

Trend Study 13A-2-99

Study site name: East LaSal Pass .

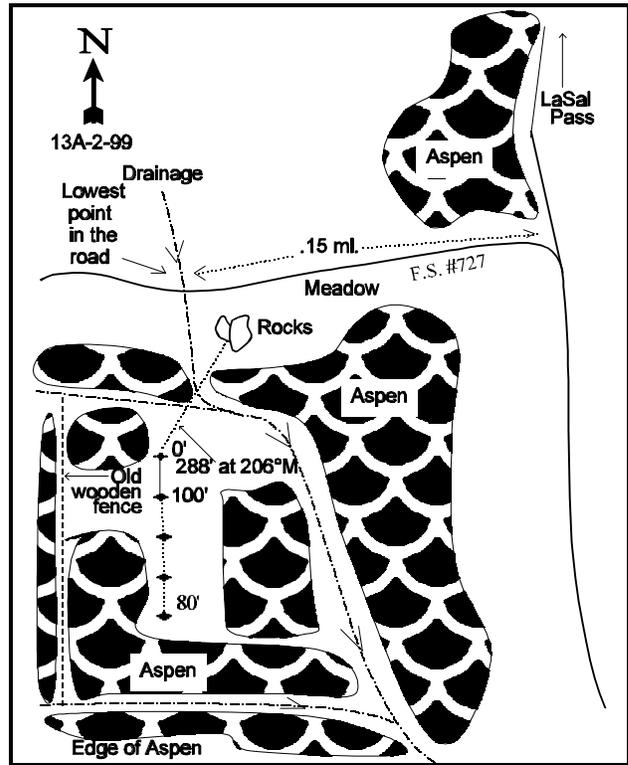
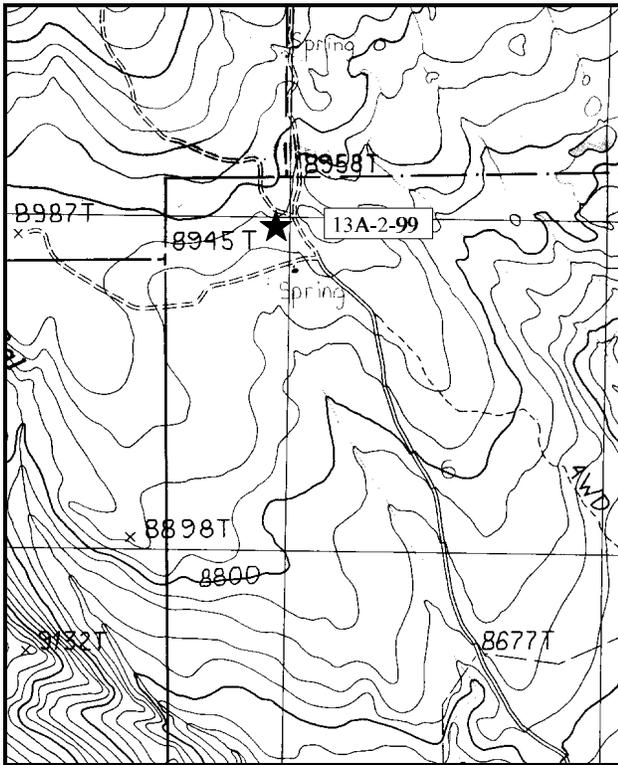
Range type: Quaking Aspen .

Compass bearing: frequency baseline 165°M .

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

On SR 46, travel northeast past LaSal to mile marker 12. Continue 0.75 miles to the LaSal Pass road. Turn left and go 1.9 miles to a fork just beyond the Forest Service boundary cattleguard. Bear left and go 0.05 miles to a canal. Continue 0.7 miles to a fork by the canal. Stay right, go 0.1 miles to a fork. Stay left and proceed 0.4 miles to another fork. Stay right on main road and continue 0.8 miles to the LaSal Creek crossing. Continue 1.0 mile to a cattleguard. Continue 0.8 miles to a fork. Turn left on FS Road #727 and drive 0.15 miles to the center of the meadow near the lowest point in the road. In the meadow to the left, several boulders mark the starting place to pace off to find the transect starting point. The 0 foot stake can be found 288 feet away in the aspens at a bearing of 206°M. The 0, 200, and 400 foot stakes are full high fenceposts. The 100 and 300 stakes are half high fenceposts.



Map Name: Mount Peale

Diagrammatic Sketch

Township 28S , Range 25E , Section 6

UTM 4251755.630 N , 655865.120 E

## DISCUSSION

### Trend Study No. 13A-2 (33-2)

The East LaSal Pass study is south of Mt. Peale and is characterized by aspen hillsides and large, wet meadows, which provide both deer and elk with high quality summer range. However, the meadows are dominated by iris, which is an increaser with heavy grazing. The area has a high water table with many springs. The study itself is in one of the more mature aspen stands at an elevation of 8,900 feet. There is no prevailing aspect as the sampled area is basically level. The large bench below the conifer-covered peaks slopes gently to many natural drainages which generally drain to the southeast.

The soil is a light-textured, dark loam soil with abundant organic matter (nearly 6%). The top layer is covered with duff and thick vegetative cover. The soil appears to be quite deep (effective rooting depth of almost 22 inches) with a few scattered boulders on the surface. The soil is moderately acidic (6.0 pH) with only 7.9 ppm of phosphorus. This could be a limiting factor to the site because a minimum of 10ppm is required for normal plant development. There are no signs of erosion within the aspens, although the soil could easily be disturbed. The meadows and stream banks show some signs of erosion.

Line intercept data from 1999 estimates average canopy cover of this uneven-aged aspen stand at 54%. Values are quite variable for canopy cover over the length of the transect. Point quarter data taken during the 1994 reading estimates 247 aspen trees/acre and 21 Douglas fir trees/acre on the site. In 1999, point quarter data indicated a slight increase in the aspen population to 267 trees/acre, while the Douglas fir population remained the same. Average diameter of aspen is 9.5 inches in 1994 and 11.25 inches in 1999. Downed trees are prevalent and the naturally occurring openings that are created are the major sources for aspen regeneration. The young trees average three feet in height, making them all available, but show only light to moderate use and are vigorous. Snowberry is common and quite dense in some spots. It has a density of approximately 4,000 plants/acre with almost 80% of them classified as mature plants that are only lightly hedged. Other woody species are uncommon. Browse cover only contributes 8% of the total vegetative cover.

The most abundant herbaceous species are rather large forbs; thistle, peavine, northern bedstraw, blunt seed sweet root, and common dandelion. These four species alone make up more than 80% of the total forb cover, and the forbs make up more than 60% of the total vegetative cover. These species along with an understory of Kentucky bluegrass and Carex, form a thick protective carpet. There is abundant regeneration both the grasses and forbs. Forbs are especially diverse with 15-17 species being encountered through the years.

The dense herbaceous understory provides excellent ground cover. Litter cover is very high, but it has varied through the years from 75% (1994) to 92% (1999), due to a thick layer of duff. Bare soil is almost nonexistent and found only where trees have been uprooted and fallen to the ground.

### 1994 TREND ASSESSMENT

Soil trend for this site is stable and excellent condition. The browse trend is not as critical as it would be for a winter range, but it would be stable. The trend for the herbaceous understory is stable with a 31% increase in the nested frequency values for the grasses, but a 17% decrease for the forbs which contribute more than three times the plant cover as the grasses do.

TREND ASSESSMENT

soil - stable and in excellent condition

browse - stable but not as important as the herbaceous component

herbaceous understory - stable

1999 TREND ASSESSMENT

Soil trend for this site continues to be stable and in excellent condition. The browse trend is not critical for this site because it is not a winter range, and also that browse only contributes 8% of the total vegetative cover. The trend for browse on this site is stable. The trend for the herbaceous understory is stable with a slight increase in the sum of nested frequency values for the grasses and forbs.

TREND ASSESSMENT

soil - stable and in excellent condition

browse - stable, but not as important as the herbaceous component

herbaceous understory - stable

HERBACEOUS TRENDS --

Herd unit 13A, Study no: 2

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'87	'94	'99	'87	'94	'99	'84	'89
G	Agropyron trachycaulum	a-	b21	c74	-	9	30	.56	2.99
G	Bromus carinatus	a13	b46	b33	5	20	17	.76	.74
G	Carex spp.	b144	a40	a53	56	17	18	2.17	3.81
G	Dactylis glomerata	b11	a-	a-	4	-	-	-	-
G	Festuca thurberi	a-	ab3	b12	-	1	4	.63	.22
G	Phleum alpinum	-	-	-	-	-	-	-	.00
G	Phleum pratense	a-	b8	b9	-	4	3	.04	.33
G	Poa pratensis	a139	b262	b293	53	80	87	6.32	14.91
G	Stipa columbiana	a-	b26	a-	-	9	-	.93	-
G	Stipa lettermani	-	2	-	-	1	-	.00	-
G	Unknown grass - perennial	4	-	-	2	-	-	-	-
Total for Annual Grasses		0	0	0	0	0	0	0	0
Total for Perennial Grasses		311	408	474	120	141	159	11.44	23.01
Total for Grasses		311	408	474	120	141	159	11.44	23.01
F	Achillea millefolium	a10	b33	b55	4	12	19	.30	1.12
F	Agoseris glauca	-	2	2	-	1	2	.00	.01
F	Allium spp.	5	3	1	2	2	1	.01	.00
F	Calochortus gunnisoni	-	2	-	-	2	-	.01	-
F	Corallorhiza spp.	b6	a-	a-	3	-	-	-	-
F	Delphinium nuttallianum	b7	a-	a-	4	-	-	-	-
F	Erigeron speciosus	-	2	3	-	1	1	.03	.03
F	Fragaria virginiana	-	-	2	-	-	1	-	.15

Type	Species	Nested Frequency			Quadrat Frequency			Average Cover %	
		'87	'94	'99	'87	'94	'99	'04	'09
F	Galium boreale	<sub>a</sub> 100	<sub>ab</sub> 137	<sub>b</sub> 156	41	50	60	2.60	3.70
F	Iris missouriensis	2	-	6	1	-	2	.03	.06
F	Lathyrus lanszwertii	<sub>b</sub> 284	<sub>a</sub> 239	<sub>b</sub> 261	92	86	85	24.76	21.55
F	Ligusticum porteri	<sub>a</sub> -	<sub>a</sub> -	<sub>b</sub> 9	-	-	5	-	1.07
F	Lomatium spp.	<sub>b</sub> 30	<sub>ab</sub> 15	<sub>a</sub> 4	13	7	2	.31	.09
F	Osmorhiza depauperata	<sub>c</sub> 318	<sub>a</sub> 173	<sub>b</sub> 227	95	67	84	2.92	11.39
F	Pterospora andromedea	-	-	1	-	-	1	-	.00
F	Senecio serra	<sub>ab</sub> 1	<sub>b</sub> 4	<sub>a</sub> -	1	3	-	.01	-
F	Taraxacum officinale	102	107	125	48	41	52	1.64	4.77
F	Thalictrum fendleri	<sub>a</sub> 2	<sub>ab</sub> 8	<sub>b</sub> 17	1	3	5	.33	1.46
F	Thermopsis montana	6	4	6	3	2	2	.19	.53
F	Unknown forb-perennial	<sub>b</sub> 17	<sub>a</sub> -	<sub>a</sub> -	9	-	-	-	-
F	Viola adunca	62	70	36	28	29	18	.72	1.83
F	Vicia americana	<sub>a</sub> 67	<sub>a</sub> 51	<sub>b</sub> 97	29	23	43	1.31	3.42
Total for Annual Forbs		0	0	0	0	0	0	0	0
Total for Perennial Forbs		1019	850	1008	374	329	383	35.20	51.23
Total for Forbs		1019	850	1008	374	329	383	35.20	51.23

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

#### BROWSE TRENDS --

Herd unit 13A, Study no: 2

Type	Species	Strip Frequency		Average Cover %	
		'04	'99	'04	'99
B	Pinus ponderosa	-	-	-	.15
B	Populus tremuloides	2	37	.11	.75
B	Ribes montigenum	2	2	.38	.38
B	Rosa woodsii	4	3	.06	.03
B	Symphoricarpos oreophilus	83	74	5.06	5.31
Total for Browse		91	116	5.62	6.62

#### CANOPY COVER --

Herd unit 13A, Study no: 2

Species	Percent Cover '09
Populus tremuloides	54

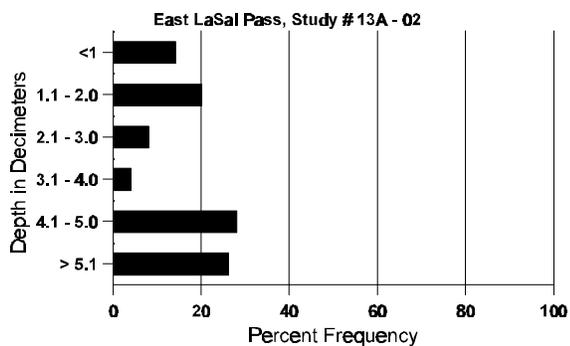
BASIC COVER --  
Herd unit 13A, Study no: 2

Cover Type	Nested Frequency		Average Cover %		
	'04	'99	'87	'94	'99
Vegetation	353	368	8.00	49.04	73.12
Rock	3	2	.25	.15	.15
Pavement	-	-	0	0	0
Litter	392	399	90.00	75.38	91.84
Cryptogams	-	15	0	0	.95
Bare Ground	15	3	1.75	.48	.15

SOIL ANALYSIS DATA --  
Herd Unit 13A, Study # 02, Study Name: East LaSal Pass

Effective rooting depth (cm)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
21.6	43.0 (17.6)	6.0	46.2	30.6	23.3	5.63	7.9	1180.4	0.4

### Stoniness Index



PELLET GROUP DATA --  
Herd unit 13A, Study no: 2

Type	Quadrat Frequency	
	'04	'09
Elk	-	2
Deer	2	-

Pellet Transect Days Use/Acre (ha)
'09
0
N/A

BROWSE CHARACTERISTICS --

Herd unit 13A, Study no: 2

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			
Populus tremuloides																	
S	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
	99	7	-	-	-	-	-	-	-	-	7	-	-	-	140		7
Y	87	7	3	-	-	-	-	-	-	-	10	-	-	-	333		10
	94	2	-	-	-	-	-	-	-	-	2	-	-	-	40		2
	99	34	-	-	4	-	-	-	-	-	38	-	-	-	760		38
M	87	-	-	-	-	-	-	-	3	-	3	-	-	-	100	393 219	3
	94	1	-	-	-	-	-	-	-	-	1	-	-	-	20	- -	1
	99	-	-	-	-	2	-	-	17	-	19	-	-	-	380	- -	19
X	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	240		12
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'87		23%			00%			00%			-86%						
'94		00%			00%			00%			+95%						
'99		04%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)											'87	433	Dec:	-			
											'94	60		-			
											'99	1140		-			
Ribes montigenum																	
Y	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	- -	0
	94	3	-	-	-	-	-	-	-	-	3	-	-	-	60	18 139	3
	99	3	-	-	-	-	-	-	-	-	3	-	-	-	60	38 28	3
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'87		00%			00%			00%									
'94		00%			00%			00%			+50%						
'99		00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)											'87	0	Dec:	-			
											'94	60		-			
											'99	120		-			

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				
Rosa woodsii																		
Y	87	1	-	-	-	-	-	-	-	-	1	-	-	-	33		1	
	94	7	-	-	-	-	-	-	-	-	7	-	-	-	140		7	
	99	-	-	2	-	-	-	-	-	-	2	-	-	-	40		2	
M	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	94	2	-	-	-	-	-	-	-	-	2	-	-	-	40	16	6	
	99	2	-	-	-	-	-	-	-	-	2	-	-	-	40	13	5	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		00%			00%			00%			+82%							
'94		00%			00%			00%			-56%							
'99		00%			50%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	33	Dec:	-			
												'94	180		-			
												'99	80		-			
Symphoricarpos oreophilus																		
S	87	19	-	-	-	-	-	-	-	-	19	-	-	-	633		19	
	94	2	-	-	1	-	-	-	-	-	3	-	-	-	60		3	
	99	27	-	-	1	-	-	-	-	-	28	-	-	-	560		28	
Y	87	80	27	2	-	-	-	-	-	-	97	4	8	-	3633		109	
	94	76	-	-	4	-	-	-	-	-	68	12	-	-	1600		80	
	99	35	-	-	2	-	-	-	-	-	37	-	-	-	740		37	
M	87	49	39	3	-	-	-	-	-	-	89	1	1	-	3033	27	25	
	94	142	-	-	-	-	-	-	-	-	134	8	-	-	2840	21	23	
	99	157	2	-	1	-	-	-	-	-	160	-	-	-	3200	22	21	
D	87	3	9	1	-	-	-	-	-	-	11	1	1	-	433		13	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	1	-	-	2	-	-	-	-	-	3	-	-	-	60		3	
X	87	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	94	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	99	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'87		35%			03%			05%			-37%							
'94		00%			00%			00%			-10%							
'99		01%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'87	7099	Dec:	6%			
												'94	4440		0%			
												'99	4000		2%			