

Trend Study 18A-33-97

Study site name: Clover Creek .

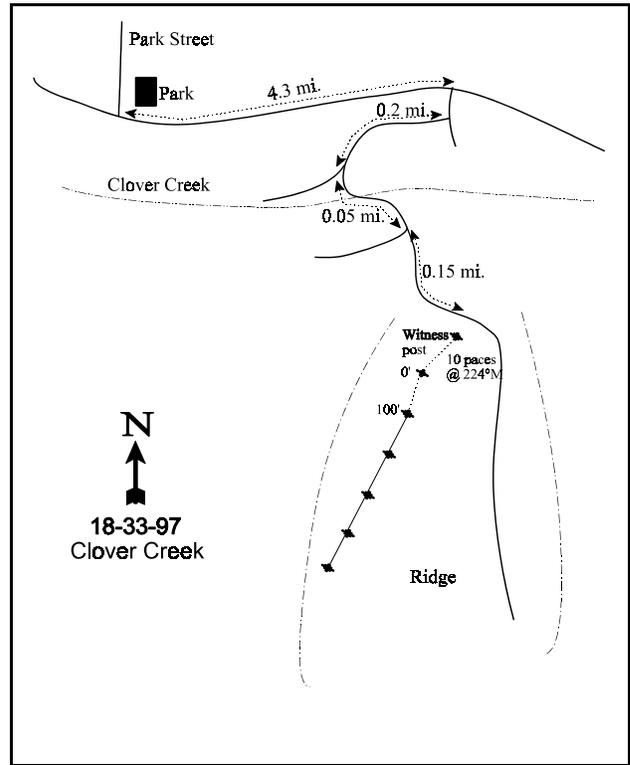
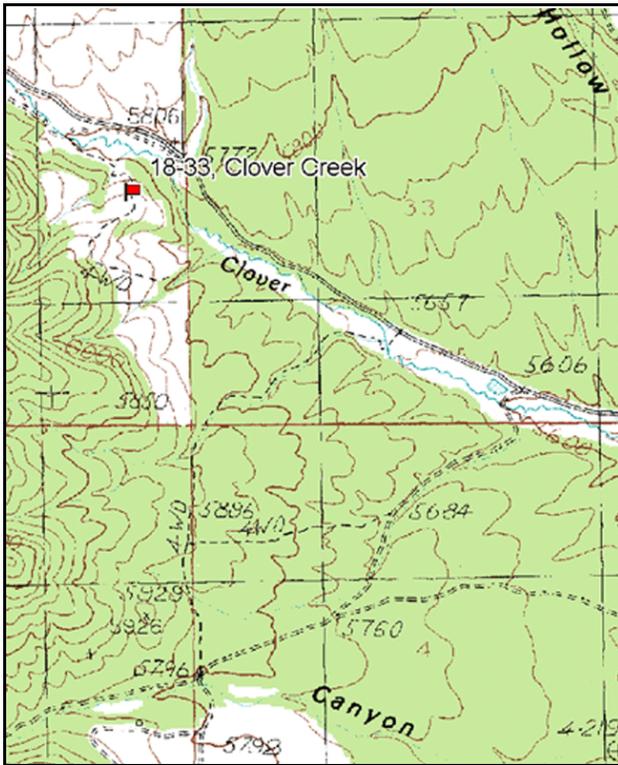
Vegetation type: Chained, seeded P-J .

Compass bearing: frequency belt 211 degrees magnetic (Line 2-5 @ 218°M).

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

LOCATION DESCRIPTION

From the park across from the fire department (Park Street) in Clover, drive west 4.3 miles to a dirt road on the right. This road forks almost immediately, take the left fork for 0.2 miles to another fork. Take the left fork and drive 0.05 miles to another fork. Stay on the main road (left) for 0.15 miles to a witness post on the right. From the witness post walk 10 paces at 224°M to the 0-foot stake. The study is marked with green, steel fenceposts 12-18 inches in height.



Map name: Johnson Pass

Diagrammatic Sketch

Township 6W, Range 5S, Section 32

GPS: NAD 27, UTM 12S 4466360 N 369321 E

## DISCUSSION

### Clover Creek - Trend Study No. 18-33

\*\*\*SUSPENDED - This site was suspended in 2002 and will be reevaluated in 2007. The site was established to monitor a burn treatment which has not yet taken place. Text and tables from the 1997 report have been retained and are found below.

The Cover Creek study is a new site which is located on an old chaining just south of Clover Creek. This study was initiated by the habitat manager of the Central Region as it is a site that is to be burned and seeded in the near future. Pretreatment data is wanted so that the effectiveness of the treatment and how it effects community structure and diversity can be determine through time. The site has a north-northwest aspect with a slope from 5-10% and an elevation of 5,700 feet. Deer use is light as determined by a pellet group transect at 4 deer days use/acre. Cow use was higher at 10 cow days use/acre.

Soil is a clay-loam with an effective rooting depth of 13 inches with a soil temperature of 54° F at 13 inches. Percent bare soil is moderate for this type of site at 15%. It is fairly rocky on the surface with a rock-pavement cover of 21%. There is not very much litter cover on this site at only 34%. Herbaceous cover is spotty, leaving many spots of bare soil. Erosion on the site is light to moderate.

The site will eventually become dominated by juniper again. The point-quarter method estimated the density of juniper to be 241 trees/acre. The trees are now only 6-9 feet in height. Canopy cover is only a little over 5% at this time, but with time they will grow much larger and will eventually have canopy cover values over 30% when it will totally suppress the understory species as they have done on the East Hickman Canyon site. The key browse on this site are primarily snowberry, bitterbrush, and mountain big sagebrush. Together they make up 38% of the browse cover. The density of mountain big sagebrush are very low at only about 60 plants/acre. Age structure for this population is good, except most use is classified as heavy with one-third classified with poor vigor. However, the ratio of dead to live plants is not good (1:3). When seen in the right perspective, as it only makes up 3% of the browse cover, it is not that critical to this site as snowberry and bitterbrush are the primary utilized browse species. Most browse on the site are scattered throughout the site in relatively low numbers and in good vigor.

The herbaceous understory is in fairly good condition with 89% of the cover contributed by perennial grasses where bluebunch wheatgrass is dominant. It alone makes up 75% of the grass cover. Kentucky bluegrass and Indian ricegrass make up the majority of the remaining grass cover. There are 29 forb species, yet all together they only total to 2% cover. Forbs are generally scattered throughout the site in relatively low numbers.

### 1997 APPARENT TREND ASSESSMENT

The soil appears stable. Vegetation and litter cover are abundant and adequate to protect against most erosion. Trend for browse appears to be in a state of decline because of the high density of young juniper trees which will become much larger in a relatively short time. Competition with the juniper is already causing some losses to the understory browse species. The herbaceous understory appears more stable at this time, but this to will change soon, especially if there is severe drought. However, the downward changes in trend will not occur as soon to the herbaceous species as the browse species. The proposed burn and seeding treatment should help improve community structure and species diversity immensely.

HERBACEOUS TRENDS --  
Herd unit 18 , Study no: 33

T y p e	Species	Nested Frequency	Quadrat Frequency	Average Cover %
		'97	'97	'97
G	<i>Agropyron spicatum</i>	284	75	12.40
G	<i>Bromus tectorum</i> (a)	17	6	.03
G	<i>Oryzopsis hymenoides</i>	55	23	1.24
G	<i>Poa fendleriana</i>	27	9	.14
G	<i>Poa pratensis</i>	67	21	2.04
G	<i>Poa secunda</i>	56	29	.54
G	<i>Sitanion hystrix</i>	20	9	.12
Total for Annual Grasses		17	6	0.03
Total for Perennial Grasses		509	166	16.50
Total for Grasses		526	172	16.53
F	<i>Agoseris glauca</i>	1	1	.00
F	<i>Alyssum alyssoides</i> (a)	34	15	.07
F	<i>Allium</i> spp.	8	3	.04
F	<i>Antennaria rosea</i>	2	1	.00
F	<i>Arabis</i> spp.	8	4	.02
F	<i>Astragalus beckwithii</i>	15	5	.07
F	<i>Astragalus convallarius</i>	5	2	.03
F	<i>Astragalus humistratus</i>	6	3	.01
F	<i>Cirsium</i> spp.	5	2	.18
F	<i>Comandra pallida</i>	31	12	.26
F	<i>Collinsia parviflora</i> (a)	26	11	.05
F	<i>Crepis acuminata</i>	15	7	.30
F	<i>Erigeron</i> spp.	6	4	.07
F	<i>Eriogonum racemosum</i>	2	1	.03
F	<i>Hackelia patens</i>	5	2	.01
F	<i>Hedysarum boreale</i>	1	1	.03
F	<i>Holosteum umbellatum</i> (a)	3	1	.00
F	<i>Lathyrus brachycalyx</i>	7	3	.21
F	<i>Lappula occidentalis</i> (a)	-	-	.00
F	<i>Lesquerella</i> spp.	11	4	.04
F	<i>Machaeranthera canescens</i>	29	10	.15
F	<i>Penstemon</i> spp.	5	3	.06
F	<i>Petradoria pumila</i>	12	4	.13
F	<i>Phlox hoodii</i>	2	1	.00
F	<i>Phlox longifolia</i>	19	7	.06
F	<i>Senecio multilobatus</i>	9	7	.11
F	<i>Veronica biloba</i> (a)	16	8	.04

T y p e	Species	Nested Frequency	Quadrat Frequency	Average Cover %
		'97	'97	'97
F	Zigadenus paniculatus	-	-	.00
Total for Annual Forbs		79	35	0.18
Total for Perennial Forbs		204	87	1.88
Total for Forbs		283	122	2.06

BROWSE TRENDS --

Herd unit 18 , Study no: 33

T y p e	Species	Strip Frequency	Average Cover %
		'97	'97
B	Artemisia tridentata vaseyana	2	.15
B	Chrysothamnus nauseosus albicaulis	18	.59
B	Chrysothamnus viscidiflorus viscidiflorus	12	1.12
B	Eriogonum microthecum	1	-
B	Gutierrezia sarothrae	50	1.20
B	Juniperus osteosperma	22	-
B	Purshia tridentata	2	.18
B	Symphoricarpos oreophilus	23	1.48
B	Tetradymia canescens	0	.00
Total for Browse		130	4.73

BASIC COVER --

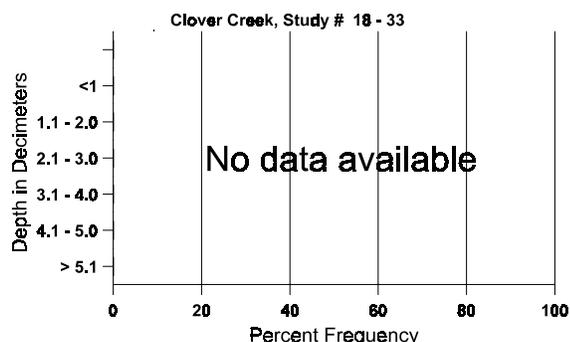
Herd unit 18 , Study no: 33

Cover Type	Nested Frequency	Average Cover %
	'97	'97
Vegetation	395	32.68
Rock	259	7.53
Pavement	351	13.54
Litter	484	33.92
Cryptogams	148	2.33
Bare Ground	300	14.50

SOIL ANALYSIS DATA --  
Herd Unit 18, Study no: 33, Clover Creek

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
13.4	53.6 (13.3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

### Stoniness Index



PELLET GROUP FREQUENCY --  
Herd unit 18 , Study no: 33

Type	Quadrat Frequency '97
Rabbit	13
Deer	2

BROWSE CHARACTERISTICS --  
Herd unit 18 , Study no: 33

A Y G R E	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>Artemisia tridentata vaseyana</i>																	
Y 97	1	-	-	-	-	-	-	-	-	-	1	-	-	-	20		1
M 97	-	-	1	-	-	-	-	-	-	-	1	-	-	-	20	-	1
D 97	-	-	1	-	-	-	-	-	-	-	-	-	1	20		1	
X 97	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
% Plants Showing '97 <u>Moderate Use</u> 00% <u>Heavy Use</u> 67% <u>Poor Vigor</u> 33% <u>%Change</u>																	
Total Plants/Acre (excluding Dead & Seedlings) '97      60      Dec:      33%																	
<i>Cercocarpus montanus</i>																	
M 97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	13	19	0
% Plants Showing '97 <u>Moderate Use</u> 00% <u>Heavy Use</u> 00% <u>Poor Vigor</u> 00% <u>%Change</u>																	
Total Plants/Acre (excluding Dead & Seedlings) '97      0      Dec:      -																	

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				
<i>Chrysothamnus nauseosus albicaulis</i>																		
Y	97	4	-	-	1	-	-	-	-	-	5	-	-	-	100		5	
M	97	14	-	-	-	-	-	-	-	-	14	-	-	-	280	29	33	
D	97	2	-	-	-	-	-	-	-	-	1	-	1	-	40		2	
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 05%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)												'97	420	Dec:	10%			
<i>Chrysothamnus viscidiflorus viscidiflorus</i>																		
Y	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	97	16	-	-	-	-	-	-	-	-	16	-	-	-	320	19	23	
D	97	4	-	-	1	-	-	-	-	-	1	-	-	4	100		5	
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 18%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)												'97	440	Dec:	23%			
<i>Eriogonum microthecum</i>																		
M	97	-	-	-	1	-	-	-	-	-	1	-	-	-	20	-	-	
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)												'97	20	Dec:	-			
<i>Gutierrezia sarothrae</i>																		
S	97	5	-	-	-	-	-	-	-	-	5	-	-	-	100		5	
Y	97	27	-	-	-	-	-	-	-	-	27	-	-	-	540		27	
M	97	142	-	-	-	-	-	-	-	-	142	-	-	-	2840	9	10	
D	97	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2	
X	97	-	-	-	-	-	-	-	-	-	-	-	-	-	80		4	
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)												'97	3420	Dec:	1%			
<i>Juniperus osteosperma</i>																		
Y	97	8	-	-	-	-	-	-	-	-	8	-	-	-	160		8	
M	97	15	-	-	-	-	-	1	-	-	14	2	-	-	320	-	-	
X	97	-	-	-	-	-	-	-	-	-	-	-	-	-	100		5	
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)												'97	480	Dec:	-			

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				
Opuntia spp.																		
M	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0	5	17	0
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)													'97	0	Dec:	-		
Purshia tridentata																		
M	97	-	1	1	-	-	-	-	-	-	-	-	-	40	29	56	2	
% Plants Showing '97		<u>Moderate Use</u> 50%			<u>Heavy Use</u> 50%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)													'97	40	Dec:	-		
Symphoricarpos oreophilus																		
Y	97	2	-	-	1	-	-	-	-	-	-	-	-	60			3	
M	97	23	6	2	6	-	-	-	-	-	-	-	-	740	16	28	37	
D	97	2	-	-	-	-	-	-	-	-	-	-	2	40			2	
X	97	-	-	-	-	-	-	-	-	-	-	-	-	60			3	
% Plants Showing '97		<u>Moderate Use</u> 14%			<u>Heavy Use</u> 05%			<u>Poor Vigor</u> 17%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)													'97	840	Dec:	5%		
Tetradymia canescens																		
M	97	-	-	-	-	-	-	-	-	-	-	-	-	0	12	11	0	
% Plants Showing '97		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)													'97	0	Dec:	-		