

Trend Study 28-19-03

Study site name: DD Hollow .

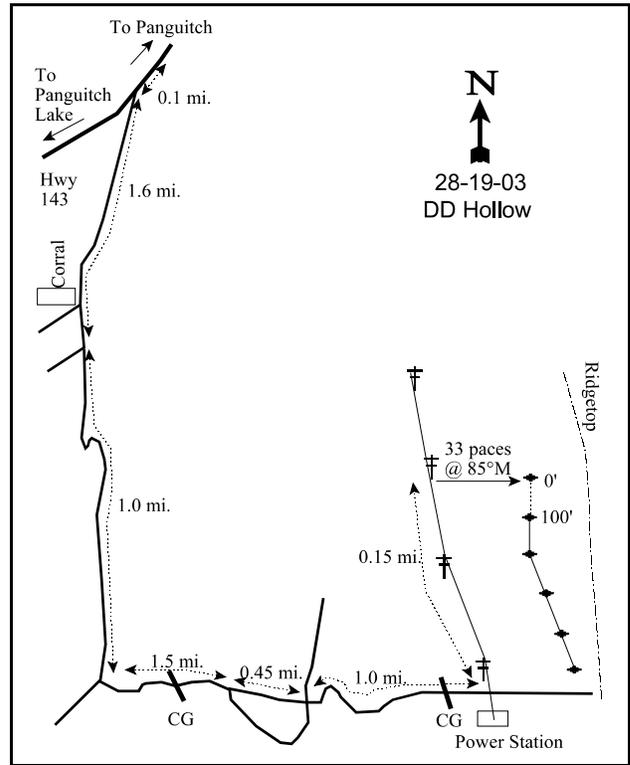
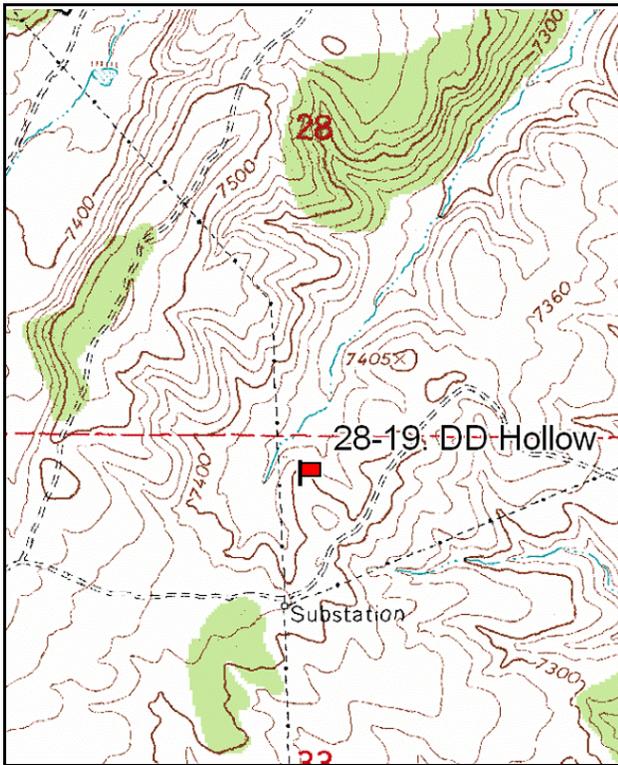
Vegetation type: Pinyon-Juniper .

Compass bearing: frequency baseline 165 degrees magnetic (line3-5 @ 135°M).

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

LOCATION DESCRIPTION

On Highway 143, drive toward Panguitch to mile marker 47. About 0.1 miles before mile marker 47, turn on a road going south (right). Drive on this road for 1.6 miles to an intersection (a corral should be passed on the right). Take the left fork and drive 1.0 miles to a fork. Take the left fork and drive 1.5 miles to another fork. Once again, stay left and go 0.45 miles to an intersection. Continue straight and go 1.0 miles to a power substation and some powerlines crossing the road. Drive down the powerline road for 0.15 miles to the 3rd power pole and park. From the 3rd power pole, walk 33 paces at 85 degrees magnetic to the 0-foot stake. The 0-foot stake is marked with browse tag #163.



Map Name: Hatch

Diagrammatic Sketch

Township 35S, Range 5W, Section 33

GPS: NAD 27, UTM 12S 4176565 N, 374466 E

DISCUSSION

DD Hollow - Trend Study No. 28-19

This study was established in 2003 to gather baseline data for a proposed prescribed burn treatment in DD Hollow. This site lies on BLM administered land about 6 miles south of Panguitch, and is within the boundaries of a proposed prescribed burn project that was supposed to take place in late fall of 2003. The study site slopes at 7-10% to the west, southwest at an elevation of 7,400 feet. The range type is pinyon pine with an understory of black sagebrush and bitterbrush. The area is important winter range for deer and to a lesser extent elk, and the surrounding open areas are used by pronghorn antelope year-round. Deer use on the site in 2003 was light at an estimated 21 days use/acre (53 ddu/ha).

Soils on the site are sandy clay loam in texture and slightly acidic in pH (6.2). Soil depth is fair with an estimated effective rooting depth of just over 10 inches. Rock and pavement are abundant on the surface and throughout the upper portions of the profile, but are not limiting to deeper rooted trees and shrubs. Although total vegetation cover is high, very little comes from herbaceous species, and a high proportion of the litter on the site comes from dead pinyon needles underneath the canopy. Bare ground was estimated at 15% in 2003 with most coming in the shrub and tree interspaces. An erosion condition class assessment rated soils as stable.

Pinyon dominates the vegetative community with a canopy cover of 39%. Point-center quarter data estimated 337 trees/acre in 2003 with an average basal trunk diameter of 5.4 inches. Black sagebrush density was estimated at 3,380 plants/acre. The population had moderate recruitment (9%), but high decadence (45%). A high proportion of decadent age class was classified as dying (38%) which represents ~580 plants/acre that could be lost from the population in the near future. Black sage showed mostly light use and 17% of the population were classified as having poor vigor. Bitterbrush density was estimated at 360 plants/acre in 2003. Decadence was moderately high at 33% and use was moderate to heavy. Bitterbrush leaders had averaged 2.5 inches of annual growth when the site was read in late July of 2003.

The herbaceous understory is very poor and insignificant. Eight total herbaceous species were sampled in 2003 providing less than 1% cover. The dominance of pinyon on the site will continue to suppress the understory until the site can be treated. Due to the low amount of herbaceous species, this site will also need to be reseeded as part of the rehabilitation protocol. The BLM's choice to prescribe burn may not be the best alternative for treatment due to the importance of black sagebrush and bitterbrush to wintering big game. These species are typically fire intolerant and will likely be drastically reduced if not lost entirely from the site if burned. A better alternative may be mechanical treatment such as roller chopping or chaining that would take out pinyon, but leave the understory shrubs intact as well as prepare the seedbed for reseeded.

2003 APPARENT TREND ASSESSMENT

Soils appear stable. The abundance of tree and shrub canopy cover as well as pine needles underneath the canopy helps limit erosion. The browse component is dominated by pinyon pine which needs to be decreased. Black sagebrush occurs on the site in moderate densities but is in poor health with high decadence and a high proportion of dying. Bitterbrush provides additional preferred browse with an estimated density of 360 plants/acre. Bitterbrush decadence is moderate at 33% and reproduction is low. Sagebrush and bitterbrush will continue to decline until the pinyon overstory is treated. The proposed prescribed burn may not be the best alternative as black sagebrush and bitterbrush could be lost from the site. Mechanical treatment, although more expensive and controversial, would give more flexibility to treat pinyon but leave the understory shrubs intact. The herbaceous understory is minimal and in a downward state, and needs to be reseeded.

HERBACEOUS TRENDS --

Management unit 28 , Study no: 19

T y p e	Species	Nested Frequency	Average Cover %
		'03	'03
G	<i>Bouteloua gracilis</i>	29	.46
G	<i>Poa secunda</i>	3	.03
G	<i>Sitanion hystrix</i>	10	.05
G	<i>Stipa lettermani</i>	7	.01
Total for Annual Grasses		0	0
Total for Perennial Grasses		49	0.55
Total for Grasses		49	0.55
F	<i>Arabis</i> spp.	4	.00
F	<i>Descurainia pinnata</i> (a)	15	.09
F	<i>Gayophytum ramosissimum</i> (a)	3	.01
F	<i>Lappula occidentalis</i> (a)	1	.00
Total for Annual Forbs		19	0.10
Total for Perennial Forbs		4	0.00
Total for Forbs		23	0.11

BROWSE TRENDS --

Management unit 28 , Study no: 19

T y p e	Species	Strip Frequency	Average Cover %
		'03	'03
B	<i>Artemisia nova</i>	72	5.65
B	<i>Juniperus osteosperma</i>	0	.03
B	<i>Opuntia</i> spp.	3	-
B	<i>Pinus edulis</i>	29	23.40
B	<i>Purshia tridentata</i>	15	2.81
Total for Browse		119	31.91

CANOPY COVER, LINE INTERCEPT --

Management unit 28 , Study no: 19

Species	Percent Cover
	'03
<i>Artemisia nova</i>	4.46
<i>Pinus edulis</i>	38.48
<i>Purshia tridentata</i>	2.79

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 28 , Study no: 19

Species	Average leader growth (in)
	'03
Purshia tridentata	2.5

POINT-QUARTER TREE DATA --
Management unit 28 , Study no: 19

Species	Trees per Acre	Average diameter (in)
	'03	'03
Pinus edulis	337	5.4

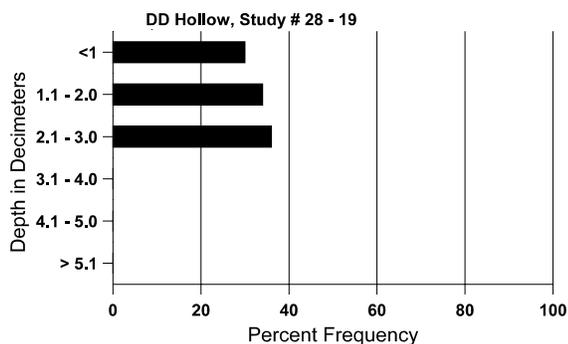
BASIC COVER --
Management unit 28 , Study no: 19

Cover Type	Average Cover %
	'03
Vegetation	31.90
Rock	8.42
Pavement	15.64
Litter	55.50
Cryptogams	.83
Bare Ground	15.05

SOIL ANALYSIS DATA --
Management unit 28, Study no: 19, Study Name: DD Hollow

Effective rooting depth (in)	Temp °F (depth)	pH	%sand	%silt	%clay	%0M	PPM P	PPM K	ds/m
10.2	66.4 (10.4)	6.7	52.6	23.2	24.2	0.7	5.9	515.2	0.5

Stoniness Index



PELLET GROUP DATA --

Management unit 28 , Study no: 19

Type	Quadrat Frequency	Days use per acre (ha)
	'03	
Rabbit	20	-
Elk	1	-
Deer	9	22 (53)
Cattle	2	-

BROWSE CHARACTERISTICS --

Management unit 28 , Study no: 19

		Age class distribution (plants per acre)					Utilization				
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% poor vigor	Average Height Crown (in)
<i>Artemisia nova</i>											
03	3380	-	300	1560	1520	1740	22	1	45	17	14/22
<i>Opuntia spp.</i>											
03	60	-	-	60	-	-	0	0	-	0	5/11
<i>Pinus edulis</i>											
03	680	-	160	520	-	-	3	0	-	0	-/-
<i>Purshia tridentata</i>											
03	360	-	20	220	120	20	61	22	33	6	30/51
<i>Ribes spp.</i>											
03	0	-	-	-	-	-	0	0	-	0	35/57