

Trend Study 28-21-08

Study site name: South Summit WMA .

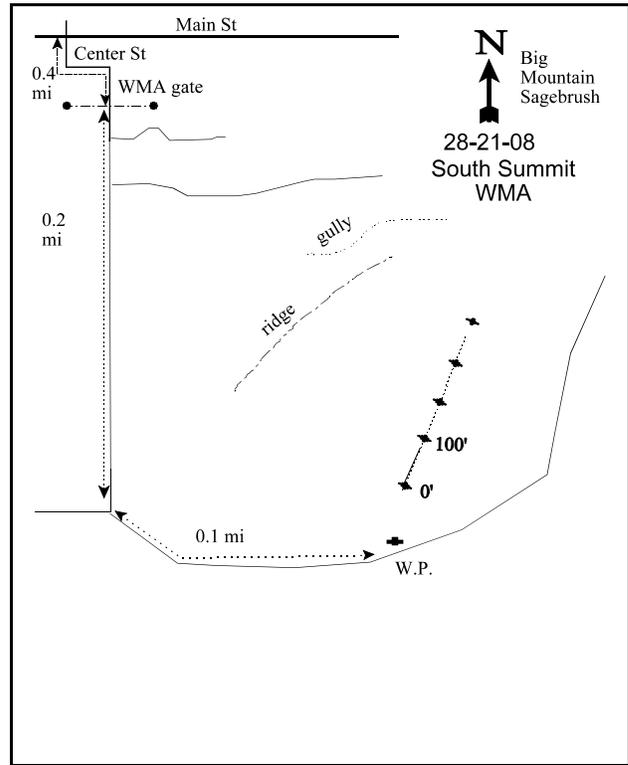
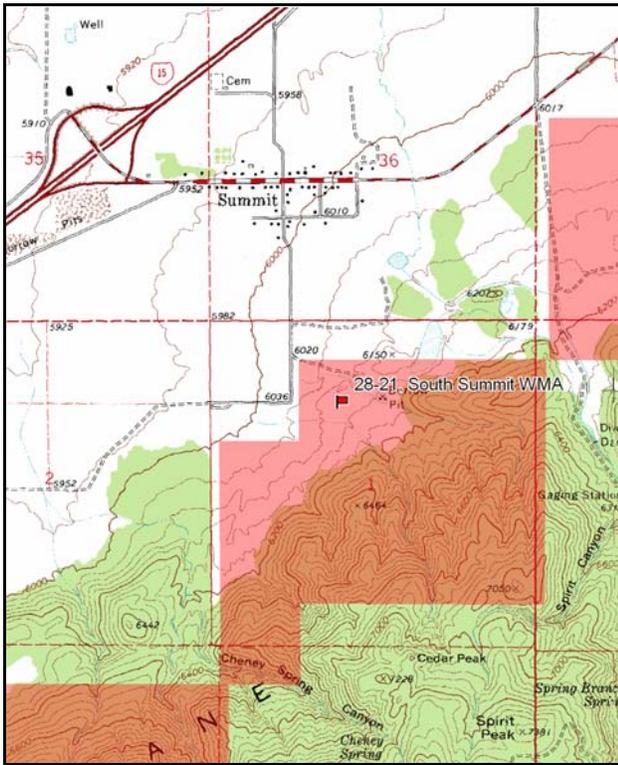
Vegetation type: Mountain Big Sagebrush .

Compass bearing: frequency baseline 0 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft). No rebar.

LOCATION DESCRIPTION

From the intersection of Center St and Main St in the city of Summit, travel south for 0.4 miles to a WMA gate. From the gate, continue for 0.2 miles to a T in the road. Take the fork on the left and travel for 0.1 miles to the witness post. From the witness post walk 12 paces at 25 degrees magnetic to the 0-ft stake. The 0-ft stake is marked with browse tag number 193.



Map Name: Panguitch

Diagrammatic Sketch

Township 35S , Range 10W , Section 1

GPS: NAD 83, UTM 12S 329793 E, 4184348 N

DISCUSSION

South Summit WMA - Trend Study No. 28-21

Study Information

This study was established in 2008 on DWR land to monitor an old chaining that has also received herbicide and a lop-and-scatter treatments in the past [elevation: 6,026 feet (1,837 m), slope: 5%, aspect: southwest]. This transect lies 1 mile south of Summit on a wildlife management area. The range type is a mixture of mountain big sagebrush and basin big sagebrush (*Artemisia tridentata* ssp. *vaseyana* and *A. tridentata* ssp. *tridentata*). A pellet group transect in 2008 estimated 1 elk, 92 deer, and 12 cow days use/acre (2 edu/ha, 228 ddu/ha, and 29 cdu/ha).

Soils

Soils are sandy with a neutral in reactivity (pH 7.15). Relative combined average vegetation and litter cover was moderately high at 69%, and relative combined average rock and pavement cover was moderate at 17%. Relative average bare ground was moderate at 14%. An erosion condition class assessment rated soils as stable in 2008.

Browse

Browse is not particularly dense on this site with browse species providing only 28% of the vegetative cover. Mountain big sagebrush is the dominant browse cover providing 62% of the browse cover. Density of mountain big sagebrush is fairly low at 1,660 plants/acre. Over half of the population is decadent, and 40% of the population is displaying poor vigor. Recruitment of young mountain big sagebrush plants is poor. The other preferred browse species on the site is basin big sagebrush, which accounts for 20% of the browse cover. Its density is low at 340 plants/acre, with 65% of the population being decadent and 59% displaying poor vigor. The low value, increaser species broom snakeweed (*Gutierrezia sarothrae*) is common on the site.

Herbaceous Understory

Grasses are fairly diverse and abundant on the site proving 72% of the vegetation cover, but forbs are rare and lacking. Seven perennial grasses and one annual grass have been sampled on the site. Purple three-awn (*Aristida purpurea*) is the dominant grass along with crested wheatgrass (*Agropyron cristatum*). Sandberg bluegrass (*Poa secunda*) and sand dropseed (*Sporobolus cryptandrus*) are also common. The annual species cheatgrass (*Bromus tectorum*) has a high nested frequency, but provides less than 3% of the vegetation cover.

2008 DESIRABLE COMPONENTS INDEX

winter range condition (DCI) - very poor-poor (37) Mid-level potential scale.

HERBACEOUS TRENDS --
Management unit 28 , Study no: 21

T y p e	Species	Nested Frequency	Average Cover %
		'08	'08
G	Agropyron cristatum	135	4.45
G	Agropyron dasystachyum	-	.00
G	Agropyron intermedium	69	1.67
G	Aristida purpurea	243	11.16
G	Bromus tectorum (a)	121	.93
G	Poa secunda	144	2.93
G	Sitanion hystrix	3	.15
G	Sporobolus cryptandrus	62	1.24
Total for Annual Grasses		121	0.93
Total for Perennial Grasses		656	21.62
Total for Grasses		777	22.55
F	Astragalus lentiginosus	2	.00
F	Erodium cicutarium (a)	3	.00
F	Ranunculus testiculatus (a)	8	.01
F	Sphaeralcea coccinea	3	.01
Total for Annual Forbs		11	0.01
Total for Perennial Forbs		5	0.01
Total for Forbs		16	0.03

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

BROWSE TRENDS --
Management unit 28 , Study no: 21

T y p e	Species	Strip Frequency	Average Cover %
		'08	'08
B	Artemisia nova	1	.00
B	Artemisia tridentata tridentata	10	1.72
B	Artemisia tridentata vaseyana	52	5.44
B	Chrysothamnus nauseosus albicaulis	3	.00
B	Gutierrezia sarothrae	30	1.10
B	Opuntia sp.	2	.15
B	Opuntia whipplei	6	.33
B	Pediocactus simpsonii	1	.00
Total for Browse		105	8.76

CANOPY COVER, LINE INTERCEPT --
 Management unit 28 , Study no: 21

Species	Percent Cover
	'08
Artemisia tridentata tridentata	1.93
Artemisia tridentata vaseyana	9.26
Gutierrezia sarothrae	1.20
Opuntia sp.	.48
Opuntia whipplei	.20

KEY BROWSE ANNUAL LEADER GROWTH --
 Management unit 28 , Study no: 21

Species	Average leader growth (in)
	'08
Artemisia tridentata vaseyana	1.0

BASIC COVER --
 Management unit 28 , Study no: 21

Cover Type	Average Cover %
	'08
Vegetation	33.77
Rock	1.79
Pavement	17.06
Litter	43.83
Cryptogams	.31
Bare Ground	15.44

SOIL ANALYSIS DATA --
 Management unit 28, Study no: 21, Study Name: South Summit WMA

Effective rooting depth (in)	Temp °F (depth)	pH	sandy loam			%OM	PPM P	PPM K	ds/m
			%sand	%silt	%clay				
-	-	7.2	64	20.4	15.6	1.5	25.9	172.8	1.14

PELLET GROUP DATA --
 Management unit 28 , Study no: 21

Type	Quadrat Frequency	Days use per acre (ha)
	'08	'08
Rabbit	94	-
Elk	-	1 (2)
Deer	32	92 (228)
Cattle	5	12 (29)

BROWSE CHARACTERISTICS --
 Management unit 28 , Study no: 21

		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)
<i>Artemisia nova</i>												
08	20	-	-	20	-	-	0	0	-	-	0	27/27
<i>Artemisia tridentata tridentata</i>												
08	340	-	-	120	220	140	65	0	65	53	59	55/64
<i>Artemisia tridentata vaseyana</i>												
08	1660	20	60	640	960	420	23	4	58	35	40	29/39
<i>Chrysothamnus nauseosus albicaulis</i>												
08	100	-	20	40	40	20	0	80	40	20	40	9/11
<i>Gutierrezia sarothrae</i>												
08	2720	-	560	1960	200	140	1	0	7	1	2	7/9
<i>Opuntia sp.</i>												
08	40	-	-	20	20	-	0	0	50	50	50	11/33
<i>Opuntia whipplei</i>												
08	120	-	20	100	-	-	0	0	-	-	0	14/32
<i>Pediocactus simpsonii</i>												
08	20	-	-	20	-	-	0	0	-	-	0	-/-
<i>Purshia tridentata</i>												
08	0	-	-	-	-	-	0	0	-	-	0	19/71