

Trend Study 14-2-04

Study site name: Brushy Basin.

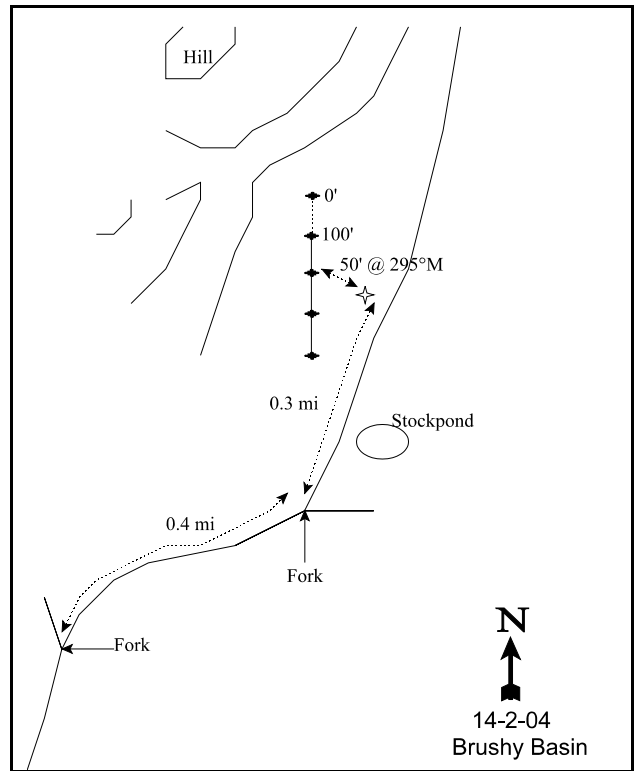
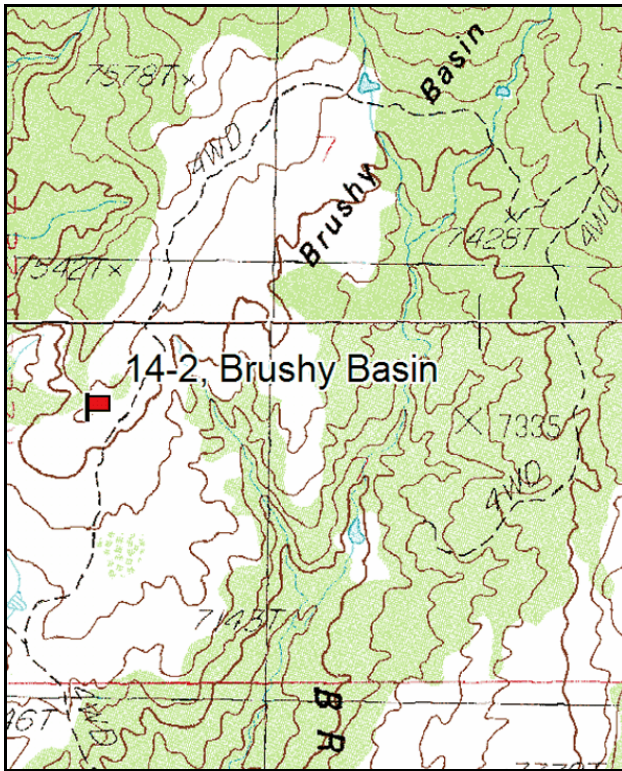
Vegetation type: Chained, Seeded P-J.

Compass bearing: frequency baseline 180 degrees magnetic.

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

LOCATION DESCRIPTION

From Blanding, go northwest on the mountain road (toward the Causeway, Elk Ridge) to a junction 0.6 miles beyond the Forest Service boundary. Turn left. After 0.05 miles, go straight through an intersection and continue 0.6 miles to a fork. Turn left. Go 0.75 miles to another fork, turn right. Turn right again after 0.7 miles. Proceed 0.4 miles and stay left at the fork. After 0.3 miles you reach the edge of a chaining. Continue 0.1 miles to a fork. Turn right. Go 0.1 miles, pass a stockpond and continue 0.2 miles to a witness post (green fence post) 10 feet off the west side of the road. From the witness post, walk 50 feet at 295°M to the 200 stake. The 0 foot baseline stake is found 200 feet to the north, and has browse tag #7869 attached.



Map Name: Manco Jim Butte

Diagrammatic Sketch

Township 35S, Range 22E, Section 7

GPS: NAD 27, UTM 12S 4178624 N, 627583 E

DISCUSSION

Brushy Basin - Trend Study No. 14-2

Brushy Basin is in the foothills south of the Abajo Mountains at an elevation of 7,400 feet. It has a slope of approximately 10%, with a southeast exposure. Seasonally, the washes in the area drain southward. The area is managed by the U.S. Forest Service and is part of a 1,400 acre chaining and seeding project done in 1971. Water is available in a stock pond about 0.2 miles down the road. The Brushy Basin unit is one of three units on a rest-rotation grazing system on the Camp Jackson Allotment. As of 1999 it was allotted for 300 cattle (1589 AUMs) grazing from June 16 to October 15. The Brushy Basin unit is grazed 2 months for 2 years and rested the third year. This transition zone of Ponderosa pine, oakbrush, serviceberry, sagebrush, pinyon and juniper is generally a spring and fall use area for deer. A pellet group transect on the site estimated 14 deer days use/acre (35 deer days use/ha), 15 elk days use/acre (37 elk days use/ha), and 33 cow use days/acre (82 cow days use/ha) in 1999. In 2004, deer use was estimated at 23 deer days use/acre (58 ddu/ha), elk use at 19 elk days use/acre (8 edu/ha), and cow use at 10 cow days use/acre (25 cdu/ha).

This site has variable soils, generally deep loam surface soils with clay loam subsoil with an estimated effective rooting depth of almost 17 inches. Soil texture is a sandy clay with a neutral pH (6.6). It contains 6% surface rock cover with most of the subsurface rock concentrated near the surface. Litter cover is abundant, with most of the litter as persistent debris left from the chaining. In 1999, there was evidence of sheet erosion and roads and trails in the area showed active soil movement from high intensity summer storm events. Bare ground cover was higher in 2004, but soil erosion was rated as stable.

There is a dominant overstory of Utah serviceberry and pinyon-juniper with mountain big sagebrush and bitterbrush. The key browse species are serviceberry, bitterbrush, and mountain big sagebrush. Utah serviceberry density was estimated at 140 plants/acre in 1994, averaging more than six feet in height and seven feet across. Density increased to 200 plants/acre in 2004 and 20% of the population was classified as young. Use was moderate on available plants, but many are only partly available due to their height. Leader growth was poor in 2004. Mountain big sagebrush is the most abundant shrub on the site and produces the most forage. Density of mountain big sagebrush was 3,333 plants/acre in 1986, 78% of which were young. The population declined slightly by 1994 to 2,320 plants/acre as the stand became more mature. Seedlings were abundant in 1994. Data from 1999 shows a slight increase in sagebrush density to 2,920 plants/acre with 45% of the population classified as young. Density declined by 13% (2,540 plants/acre) in 2004, but recruitment is still good with 24% of the population classified as young. Use was also higher in 2004 with 31% showing moderate use and 11% showing heavy use. Percent decadence has been very low each year. Cover has remained fairly constant at about 7% the last two times it was sampled. Bitterbrush is not abundant, but is scattered throughout the site. It has a prostrate growth form which received very heavy use in 1986. Density increased to 640 plants/acre in 1994 mostly due to the much larger sample now used. Utilization was light in 1994, increasing to moderate and heavy in 1999. Vigor was good with no decadent plants sampled in 1999. Density increased 43% in 2004 to 800 plants/acre. Decadency increased, but was still low at 13%. Eight percent of the population was young in 2004. Use was higher in 2004 with 65% showing heavy use.

Pinyon pine and Utah juniper are present in the chaining. Pinyon had an estimated density of 87 trees/acre in 1994. Junipers were less prevalent at 48 trees/acre. Tree density and size have increased. In 1999 density was estimated at 95 pinyon and 37 juniper trees/acre. Average diameter of pinyon was nearly 4 inches while juniper was nearly 4.5 inches. Twenty percent of the juniper trees sampled were trees which were tipped over by the chaining but still living. In 2004, pinyon density estimated 97 trees/acre with an average diameter of 3.8 inches. Juniper density estimated 50 trees/acre with an average diameter or 4.4 inches.

Herbaceous species are important on deer spring-fall transition range and elk winter range. In 1986, there was a vigorous and diverse stand of native and seeded grasses. Although grazing had been heavy, the grasses

appeared healthy and young plants were evident. Since then the herbaceous understory has declined as shrubs and trees have increased. The most common grasses are intermediate wheatgrass, crested wheatgrass, and mutton bluegrass. Nested frequency for perennial grasses have decreased significantly between 1986 and 1994, while nested frequency for forbs increased substantially. Sum of nested frequency of grasses declined slightly between 1994 and 1999 and again between 1999 and 2004. Cover decreased from 7% to only 3.5% in 2004. Sum of nested frequency declined significantly in 2004. The most abundant forb was mat penstemon, which increased significantly in 2004. The variety of native forbs found on the site provide some spring forage, but none are very numerous.

1986 APPARENT TREND ASSESSMENT

Depending on the management objective for this area, the trend in this community is up. However, woody species are increasing somewhat to the detriment of grasses. Some are undesirable species which include, broom snakeweed, pinyon, and juniper. The sagebrush and serviceberry may also have increasing populations. Yellow sweet clover, alfalfa, and bitterbrush are being heavily utilized. The grasses must be allowed to maintain a competitive ability with the low increaser subshrubs by not overgrazing in the late spring and early summer. With a high percent litter cover, the soil trend appears to be improving.

1994 TREND ASSESSMENT

Nested frequency of herbaceous understory has decreased from 1986 to 1994, mostly due to the loss of grasses, possibly from competition from the larger shrubs and the extended drought, coupled with early summer livestock use. Shrub density for the key species has decreased, but the biotic potential (proportion of seedlings to population) for mountain big sagebrush is very high at 57%. Sagebrush and Utah serviceberry are both only lightly hedged and in good vigor. Bitterbrush has increased contrary to what was predicted in the past trend assessment. Bare ground cover increased from 16% to 20%. Rock and pavement cover are stable at nearly 6%. Litter cover has decreased mostly because of the prolonged drought. The Desirable Components Index (see methods) rated this site as fair to good with score of 64 due to a low amount of palatable browse cover. The herbaceous understory is good.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - slightly down (2)

winter range condition (DC Index) - 64 (fair to good) Mountain big sagebrush/chaining type

1999 TREND ASSESSMENT

Trend for soil is stable. Percent cover for bare ground increased slightly while cover for litter increased. However, ground cover is not continuous and there is some erosion occurring. Trend for browse is up for mountain big sagebrush. Density has increased, utilization is light to moderate, vigor improved, and recruitment good due to high numbers of seedlings and young. Serviceberry and bitterbrush are moderate to heavily utilized, but appear to have healthy, stable populations. Trend for the herbaceous understory is down slightly. The increase in the density and size of shrubs and especially trees appears to have negatively effected the understory. Sum of nested frequency of perennial grasses has declined slightly while frequency of perennial forbs has remained similar to 1994 estimates. Composition of grasses is diverse but dominated by seeded grasses (crested and intermediate wheatgrass) which combine to produce 81% of the grass cover. Since 1994, nested frequency of intermediate wheatgrass has declined significantly, while frequency of crested wheatgrass has increased slightly (more drought tolerant). This change would be driven by long term drought which would favor crested wheatgrass. The composition of forbs is also diverse but only a few species are common. The DCI score improved to "good" (70), due to increased cover of palatable browse species with a

good proportion of young plants and low decadence.

TREND ASSESSMENT

soil - stable (3)

browse - up (5)

herbaceous understory - slightly down (2)

winter range condition (DC Index) - 70 (good) Mountain big sagebrush/chaining type

2004 TREND ASSESSMENT

The soil trend is stable. Bare ground is slightly higher, but the ratio of protective ground cover (vegetation, litter, and cryptogams) to bare ground has remained fairly stable. Erosion was rated stable in 2004. The browse trend is stable. Serviceberry has increased slightly in density. Mountain big sagebrush density declined slightly, but cover remained stable. Young plants make up 24% of the population and use has increased slightly. Decadency is very low at 7%. Bitterbrush density increased by 43%, while use has also increased. The herbaceous understory trend is down. Sum of nested frequency is down for both grasses and forbs. The three dominant grass species (crested wheatgrass, intermediate wheatgrass, and mutton bluegrass) all declined significantly. Drought conditions and increased shrub dominance may have led to the decrease in understory species. The DCI score declined to fair condition (54) due to a decline in the herbaceous understory.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - down (1)

winter range condition (DC Index) - 54 (fair) Mountain big sagebrush/chaining type

HERBACEOUS TRENDS --

Management unit 14 , Study no: 2

| T y p e | Species | Nested Frequency | | | | Average Cover % | | |
|-----------------------------|-----------------------|------------------|------|------|-----|-----------------|------|------|
| | | '86 | '94 | '99 | '04 | '94 | '99 | '04 |
| G | Agropyron cristatum | c198 | ab76 | b112 | a66 | 1.57 | 2.71 | 1.67 |
| G | Agropyron intermedium | d410 | c218 | b152 | a79 | 7.75 | 3.11 | 1.27 |
| G | Bromus inermis | b26 | a- | a- | a- | - | - | .00 |
| G | Bromus japonicus (a) | - | 1 | 6 | - | .00 | .03 | - |
| G | Bromus tectorum (a) | - | - | 2 | - | - | .00 | - |
| G | Carex spp. | c80 | b43 | ab22 | a1 | .76 | .41 | .03 |
| G | Koeleria cristata | - | 3 | 1 | - | .03 | .00 | - |
| G | Oryzopsis hymenoides | - | 1 | 3 | 7 | .01 | .03 | .02 |
| G | Poa fendleriana | b120 | b90 | b87 | a31 | 1.19 | .85 | .54 |
| G | Sitanion hystrix | b38 | ab27 | a6 | a- | .24 | .02 | - |
| G | Stipa spp. | 2 | - | - | - | - | - | - |
| Total for Annual Grasses | | 0 | 1 | 8 | 0 | 0.00 | 0.03 | 0 |
| Total for Perennial Grasses | | 874 | 458 | 383 | 184 | 11.55 | 7.15 | 3.54 |

| Type | Species | Nested Frequency | | | | Average Cover % | | |
|------|------------------------------|------------------|-----------------|-----------------|-----------------|-----------------|------|------|
| | | '86 | '94 | '99 | '04 | '94 | '99 | '04 |
| | Total for Grasses | 874 | 459 | 391 | 184 | 11.56 | 7.19 | 3.54 |
| F | Allium spp. | - | 2 | 3 | - | .00 | .00 | - |
| F | Arabis spp. | - | 1 | 7 | - | .00 | .04 | - |
| F | Astragalus miser | 5 | 4 | 4 | 12 | .21 | .21 | .38 |
| F | Cirsium spp. | 3 | 6 | 10 | - | .01 | .12 | - |
| F | Crepis acuminata | - | 2 | 8 | - | .00 | .04 | - |
| F | Cymopterus spp. | a- | b ⁴³ | b ⁴¹ | a ¹⁰ | .33 | .50 | .04 |
| F | Eriogonum elatum | - | 3 | - | - | .03 | - | - |
| F | Eriogonum racemosum | 4 | 4 | 10 | 4 | .04 | .07 | .01 |
| F | Helianthella uniflora | a- | ab ⁶ | b ¹³ | a- | .09 | .42 | - |
| F | Hymenoxys acaulis | - | 8 | 6 | 3 | .21 | .09 | .03 |
| F | Lappula occidentalis (a) | - | 3 | - | - | .00 | - | - |
| F | Lactuca serriola | - | 9 | - | - | .02 | - | - |
| F | Lesquerella fendleri | 16 | 25 | 19 | 7 | .05 | .05 | .02 |
| F | Lupinus spp. | - | 1 | 7 | 3 | .15 | .19 | .15 |
| F | Machaeranthera canescens | - | - | - | 1 | - | - | .00 |
| F | Machaeranthera grindelioides | 8 | - | 5 | 6 | - | .06 | .06 |
| F | Melilotus officinalis | a- | b ¹⁶ | a ⁵ | a ³ | 1.01 | .04 | .00 |
| F | Medicago sativa | - | - | 3 | 2 | .15 | .03 | .00 |
| F | Penstemon caespitosus | a- | b ⁴⁷ | a- | b ³⁷ | 1.43 | .06 | 1.48 |
| F | Pedicularis centranthera | a- | b ⁷ | a- | a- | .31 | - | .00 |
| F | Penstemon comarrhenus | - | - | - | 7 | - | - | .04 |
| F | Penstemon pachyphyllus | 8 | 3 | 6 | 2 | .03 | .06 | .03 |
| F | Penstemon thompsoniae | a- | a- | b ⁵³ | a- | - | 1.82 | - |
| F | Phlox longifolia | - | 6 | - | - | .01 | - | .00 |
| F | Polygonum douglasii (a) | - | a ⁶ | b ²² | a ⁷ | .01 | .05 | .01 |
| F | Tragopogon dubius | 3 | 8 | 1 | - | .05 | .00 | - |
| F | Trifolium gymnocarpon | - | 3 | 3 | 2 | .15 | .00 | .03 |
| F | Unknown forb-perennial | b ⁹ | a- | a- | b ²¹ | - | - | .44 |
| | Total for Annual Forbs | 0 | 9 | 22 | 7 | 0.01 | 0.05 | 0.01 |
| | Total for Perennial Forbs | 56 | 204 | 204 | 120 | 4.33 | 3.84 | 2.77 |
| | Total for Forbs | 56 | 213 | 226 | 127 | 4.35 | 3.89 | 2.78 |

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

BROWSE TRENDS --

Management unit 14 , Study no: 2

| Type | Species | Strip Frequency | | | Average Cover % | | |
|------------------|------------------------------------|-----------------|-----|-----|-----------------|-------|-------|
| | | '94 | '99 | '04 | '94 | '99 | '04 |
| B | Amelanchier utahensis | 7 | 5 | 6 | 3.05 | 3.33 | 2.91 |
| B | Artemisia tridentata vaseyana | 36 | 50 | 48 | 5.21 | 6.88 | 6.96 |
| B | Cercocarpus montanus | 1 | 2 | 2 | - | - | .00 |
| B | Chrysothamnus depressus | 6 | 13 | 7 | .15 | .45 | .33 |
| B | Chrysothamnus nauseosus hololeucus | 1 | 0 | 1 | - | - | .00 |
| B | Gutierrezia sarothrae | 15 | 13 | 17 | .49 | .21 | .30 |
| B | Juniperus osteosperma | 0 | 2 | 2 | .81 | 1.16 | .93 |
| B | Opuntia spp. | 3 | 4 | 3 | .15 | .38 | .15 |
| B | Pinus edulis | 0 | 1 | 1 | .94 | 3.52 | 3.79 |
| B | Purshia tridentata | 23 | 18 | 23 | 2.91 | 3.42 | 2.41 |
| B | Quercus gambelii | 0 | 3 | 4 | 1.00 | .76 | .78 |
| B | Yucca spp. | 1 | 1 | 0 | .63 | .00 | - |
| Total for Browse | | 93 | 112 | 114 | 15.37 | 20.13 | 18.60 |

CANOPY COVER, LINE INTERCEPT --

Management unit 14 , Study no: 2

| Species | Percent Cover | |
|-------------------------------|---------------|-------|
| | '99 | '04 |
| Amelanchier utahensis | 4.00 | 6.93 |
| Artemisia tridentata vaseyana | - | 11.01 |
| Cercocarpus montanus | - | .63 |
| Gutierrezia sarothrae | - | .31 |
| Juniperus osteosperma | 1.00 | 2.21 |
| Pinus edulis | 2.20 | 9.51 |
| Purshia tridentata | - | 2.08 |
| Quercus gambelii | - | 1.58 |

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 14 , Study no: 2

| Species | Average leader growth (in) |
|-------------------------------|----------------------------|
| | '04 |
| Amelanchier utahensis | 2.2 |
| Artemisia tridentata vaseyana | 1.9 |
| Cercocarpus montanus | 3.0 |
| Purshia tridentata | 3.1 |

POINT-QUARTER TREE DATA --
Management unit 14 , Study no: 2

| Species | Trees per Acre | | |
|-----------------------|----------------|-----|-----|
| | '94 | '99 | '04 |
| Juniperus osteosperma | 48 | 37 | 50 |
| Pinus edulis | 87 | 95 | 97 |

| Average diameter (in) | | |
|-----------------------|-----|-----|
| '94 | '99 | '04 |
| - | 4.5 | 4.4 |
| - | 4.0 | 3.8 |

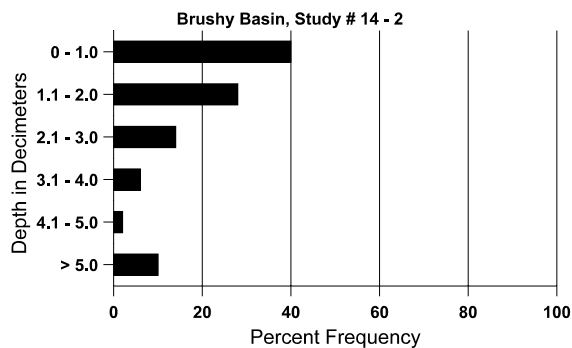
BASIC COVER --
Management unit 14 , Study no: 2

| Cover Type | Average Cover % | | | |
|-------------|-----------------|-------|-------|-------|
| | '86 | '94 | '99 | '04 |
| Vegetation | 4.75 | 31.59 | 30.04 | 24.81 |
| Rock | 4.50 | 4.86 | 6.09 | 7.54 |
| Pavement | .75 | .30 | 1.18 | 1.18 |
| Litter | 73.50 | 43.61 | 53.56 | 49.31 |
| Cryptogams | .25 | .04 | .06 | .00 |
| Bare Ground | 16.25 | 20.18 | 27.41 | 32.04 |

SOIL ANALYSIS DATA --
Management unit 14, Study no: 2, Study Name: Brushy Basin

| Effective rooting depth (in) | Temp °F (depth) | pH | %sand | %silt | %clay | %0M | PPM P | PPM K | ds/m |
|------------------------------|-----------------|-----|-------|-------|-------|-----|-------|-------|------|
| 16.6 | 56.0 (11.4) | 6.6 | 46.9 | 10.6 | 42.6 | 2.9 | 6.8 | 102.4 | 0.6 |

Stoniness Index



PELLET GROUP DATA --

Management unit 14 , Study no: 2

| Type | Quadrat Frequency | | |
|--------|-------------------|-----|-----|
| | '94 | '99 | '04 |
| Rabbit | 6 | 30 | 1 |
| Elk | 3 | 6 | 6 |
| Deer | 5 | 17 | 2 |
| Cattle | - | 4 | - |

| Days use per acre (ha) | |
|------------------------|---------|
| '99 | '04 |
| - | - |
| 15 (37) | 19 (8) |
| 14 (35) | 23 (58) |
| 33 (82) | 10 (25) |

BROWSE CHARACTERISTICS --

Management unit 14 , 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 | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 94 | 140 | 40 | - | 140 | - | - | 0 | 0 | - | - | 0 | 81/91 |
| 99 | 100 | 40 | - | 100 | - | - | 60 | 0 | - | - | 0 | 74/75 |
| 04 | 200 | 20 | 40 | 160 | - | 20 | 30 | 0 | - | - | 0 | 80/71 |
| Artemisia tridentata vaseyana | | | | | | | | | | | | |
| 86 | 3333 | 200 | 2600 | 733 | - | - | 17 | 1 | 0 | - | 13 | 14/22 |
| 94 | 2320 | 3120 | 140 | 2000 | 180 | 20 | 0 | .86 | 8 | - | 9 | 25/29 |
| 99 | 2920 | 3780 | 1320 | 1420 | 180 | 40 | 10 | 1 | 6 | - | 0 | 23/38 |
| 04 | 2540 | 480 | 600 | 1760 | 180 | 80 | 31 | 11 | 7 | 3 | 3 | 18/30 |
| Cercocarpus montanus | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 94 | 20 | - | - | 20 | - | 20 | 0 | 0 | - | - | 0 | 47/45 |
| 99 | 40 | - | - | 40 | - | - | 0 | 100 | - | - | 0 | 43/43 |
| 04 | 40 | - | - | 40 | - | - | 50 | 50 | - | - | 0 | 41/46 |
| Chrysothamnus depressus | | | | | | | | | | | | |
| 86 | 6966 | - | 166 | 6800 | - | - | 0 | 0 | 0 | - | 0 | 2/11 |
| 94 | 120 | 80 | 20 | 100 | - | - | 0 | 0 | 0 | - | 0 | 6/15 |
| 99 | 800 | 340 | 640 | 120 | 40 | 40 | 8 | 0 | 5 | 5 | 5 | 6/15 |
| 04 | 160 | - | - | 160 | - | - | 25 | 50 | 0 | - | 0 | 6/15 |
| Chrysothamnus nauseosus hololeucus | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 94 | 20 | - | 20 | - | - | - | 0 | 0 | - | - | 0 | 9/3 |
| 99 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 04 | 20 | - | - | 20 | - | - | 0 | 100 | - | - | 0 | 9/9 |

| | | 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>Echinocereus engelmannii</i> | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 94 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 99 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | 4/8 |
| 04 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | 4/9 |
| <i>Gutierrezia sarothrae</i> | | | | | | | | | | | | |
| 86 | 7932 | - | 833 | 6966 | 133 | - | 0 | 0 | 2 | - | 0 | 6/6 |
| 94 | 540 | 20 | 80 | 460 | - | - | 0 | 0 | 0 | - | 0 | 8/9 |
| 99 | 580 | 20 | 80 | 460 | 40 | 20 | 0 | 0 | 7 | 7 | 7 | 7/10 |
| 04 | 600 | - | 20 | 580 | - | - | 0 | 0 | 0 | - | 0 | 9/10 |
| <i>Juniperus osteosperma</i> | | | | | | | | | | | | |
| 86 | 66 | - | - | - | 66 | - | 0 | 0 | 100 | - | 0 | -/- |
| 94 | 0 | - | - | - | - | - | 0 | 0 | 0 | - | 0 | -/- |
| 99 | 40 | - | 40 | - | - | 40 | 0 | 0 | 0 | - | 0 | -/- |
| 04 | 40 | - | 20 | 20 | - | - | 0 | 0 | 0 | - | 0 | -/- |
| <i>Opuntia spp.</i> | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | 0 | - | 0 | -/- |
| 94 | 80 | - | - | 60 | 20 | - | 0 | 0 | 25 | 25 | 25 | 4/9 |
| 99 | 80 | - | - | 60 | 20 | - | 0 | 0 | 25 | - | 25 | 4/13 |
| 04 | 120 | - | - | 100 | 20 | 20 | 0 | 0 | 17 | 17 | 17 | 4/12 |
| <i>Pinus edulis</i> | | | | | | | | | | | | |
| 86 | 100 | - | 100 | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 94 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 99 | 20 | 20 | - | 20 | - | 20 | 0 | 0 | - | - | 0 | -/- |
| 04 | 20 | - | - | 20 | - | - | 0 | 0 | - | - | 0 | -/- |
| <i>Purshia tridentata</i> | | | | | | | | | | | | |
| 86 | 33 | 166 | - | 33 | - | - | 0 | 100 | 0 | - | 0 | 15/35 |
| 94 | 640 | - | 20 | 560 | 60 | - | 3 | 0 | 9 | - | 0 | 12/34 |
| 99 | 460 | 80 | 80 | 380 | - | 60 | 30 | 48 | 0 | - | 0 | 13/38 |
| 04 | 800 | - | 60 | 640 | 100 | 20 | 13 | 65 | 13 | 13 | 13 | 9/26 |
| <i>Quercus gambelii</i> | | | | | | | | | | | | |
| 86 | 300 | - | 300 | - | - | - | 89 | 11 | - | - | 0 | -/- |
| 94 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 99 | 160 | 20 | 60 | 100 | - | - | 0 | 0 | - | - | 0 | 50/35 |
| 04 | 260 | 20 | 220 | 40 | - | - | 0 | 0 | - | - | 0 | 47/30 |

| | | 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) |
| Sclerocactus | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 94 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 99 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | -/- |
| 04 | 0 | - | - | - | - | - | 0 | 0 | - | - | 0 | 4/4 |
| Yucca spp. | | | | | | | | | | | | |
| 86 | 0 | - | - | - | - | - | 0 | 0 | 0 | - | 0 | -/- |
| 94 | 40 | - | - | 40 | - | - | 0 | 0 | 0 | - | 100 | 14/29 |
| 99 | 20 | - | - | - | 20 | - | 0 | 0 | 100 | 100 | 100 | -/- |
| 04 | 0 | - | - | - | - | - | 0 | 0 | 0 | - | 0 | 5/10 |