

Trend Study 18A-22-97

Study site name: Rodgers Canyon .

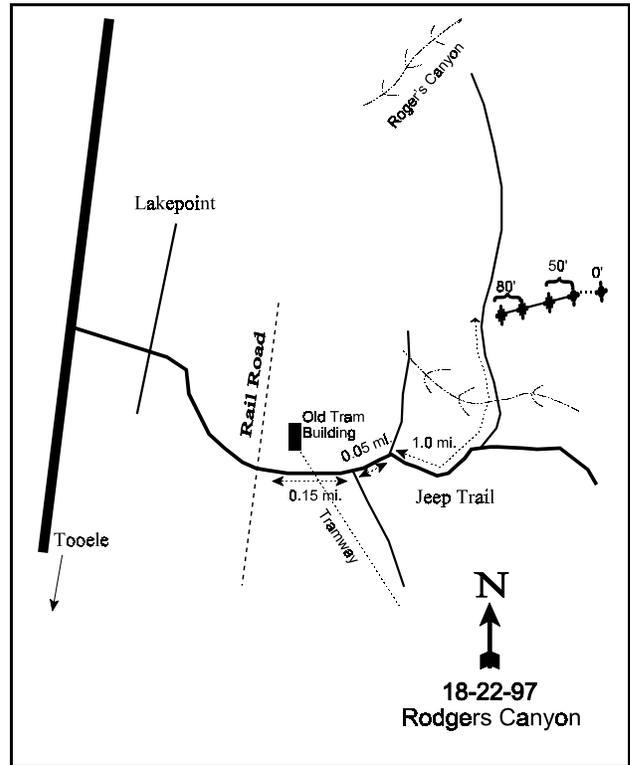
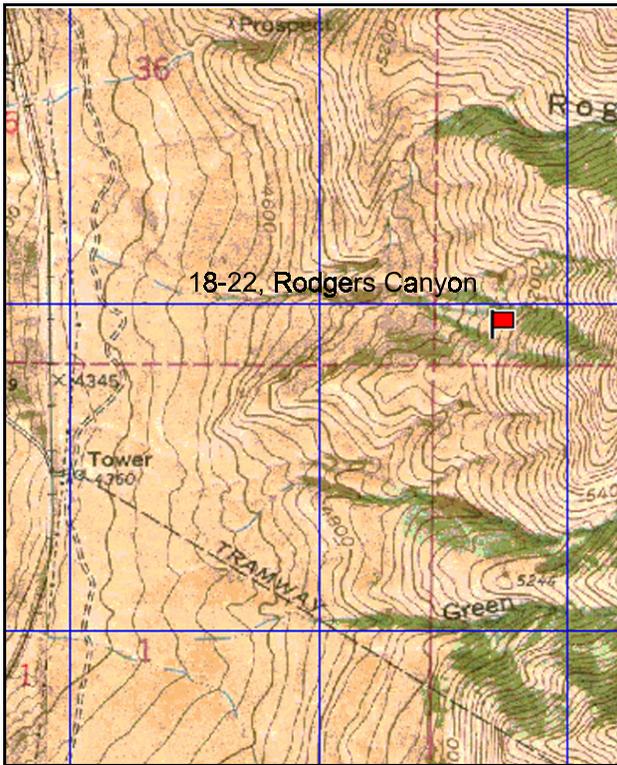
Vegetation type: Perennial Grass .

Compass bearing: frequency baseline 240 degrees magnetic.

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

LOCATION DESCRIPTION

Drive around the Oquirrh Mountains towards Tooele. Turn east towards Lake Point, the mountains, and the mouth of Rodgers Canyon. Continue past Lake Point and cross the railroad tracks. Follow the jeep trail up towards the mouth of a small canyon approximately 1.1 miles. Bear left across a steep wash and continue 100 yards then stop. The study is located on the hill to the east. The 0-foot baseline is marked by a 3 foot tall fencepost with a white top. The 400 ft. stake is about 8 feet from the side of the road.



Map Name: Farnsworth Peak

Diagrammatic Sketch

Township 2S Range 4W, Section 1

GPS: NAD 27, UTM 12S 4504261 N 395504 E

DISCUSSION

Rodgers Canyon - Trend Study No. 18-22

***SUSPENDED - This site was suspended in 2002 due to access problems. Text and tables from the 1997 report have been retained.

The Rodgers Canyon study is in lower Rodgers Canyon and is unique as it is an untreated area. This study samples a depleted and untreated site on the northwest side of the Oquirrh Mountains. The slope of the site varies from 40% near the top to only about 10% near the bottom of the transect. The elevation of the area is 4,800 feet with an aspect to the west-southwest. Wildlife use is limited, but the pellet-group transect shows use for elk at 34 elk days use/acre and deer use at about 5 deer days use/acre. The lack of any preferred browse would limit use by deer during the winter.

The soil is very rocky with a surface cover value currently at almost 30% with current erosion appearing to be less than in the past. Percent bare soil is now relatively low at 12%. Erosion is minimal, however some of the nearby gullies are partially stabilized, but they still show some signs of ongoing erosion. Effective soil depth is 11 inches with a relatively high soil temperature of 69°F at 14 inches. The high soil temperature would limit the establishment and development of cool season species through the hot summer because most of the surface soil moisture would have been utilized early in the year by the weedy winter annuals. This is too long of a period for seedlings to go without moisture until the late summer monsoonal rains. Soil textural analysis indicates a clay-loam soil with a neutral pH (7.0). Soil phosphorus is below 10ppm (8ppm) and could be a limiting factor to plant development on this site.

Broom snakeweed is very common with a density estimated at 6,533 plants/acre estimated in 1990. This population increased 84% to an incredible 39,620 plants/acre. That equates to nearly one plant every square foot. Strip frequency is 100%, indicating a widespread population over the whole site. There are no other shrubs found on the site.

Perennial grasses provide virtually the only dependable source of forage. Grasses make up 69% of the herbaceous understory cover. Although, 51% of the cover is contributed by weedy species (cheatgrass and bulbous bluegrass). Forb composition is dominated by increaser and invader species. About three-fourths of the forb cover comes from weeds. Without treatment, there does not appear to be much potential for significant production of desirable forage, especially in terms of browse for deer winter range.

1990 APPARENT TREND ASSESSMENT

The trend for soil is thought to be stable with relatively good cover values from herbaceous species. The browse trend would be down with only broom snakeweed on the site, and with mostly young plants, an increase would be expected in the future. Trend for the herbaceous understory is thought to be stable to slightly downward because of the high amounts of weeds in the composition.

1997 TREND ASSESSMENT

The trend for soil is slightly improved with a decrease in the amount of bare soil. The herbaceous understory makes up more than half of the vegetative cover. The trend for browse is down because it is made up totally of broom snakeweed which is of little use to wildlife. The population is now almost 40,000 plants/acre. The herbaceous understory trend is mixed with the perennial component of the grasses increasing, but this was mostly from increases in bulbous bluegrass, an increaser species. This increase is probably at the expense of bluebunch wheatgrass. The forbs have decreased, but three-fourths of the forb cover comes from weedy species. Trend for herbaceous understory overall is down.

TREND ASSESSMENT

soil - slightly improved (4)

browse - down, broom snakeweed is the only species on the site (1)

herbaceous understory - down, mostly composed of weedy species (1)

HERBACEOUS TRENDS --
Herd unit 18 , Study no: 22

Type	Species	Nested Frequency		Quadrat Frequency		Average Cover %
		'90	'97	'90	'97	'97
G	Agropyron spicatum	_b 132	_a 83	53	33	3.23
G	Aristida purpurea	69	51	31	24	1.21
G	Bromus tectorum (a)	-	254	-	88	2.29
G	Muhlenbergia spp.	-	3	-	1	.03
G	Poa bulbosa	_a 50	_b 134	19	44	4.30
G	Poa fendleriana	-	3	-	2	.03
G	Poa secunda	13	70	6	26	1.83
Total for Annual Grasses		0	254	0	88	2.29
Total for Perennial Grasses		264	344	109	130	10.65
Total for Grasses		264	598	109	218	12.96
F	Alyssum alyssoides (a)	-	52	-	19	.19
F	Ambrosia psilostachya	_b 149	_a 88	64	41	1.39
F	Astragalus amphioxys	-	4	-	2	.18
F	Asclepias asperula	1	3	1	1	.18
F	Astragalus spp.	_a 27	_b -	14	-	-
F	Astragalus utahensis	_b 117	_a 27	51	11	.81
F	Calochortus nuttallii	_a 8	_b 23	5	12	.06
F	Cirsium spp.	_a 35	_b 56	15	31	1.68
F	Cirsium undulatum	_b 139	_a -	59	-	-
F	Collinsia parviflora (a)	-	5	-	2	.01
F	Draba spp. (a)	-	1	-	1	.00
F	Epilobium brachycarpum (a)	-	13	-	8	.09
F	Erigeron spp.	-	2	-	1	.00
F	Grindelia squarrosa	_b 59	_a 38	27	20	.92
F	Helianthus annuus (a)	5	2	4	2	.01
F	Lactuca serriola	2	6	1	3	.04
F	Linaria dalmatica	-	1	-	1	.00
F	Lithospermum spp.	_b 29	_a 3	14	1	.03
F	Oenothera spp.	11	16	9	8	.11
F	Phlox longifolia	5	2	3	1	.00
F	Ranunculus testiculatus (a)	-	3	-	1	.03
F	Tragopogon dubius	24	18	12	10	.10
F	Zigadenus paniculatus	3	1	3	1	.00
Total for Annual Forbs		5	76	4	33	0.34
Total for Perennial Forbs		609	288	278	144	5.55
Total for Forbs		614	364	282	177	5.89

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

BROWSE TRENDS --
Herd unit 18 , Study no: 22

Type	Species	Strip Frequency '97	Average Cover % '97
B	Gutierrezia sarothrae	100	16.20
Total for Browse		100	16.20

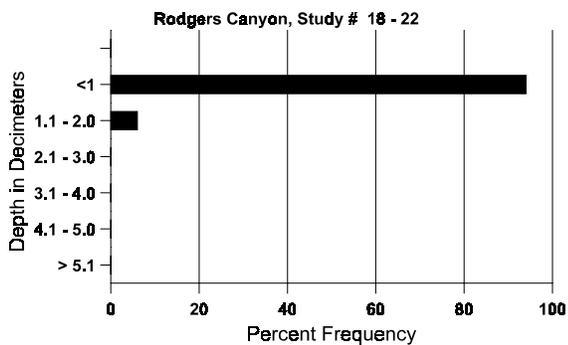
BASIC COVER --
Herd unit 18 , Study no: 22

Cover Type	Nested Frequency '97	Average Cover %	
		'90	'97
Vegetation	333	8.75	32.81
Rock	262	21.25	14.00
Pavement	305	14.75	15.04
Litter	389	33.50	36.31
Cryptogams	47	.25	.58
Bare Ground	225	21.50	11.62

SOIL ANALYSIS DATA --
Herd Unit 18, Study no: 22, Rodgers Canyon

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
11.3	69.0 (14.1)	7.0	40.0	32.1	27.9	2.3	8.0	144.0	2.3

Stoniness Index



PELLET GROUP FREQUENCY --
Herd unit 18 , Study no: 22

Type	Quadrat Frequency '97
Elk	4

BROWSE CHARACTERISTICS --

Herd unit 18 , Study no: 22

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			
Gutierrezia sarothrae																	
S	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	97	4	-	-	-	-	-	-	-	-	-	-	-	-	80		4
Y	90	56	-	-	1	-	-	-	-	-	-	-	-	57	-	-	57
	97	385	-	-	15	-	-	-	-	-	-	-	-	387	-	13	400
M	90	32	-	-	-	-	-	-	-	-	-	-	-	32	-	-	32
	97	1473	-	-	6	-	-	-	-	-	-	-	-	1479	-	-	1479
D	90	8	-	1	-	-	-	-	-	-	-	-	-	5	-	4	9
	97	102	-	-	-	-	-	-	-	-	-	-	-	57	-	45	102
X	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'90		00%			01%			04%			+84%						
'97		00%			00%			03%									
Total Plants/Acre (excluding Dead & Seedlings)												'90	6533	Dec:	9%		
												'97	39620		5%		