

MOSBY MOUNTAIN - TREND STUDY NO. 9-16-10

Vegetation Type: Mountain Brush

Range Type: Crucial Deer Winter, Crucial Elk Winter

NRCS Ecological Site Description: Not Available

Land Ownership: USFS

Elevation: 7900 ft. (2409 m)

Aspect: South

Slope: 8%-10%

Transect bearing: 155° magnetic

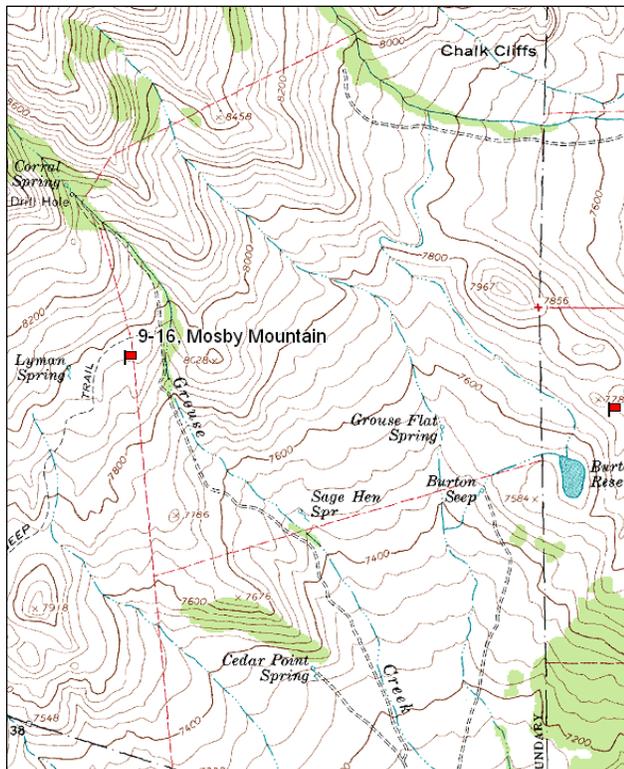
Belt placement: line 1 (11 & 96ft), line 2 (30ft), line 3 (50ft), line 4 (72ft).

Directions:

From the town of Whiterocks, go east on White Rocks Rd (11500 N) approximately 1.75 miles to a "T" in the road. Turn left (north) on White Rocks Loop Rd (5500 E) and go 3.5 miles to an intersection where two roads fork off to the right. Turn right then take the left fork. Head north for approximately 1.9 miles to a two-track on the left (west) side of the road. Turn left and drive 0.1 miles to a fork. Take the right fork and drive 1.85 miles to the Mosby Mountain Exclosure. The 0-foot baseline stake is located 24 paces from the southwest corner of the big game exclosure bearing 210°M.

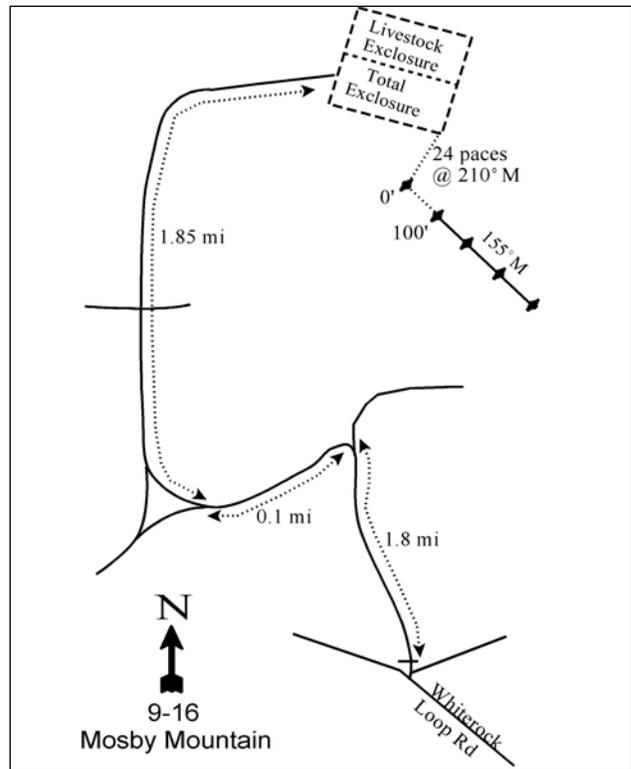
This site may also be accessed from the east by traveling north through Tridell on 8000 E. Go though the reservation then west to Mosby Mountain.

Map Name: Lake Mountain



Township: 3S Range: 18E Section: 14

Diagrammatic Sketch:



GPS: NAD 83, UTM 12T 595901 E 4490608 N

MOSBY MOUNTAIN - TREND STUDY NO. 9-16

Site Information

Site Description: The study is adjacent to the Mosby Mountain big game exclosure and pellet group transect, and samples a mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and grass community with scattered serviceberry (*Amelanchier utahensis*) and bitterbrush (*Purshia tridentata*). Lyman springs is about a quarter mile to the west of the site. Soon after the reading of this study in August 1988, the area was burned by a wildfire. During the 1995 reading, it was noted that belts 1 and 5 from the original baseline were not burned while belts 2, 3, and 4 were burned. As a result, most of the shrubs on the burned belts were eliminated. The area is managed by the U.S. Forest Service as part of the Mosby Mountain cattle allotment. Cattle were still on the site during the 1995, 2000 and 2005 readings. Pellet group transect data has indicated light use by deer and elk since 2000 (Table - Pellet Group Data).

Browse: Browse species are scattered partially due to the spotty burn in 1988. The most abundant shrub is mountain big sagebrush which has steadily increased in cover since 1995 and provides the majority of the browse cover on the site (Table - Browse Trends). The sagebrush is comprised of a moderately dense stand of small, mature plants that have displayed light to moderate use. The population has been healthy with low decadence and good vigor, and recruitment of young plants has been generally good. Recruitment of young sagebrush plants was very high in 2010. Secondary browse species consist of serviceberry and bitterbrush, which are found in much lower densities on the site. These species are more highly preferred and utilization has been heavy over the course of the study. Bitterbrush plants have a prostrate growth form and may not be available during deep snow. Other palatable species include Fendler ceanothus (*Ceanothus fendleri*), Wyeth eriogonum (*Eriogonum heracleoides*) and blueberry elder (*Sambucus cerulea*) that occur in low densities across the site. The health of the Fendler ceanothus population decreased substantially with nearly all the population being decadent and displaying poor vigor in 2010 (Table - Browse Characteristics).

Herbaceous Understory: Grasses on the site are diverse and abundant, and are dominated by native perennial species. The dominant grasses include thickspike wheatgrass (*Agropyron dasystachyum*), mutton bluegrass (*Poa fendleriana*), Sandberg bluegrass (*P. secunda*) and needle-and-thread (*Stipa comata*). All grasses had moderate use in 2005, which made identification difficult on some plants. Thickspike wheatgrass has decreased in cover and nested frequency since 1995. Other perennial species include Kentucky bluegrass (*Poa pratensis*), bottlebrush squirreltail (*Sitanion hystrix*) and Letterman needlegrass (*Stipa lettermani*). Cheatgrass (*Bromus tectorum*) is also moderately abundant on the site, but was not sampled in 2000. Forbs are also diverse and abundant on the site. There was a large increase in the cover of perennial forbs from 1995 to 2000. The most common perennial forb species include Hooker balsamroot (*Balsamorhiza hookeri*), trailing fleabane (*Erigeron flagellaris*), silvery lupine (*Lupinus argenteus*) and aster (*Aster sp.*) (Table - Herbaceous Trends).

Soil: The soils are loam to sandy clay loam in texture with a slightly acidic soil reaction (pH 6.4) and fairly high organic matter (4.5%) (Table - Soil Analysis Data). On nearby steeper slopes, noticeable soil movement was reported in 1988. Bare ground cover has been moderately low, but was moderately high in 2005. Abundant herbaceous vegetation, litter, and rock cover have helped to keep erosion at minimal levels (Table - Basic Cover). The soil erosion condition was classified as stable in 2005 and 2010.

Trend Assessments

Browse:

- **1982 to 1988 - stable (0):** The density of mountain big sagebrush and serviceberry increased, but decadence also increased substantially in both species.
- **1988 to 1995 - down (-2):** Differences in density may be related to the larger sample area used in 1995, but it is apparent that the wildfire in 1988 reduced the browse on this site. Though plants are generally smaller, most of the browse appears healthy with low decadence and good vigor.

- **1995 to 2000 - slightly up (+1):** Density of mountain big sagebrush increased 19% from 1,600 plants/acre to 1,900 plants/acre, and cover increased from 3% to 5%. Density of serviceberry remained similar, but cover increased from 2% to 3%. Recruitment of young serviceberry plants increased from 4% to 20% of the population.
- **2000 to 2005 - slightly down (-1):** The density of mountain big sagebrush decreased 19% to 1,540 plants/acre, though cover remained similar. The density and cover of serviceberry remained similar.
- **2005 to 2010 - up (+2):** The density of mountain big sagebrush increased four-fold to 6,220 plants/acre, and cover increased to 9%. Recruitment of young sagebrush plants increased to 34% of the population. However, Fendler ceanothus increased to 93% in decadence and poor vigor, respectively, and cover decreased from 4% to less than 1%. The density of serviceberry increased by 21% to 460 plants/acre and cover increased slightly from 3% to 4%.

Grass:

- **1982 to 1988 - no trend (NT):** Only quadrat frequency data for grasses are available from 1982, so no trend was given.
- **1988 to 1995 - slightly down (-1):** The perennial grass sum of nested frequency decreased by 15%.
- **1995 to 2000 - slightly down (-1):** The sum of nested frequency of perennial grasses decreased by 11%, but cover increased from 15% to 23%. One positive aspect of the trend was that no cheatgrass was sampled on the site.
- **2000 to 2005 - stable (0):** There was little change in the sum of nested frequency of perennial grasses, though cover decreased to 15% again. Cheatgrass increased significantly and was again common on the site.
- **2005 to 2010 - stable (0):** The sum of nested frequency of perennial grasses remained similar, but cover increased to 19%.

Forb:

- **1982 to 1988 - no trend (NT):** Only quadrat frequency data for forbs are available from 1982, so no trend was given.
- **1988 to 1995 - down (-2):** The sum of nested frequency of perennial forbs decreased by 29%.
- **1995 to 2000 - slightly down (-1):** There was an 18% decrease in the sum of nested frequency of perennial forbs despite an increase in cover from 5% to 12%. Annual forbs decreased substantially on the site.
- **2000 to 2005 - up (+2):** The perennial forb sum of nested frequency increased by 49%, though cover remained similar. Annual forbs again increased and were common on the site.
- **2005 to 2010 - down (-2):** The sum of nested frequency of perennial forbs decreased by 20%, although they did not decrease to 2000 levels. Cover of perennial forbs remained similar, but annual forbs decreased in cover from 3% to less than 1%.

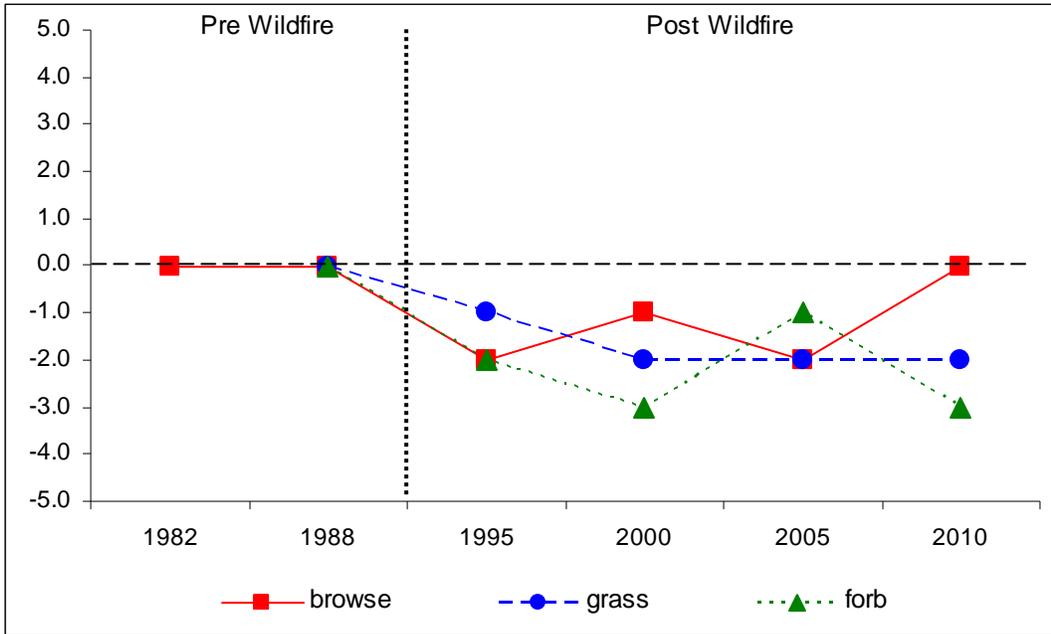
DEER DESIRABLE COMPONENTS INDEX - MID-LEVEL POTENTIAL SCALE --

Management unit 9, study no: 16

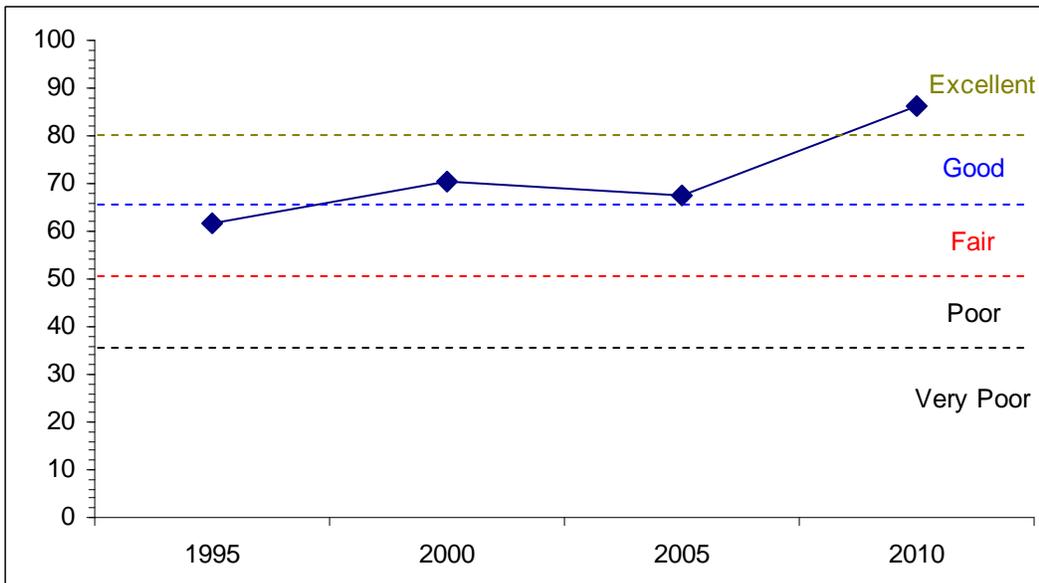
| Year | Preferred Browse Cover | Preferred Browse Decadence | Preferred Browse Young | Perennial Grass Cover | Annual Grass Cover | Perennial Forb Cover | Noxious Weeds | Total Score | Ranking |
|------|------------------------|----------------------------|------------------------|-----------------------|--------------------|----------------------|---------------|-------------|-----------|
| 95 | 7.0 | 13.0 | 3.4 | 30.0 | -1.0 | 9.2 | 0.0 | 61.6 | Fair |
| 00 | 11.3 | 12.7 | 6.6 | 30.0 | 0.0 | 10.0 | 0.0 | 70.6 | Good |
| 05 | 12.2 | 11.3 | 5.5 | 30.0 | -1.6 | 10.0 | 0.0 | 67.5 | Good |
| 10 | 21.2 | 14.8 | 12.1 | 30.0 | -2.0 | 10.0 | 0.0 | 86.1 | Excellent |

Trend Summary

CUMULATIVE RANGE TREND ASSESSMENT--
 Management unit 9, Study no: 16



DEER DESIRABLE COMPONENTS INDEX TREND, MID-LEVEL POTENTIAL--
 Management unit 9, Study no: 16



HERBACEOUS TRENDS--
Management unit 09, Study no: 16

| Type | Species | Nested Frequency | | | | | Average Cover % | | | |
|-----------------------------|--------------------------|------------------|------|------|-------|-------|-----------------|-------|-------|-------|
| | | '88 | '95 | '00 | '05 | '10 | '95 | '00 | '05 | '10 |
| G | Agropyron dasystachyum | bc260 | c266 | b211 | b224 | a156 | 8.28 | 11.19 | 4.03 | 1.57 |
| G | Bromus tectorum (a) | - | c115 | a- | b74 | bc84 | 1.28 | - | 2.12 | 2.60 |
| G | Carex sp. | a- | a- | a- | a- | b9 | - | - | - | .36 |
| G | Melica bulbosa | - | - | - | - | 1 | - | - | - | .00 |
| G | Poa fendleriana | c277 | a149 | b200 | ab177 | ab205 | 2.87 | 4.78 | 4.42 | 6.54 |
| G | Poa pratensis | a4 | c105 | b42 | ab23 | ab26 | 1.05 | 1.29 | .29 | 1.04 |
| G | Poa secunda | c182 | a33 | a30 | ab52 | b89 | .31 | .58 | 1.10 | 3.50 |
| G | Sitanion hystrix | a16 | a19 | b58 | a17 | a18 | .09 | 1.87 | .11 | .09 |
| G | Stipa comata | a21 | b63 | bc70 | cd107 | d111 | 1.77 | 2.75 | 4.87 | 5.36 |
| G | Stipa lettermani | cd53 | d58 | a7 | ab11 | bc32 | .84 | .30 | .13 | .50 |
| Total for Annual Grasses | | 0 | 115 | 0 | 74 | 84 | 1.28 | 0 | 2.12 | 2.60 |
| Total for Perennial Grasses | | 813 | 693 | 618 | 611 | 647 | 15.22 | 22.78 | 14.98 | 19.00 |
| Total for Grasses | | 813 | 808 | 618 | 685 | 731 | 16.51 | 22.78 | 17.10 | 21.60 |
| F | Agoseris glauca | a- | a3 | a- | ab10 | b11 | .00 | - | .07 | .06 |
| F | Allium sp. | ab3 | c60 | a- | c76 | b18 | .15 | - | .18 | .11 |
| F | Antennaria rosea | c61 | ab31 | bc56 | a17 | a24 | .93 | 3.15 | .16 | .71 |
| F | Arabis sp. | c60 | b12 | a- | b16 | a- | .03 | - | .05 | - |
| F | Artemisia ludoviciana | - | - | - | 1 | 7 | - | .00 | .00 | .09 |
| F | Aster sp. | 68 | 65 | 75 | 85 | 80 | .95 | 1.70 | 2.24 | 1.97 |
| F | Astragalus purshii | b28 | ab7 | a- | ab10 | a1 | .06 | - | .13 | .00 |
| F | Astragalus sp. | 19 | 2 | 3 | 1 | 5 | .00 | .01 | .00 | .01 |
| F | Balsamorhiza hookeri | c157 | b104 | a60 | ab83 | b111 | 1.15 | 2.28 | 2.70 | 5.50 |
| F | Calochortus nuttallii | 3 | - | - | - | 5 | - | - | - | .01 |
| F | Camelina microcarpa (a) | - | a7 | a- | b23 | a- | .02 | - | .05 | - |
| F | Cirsium sp. | - | - | - | 1 | - | - | - | .00 | - |
| F | Collinsia parviflora (a) | - | b60 | a9 | c113 | bc88 | .27 | .02 | .67 | .32 |
| F | Collomia linearis (a) | - | c75 | a- | ab163 | b27 | .24 | - | .47 | .10 |
| F | Comandra pallida | a- | a- | a3 | ab12 | b18 | - | .15 | .05 | .09 |
| F | Crepis acuminata | a- | b18 | a- | a- | a1 | .07 | - | - | .00 |
| F | Cryptantha sp. | - | 1 | - | 1 | 1 | .00 | - | .00 | .00 |
| F | Descurainia pinnata (a) | b23 | b27 | a2 | ab17 | a- | .10 | .00 | .44 | - |
| F | Draba sp. (a) | - | a- | a- | b8 | ab11 | - | - | .05 | .02 |
| F | Erigeron divergens | a- | a- | a- | a3 | b32 | - | - | .07 | .26 |
| F | Erigeron flagellaris | a19 | a30 | a92 | b71 | b17 | .09 | 2.88 | 1.43 | .05 |
| F | Eriogonum alatum | b122 | a3 | a11 | a- | a2 | .01 | .24 | - | .03 |
| F | Eriogonum racemosum | - | - | - | 6 | - | - | - | .02 | - |
| F | Eriogonum umbellatum | ab6 | ab1 | a- | b10 | a- | .03 | - | .02 | - |
| F | Heterotheca villosa | a- | b13 | bc12 | ab8 | c29 | .20 | .16 | .49 | .90 |
| F | Lactuca serriola | - | 5 | - | - | - | .01 | - | - | - |
| F | Lappula occidentalis (a) | - | 1 | - | 9 | - | .00 | - | .02 | - |
| F | Lepidium densiflorum (a) | a- | b92 | a- | a4 | a3 | .25 | - | .01 | .00 |
| F | Lesquerella sp. | - | - | - | - | 1 | - | - | - | .00 |
| F | Lithospermum ruderales | 8 | 15 | 7 | 4 | 5 | .41 | .08 | .18 | .33 |

| Type | Species | Nested Frequency | | | | | Average Cover % | | | |
|---------------------------|--------------------------|------------------|------|-----|------|------|-----------------|-------|-------|-------|
| | | '88 | '95 | '00 | '05 | '10 | '95 | '00 | '05 | '10 |
| F | Lomatium sp. | a- | a3 | a3 | b25 | b22 | .00 | .00 | .13 | .06 |
| F | Lupinus argenteus | ab17 | a3 | b23 | b28 | ab15 | .06 | .35 | 2.38 | .25 |
| F | Microsteris gracilis (a) | - | a4 | a- | b66 | a8 | .01 | - | .37 | .01 |
| F | Orobanche sp. | - | - | - | 2 | - | - | - | .00 | - |
| F | Penstemon sp. | 15 | 8 | 9 | 13 | 9 | .01 | .10 | .15 | .06 |
| F | Phlox longifolia | b24 | ab16 | a2 | ab13 | a6 | .03 | .00 | .03 | .01 |
| F | Polygonum douglasii (a) | - | d177 | a4 | c135 | b84 | 1.08 | .00 | .34 | .29 |
| F | Potentilla gracilis | - | 1 | 2 | 2 | 2 | .00 | .15 | .03 | .03 |
| F | Sedum lanceolatum | 5 | 1 | - | - | - | .00 | - | - | - |
| F | Senecio multilobatus | - | - | 1 | - | 1 | - | .00 | - | .15 |
| F | Sphaeralcea coccinea | ab13 | b19 | a3 | ab | ab11 | .11 | .06 | .04 | .18 |
| F | Taraxacum officinale | a- | b28 | a6 | b19 | a6 | .16 | .06 | .22 | .01 |
| F | Thermopsis montana | - | - | - | 3 | - | - | - | .06 | - |
| F | Tragopogon dubius | ab10 | ab6 | ab5 | b18 | a1 | .04 | .04 | .16 | .03 |
| F | Zigadenus paniculatus | - | - | - | 9 | 5 | - | - | .05 | .04 |
| Total for Annual Forbs | | 23 | 443 | 15 | 538 | 221 | 1.98 | 0.02 | 2.45 | 0.75 |
| Total for Perennial Forbs | | 638 | 455 | 373 | 554 | 446 | 4.59 | 11.47 | 11.12 | 11.02 |
| Total for Forbs | | 661 | 898 | 388 | 1092 | 667 | 6.57 | 11.50 | 13.57 | 11.78 |

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

BROWSE TRENDS--

Management unit 09, Study no: 16

| Type | Species | Strip Frequency | | | | Average Cover % | | | |
|------------------|---|-----------------|-----|-----|-----|-----------------|-------|-------|-------|
| | | '95 | '00 | '05 | '10 | '95 | '00 | '05 | '10 |
| B | Amelanchier utahensis | 22 | 19 | 19 | 21 | 1.81 | 2.75 | 2.69 | 4.37 |
| B | Artemisia tridentata vaseyana | 41 | 43 | 43 | 77 | 3.40 | 4.54 | 5.44 | 9.32 |
| B | Ceanothus fendleri | 7 | 7 | 7 | 6 | 1.92 | 2.12 | 3.45 | .96 |
| B | Chrysothamnus nauseosus graveolens | 0 | 1 | 0 | 0 | - | - | - | - |
| B | Chrysothamnus viscidiflorus lanceolatus | 4 | 3 | 3 | 5 | .18 | .03 | .00 | .15 |
| B | Eriogonum heracleoides | 12 | 6 | 11 | 13 | .56 | .30 | 1.05 | .72 |
| B | Gutierrezia sarothrae | 3 | 7 | 9 | 11 | - | .15 | .56 | .10 |
| B | Opuntia sp. | 6 | 5 | 4 | 7 | - | .03 | - | .07 |
| B | Purshia tridentata | 10 | 12 | 12 | 15 | .03 | 1.00 | .93 | 1.98 |
| B | Symphoricarpos oreophilus | 6 | 6 | 5 | 7 | .06 | .15 | .15 | .33 |
| Total for Browse | | 111 | 109 | 113 | 162 | 7.98 | 11.09 | 14.30 | 18.02 |

CANOPY COVER, LINE INTERCEPT--

Management unit 09, Study no: 16

| Species | Percent Cover | |
|-------------------------------|---------------|-------|
| | '05 | '10 |
| Amelanchier utahensis | 5.58 | 9.03 |
| Artemisia tridentata vaseyana | 7.38 | 15.88 |
| Ceanothus fendleri | 4.71 | 3.06 |
| Eriogonum heracleoides | .46 | 1.16 |
| Gutierrezia sarothrae | - | .03 |
| Opuntia sp. | - | .10 |
| Purshia tridentata | 2.58 | 1.48 |
| Symphoricarpos oreophilus | .03 | .30 |

KEY BROWSE ANNUAL LEADER GROWTH--

Management unit 09, Study no: 16

| Species | Average leader growth (in) | |
|-------------------------------|----------------------------|-----|
| | '05 | '10 |
| Amelanchier utahensis | 3.6 | 3.5 |
| Artemisia tridentata vaseyana | 2.2 | 2.1 |
| Purshia tridentata | 2.8 | 3.2 |

BASIC COVER--

Management unit 09, Study no: 16

| Cover Type | Average Cover % | | | | | |
|-------------|-----------------|-------|-------|-------|-------|-------|
| | '82 | '88 | '95 | '00 | '05 | '10 |
| Vegetation | 7.00 | 13.00 | 39.93 | 49.49 | 47.52 | 50.22 |
| Rock | .25 | 2.50 | 6.85 | 7.48 | 5.47 | 7.29 |
| Pavement | .50 | 1.00 | .23 | .60 | .35 | 2.34 |
| Litter | 72.00 | 56.50 | 49.51 | 50.47 | 25.79 | 41.37 |
| Cryptogams | .75 | 5.25 | .00 | .46 | .05 | .01 |
| Bare Ground | 19.50 | 21.75 | 14.68 | 20.87 | 30.02 | 18.70 |

SOIL ANALYSIS DATA --

Management unit 9, Study no: 16, Study Name: Mosby Mountain

| Effective rooting depth (in) | pH | loam | | | %OM | PPM P | PPM K | ds/m |
|------------------------------|-----|-------|-------|-------|-----|-------|-------|------|
| | | %sand | %silt | %clay | | | | |
| 9.3 | 6.4 | 50.9 | 28.8 | 20.3 | 4.5 | 27.8 | 316.8 | 1.4 |

PELLET GROUP DATA--

Management unit 09, Study no: 16

| Type | Quadrat Frequency | | | | Days use per acre (ha) | | |
|--------|-------------------|-----|-----|-----|------------------------|----------|---------|
| | '95 | '00 | '05 | '10 | '00 | '05 | '10 |
| Rabbit | 3 | - | 17 | 5 | - | - | - |
| Moose | - | 1 | - | - | - | - | - |
| Horse | 1 | - | - | - | - | - | - |
| Elk | 21 | 13 | 17 | 6 | 20 (50) | 13 (33) | 23 (58) |
| Deer | 16 | 11 | 15 | 16 | 9 (22) | 13 (33) | 14 (35) |
| Cattle | 24 | 7 | 21 | 8 | 36 (88) | 46 (115) | 35 (86) |

BROWSE CHARACTERISTICS--
Management unit 09, Study no: 16

| Year | Plants per Acre (excluding seedlings) | Age class distribution | | | Seedling (plants/acre) | Utilization | | % poor vigor | Average Height Crown (in) |
|--|--|------------------------|-------------|---------------|---------------------------|---------------|------------|--------------------|------------------------------|
| | | % Young | % Mature | % Decadent | | % moderate | % heavy | | |
| <i>Amelanchier utahensis</i> | | | | | | | | | |
| 82 | 1065 | 25 | 75 | 0 | - | 38 | 63 | 6 | 23/25 |
| 88 | 1265 | 53 | 26 | 21 | 133 | 21 | 32 | 5 | 35/37 |
| 95 | 460 | 4 | 91 | 4 | 40 | 39 | 39 | 0 | 23/34 |
| 00 | 400 | 20 | 80 | 0 | - | 50 | 25 | 0 | 31/43 |
| 05 | 380 | 5 | 89 | 5 | - | 11 | 84 | 0 | 33/47 |
| 10 | 460 | 9 | 91 | 0 | 180 | 35 | 48 | 0 | 41/54 |
| <i>Artemisia tridentata vaseyana</i> | | | | | | | | | |
| 82 | 2931 | 14 | 82 | 5 | - | 7 | 0 | 0 | 16/21 |
| 88 | 3598 | 19 | 54 | 28 | 133 | 19 | 0 | 2 | 25/29 |
| 95 | 1600 | 8 | 85 | 8 | 60 | 61 | 20 | 0 | 14/21 |
| 00 | 1900 | 12 | 75 | 14 | - | 28 | 0 | 4 | 13/23 |
| 05 | 1540 | 16 | 66 | 18 | 2820 | 45 | 6 | 14 | 19/34 |
| 10 | 6220 | 34 | 65 | 1 | 2760 | 9 | .32 | .32 | 15/25 |
| <i>Ceanothus fendleri</i> | | | | | | | | | |
| 82 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 88 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 95 | 260 | 0 | 100 | 0 | - | 0 | 0 | 0 | 9/54 |
| 00 | 200 | 0 | 100 | 0 | - | 0 | 0 | 0 | 11/67 |
| 05 | 420 | 0 | 100 | 0 | - | 0 | 0 | 0 | 9/51 |
| 10 | 600 | 7 | 0 | 93 | - | 0 | 0 | 93 | 6/11 |
| <i>Chrysothamnus nauseosus graveolens</i> | | | | | | | | | |
| 82 | 66 | 0 | 100 | - | - | 0 | 0 | 0 | 19/15 |
| 88 | 66 | 0 | 100 | - | - | 0 | 0 | 100 | 29/9 |
| 95 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 13/11 |
| 00 | 20 | 0 | 100 | - | - | 0 | 0 | 0 | 15/19 |
| 05 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 16/15 |
| 10 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 15/21 |
| <i>Chrysothamnus viscidiflorus lanceolatus</i> | | | | | | | | | |
| 82 | 399 | 33 | 67 | 0 | - | 0 | 0 | 0 | 10/14 |
| 88 | 665 | 40 | 60 | 0 | - | 0 | 0 | 60 | 7/9 |
| 95 | 80 | 0 | 100 | 0 | - | 0 | 25 | 0 | 8/13 |
| 00 | 60 | 0 | 100 | 0 | - | 0 | 0 | 0 | 6/10 |
| 05 | 60 | 0 | 100 | 0 | - | 0 | 0 | 0 | 11/21 |
| 10 | 100 | 0 | 80 | 20 | - | 0 | 0 | 0 | 12/19 |

| Year | Plants per Acre (excluding seedlings) | Age class distribution | | | Seedling (plants/acre) | Utilization | | % poor vigor | Average Height Crown (in) |
|-------------------------------|--|------------------------|-------------|---------------|---------------------------|---------------|------------|--------------------|------------------------------|
| | | % Young | % Mature | % Decadent | | % moderate | % heavy | | |
| <i>Eriogonum heracleoides</i> | | | | | | | | | |
| 82 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 88 | 265 | 25 | 75 | - | - | 25 | 0 | 0 | 4/7 |
| 95 | 540 | 33 | 67 | - | - | 0 | 0 | 0 | 5/16 |
| 00 | 220 | 36 | 64 | - | - | 0 | 0 | 0 | 4/11 |
| 05 | 460 | 4 | 96 | - | - | 17 | 0 | 0 | 10/14 |
| 10 | 660 | 0 | 100 | - | - | 0 | 0 | 0 | 4/12 |
| <i>Gutierrezia sarothrae</i> | | | | | | | | | |
| 82 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 88 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 95 | 120 | 0 | 100 | - | - | 0 | 0 | 0 | 9/12 |
| 00 | 320 | 6 | 94 | - | 20 | 0 | 0 | 0 | 7/8 |
| 05 | 560 | 0 | 100 | - | - | 0 | 0 | 0 | 8/10 |
| 10 | 540 | 7 | 93 | - | - | 0 | 0 | 0 | 11/10 |
| <i>Opuntia sp.</i> | | | | | | | | | |
| 82 | 133 | 0 | 100 | 0 | - | 0 | 0 | 0 | 1/12 |
| 88 | 665 | 40 | 60 | 0 | 66 | 0 | 0 | 20 | 4/9 |
| 95 | 140 | 0 | 100 | 0 | - | 0 | 0 | 29 | 3/14 |
| 00 | 200 | 20 | 20 | 60 | - | 0 | 0 | 10 | 2/12 |
| 05 | 80 | 0 | 100 | 0 | - | 0 | 0 | 0 | 2/11 |
| 10 | 140 | 57 | 43 | 0 | - | 0 | 14 | 0 | 6/11 |
| <i>Pediocactus simpsonii</i> | | | | | | | | | |
| 82 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 88 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 95 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 00 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 05 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 10 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 3/7 |
| <i>Purshia tridentata</i> | | | | | | | | | |
| 82 | 333 | 0 | 100 | - | - | 60 | 40 | 0 | 7/19 |
| 88 | 599 | 44 | 56 | - | 66 | 33 | 33 | 0 | 10/19 |
| 95 | 240 | 25 | 75 | - | - | 50 | 17 | 0 | 10/32 |
| 00 | 300 | 0 | 100 | - | - | 60 | 27 | 0 | 12/42 |
| 05 | 300 | 0 | 100 | - | - | 0 | 100 | 0 | 13/45 |
| 10 | 380 | 11 | 89 | - | - | 26 | 47 | 0 | 18/46 |
| <i>Sambucus cerulea</i> | | | | | | | | | |
| 82 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 88 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 95 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 00 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 47/69 |
| 05 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 10 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | -/- |

| | | Age class distribution | | | | | | Utilization | | | |
|---------------------------|--|------------------------|----------|------------|---------------------------|------------|---------|--------------|------------------------------|--|--|
| Year | Plants per Acre (excluding seedlings) | % Young | % Mature | % Decadent | Seedling (plants/acre) | % moderate | % heavy | % poor vigor | Average Height Crown (in) | | |
| Symphoricarpos oreophilus | | | | | | | | | | | |
| 82 | 0 | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- | | |
| 88 | 66 | 0 | 100 | 0 | - | 0 | 0 | 0 | 16/14 | | |
| 95 | 200 | 40 | 60 | 0 | - | 10 | 30 | 0 | 11/19 | | |
| 00 | 140 | 0 | 100 | 0 | - | 0 | 0 | 0 | 15/21 | | |
| 05 | 140 | 29 | 57 | 14 | 20 | 0 | 14 | 14 | 15/32 | | |
| 10 | 200 | 0 | 100 | 0 | - | 0 | 0 | 0 | 14/38 | | |