE CHARACTERISTICS --

Management unit 10 , Study no: 7

		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>												
88	6466	800	4400	1866	200	-	18	1	3	-	1	21/19
95	4180	760	1540	2620	20	20	2	.95	0	-	0	26/31
97	3360	80	1120	2200	40	60	23	3	1	.59	4	28/34
00	4240	60	660	3160	420	160	24	17	10	3	17	27/31
05	3400	2000	280	2160	960	760	24	11	28	9	9	26/31
<i>Cercocarpus montanus</i>												
88	0	-	-	-	-	-	0	0	-	-	0	-/-
95	20	-	20	-	-	-	0	0	-	-	0	35/27
97	20	-	-	20	-	-	0	0	-	-	0	22/14
00	60	-	40	20	-	-	0	33	-	-	0	33/38
05	60	-	40	20	-	-	0	67	-	-	0	39/45

		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)
Chrysothamnus depressus												
88	5265	66	533	4266	466	-	23	0	9	.37	1	6/8
95	2200	20	-	1240	960	-	2	0	44	-	0	6/12
97	2240	-	-	1120	1120	-	2	0	50	-	0	5/10
00	3240	20	240	1500	1500	-	21	10	46	7	15	3/5
05	2200	-	80	1060	1060	80	45	22	48	6	13	4/7
Chrysothamnus viscidiflorus viscidiflorus												
88	399	-	133	133	133	-	0	0	33	-	0	7/8
95	0	-	-	-	-	-	0	0	0	-	0	17/25
97	340	-	-	340	-	-	0	0	0	-	0	10/12
00	320	-	40	260	20	-	56	0	6	6	6	11/8
05	200	80	60	100	40	-	30	0	20	-	0	10/10
Gutierrezia sarothrae												
88	266	-	-	266	-	-	0	0	-	-	0	6/7
95	200	-	-	200	-	-	0	0	-	-	0	7/12
97	220	-	-	220	-	-	0	0	-	-	0	6/7
00	20	-	20	-	-	-	0	0	-	-	0	-/-
05	120	-	-	120	-	-	17	0	-	-	0	5/6
Juniperus osteosperma												
88	0	66	-	-	-	-	0	0	0	-	0	-/-
95	0	-	-	-	-	-	0	0	0	-	0	-/-
97	120	-	20	100	-	-	0	0	0	-	0	-/-
00	120	-	-	120	-	-	0	0	0	-	17	-/-
05	200	-	20	160	20	20	0	0	10	-	0	-/-
Opuntia sp.												
88	0	-	-	-	-	-	0	0	0	-	0	-/-
95	40	-	40	-	-	-	0	0	0	-	0	1/6
97	40	-	-	40	-	-	0	0	0	-	0	4/8
00	140	-	20	100	20	-	0	0	14	-	14	4/11
05	160	-	-	160	-	-	0	0	0	-	0	3/11
Pinus edulis												
88	0	-	-	-	-	-	0	0	-	-	0	-/-
95	0	-	-	-	-	-	0	0	-	-	0	-/-
97	80	-	-	80	-	-	0	0	-	-	0	-/-
00	100	-	20	80	-	-	20	0	-	-	0	-/-
05	60	-	-	60	-	-	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)
Purshia tridentata												
88	400	-	-	400	-	-	50	50	0	-	0	9/26
95	100	-	-	100	-	-	0	0	0	-	0	13/34
97	280	-	60	220	-	-	36	14	0	-	0	14/27
00	240	-	-	240	-	-	33	25	0	-	0	12/33
05	280	-	20	240	20	20	29	21	7	-	0	9/21
Symphoricarpos oreophilus												
88	0	-	-	-	-	-	0	0	0	-	0	-/-
95	500	-	40	460	-	-	8	0	0	-	0	20/34
97	700	40	160	540	-	-	20	6	0	-	0	15/27
00	1040	-	420	580	40	-	12	2	4	-	0	17/27
05	1260	-	400	660	200	20	3	3	16	3	5	12/20