

Trend Study 30-9-98

Study site name: Upper Lime Spring .

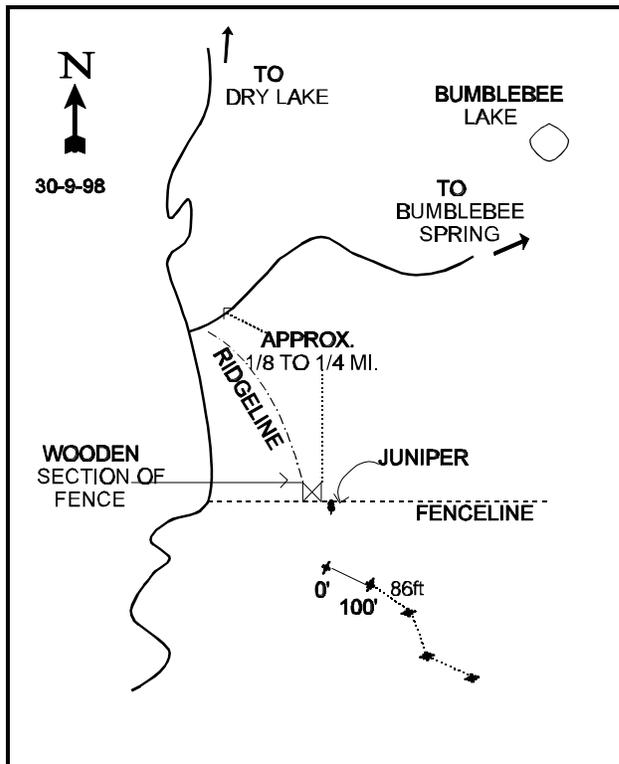
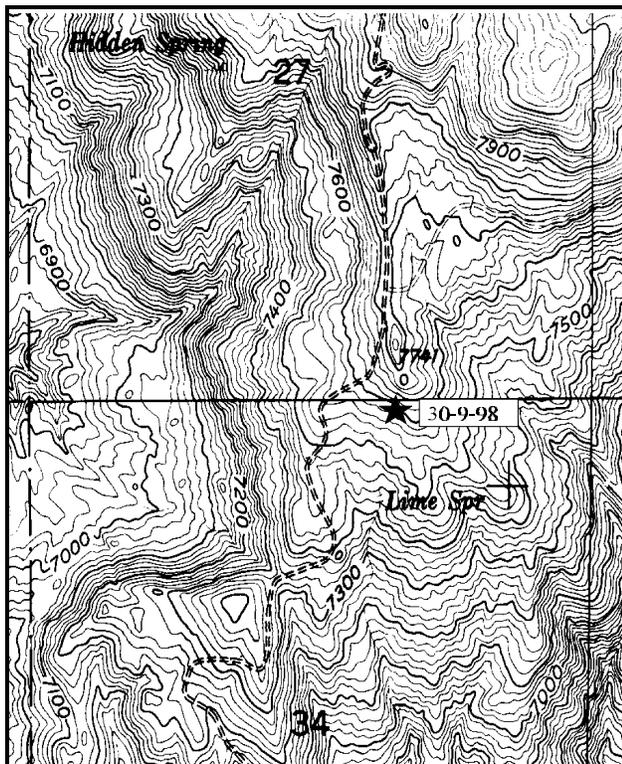
Range type: Mountain Brush .

Compass azimuth: frequency baseline 100 degrees. (Line 2 120°M, line 3 170°M, line 4 112°M)

Footmark (first frame placement) 5 feet. Frequency belt placement; line 1 (14 & 87ft), line 2 (34ft), line 3 (71ft), line 4 (59ft).

LOCATION DESCRIPTION

From the Forest Boundary north of New Harmony, proceed north 0.3 miles on Pace Draw Road. Turn right on the Harmony Mountain Road and proceed 1.6 miles to a gate. Go through the gate 4.4 miles to the junction of Harmony Mountain Road and Bumblebee Spring Road, walk in a southeasterly direction along the top of the ridge. At the end of the ridge, walk down the slope to a barbed wire fence with one wooden section. Nearby is a lone juniper in some oakbrush. From the juniper, the 0-foot baseline stake is located 18 paces away at a bearing of 141 degrees true. The study is marked by green steel "T" fence posts approximately 18 to 24 inches in height.



Map Name: Stoddard Mountain

Diagrammatic Sketch

Township 37S , Range 13W , Section 34

UTM 4157393.117 N, 297284.690 E

## DISCUSSION

### Trend Study No. 30-9 (50A-9)

The Upper Lime Spring trend study occupies an oakbrush range type on a southeast aspect with slope of approximately 10% to 15%. Elevation is about 7,600 feet. The area is considered summer fawning habitat for deer and also receives some summer cattle use. There was evidence of deer beds and abundant pellet groups during the 1982 and 1992 readings. Pellet group data from 1998 estimate 62 deer days use/acre. No sign of cattle use was observed on the site during the reading on the first of July.

Soils are limestone derived, fine textured, with some surface rockiness. Effective rooting depth (see methods) is estimated at just over 14 inches. Soil texture is a sandy clay loam with a neutral pH (6.9). Phosphorus may be limiting to plant growth at just 4.6 ppm, when 10 ppm is considered the minimum for normal plant development. The surface horizon is a light colored whitish gray soil which lacks structure. At a depth of 8 to 12 inches is a compacted orange-brown clay layer. There are numerous barren shrub interspaces which allow some erosion to occur. Areas dominated by oak clones and serviceberry have a good buildup of litter which helps protect the soil. Overall, soil erosion does not appear to be a problem.

Browse on the site is "patchy" in its distribution. Gambel oak is the most abundant species which varies in size, perhaps due to soil characteristics. Some areas are dominated by short 2 to 3 foot high oak, while more level areas have oak in the 8 to 10 foot range. Some of these taller oak clones are very dense. Density was estimated at 15,132 stems/acre in 1992. The age structure is composed mostly of young plants (68%). Vigor is generally good, yet approximately 20% of the plants encountered in 1992 had extensive insect damage. The level of utilization varied from light to heavy. In 1998, the study site baseline was lengthened in order to take a much larger sample. Density was estimated at 10,480 stems/acre. Average height is lower since more of the low growing oak was encountered in the larger sample. Most of the oak appears unutilized. Vigor is poor however, on approximately 27% of the oak, due to the cold spring weather and late frosts of 1998.

Other important browse plants are Utah serviceberry, mountain big sagebrush, and true mountain mahogany. The serviceberry and mahogany species are generally less than five feet in height and available to browsing. Utah serviceberry has increased dramatically from 4,199 in 1982 to 10,466 plants/acre by 1992 due mostly to the large number of young plants encountered in 1992. The larger sample used in 1998 estimated only 3,300 plants/acre. Vigor has improved since 1982 when insect damage was noted on over 20% of the individuals. No insect damage was encountered on serviceberry during the 1992 or 1998 readings. The proportion of heavily hedged plants also decreased from 67% in 1982 to 34% in 1992, and 12% by 1998. Reproduction remains adequate to maintain the population. True mountain mahogany occurs in limited densities of about 200 plants/acre. These shrubs are moderate to heavily hedged but in good vigor. Mountain big sagebrush has an estimated density of 400 plants/acre. They show mostly moderate use with 25% classified as decadent. Other preferred browse which occur in small numbers include: black sagebrush, cliffrose, and snowberry.

Grasses are nearly nonexistent. Indian ricegrass, needle-and-thread, and a sedge are the only species which occur on the site. These combine to produce less than 1% cover. Forbs are slightly more abundant, but still deficient. Forbs are an important element of summer fawning habitat and should be increased if possible. The principal forb species include American vetch and Leonard penstemon, which currently ('98) provide 85% of the meager forb cover (5.4%).

### 1982 APPARENT TREND ASSESSMENT

Soil movement is occurring at a moderate rate, but could be arrested if a decent herbaceous cover were to be established. Overall, soil trend is stable to declining. Vegetation trend is similar. Gambel oak density is probably increasing at a slow rate. The more preferred serviceberry may also be increasing, but will be outperformed by oak. The lack of grasses and forbs is alarming considering that this is spring and summer range for deer.

1992 TREND ASSESSMENT

Protective ground cover has improved since 1982. Basal vegetative cover increased by 71% and percent bare ground decreased by 60% since the last reading. However, active gullies, soil pedestaling, and surface erosion are still occurring on the site. The soil trend has improved since 1982, but a good herbaceous understory is needed to adequately protect the soil from erosion. Browse trend is up for serviceberry and stable for oak. Oak has increased in density 26%, but shows increasing insect damage (11% in 1982 to 22% in 1992) and heavy hedging (1% to 6%). Utah serviceberry has increased 60% and displays less heavy hedging (67% in 1982 to 34% in 1992). Overall, browse trend is up slightly. The trend for herbaceous understory is stable but grasses and forbs are nearly absent on this site. Only two grasses are present in small numbers and more forbs are needed in order to improve forage for summering deer.

TREND ASSESSMENT

soil - stable since 1982, but in poor condition with erosion still occurring

browse - up slightly

herbaceous understory - stable, but nearly absent

1998 TREND ASSESSMENT

The soil trend appears down slightly due to an increase in percent bare ground and a decline in litter cover. The original frequency baseline sampled more oak clones which had a high cover of litter and less bare ground. The lengthened baseline used in 1998 sampled more open areas where litter cover was lower and bare shrub interspaces more abundant. With this, trend for soil is considered stable. Trend for browse is stable. Density changes are mostly due to the increased sample size which better estimates shrub densities that are very clumped distributions on this site. Serviceberry displays mostly good vigor with less heavy use compared to 1992 and low decadence. Reproduction is adequate to maintain the stand. Gambel oak density is down slightly from 1992 estimates primarily due to a decline in percentage of young plants from 10,400 to 4,860 plants/acre. Use is light but vigor reduced due to frost damage on 27% of the plants. Reproduction is good and decadence low. Trend for the herbaceous understory is stable, but depleted. Only two grass species and 1 sedge are found on the site. Forbs consist almost entirely of Leonard penstemon and American vetch. Grasses and forbs combine to produce only 6% cover.

TREND ASSESSMENT

soil - stable

browse - stable

herbaceous understory - stable, but nearly absent

HERBACEOUS TRENDS --

Herd unit 30 , Study no: 9

T y p e	Species	Nested Frequency		Quadrat Frequency			Average Cover %
		'82	'88	'82	'92	'98	
G	Carex spp.	-	*14	-	-	6	.39
G	Oryzopsis hymenoides	7	8	1	4	5	.37
G	Stipa comata	5	-	-	3	-	-
Total for Annual Grasses		0	0	0	0	0	0
Total for Perennial Grasses		12	22	1	7	11	0.76
Total for Grasses		12	22	1	7	11	0.76

Type	Species	Nested Frequency		Quadrat Frequency			Average Cover %
		'02	'08	'82	'92	'98	
F	Agoseris glauca	-	-	1	-	-	-
F	Arabis spp.	1	-	-	1	-	-
F	Astragalus spp.	-	3	-	-	1	.03
F	Calochortus nuttallii	-	3	-	-	1	.00
F	Cymopterus spp.	13	24	16	7	12	.18
F	Epilobium paniculatum (a)	-	1	-	-	1	.00
F	Erigeron eatonii	-	6	-	-	2	.03
F	Hymenopappus filifolius	3	3	1	1	1	.03
F	Hydrophyllum occidentale	-	3	-	-	1	.06
F	Lomatium spp.	-	*8	-	-	6	.10
F	Lotus utahensis	9	*-	-	5	-	-
F	Lupinus argenteus	-	*13	-	-	6	.05
F	Pedicularis centranthera	3	5	2	2	3	.07
F	Penstemon leonardi	26	*49	35	10	24	2.00
F	Penstemon linarioides	44	*-	-	19	-	-
F	Phlox austromontana	2	3	-	1	1	.00
F	Physaria chambersii	3	-	-	1	-	-
F	Phlox longifolia	3	*20	-	3	7	.03
F	Senecio multilobatus	15	*4	1	8	3	.06
F	Taraxacum officinale	-	-	1	-	-	-
F	Trifolium spp.	3	*22	2	2	9	.11
F	Vicia americana	131	*69	45	56	23	2.60
F	Viguiera multiflora	-	-	-	-	-	.00
F	Zigadenus paniculatus	-	2	-	-	2	.01
Total for Annual Forbs		0	1	0	0	1	0.00
Total for Perennial Forbs		256	237	104	116	102	5.43
Total for Forbs		256	238	104	116	103	5.43

\* Indicates significant difference at % = 0.10 (annuals excluded)

BROWSE TRENDS --  
Herd unit 30 , Study no: 9

Type	Species	Strip Frequency '98	Average Cover % '98
B	Amelanchier utahensis	55	13.83
B	Artemisia nova	2	.38
B	Arctostaphylos patula	22	9.05
B	Artemisia tridentata vaseyana	9	1.78
B	Cercocarpus montanus	9	2.12
B	Chrysothamnus viscidiflorus	3	.15
B	Cowania mexicana stansburiana	1	.15
B	Gutierrezia sarothrae	1	.00
B	Juniperus osteosperma	1	-
B	Mahonia repens	13	.30
B	Pinus edulis	1	-
B	Quercus gambelii	65	21.56
B	Symphoricarpos oreophilus	2	1.00
B	Tetradymia canescens	5	.16
Total for Browse		189	50.55

CANOPY COVER --  
Herd unit 30 , Study no: 9

Species	Percent Cover '98
Amelanchier utahensis	.40
Quercus gambelii	9

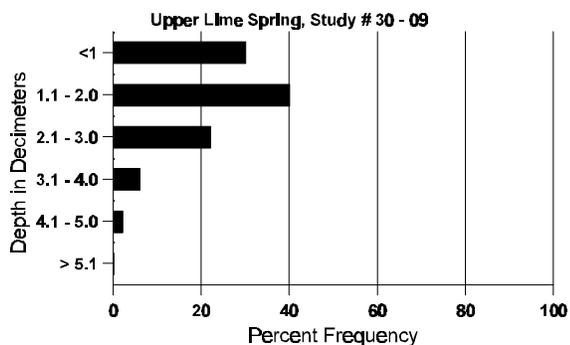
BASIC COVER --  
Herd unit 30 , Study no: 9

Cover Type	Nested Frequency '98	Average Cover %		
		'82	'92	'98
Vegetation	279	2.00	6.50	54.00
Rock	89	2.00	1.25	2.33
Pavement	197	0	4.50	10.53
Litter	392	71.25	78.75	66.71
Cryptogams	1	0	0	.00
Bare Ground	196	24.75	10.25	14.26

SOIL ANALYSIS DATA --  
Herd Unit 30, Study # 09, Study Name: Upper Lime Spring

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
14.4	51.6 (19.4)	6.9	46.0	21.4	32.6	2.4	4.6	83.2	.7

# Stoniness Index



## PELLET GROUP FREQUENCY --

Herd unit 30 , Study no: 9

Type	Quadrat Frequency '98
Rabbit	2
Deer	9

## BROWSE CHARACTERISTICS --

Herd unit 30 , Study no: 9

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				
Amelanchier utahensis																		
S	82	-	-	-	-	-	-	1	-	-	1	-	-	-	66			1
	92	3	-	-	3	-	-	5	-	-	11	-	-	-	733			11
	98	4	1	-	4	-	-	6	-	-	14	1	-	-	300			15
Y	82	1	1	3	-	-	-	3	-	-	6	2	-	-	533			8
	92	3	7	1	25	4	-	30	-	-	70	-	-	-	4666			70
	98	16	4	2	5	1	-	7	-	-	35	-	-	-	700			35
M	82	1	-	7	-	7	28	6	-	-	40	9	-	-	3266	27	23	49
	92	2	6	2	1	19	37	-	-	2	69	-	-	-	4600	32	24	69
	98	29	35	13	10	8	4	8	-	-	105	-	2	-	2140	32	34	107
D	82	-	-	-	-	-	4	2	-	-	2	4	-	-	400			6
	92	5	-	-	-	-	3	2	-	8	9	-	-	9	1200			18
	98	10	12	1	-	-	-	-	-	-	12	-	-	11	460			23
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	420			21
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		13%			67%			00%			+60%							
'92		23%			34%			06%			-68%							
'98		36%			12%			08%										
Total Plants/Acre (excluding Dead & Seedlings)											'82	4199	Dec:	10%				
											'92	10466		11%				
											'98	3300		14%				

A Y G R E	Form Class (No. of Plants)	Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total								
		1	2	3	4		1	2									
Artemisia nova																	
M	82	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	1	-	1	-	-	-	-	-	2	-	-	-	40	14	21	2
D	82	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	1	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%									
'92		00%			00%			00%									
'98		33%			33%			00%									
Total Plants/Acre (excluding Dead & Seedlings)											'82	0	Dec:	0%			
											'92	0		0%			
											'98	60		33%			
Arctostaphylos patula																	
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	29	-	-	-	-	-	-	-	29	-	-	-	966			29
	98	-	-	-	5	-	-	-	-	5	-	-	-	100			5
M	82	28	-	-	-	-	-	-	-	24	4	-	-	1866	20	16	28
	92	17	1	-	-	-	-	-	-	18	-	-	-	1200	27	30	18
	98	30	-	-	14	-	-	-	-	43	-	1	-	880	24	88	44
D	82	-	-	-	1	-	-	-	-	1	-	-	-	66			1
	92	24	-	-	-	-	-	-	-	24	-	-	-	1600			24
	98	1	-	-	1	-	-	-	-	1	-	-	1	40			2
X	82	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	160			8
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%			+49%						
'92		01%			00%			00%			-73%						
'98		00%			00%			04%									
Total Plants/Acre (excluding Dead & Seedlings)											'82	1932	Dec:	3%			
											'92	3766		42%			
											'98	1020		4%			

A Y G R E	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		
<i>Artemisia tridentata vaseyana</i>																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	6	9	-	-	-	-	-	-	-	15	-	-	-	300	18	25	15
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	4	1	-	-	-	-	-	-	-	4	-	-	1	100			5
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	80			4
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'92		00%			00%			00%										
'98		50%			00%			05%										
Total Plants/Acre (excluding Dead & Seedlings)										'82	0	Dec:	0%					
										'92	0		0%					
										'98	400		25%					
<i>Cercocarpus montanus</i>																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	1	-	-	-	-	-	-	-	-	1	-	-	-	33			1
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
Y	82	1	-	-	-	-	-	-	-	-	1	-	-	-	66			1
	92	-	-	-	1	-	-	-	-	-	1	-	-	-	66			1
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
M	82	-	2	-	-	-	-	-	-	-	2	-	-	-	133	29	18	2
	92	-	1	-	2	-	1	-	-	-	4	-	-	-	266	36	49	4
	98	-	2	4	-	2	-	-	-	-	8	-	-	-	160	49	58	8
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		67%			00%			00%			+40%							
'92		20%			20%			00%			-40%							
'98		40%			40%			00%										
Total Plants/Acre (excluding Dead & Seedlings)										'82	199	Dec:	0%					
										'92	332		0%					
										'98	200		10%					

A Y G R E	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				
<i>Chrysothamnus viscidiflorus</i>																	
M	82	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	2	-	-	1	-	-	-	-	-	3	-	-	-	60	8	10
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%									
'92		00%			00%			00%									
'98		00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-		
												'92	0		-		
												'98	60		-		
<i>Cowania mexicana stansburiana</i>																	
M	82	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	-	-	1	-	-	-	-	-	-	1	-	-	-	20	-	-
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%									
'92		00%			00%			00%									
'98		00%			100%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-		
												'92	0		-		
												'98	20		-		
<i>Gutierrezia sarothrae</i>																	
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	3	-	-	-	-	-	-	-	3	-	-	-	100			3
	98	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	82	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	2	-	-	-	-	-	-	-	2	-	-	-	40	7	11	2
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%									
'92		00%			00%			00%			-60%						
'98		00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-		
												'92	100		-		
												'98	40		-		
<i>Juniperus osteosperma</i>																	
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	1	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%									
'92		00%			00%			00%									
'98		00%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-		
												'92	0		-		
												'98	20		-		

A G 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				
<b>Mahonia repens</b>																		
S	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	92	-	-	-	-	-	-	1	-	-	1	-	-	-	33		1	
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	92	28	-	-	-	-	-	14	-	-	42	-	-	-	1400		42	
	98	15	-	-	2	-	-	-	-	-	17	-	-	-	340		17	
M	82	11	-	-	-	-	-	-	-	-	11	-	-	-	733	4	5	11
	92	1	-	-	-	-	-	2	-	-	3	-	-	-	200	7	4	3
	98	18	-	-	6	-	-	11	-	-	35	-	-	-	700	3	5	35
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%			+54%							
'92		00%			00%			00%			-35%							
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	733	Dec:	-			
												'92	1600		-			
												'98	1040		-			
<b>Pinus edulis</b>																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	-	-	-	1	-	-	-	-	-	1	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'92		00%			00%			00%										
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'92	0		-			
												'98	20		-			

A G 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				
<b>Quercus gambelii</b>																		
S	82	4	-	1	-	-	-	9	-	-	13	1	-	-	933		14	
	92	7	-	-	-	-	-	4	-	-	9	3	-	-	733		11	
	98	22	-	-	14	-	-	10	-	-	43	-	3	-	920		46	
Y	82	61	-	1	-	-	-	6	-	-	68	-	-	-	4533		68	
	92	56	58	4	13	7	-	12	6	-	108	44	4	-	10400		156	
	98	179	-	-	29	-	-	35	-	-	220	-	23	-	4860		243	
M	82	59	-	-	1	-	-	14	23	-	78	19	-	-	6466	72 34	97	
	92	5	-	1	-	10	-	-	42	-	58	-	-	-	3866	94 43	58	
	98	172	-	6	28	-	-	14	1	-	155	-	66	-	4420	41 24	221	
D	82	-	-	-	1	-	-	1	1	-	2	1	-	-	200		3	
	92	-	1	2	-	2	5	1	-	2	8	4	1	-	866		13	
	98	57	-	-	2	-	-	1	-	-	8	-	38	14	1200		60	
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	1220		61	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			.59%			00%			+26%							
'92		34%			06%			02%			-31%							
'98		00%			01%			27%										
Total Plants/Acre (excluding Dead & Seedlings)											'82	11199	Dec:	2%				
											'92	15132		6%				
											'98	10480		11%				
<b>Symphoricarpos oreophilus</b>																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	92	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	
	98	-	-	-	3	-	-	-	-	-	3	-	-	-	60	20 17	3	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'92		00%			00%			00%										
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)											'82	0	Dec:	-				
											'92	0		-				
											'98	60		-				

A Y G R E	Form Class (No. of Plants)	Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total									
		1	2	3	4												
Tetradymia canescens																	
S	82	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	92	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	1	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	92	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	98	3	-	-	-	-	-	-	-	3	-	-	-	60		3	
M	82	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	92	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	4	5	-	-	-	-	-	-	9	-	-	-	180	9	15	9
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>						
'82		00%			00%			00%									
'92		00%			00%			00%									
'98		42%			00%			00%									
Total Plants/Acre (excluding Dead & Seedlings)										'82	0	Dec:	-				
										'92	0		-				
										'98	240		-				