Trend Study 16C-2-07

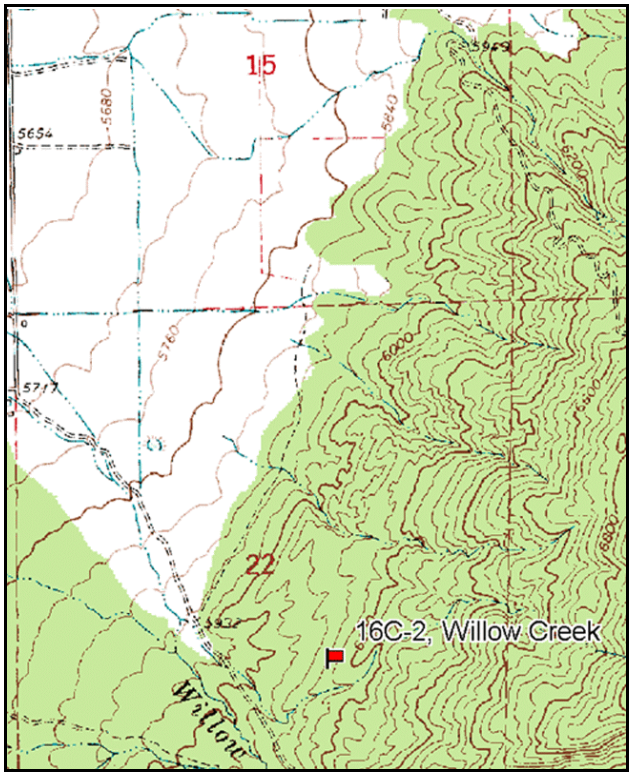
Study site name: Willow Creek . Vegetation type: Chained, Seeded P-J .

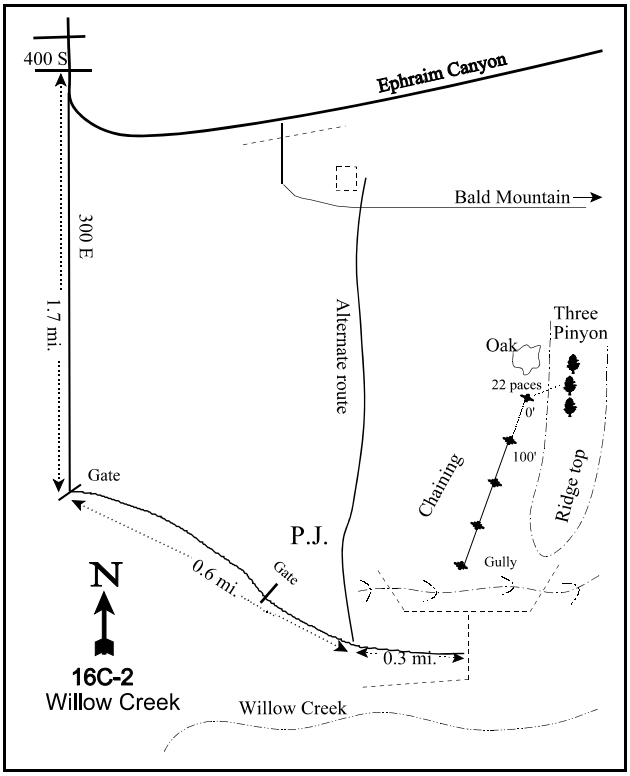
Compass bearing: frequency baseline 210 degrees magnetic.

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

LOCATION DESCRIPTION

From the intersection of 400 South and 300 East in Ephraim, take 300 East south for 1.7 miles to a gate. Pass through the gate onto a gravel road and follow this road for 0.6 miles to a fork. Stay to the right and continue for 0.3 miles to a gate. Park here. Cross the fence and the gully and go up the white shale ridge to the northeast (30°-35° magnetic). From the gully, go about 188 paces to a high point on the ridge where 3 large pinyons grow. Enroute you will pass the 400-foot stake which is near the ridge top. The 0-foot baseline stake, however, is 22 paces downhill from the 3 pinyons just south of an oak clump. The 0-foot stake is marked by browse tag #414. Consult diagrammatic sketch below for alternate route.





Map Name: Ephraim

Diagrammatic Sketch

Township 17S , Range 3E , Section 22

GPS: NAD 83, UTM 12S 451126 E 4352341 N

DISCUSSION

Willow Creek - Trend Study No. 16C-2

Study Information

This study is located on the lower slopes of Bald Mountain, southeast of Ephraim. It lies inside the 700 acre (283 ha) Bald Mountain chaining and seeding treatment that was completed in 1969 [elevation: 6,130 feet (1,868 m), slope: 35%, aspect: west]. The treatment was done to determine if chaining could be done successfully on steep slopes. Sheep graze surrounding parcels of land and some have trespassed on this piece of Utah Division of Wildlife Resources land, but overall, livestock use is light. There is abundant sign of wintering big game, especially deer. Deer pellets were sampled in at least half of the quadrats since 2009. The deer pellet group data estimates were 174 days use/acre (430 ddu/ha) in 2002 and 181 days use/acre (448 ddu/ha) in 2007. The elk pellet group data estimates were 8 days use/acre (20 edu/ha) in 2002 and 50 days use/acre (122 edu/ha) in 2007. The amount of deer use is one of the highest in the unit. Thermal cover is abundant, and there is a better preferred browse component compared to most of the other chainings in the area.

Soil

The soil is in the Atepic series that consists of shallow, well-drained, slowly permeable soils formed in colluvium and residuum derived from shale (USDA-NRCS 2007). The substratum is a layer of very strongly calcareous shaley silty clay loam. On the surface, the soil has a sandy clay loam texture. Runoff is usually rapid and the erosion hazard is severe. Moderately large patches of bare soil can be found on the surface. Relative bare ground cover was 19% in 1997, 28% in 2002, and 22% in 2007. Rock and pavement combined for 17%-18% cover in all samples. With drought in 2002, combined vegetation and litter cover declined from 64% to 54% and increased to 60% in 2007. In 2002, the erosion condition was classified as slight due to pedestalling around vegetation, flow patterns, and slight transportation of soil and surface litter. In 2007, the erosion condition was classified as stable.

Browse

Browse diversity is higher than what is found on most chainings, with a significant number of valuable winter browse species. The most common preferred browse species is antelope bitterbrush (*Purshia tridentata*), which has comprised 4% of the canopy cover since 2002. The density of was estimated at 532 plants/acre (1,314 plants/ha) in 1989, 840 plants/acre (2,075 plants/ha) in 1997, 640 plants/acre (1,581 plants/ha) in 2002, and 800 plants/acre (1,976 plants/ha) in 2007. The population is composed mostly of mature plants, with recruitment from young plants being low at 3%-7% of the population in all samples. Decadence decreased from 25% in 1989 to 0% in 1997 and decreased to 16% in 2002 and 13% in 2007. Plants classified with poor vigor were 6% or less of the population in all sample years. Utilization has been moderate-heavy. The average annual leader growth was 3.1 inches (7.9 cm) in 2002 and 0.9 inches (2.3 cm) in 2007.

True mountain mahogany (*Cercocarpus montanus*) is the second most abundant preferred browse, and comprised 1% of the canopy cover in 2002 and 2007. Mahogany density was estimated 133 plants/acre (329 plants/ha) in 1989, 420 plants/acre (1,037 plants/ha) in 1997, 300 plants/acre (741 plants/ha) in 2002, and 340 plants/acre (840 plants/ha) in 2007. There has been no recruitment except in 1997, when 24% of the population was in the young age class. Plants classified as decadent increased slightly from 0% in 1997 to 12%-13% in 2002 and 2007. Increased decadence and low reproduction are normal during periods of drought. Utilization has been moderate-heavy. Annual average leader growth was 1.8 inches (4.6 cm) in 2002 and 1.7 inches (4.3 cm) in 2007.

Less abundant palatable browse include mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), whiterubber rabbitbrush (*Chrysothamnus nauseosus* ssp. *albicaulis*), stansbury cliffrose (*Cowania mexicana* ssp *stansburiana*), Mormon tea (*Ephedra viridis*), and Utah serviceberry (*Amelanchier utahensis*). Most of

these less abundant species displayed moderate-heavy use in 2002 and 2007.

Scattered clumps of Gambel oak (*Quercus gambelii*), and a moderate stand of pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*) occur throughout the area. Point-centered quarter data estimates were 109 juniper trees/acre (269 trees/ha) in 2002 and 174 trees/acre (430 trees/ha) in 2007. Average trunk diameter was 2.5 inches (6.4 cm) in 2002 and 3.0 inches (7.6 cm) in 2007. Density estimates for pinyon were 69 trees/acre (170 trees/ha) in 2002 and 59 trees/acre (146 trees/ha) in 2007. Average trunk diameter was 2.7 inches (6.7 cm) in 2002 and 3.3 inches (8.4 cm) in 2007.

Herbaceous Understory

Grasses are abundant and diverse. Total perennial grass cover has been 14%-15% since 1997. Crested wheatgrass (*Agropyron cristatum*) was the dominant grass, providing 4%-6% cover since 1997. Bluebunch wheatgrass (*Agropyron spicatum*) provided 2% cover since 1997. Intermediate wheatgrass (*Agropyron intermedium*) cover decreased from 3% in 1997 to 1% in 2002 and 2007. Sheep fescue (*Festuca ovina*) provided 2% cover in 1997, increasing to 4% in 2002 and 2007. Cheatgrass (*Bromus tectorum*) is present, but provided only 1% cover in 1997, nearly 0% in 2002, and 2% cover in 2007. The decrease in 2002 is due in part to below normal precipitation conditions (Utah Climate Summaries 2007).

Forb abundance has fluctuated. Between five and 19 forb species have been sampled. Forbs provided 4% cover in 1997, declined with drought conditions to near 0% in 2002, and increased to 4% in 2007. Bur buttercup (*Ranunculus testiculatus*), an allelopathic winter annual (Buchanan et al. 1978), was moderately abundant in 1997 providing 2% cover, declined to nearly 0% cover in 2002, and increased to 3% cover in 2007. Alfalfa (*Medicago sativa*), which was seeded at the time of treatment, has steadily declined. It provided 1% cover in 1997 and nearly 0% cover in 2002 and 2007. Field bindweed (*Convolvulus arvensis*), a noxious weed, was sampled in 1989, 1997, and 2007 in low frequencies.

1997 TREND ASSESSMENT

The browse trend is up. There was a good mixture of shrubs, although the preferred species only contributed approximately half of the total browse cover. Bitterbrush density increased from 532 plants/acre (1,314 plants/ha) to 840 plants/acre (2,075 plants/ha), although this increase may be partly due to the increased sampling area in 2007. Recruitment continued to be low at 7% of the population. Decadency decreased from 25% of the population to 0%, and plants classified with poor vigor decreased slightly from 6% to 2%. True mountain mahogany density increased from 133 plants/acre (329 plants/ha) to 420 plants/acre (1,037 plants/ha). Recruitment increased from 0% of the population to 24%. Decadent plants and plants classified as having poor vigor remained at 0% of the population. Plant use decreased from mostly heavy to mostly moderate. Heavily browsed mahogany plants decreased from 75% of the population to 19%. The trend for grass is stable. The sum of nested frequency for perennial grasses remained stable. Crested wheatgrass decreased significantly in nested frequency, while Indian ricegrass (*Oryzopsis hymenoides*) and Sandberg bluegrass (*Poa secunda*) increased significantly in nested frequency. The forb trend is slightly up. The sum of nested frequency for perennial forbs increased 91%.However there were few forbs sampled. The total number of perennial forbs increased from five to 13. Bur buttercup was sampled in 65% of the quadrats. The nested and quadrat frequencies of alfalfa both decreased by at least half. The Desirable Components Index (DCI) score was fair due to low browse cover, with high decadence, and low recruitment, very high perennial grass cover, and low annual grass and perennial forb cover.

winter range condition (DCI) - fair (61) Mid-level potential scale
browse - up (+2) grass - stable (0) forb - slightly up (+1)

2002 TREND ASSESSMENT

The trend for browse is down. Bitterbrush density decreased to 640 plants/acre (1,581 plants/ha). Recruitment remained low at 6% of the population. Decadency increased to 16% and plants showing poor vigor increased

to 6% of the population. Plant use increased from moderate-heavy to mostly heavy. Heavily browsed bitterbrush plants increased from 40% of the population to 94%. True mountain mahogany density decreased to 300 plants/acre (741 plants/ha). Recruitment decreased to 0% of the population. Decadency increased to 13% of the population, and plant vigor was excellent. Plant use increased from light-moderate to all heavy. The trend for grass is slightly up. The sum of nested frequency for perennial grasses changed little, but the nested frequency for cheatgrass declined by 87%. The trend for forbs is slightly down. The sum of nested frequency of perennial and annual forbs decreased greatly. The total number of forb species sample decreased from 18 to seven. Bur buttercup remained the dominant forb species. The nested and quadrat frequencies for alfalfa declined slightly. The DCI score was very poor due to decreases in browse cover and the recruitment of young browse and perennial forb cover, and increase in browse decadence.

winter range condition (DCI) - very poor (34) Mid-level potential scale
browse - down (-2) grass - slightly up (+1) forb - slightly down (-1)

2007 TREND ASSESSMENT

The trend for browse is slightly up. Bitterbrush density increased to 800 plants/acre (1,976 plants/ha). Recruitment remained low at 3%, and decadency decreased to 13% of the population. Only 5% of the population displayed poor vigor. True mountain mahogany density increased slightly to 340 plants/acre (840 plants/ha). No young plants were sampled, and decadence remained stable at 12% of the population. Vigor remained excellent. Use on bitterbrush and mahogany remained heavy. The trend for grass is slightly down. The nested frequency for perennial grasses increased slightly, however, average cover decreased. The sum of nested frequency for annual grasses greatly increased. The nested frequency of cheatgrass increased more than eight-fold. The trend for forbs is stable. The sum of nested frequency for perennial and annual forbs greatly increased. The total number of forbs sampled increased from seven to 19 species. Bur buttercup increased significantly in nested frequency. Alfalfa was sampled in one quadrat. The DCI score remained very poor.

winter range condition (DCI) - very poor (32) Mid-level potential scale
browse - slightly up (+1) grass - slightly down (-1) forb - stable (0)

HERBACEOUS TRENDS --
Management unit 16C, Study no: 2

Type	Species	Nested Frequency				Average Cover %		
		'89	'97	'02	'07	'97	'02	'07
G	Agropyron cristatum	$_{b}$190	$_{a}$116	$_{a}$119	$_{a}$123	4.50	5.72	4.25
G	Agropyron intermedium	$_{b}$159	$_{ab}$122	$_{a}$87	$_{a}$80	2.95	1.27	1.16
G	Agropyron spicatum	$_{a}$20	$_{ab}$32	$_{ab}$35	$_{b}$42	2.37	2.14	1.75
G	Bromus inermis	$_{a}$8	$_{a}$9	$_{a}$4	$_{a}$9	.04	.16	.44
G	Bromus japonicus (a)	-	-	-	3	-	-	.00
G	Bromus tectorum (a)	-	$_{b}$92	$_{a}$12	$_{b}$105	1.39	.02	1.77
G	Elymus junceus	$_{a}$17	$_{a}$9	$_{a}$18	$_{a}$21	.90	1.17	.68
G	Festuca ovina	$_{a}$40	$_{a}$35	$_{ab}$64	$_{b}$90	1.71	3.81	4.21
G	Oryzopsis hymenoides	$_{a}$6	$_{b}$37	$_{a}$12	$_{a}$11	.65	.25	.25

Type	Species	Nested Frequency				Average Cover %		
		'89	'97	'02	'07	'97	'02	'07
G	Poa secunda	$_{a}$31	$_{b}$84	$_{b}$66	$_{b}$75	1.50	.84	1.30
G	Sitanion hystrix	-	2	-	-	.01	-	-
Total for Annual Grasses		0	92	12	108	1.39	0.01	1.77
Total for Perennial Grasses		471	446	405	451	14.66	15.40	14.06
Total for Grasses		471	538	417	559	16.05	15.42	15.84
F	Agoseris glauca	-	3	-	-	.03	-	-
F	Alyssum alyssoides (a)	-	$_{b}$118	$_{a}$1	$_{c}$178	.34	.00	1.00
F	Arabis sp.	-	-	-	2	-	-	.00
F	Arenaria sp.	-	-	-	3	-	-	.06
F	Astragalus sp.	-	-	-	5	-	-	.01
F	Astragalus utahensis	-	$_{a}$13	$_{a}$1	$_{a}$3	.34	.03	.01
F	Balsamorhiza sagittata	-	5	-	-	.02	-	-
F	Camelina microcarpa (a)	-	$_{a}$6	-	$_{a}$5	.01	-	.01
F	Chaenactis douglasii	-	8	-	-	.02	-	-
F	Cirsium sp.	1	-	-	-	-	-	-
F	Convolvulus arvensis	$_{a}$3	$_{a}$8	$_{a}$-	$_{a}$6	.06	.00	.03
F	Collinsia parviflora (a)	-	-	-	2	-	-	.00
F	Cryptantha sp.	-	$_{a}$4	-	$_{a}$1	.18	-	.03
F	Cymopterus sp.	-	$_{a}$2	-	$_{a}$4	.00	-	.01
F	Descurainia pinnata (a)	-	$_{a}$4	-	$_{b}$16	.01	-	.10
F	Erodium cicutarium (a)	-	-	-	6	-	-	.06
F	Gilia sp. (a)	-	-	-	3	-	-	.03
F	Machaeranthera canescens	-	4	-	-	.06	-	-
F	Medicago sativa	$_{b}$33	$_{ab}$16	$_{a}$12	$_{a}$2	.78	.15	.03
F	Microsteris gracilis (a)	-	$_{a}$9	-	$_{a}$1	.02	-	.00
F	Petradoria pumila	-	1	-	-	.03	-	-
F	Phlox hoodii	$_{a}$4	$_{a}$9	$_{a}$6	$_{a}$4	.18	.15	.15
F	Phlox longifolia	$_{a}$3	$_{a}$6	$_{a}$12	$_{a}$8	.01	.08	.04
F	Ranunculus testiculatus (a)	-	$_{b}$183	$_{a}$23	$_{c}$241	1.70	.04	2.70
F	Tragopogon dubius	-	$_{a}$5	$_{a}$1	$_{a}$1	.06	.00	.03
Total for Annual Forbs		0	320	24	452	2.08	0.04	3.92
Total for Perennial Forbs		44	84	32	39	1.79	0.42	0.42
Total for Forbs		44	404	56	491	3.88	0.46	4.34

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

BROWSE TRENDS --
Management unit 16C, Study no: 2

Type	Species	Strip Frequency			Average Cover %		
		'97	'02	'07	'97	'02	'07
B	Amelanchier utahensis	1	1	1	.03	.15	.03
B	Artemisia tridentata vaseyana	3	2	3	.03	-	-
B	Cercocarpus montanus	18	14	16	.93	.54	.71
B	Chrysothamnus nauseosus albicaulis	5	5	6	.81	.38	.15
B	Chrysothamnus viscidiflorus stenophyllus	23	26	28	.76	1.10	1.52
B	Cowania mexicana stansburiana	1	1	2	-	-	-
B	Eriogonum microthecum	1	2	1	.03	.03	.03
B	Gutierrezia sarothrae	9	12	7	.06	.21	.39
B	Juniperus osteosperma	9	9	8	4.97	4.35	4.58
B	Opuntia sp.	4	2	1	.15	.03	-
B	Pinus edulis	5	7	8	1.99	3.33	3.35
B	Purshia tridentata	30	28	26	5.79	3.56	3.16
B	Quercus gambelii	1	1	1	.00	-	-
Total for Browse		110	110	108	15.58	13.71	13.95

CANOPY COVER, LINE INTERCEPT --
Management unit 16C, Study no: 2

Species	Percent Cover	
	'02	'07
Amelanchier utahensis	.13	.11
Cercocarpus montanus	1.06	.98
Chrysothamnus nauseosus albicaulis	.36	.21
Chrysothamnus viscidiflorus stenophyllus	2.98	2.54
Eriogonum microthecum	.15	.05
Gutierrezia sarothrae	.23	-
Juniperus osteosperma	6.94	7.68
Opuntia sp.	.05	-
Pinus edulis	3.81	4.33
Purshia tridentata	3.65	3.66
Rhus trilobata	.50	-

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 16C, Study no: 2

Species	Average leader growth (in)	
	'02	'07
Cercocarpus montanus	1.8	1.7
Purshia tridentata	3.1	0.9

POINT-QUARTER TREE DATA --
Management unit 16C, Study no: 2

Species	Trees per Acre	
	'02	'07
Juniperus osteosperma	109	174
Pinus edulis	69	59

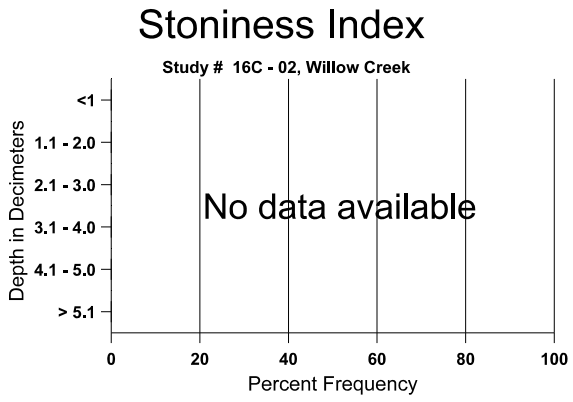
Average diameter (in)	
'02	'07
2.5	3.0
2.7	3.3

BASIC COVER --
Management unit 16C, Study no: 2

Cover Type	Average Cover %			
	'89	'97	'02	'07
Vegetation	8.00	33.14	29.02	35.28
Rock	9.00	6.12	7.28	5.32
Pavement	8.00	10.93	14.11	13.21
Litter	47.25	33.43	33.65	32.42
Cryptogams	0	1.17	1.71	1.80
Bare Ground	27.75	19.32	32.48	25.38

SOIL ANALYSIS DATA --
Herd Unit 16C, Study no: 02, Willow Creek

Effective rooting depth (in)	Temp °F (depth)	pH	Sandy clay loam			%0M	ppm P	ppm K	dS/m
			%sand	%silt	%clay				
14.9	59.0 (14.9)	7.4	48.0	25.4	26.6	7.4	9.2	150.4	.5



PELLET GROUP DATA --
Management unit 16C, Study no: 2

Type	Quadrat Frequency		
	'97	'02	'07
Rabbit	19	9	35
Elk	8	5	13
Deer	56	54	50
Cattle	-	1	-

Days use per acre (ha)	
'02	'07
-	-
8 (20)	50 (122)
174 (430)	181 (448)
-	4 (9)

BROWSE CHARACTERISTICS --
Management unit 16C, Study no: 2

		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)
Amelanchier utahensis												
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**20**	-	20	-	-	-	100	0	-	-	0	13/17
02	**20**	-	-	20	-	-	0	100	-	-	0	13/18
07	**20**	-	-	20	-	-	0	100	-	-	0	7/13
Artemisia tridentata vaseyana												
89	**66**	-	-	-	66	-	0	0	100	-	0	-/-
97	**60**	-	-	60	-	20	33	67	0	-	0	18/26
02	**40**	-	-	20	20	-	0	100	50	-	0	15/21
07	**60**	-	-	20	40	-	0	100	67	67	67	16/21
Atriplex canescens												
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**0**	-	-	-	-	-	0	0	-	-	0	22/19
02	**0**	-	-	-	-	-	0	0	-	-	0	13/18
07	**0**	-	-	-	-	-	0	0	-	-	0	-/-
Cercocarpus montanus												
89	**133**	-	-	133	-	-	0	75	0	-	0	8/9
97	**420**	-	100	320	-	20	48	19	0	-	0	25/34
02	**300**	-	-	260	40	-	0	100	13	-	0	24/31
07	**340**	-	-	300	40	-	0	100	12	-	0	23/34
Chrysothamnus nauseosus albicaulis												
89	**133**	-	33	100	-	-	25	0	0	-	0	22/24
97	**100**	-	20	80	-	-	20	0	0	-	0	35/37
02	**100**	-	20	40	40	-	0	20	40	-	0	31/32
07	**120**	-	-	20	100	-	67	17	83	50	67	35/39

		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)
Chrysothamnus viscidiflorus stenophyllus												
89	**1399**	-	300	966	133	-	0	0	10	2	5	14/17
97	**1080**	20	280	800	-	-	0	0	0	-	0	15/20
02	**1100**	-	-	1000	100	-	7	0	9	2	2	12/19
07	**1080**	-	-	1020	60	-	0	0	6	-	0	14/23
Cowania mexicana stansburiana												
89	**33**	-	-	33	-	-	100	0	0	-	0	13/14
97	**40**	-	-	40	-	-	100	0	0	-	0	24/18
02	**20**	-	-	-	20	-	0	100	100	100	100	26/33
07	**80**	-	-	20	60	-	0	100	75	-	0	17/23
Ephedra viridis												
89	**33**	-	-	33	-	-	100	0	-	-	0	17/15
97	**0**	-	-	-	-	-	0	0	-	-	0	21/40
02	**0**	-	-	-	-	-	0	0	-	-	0	11/13
07	**0**	-	-	-	-	-	0	0	-	-	0	17/17
Eriogonum microthecum												
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**20**	-	-	20	-	-	0	0	-	-	0	5/7
02	**40**	-	-	40	-	-	0	50	-	-	0	6/14
07	**40**	-	-	40	-	-	0	0	-	-	0	10/4
Gutierrezia sarothrae												
89	**1399**	-	266	1133	-	-	0	0	0	-	0	9/11
97	**680**	-	160	500	20	-	0	0	3	3	3	11/13
02	**700**	-	-	700	-	100	0	0	0	-	0	7/9
07	**280**	-	20	260	-	-	0	0	0	-	0	10/13
Juniperus osteosperma												
89	**199**	-	166	33	-	-	0	0	-	-	0	33/59
97	**180**	-	80	100	-	80	0	0	-	-	0	-/-
02	**200**	-	60	140	-	20	0	0	-	-	0	-/-
07	**160**	-	40	120	-	20	0	0	-	-	13	-/-
Opuntia sp.												
89	**0**	-	-	-	-	-	0	0	0	-	0	-/-
97	**140**	-	20	120	-	-	0	0	0	-	0	4/5
02	**40**	-	-	20	20	-	0	0	50	50	50	5/6
07	**20**	-	-	20	-	-	0	0	0	-	0	6/7

		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)
Pinus edulis												
89	**66**	-	66	-	-	-	0	0	-	-	0	-/-
97	**100**	-	20	80	-	-	0	0	-	-	0	-/-
02	**140**	-	60	80	-	-	0	0	-	-	0	-/-
07	**160**	20	20	140	-	-	0	0	-	-	0	-/-
Purshia tridentata												
89	**532**	-	33	366	133	-	75	19	25	-	6	8/23
97	**840**	-	60	780	-	-	31	40	0	-	2	18/38
02	**640**	-	40	500	100	-	3	94	16	6	6	14/48
07	**800**	-	20	680	100	20	5	95	13	5	5	13/48
Quercus gambelii												
89	**33**	-	33	-	-	-	100	0	-	-	0	-/-
97	**20**	20	-	20	-	-	0	0	-	-	0	20/26
02	**20**	-	-	20	-	-	0	0	-	-	0	31/17
07	**20**	-	-	20	-	-	100	0	-	-	0	102/83
Rhus trilobata												
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**0**	-	-	-	-	-	0	0	-	-	0	-/-
02	**0**	-	-	-	-	-	0	0	-	-	0	43/89
07	**0**	-	-	-	-	-	0	0	-	-	0	40/89