

Trend Study 10-6-00

Study site name: Little Jim Canyon .

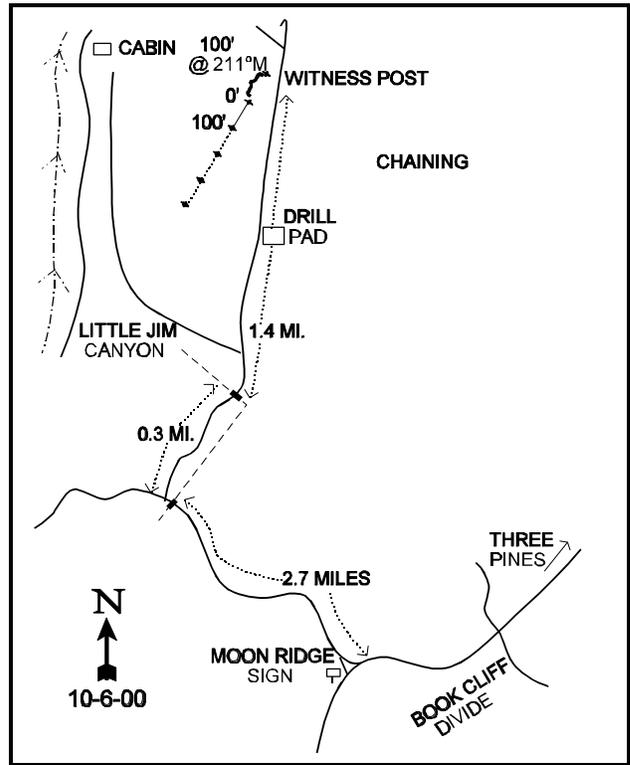
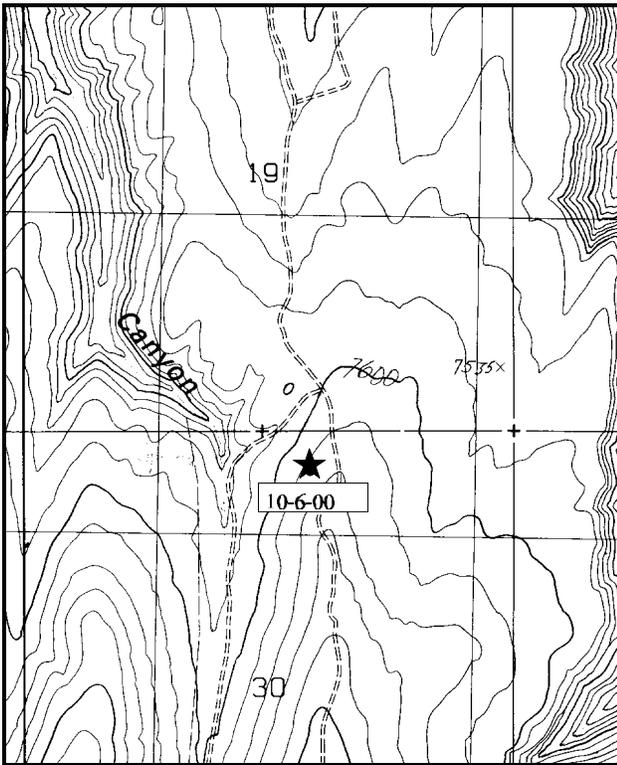
Range type: Chained, Seeded PJ .

Compass bearing: frequency baseline 204°M .

First frame placement on frequency belts 5 feet. Frequency belt placement; line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

From Three Pines, proceed southwest along the divide road for about 10.5 miles to a major junction at Moon Ridge. Bear right here, and go 2.7 miles to a cattle guard. Just past the cattle guard and fence, turn right and drive down along the fence 0.3 miles to a gate. Stay to the left, and continue down the ridge 1.4 miles to the witness post on the left. From the witness post, the 0-foot baseline stake is 100 feet bearing 211° into the chaining. The 0-foot stake is marked by browse tag number 9099. The frequency baseline is marked by 2-foot tall green fenceposts.



Map Name: Tenmile Canyon North

Diagrammatic Sketch

Township 16S, Range 22E, Section 30

UTM. 4361159 N, 626411 E

DISCUSSION

Trend Study No. 10-6 (16A-6)

The Little Jim Canyon transect is placed within a chained and seeded area on the ridge east of Little Jim Canyon. The area is now occupied by a thick, tall stand of mixed mountain brush. This is part of a large block of land under the management of State Lands and Forestry. It is grazed by cattle from June through September on a rotation deferred system. In the past, this area was especially important for early winter deer use with a longer season of use for elk. However, pellet group quadrat frequency data indicated very little big game use of the site in 1995. Pellet group transect data taken in 2000 also indicate light use by big game with only 7 deer days use/acre (17 ddu/ha) and 6 elk days use/acre (15 edu/ha) being estimated.

The study is located at 7,700 feet in elevation, on a southwest facing, moderately steep slope (15%). In the bottom of the canyon, an intermittent stream has cut a deep channel. There are no gullies at the study site near the top of the ridge, yet there is evidence of substantial run-off and a heavy concentration of pavement in the open areas. The slope is broken by thick clumps of brush and piles of debris. Due to the depleted understory, the loose surface soil is exposed to erosion. Soils are of loam texture with an average temperature of 51°F at just over 16 inches. Effective rooting depth is estimated at just over 15 inches. Penetrometer readings show rock to be evenly distributed throughout the profile. Soils are neutral in reactivity (pH of 7.3) with phosphorus (8.3 ppm) being slightly lower than the 10 ppm thought necessary for normal plant growth and development. Organic matter is fairly high at 6.7%, likely due to the breakdown of chaining litter over the years. Shrub interspaces have minimal cover from herbaceous plants, but litter helps limit erosion.

The most preferred species at the Little Jim Canyon transect is true mountain mahogany which has averaged between 4 and 5 feet in height. There were an estimated 866 plants/acre in 1988, most of which were mature plants. Over half of the population displayed heavy use which is common for this species. Seedlings were found in the protection of the larger plants with 31% of the population consisting of young plants. The current years growth appeared often to be fully utilized, but the plants generally had normal vigor and seed production. With the much larger sample size implemented after mid-1992, there were an estimated 440 plants/acre in 1995, a 49% decrease from 1988. This population change can be explained mostly by the greatly increased sample size and much better sampling design. This design gives better population estimates with browse populations that are discontinuous and/or clumped in their respective distributions. No seedlings were encountered and young plants numbered 40 plants/acre. Utilization of mahogany was considered light to moderate. In 2000, mahogany density remained stable at 460 plants/acre. Twenty-six percent of these are young plants, with the remainder being mature. Vigor remains good, use is mostly light to moderate with only 9% of the population displaying heavy use. No decadent plants were sampled in 2000. The light use of the area by wildlife in the last two readings is apparent by the light to moderate use on the mahogany.

Other browse species include: basin big sagebrush, snowberry, currant, and white-stemmed rabbitbrush. Basin big sagebrush has a higher density and provides more cover than true mountain mahogany, but it is less preferred. The population is currently estimated at 520 plants/acre, with good vigor, and light use. Snowberry is the most numerous shrub by density (estimated at 2,080 plants/acre in 2000), and currently shows light to moderate use with good vigor. White-stemmed rabbitbrush is currently estimated at 200 plants/acre. Use on this species is mostly light with 10% of the population displaying poor vigor.

Young pinyon and juniper trees are scattered throughout the chaining. Point-center quarter data in 2000 estimate 231 pinyon and 58 juniper trees/acre. Average diameter of juniper is 6.1 inches, while that of pinyon is 2.2 inches. Forty percent of the juniper trees sampled were mature surviving trees which were tipped over but not killed during the chaining process.

For a chained area at this elevation, the herbaceous component of the vegetative community is lacking. Grasses and forbs made up only 24% of the total vegetative cover in 1995, decreasing to only 12% in 2000. Identification of grasses was very difficult in 1988, due to a lack of seed heads after heavy grazing by cattle. Native perennial species are the most abundant, namely bottlebrush squirreltail and Indian ricegrass. Cheatgrass was the most abundant grass in 1995, but decreased in 2000 due to drought. Overall, grasses slightly decreased in sum of nested frequency in 2000 due to drought. Forbs provide little forage and species richness is low compared to similar communities in other areas. Forbs provide just over 1% average cover in 2000, and only 7 perennial species were sampled. Low precipitation greatly limited the forb component in many areas of the state in 2000.

1988 APPARENT TREND ASSESSMENT

The rather sparse understory accounts for the low level of basal vegetative cover on the site, only 4%. Shrubs and trees provide 76% of the total vegetative cover. Litter is found associated with heavy browse stands. The open areas have a nearly complete covering of pavement, almost 35% of the ground cover. Exposed soil is quickly eroded away and only 6% of the surface is bare soil. Trend for soil appears stable due to the nearly complete protective ground cover of litter and pavement. The key browse species, mountain mahogany, appears to have a stable population with adequate numbers of seedlings and young. The herbaceous understory is lacking and will likely decline as shrubs and trees become more dominant.

1995 TREND ASSESSMENT

Basic ground cover conditions are similar to those of 1988. Percent bare ground continues to be low while cover from litter has declined slightly. The biggest change is in the estimated cover of pavement, 34.5% to 19.3%. The modified Daubenmire method used in 1995, more accurately estimates ground cover of pavement, rock and litter than the point system used previously. In addition, the baseline was lengthened in 1995 to obtain a better representative sample of the area. These changes may be partly responsible for the differences in pavement cover values, plus a high intensity storm will move soil and can cover some of the pavement. Even with these changes, the trend for soil appears stable.

Trend for the most preferred species, true mountain mahogany, appears slightly down. The number of mature plants/acre declined from 866 to 440, and due to the lack of dead plants, this change would be more a result of the larger and better distributed sample used in 1995 giving much better population estimates and not representative of a die-off of mahogany. Trend is slightly down due to a decline in reproductive potential (number of seedlings) and the reduction in the proportion of young plants in the population. On the positive side, percent heavy use declined from 54% to 0%. Sagebrush and rubber rabbitbrush display stable trends while snowberry displays a slightly downward trend with a shift toward an older, more mature population.

The herbaceous trend is down. Sum of nested frequency of perennial grasses and forbs has declined considerably. Nested frequency of grasses has declined by 56% while forbs have declined by 61%. The herbaceous understory only contributes a total of 7.6% cover, which is very low for a treated pinyon-juniper woodland.

TREND ASSESSMENT

soil - stable, but poor condition with high percent cover for rock and pavement (3)

browse - stable to slightly down for key species (2)

herbaceous understory - down, contributing very little protective cover (1)

2000 TREND ASSESSMENT

Trend for soil is stable, but remains in poor condition with a lot of pavement on the soil surface and bare interspaces between shrubs. Ground cover characteristics are similar to 1995 levels, with slight increases in pavement and bare ground values. Although vegetation cover slightly decreased, litter cover increased. The ratio of protective ground cover to bare soil is good. Pedestaling around the base of shrubs and bunch grasses is apparent, but erosion does not appear to be as severe as it was in the past following treatment. Trend for browse is stable. True mountain mahogany remains at a stable density, with no decadence and good vigor. Use is light to moderate which is surprising for this species as it commonly is heavily utilized from year to year. The other browse species are in generally good health with mostly good vigor and light to moderate use by wildlife. The herbaceous understory has a slightly downward trend as sum of nested frequency for perennials is down in 2000 due to drought.

TREND ASSESSMENT

soil - stable, but remains in poor condition (3)

browse - stable (3)

herbaceous understory - slightly down (2)

HERBACEOUS TRENDS --

Herd unit 10 , Study no: 6

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'95	'00	'88	'95	'00	'95	'00
G	Agropyron dasystachyum	-	-	2	-	-	2	-	.01
G	Artemisia frigida	-	-	3	-	-	1	-	.03
G	Bromus tectorum (a)	-	b70	a34	-	25	14	1.61	.14
G	Carex spp.	b34	a19	a8	19	9	4	.41	.39
G	Elymus junceus	1	5	-	1	2	-	.53	-
G	Oryzopsis hymenoides	b85	a37	b66	39	17	30	1.33	1.63
G	Orzyopsis micrantha	c73	b26	a-	31	10	-	.20	-
G	Poa fendleriana	-	3	2	-	1	2	.03	.01
G	Poa pratensis	a-	ab4	b14	-	2	5	.03	.12
G	Sitanion hystrix	b139	a53	a32	59	23	17	.67	.41
Total for Annual Grasses		0	70	34	0	25	14	1.61	0.14
Total for Perennial Grasses		332	147	127	149	64	61	3.21	2.60
Total for Grasses		332	217	161	149	89	75	4.83	2.75
F	Antennaria rosea	-	-	3	-	-	1	-	.00
F	Arabis spp.	22	15	9	11	5	4	.02	.02
F	Aster chilensis	1	-	-	1	-	-	-	-
F	Chaenactis douglasii	6	1	-	3	1	-	.00	-
F	Cryptantha spp.	b8	ab3	a-	4	2	-	.01	-
F	Delphinium bicolor	-	1	-	-	1	-	.00	-

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'88	'95	'00	'88	'95	'00	'95	'00
F	Descurainia spp. (a)	-	_b 66	_a -	-	27	-	1.54	-
F	Draba spp. (a)	-	_b 20	_a -	-	9	-	.09	-
F	Erigeron pumilus	4	1	-	2	1	-	.00	-
F	Gilia latifolia (a)	-	_b 11	_a -	-	5	-	.16	-
F	Lappula occidentalis (a)	-	_b 26	_a 3	-	12	2	.06	.01
F	Lesquerella spp.	-	-	6	-	-	2	-	.06
F	Lupinus argenteus	_a -	_b 19	_a -	-	8	-	.09	-
F	Machaeranthera canescens	6	-	-	3	-	-	-	-
F	Machaeranthera grindelioides	_b 45	_a 15	_a 21	24	8	9	.61	.23
F	Melilotus alba	-	7	-	-	3	-	.04	-
F	Penstemon spp.	_c 111	_a -	_b 26	52	-	12	-	.77
F	Phlox longifolia	2	-	-	1	-	-	-	-
F	Physaria newberryi	_b 30	_b 29	_a 9	14	13	5	.06	.10
F	Polygonum douglasii (a)	-	5	-	-	2	-	.01	-
F	Senecio multilobatus	_a -	_b 22	_a 1	-	10	1	.05	.00
F	Unknown forb-perennial	3	-	-	1	-	-	-	-
Total for Annual Forbs		0	128	3	0	55	2	1.88	0.00
Total for Perennial Forbs		238	113	75	116	52	34	0.90	1.20
Total for Forbs		238	241	78	116	107	36	2.78	1.21

Values with different subscript letters are significantly different at $\alpha = 0.10$ (annuals excluded)

BROWSE TRENDS --

Herd unit 10 , Study no: 6

T y p e	Species	Strip Frequency		Average Cover %	
		'95	'00	'95	'00
B	Artemisia frigida	1	6	-	.04
B	Artemisia tridentata tridentata	13	15	3.57	6.78
B	Cercocarpus montanus	17	23	3.30	4.22
B	Chrysothamnus nauseosus	0	6	-	.03
B	Chrysothamnus nauseosus hololeucus	14	10	2.01	1.12
B	Chrysothamnus viscidiflorus	3	0	-	-
B	Gutierrezia sarothrae	0	2	.00	-
B	Juniperus osteosperma	0	3	2.32	1.78
B	Juniperus scopulorum	0	2	-	.15
B	Mahonia repens	5	4	1.41	.33
B	Opuntia spp.	4	7	.56	.18
B	Pinus edulis	1	10	1.73	1.77

Type	Species	Strip Frequency		Average Cover %	
		'95	'00	'95	'00
B	<i>Pseudotsuga menziesii</i>	0	1	-	.15
B	<i>Purshia tridentata</i>	1	1	.15	-
B	<i>Quercus gambelii</i>	1	9	1.22	2.82
B	<i>Ribes cereum cereum</i>	4	5	1.66	1.29
B	<i>Symphoricarpos oreophilus</i>	45	50	6.42	8.06
Total for Browse		109	154	24.38	28.78

CANOPY COVER --

Herd unit 10 , Study no: 6

Species	Percent Cover '00
<i>Pinus edulis</i>	2
<i>Quercus gambelii</i>	5

BASIC COVER --

Herd unit 10 , Study no: 6

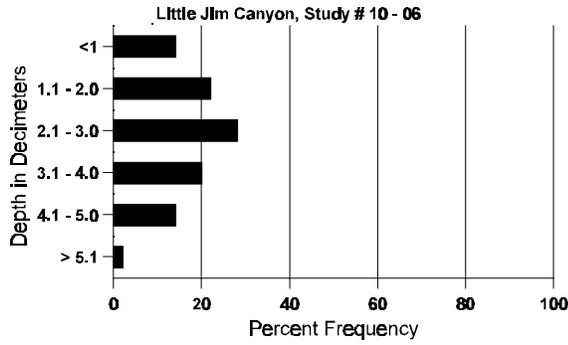
Cover Type	Nested Frequency		Average Cover %		
	'95	'00	'88	'95	'00
Vegetation	285	201	3.75	33.42	31.84
Rock	150	95	2.50	3.23	3.13
Pavement	230	236	34.50	19.30	25.39
Litter	380	373	53.25	49.20	54.47
Cryptogams	7	8	0	.64	1.03
Bare Ground	157	152	6.00	3.25	7.91

SOIL ANALYSIS DATA --

Herd Unit 10, Study # 6, Study Name: Little Jim Canyon

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
15.45	51.0 (16.3)	7.3	38.0	37.4	24.6	6.7	8.3	96.0	0.8

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 10 , Study no: 6

Type	Quadrat Frequency		Pellet Transect	
	'95	'00	Pellet Groups per Acre 00	Days Use per Acre (ha) 00
Rabbit	9	33	635	N/A
Elk	4	11	78	6 (15)
Deer	3	3	96	7 (17)

BROWSE CHARACTERISTICS --

Herd unit 10 , Study no: 6

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Artemisia frigida																		
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	4	-	-	-	-	-	-	-	-	4	-	-	-	80			4
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	4	-	-	-	-	-	-	-	-	4	-	-	-	80			4
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20	11	10	1
	00	12	-	-	-	-	-	-	-	-	12	-	-	-	240	5	8	12
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>% Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%			+94%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	20		-			
												'00	320		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Artemisia tridentata tridentata																		
Y	88	3	-	-	1	-	-	1	-	-	5	-	-	-	333		5	
	95	1	-	-	1	-	-	-	-	-	2	-	-	-	40		2	
	00	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	95	17	-	-	1	-	-	-	-	-	18	-	-	-	360	22	18	
	00	17	1	-	5	-	-	-	-	-	23	-	-	-	460	32	23	
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>% Change</u>							
'88		00%			00%			00%			+21%							
'95		00%			00%			00%			+19%							
'00		04%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'88	333	Dec:	0%				
											'95	420		5%				
											'00	520		0%				
Cercocarpus montanus																		
S	88	-	-	-	-	-	-	7	-	-	7	-	-	-	466		7	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
Y	88	-	-	3	1	-	-	-	-	-	4	-	-	-	266		4	
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
	00	2	1	1	2	-	-	-	-	-	6	-	-	-	120		6	
M	88	-	1	4	1	-	-	-	3	-	8	-	1	-	600	58	9	
	95	16	3	-	-	-	-	-	-	-	19	-	-	-	380	47	19	
	00	5	4	1	1	2	-	4	-	-	17	-	-	-	340	45	17	
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>% Change</u>							
'88		08%			54%			08%			-49%							
'95		14%			00%			00%			+ 4%							
'00		30%			09%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'88	866	Dec:	0%				
											'95	440		5%				
											'00	460		0%				

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysothamnus nauseosus																		
Y	'88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	'95	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	'00	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	'88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	'95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	'00	6	-	-	-	-	-	-	-	-	6	-	-	-	120	29	32	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	0		-			
												'00	140		-			
Chrysothamnus nauseosus hololeucus																		
Y	'88	2	1	-	-	-	-	-	-	-	3	-	-	-	200		3	
	'95	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3	
	'00	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	'88	-	-	-	-	-	-	1	-	-	1	-	-	-	66	31	10	
	'95	12	-	-	-	-	-	-	-	-	12	-	-	-	240	25	33	
	'00	7	-	-	1	-	-	-	-	-	8	-	-	-	160	34	33	
D	'88	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1	
	'95	2	-	-	-	-	-	-	-	-	1	-	-	1	40		2	
	'00	-	-	1	-	-	-	-	-	-	-	-	-	1	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		20%			00%			00%			+ 2%							
'95		00%			00%			06%			-41%							
'00		00%			10%			10%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	332	Dec:	20%			
												'95	340		12%			
												'00	200		10%			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysothamnus viscidiflorus																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	1	1	-	-	-	-	-	-	-	2	-	-	-	40		2	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	95	-	-	-	-	1	-	-	-	-	1	-	-	-	20	22	23	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	24	15	
X	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		67%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	60		-			
												'00	0		-			
Gutierrezia sarothrae																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40	7	9	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	0		-			
												'00	40		-			
Juniperus osteosperma																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	0		-			
												'00	60		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Juniperus osteosperma (chained)																		
M	'88	2	-	-	-	-	-	-	-	-	2	-	-	-	133	69	295	2
	'95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'00	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	133	Dec:	-			
												'95	0		-			
												'00	0		-			
Juniperus scopulorum																		
M	'88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'00	2	-	-	-	-	-	-	-	-	2	-	-	-	40	-	-	2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	0		-			
												'00	40		-			
Mahonia repens																		
Y	'88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	'95	2	-	-	20	-	-	-	-	-	22	-	-	-	440			22
	'00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	'88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	'95	20	-	-	50	-	-	-	-	-	70	-	-	-	1400	3	7	70
	'00	36	-	-	-	-	-	-	-	-	36	-	-	-	720	2	4	36
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%			-61%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	1840		-			
												'00	720		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
<i>Opuntia</i> spp.																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	4	-	-	-	-	-	-	-	-	4	-	-	-	80	6	15	4
	00	11	-	-	1	-	-	-	-	-	12	-	-	-	240	3	11	12
D	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	2	-	-	-	-	-	-	-	-	-	-	-	2	40			2
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			33%			+50%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'88	0	Dec:	0%				
											'95	120		33%				
											'00	240		0%				
<i>Pinus edulis</i>																		
S	88	-	-	-	-	-	-	1	-	-	1	-	-	-	66			1
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	88	2	-	-	-	-	-	1	-	-	3	-	-	-	200			3
	95	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
	00	9	-	-	-	-	-	-	-	-	9	-	-	-	180			9
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	00	4	-	-	2	-	-	1	-	-	7	-	-	-	140	-	-	7
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%			-80%							
'95		00%			00%			00%			+88%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'88	200	Dec:	-				
											'95	40		-				
											'00	320		-				
<i>Pseudotsuga menziesii</i>																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%										
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'88	0	Dec:	-				
											'95	0		-				
											'00	20		-				

A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Purshia tridentata																		
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	1	-	-	-	-	-	-	-	-	1	-	-	-	20	27	44	1
	00	-	-	-	-	-	1	-	-	-	1	-	-	-	20	38	47	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>% Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%			+ 0%							
'00		00%			100%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	20		-			
												'00	20		-			
Quercus gambelii																		
Y	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	00	11	-	-	-	-	-	-	-	-	11	-	-	-	220			11
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	3	-	-	-	-	-	-	-	-	3	-	-	-	60	15	31	3
	00	59	-	-	-	-	-	-	-	-	59	-	-	-	1180	64	28	59
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>% Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%			+96%							
'00		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	60		-			
												'00	1400		-			
Ribes cereum cereum																		
S	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	95	3	-	-	-	-	-	-	-	-	3	-	-	-	60			3
	00	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	88	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	95	4	-	-	-	-	-	-	-	-	4	-	-	-	80	36	48	4
	00	2	1	-	2	-	-	-	-	-	5	-	-	-	100	34	41	5
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>% Change</u>							
'88		00%			00%			00%										
'95		00%			00%			00%			+20%							
'00		20%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'88	0	Dec:	-			
												'95	80		-			
												'00	100		-			

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Symphoricarpos oreophilus																		
S	88	2	-	-	-	-	-	1	-	-	3	-	-	-	200		3	
	95	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	00	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
Y	88	12	3	-	4	-	-	3	-	-	20	-	2	-	1466		22	
	95	14	-	-	-	-	-	-	-	14	-	-	-	280		14		
	00	27	-	-	3	-	-	1	-	31	-	-	-	620		31		
M	88	13	-	-	9	-	-	-	-	16	-	6	-	1466	35	38	22	
	95	48	-	-	3	2	-	-	-	53	-	-	-	1060	22	42	53	
	00	38	15	2	10	-	-	6	-	71	-	-	-	1420	22	38	71	
D	88	3	-	-	-	-	-	-	-	1	-	2	-	200		3		
	95	-	-	-	-	-	-	-	-	-	-	-	-	0		0		
	00	1	-	-	-	-	-	1	-	1	-	-	1	40		2		
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'88		06%			00%			21%			-57%							
'95		03%			00%			00%			+36%							
'00		14%			02%			.96%										
Total Plants/Acre (excluding Dead & Seedlings)											'88	3132	Dec:	6%				
											'95	1340		0%				
											'00	2080		2%				