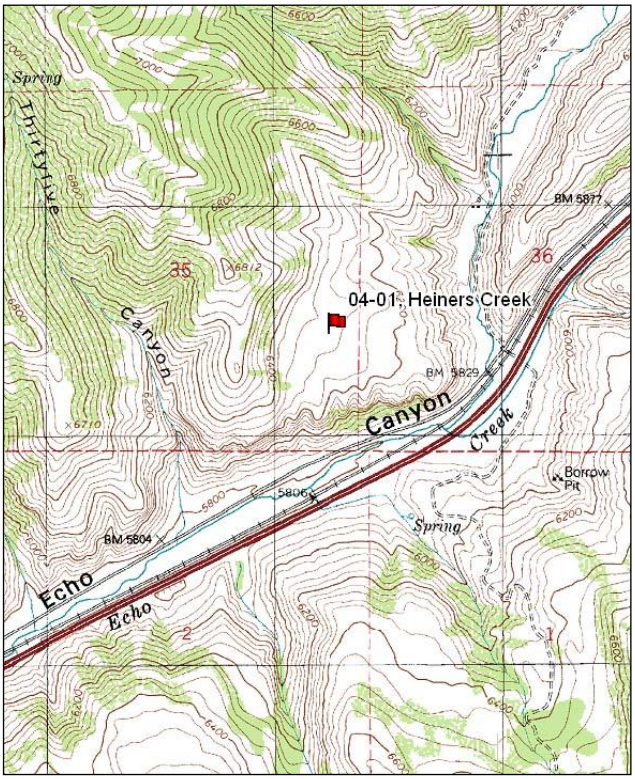
HEINER'S CREEK - TREND STUDY NO. 4-1-11

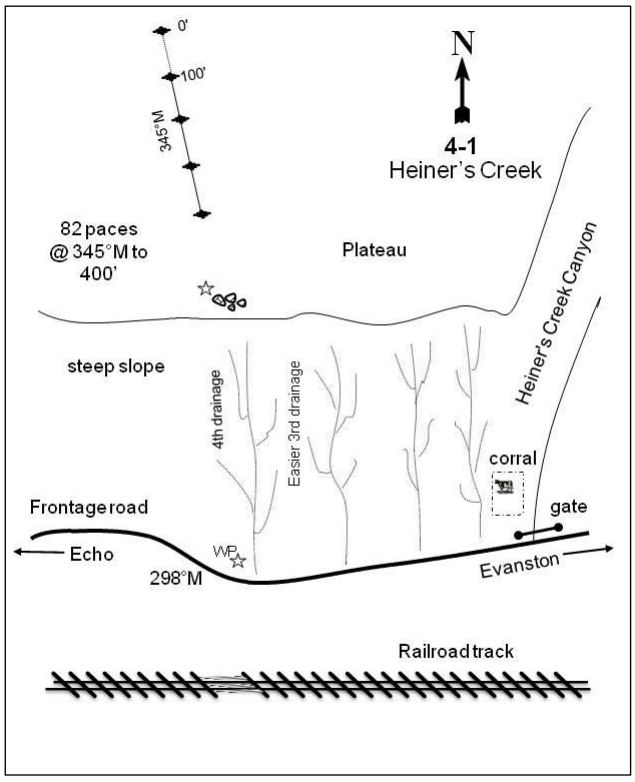
Vegetation Type: Mountain Brush
Range Type: Crucial Deer Winter, Crucial Elk Winter
NRCS Ecological Site Description: High Mountain Stony Loam (Aspen), R047XA430UT
Land Ownership: Private
Elevation: 6,300 ft (1,920 m)
Aspect: Southeast
Slope: 10%
Transect bearing: 164° magnetic
Belt placement: line 1 (11& 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft)

Directions:
From exit 169 on I-80, travel 6.2 miles northeast on the frontage road to a witness post on the north side of the road next to a large rock. Hike up the third drainage west of Heiner's Creek. This drainage is wider and easier to hike up. Once on the top of the bench walk west to the head of the next drainage to the west. The 400-foot stake is located at the head of this gully. The 0-foot baseline stake is 400 feet to the north at a bearing of 326 degrees magnetic. Browse tag #7941.

Map Name: Heiner's Creek




Diagrammatic Sketch:




Township: 4N Range: 5E Section: 35

GPS: NAD 83, UTM 12S 471181 E 4542648 N

**Site Information**

Site Description: The study is located on private land on the north side of Echo Canyon, just west of Heiner's Creek. It is located above the steep bluffs, or cliffs, prevalent in Echo Canyon. The study samples a mixed mountain brush community, which appears to have been burned prior to the 1984 reading. The area is considered important winter range for deer and, to a lesser extent, elk. Deer pellet groups were sampled in high abundance in 2001 and 2006, but low abundance in 2011 following a severe winter. Sampled elk and cattle sign has been minimal since 2001 (Table - Pellet Group Data).

Browse: When the study was established in 1984, the site was dominated by the increaser species stickyleaf low rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *viscidiflorus*). Since that time, stickyleaf low rabbitbrush has decreased and mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) has increased. However, stickyleaf low rabbitbrush remains prevalent on the site. The mountain big sagebrush population is a moderately dense stand that has displayed mostly light to moderate use. Health of the sagebrush population has been good, with low decadence and good vigor. Recruitment of young sagebrush plants has been very good over the course of the study. Other important browse species include scattered populations of antelope bitterbrush (*Purshia tridentata*) and Saskatoon serviceberry (*Amelanchier alnifolia*). Individual Bitterbrush plants have been heavily utilized and have a fairly prostrate growth form. Serviceberry have also displayed moderate to heavy use through the sample years, but plants appear to still be healthy. Woods rose (*Rosa woodsii*) is also abundant (Table - Browse Characteristics), but provides only limited cover (Table - Browse Trends).

Herbaceous Understory: Grasses are diverse and abundant, though most grass plants were found growing in or around shrubs. Common grasses include bluebunch wheatgrass (*Agropyron spicatum*), Sandberg bluegrass (*Poa secunda*), mutton bluegrass (*P. fendleriana*), and Kentucky bluegrass (*P. pratensis*). Prior to the fire in 1984, forb diversity was low, but has steadily increased since 1990. However, many of the increases have been increases of low growing or weedy species. The most abundant perennial forbs have been pacific aster (*Aster chilensis*) and silvery lupine (*Lupinus argenteus*). Annual forb species are also common on the site (Table - Herbaceous Trends).

Soil: The soil is in the Fewkes series, which occur on mountain slopes. Parent material consists of slope alluvium and colluvium derived from sandstone, quartzite, and shale. The soils are categorized as very deep, well drained soils, with a moderate shrink-swell potential (Soil Survey Staff 2011). The soil has a clay loam texture with a neutral soil reaction (pH 6.6) (Table - Soil Analysis Data). A compacted clay horizon was estimated at 10 inches below the surface. The bare ground cover is moderately high on the site, but large amount of vegetation and litter provide good protective cover (Table - Basic Cover). There are abundant signs of soil movement including soil pedestalling around shrubs, rills, and an active gully near the end of the base line. The soil erosion condition was classified as moderate in 2001 and 2006, but decreased to slight in 2011.

**Trend Assessments**

Browse:

- **1984 to 1990 - stable (0):** Density of mountain big sagebrush decreased slightly from 332 plants/acre to 299 plants/acre. Most of the decrease was due to a decrease in the recruitment of young plants from 40% of the population to 0%. Density of mature sagebrush plants increased slightly. Density of the increaser species stickyleaf low rabbitbrush decreased 19% from 6,898 plants/acre to 5,564 plants/acre.
- **1990 to 1996 - stable (0):** Differences in density may be related to the larger sample area used in 1996; therefore, trend was determined using other parameters. Decadence of sagebrush decreased from 11% to 2%. Recruitment of young sagebrush plants increased to 19% of the population.

- **1996 to 2001 - up (+2):** Mountain big sagebrush density increased nearly four-fold from 1,060 plants/acre to 4,120 plants/acre, and cover increased from 5% to 9%. Recruitment of young plants was very high at 67% of the population. Density of serviceberry increased over four-fold from 80 plants/acre to 320 plants/acre, though cover remained less than 1%. Density of stickyleaf low rabbitbrush remained similar at 14,840 plants/acre, but cover decreased slightly from 22% to 20%.
- **2001 to 2006 - stable (0):** There was a slight increase in the density of mountain big sagebrush to 4,360 plants/acre, and cover increased to 17%. The increase in cover is due to a shift in age class with more mature plants sampled. Recruitment of young sagebrush plants is still very high at 42% of the population. Stickyleaf low rabbitbrush decreased 11% in density to 13,180 plants/acre, and cover decreased to 14%.
- **2006 to 2011 - stable (0):** The density of mountain big sagebrush remained similar at 4,180 plants/acre, though cover increased to 22%. The population continued to mature, but recruitment of young plants remained high at 29%. Density of stickyleaf low rabbitbrush decreased 17% to 10,900 plants/acre, and cover decreased to 12%.

Grass:

- **1984 to 1990 - up (+2):** The sum of nested frequency of perennial grasses increased by 35%.
- **1990 to 1996 - slightly up (+1):** There was a 34% increase in the sum of nested frequency of perennial grasses. Some of the increase was likely due to the increased sample area.
- **1996 to 2001 - slightly down (-1):** The sum of nested frequency of perennial grasses decreased by 18%, but cover increased from 12% to 20%. There was a significant decrease in the nested frequency of the annual species cheatgrass (*Bromus tectorum*), and cover decreased from 2% to less than 1%.
- **2001 to 2006 - slightly up (+1):** The sum of nested frequency of perennial grasses increased by 15%, but cover decreased slightly to 17%.
- **2006 to 2011 - slightly down (-1):** The sum of nested frequency of perennial grasses decreased by 13%, and cover decreased to 11%.

Forb:

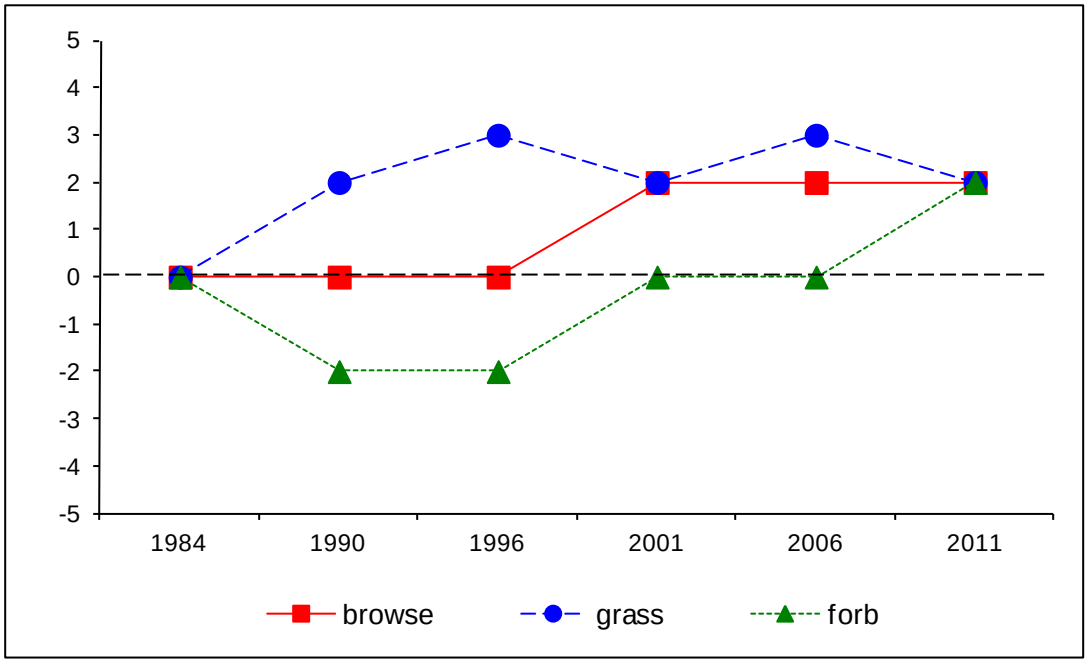
- **1984 to 1990 - down (-2):** The sum of nested frequency perennial forbs decreased by 34%.
- **1990 to 1996 - stable (0):** There was little change in the sum of nested frequency of perennial forbs.
- **1996 to 2001 - up (+2):** The sum of nested frequency of perennial forbs increased 43%, and cover increased from 4% to 6%. However, much of the increase was due to low growing species such as Pacific aster, which have limited use for big game. The annual forb sum of nested frequency and cover also increased substantially.
- **2001 to 2006 - stable (0):** There was little change in the sum of nested frequency of perennial forbs, but cover increased to 7%. The annual forb sum of nested frequency increased substantially.
- **2006 to 2011 - up (+2):** The sum of nested frequency of perennial forbs increased by 35%, and cover increased to 12%. Much of the increase in cover was due to a significant increase in the nested frequency of Pacific aster.

DEER DESIRABLE COMPONENTS INDEX - MID-LEVEL POTENTIAL SCALE --
Management unit 4, study no: 1

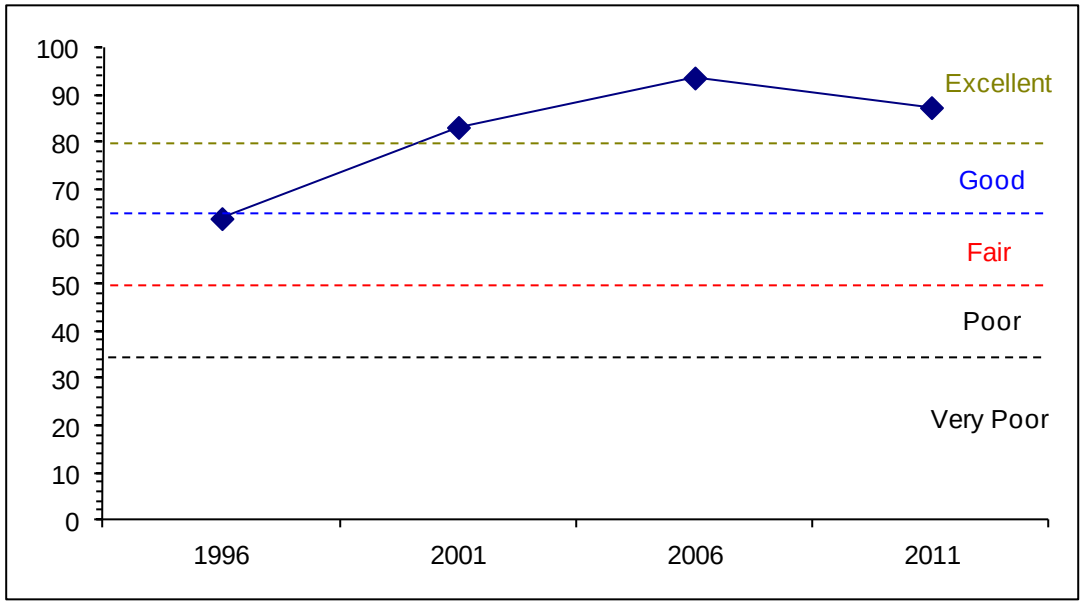
| Year | Preferred Browse Cover | Preferred Browse Decadence | Preferred Browse Young | Perennial Grass Cover | Annual Grass Cover | Perennial Forb Cover | Noxious Weeds | **Total Score** | Ranking |
|---|---|---|---|---|---|---|---|---|---|
| 96 | 9.5 | 13.1 | 10.6 | 24.2 | -1.2 | 7.8 | 0.0 | **63.9** | Fair-Good |
| 01 | 14.5 | 14.3 | 15.0 | 30.0 | -0.6 | 10.0 | 0.0 | **83.2** | Excellent |
| 06 | 25.9 | 13.0 | 15.0 | 30.0 | -0.2 | 10.0 | 0.0 | **93.7** | Excellent |
| 11 | 30.0 | 12.6 | 14.3 | 21.5 | -1.0 | 10.0 | 0.0 | **87.4** | Excellent |

**Trend Summary**

CUMULATIVE RANGE TREND ASSESSMENT--
Management unit 4 Study no: 1




DEER DESIRABLE COMPONENTS INDEX TREND, MID-LEVEL POTENTIAL--
Management unit 4, Study no: 1



HERBACEOUS TRENDS--
Management unit 04, Study no: 1

| Type | Species | Nested Frequency | | | | | | Average Cover % | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | '84 | '90 | '96 | '01 | '06 | '11 | '96 | '01 | '06 | '11 |
| G | Agropyron dasystachyum | b41 | a2 | cd92 | bc68 | d98 | bcd71 | .55 | .71 | 1.28 | 1.12 |
| G | Agropyron spicatum | c169 | a69 | c130 | ab80 | abc108 | bc122 | 2.67 | 3.33 | 2.97 | 2.51 |
| G | Bromus tectorum (a) | - | - | b140 | a61 | a69 | a76 | 1.60 | .80 | .26 | 1.33 |
| G | Carex sp. | - | - | 3 | - | 10 | 3 | .03 | - | .09 | .01 |
| G | Elymus cinereus | 3 | 1 | 9 | 6 | 8 | 6 | .21 | .18 | .36 | .06 |
| G | Koeleria cristata | 1 | 3 | 3 | 9 | 7 | 12 | .03 | .10 | .07 | .09 |
| G | Melica bulbosa | - | - | 3 | - | - | - | .01 | - | - | - |
| G | Poa fendleriana | a14 | c152 | b88 | a19 | a38 | a31 | 1.73 | .98 | 1.10 | .32 |
| G | Poa pratensis | a6 | a7 | b42 | bc64 | bc62 | c69 | 1.00 | 4.11 | 1.98 | 1.73 |
| G | Poa secunda | a82 | bc208 | c209 | c249 | c229 | b162 | 5.17 | 10.55 | 8.90 | 4.40 |
| G | Sitanion hystrix | b14 | a3 | a1 | a1 | a- | a4 | .00 | .00 | - | .03 |
| G | Stipa comata | 9 | 12 | - | - | - | - | - | - | - | - |
| G | Stipa lettermani | a- | a- | b30 | a6 | ab17 | ab23 | .66 | .41 | .22 | .46 |
| Total for Annual Grasses | | 0 | 0 | 140 | 61 | 69 | 76 | 1.60 | 0.80 | 0.26 | 1.33 |
| Total for Perennial Grasses | | 339 | 457 | 610 | 502 | 577 | 503 | 12.09 | 20.38 | 17.01 | 10.77 |
| Total for Grasses | | 339 | 457 | 750 | 563 | 646 | 579 | 13.69 | 21.19 | 17.28 | 12.10 |
| F | Achillea millefolium | c137 | ab40 | b71 | ab61 | a31 | ab57 | .80 | .96 | .59 | .85 |
| F | Agoseris glauca | a- | a- | a- | a- | a1 | b14 | - | - | .00 | .05 |
| F | Allium acuminatum | bc54 | a- | a2 | b32 | c63 | d136 | .01 | .18 | .22 | .99 |
| F | Alyssum alyssoides (a) | - | - | - | - | - | 9 | - | - | - | .02 |
| F | Antennaria rosea | 4 | 2 | 1 | 5 | - | 1 | .00 | .03 | - | .00 |
| F | Arabis sp. | a5 | a2 | a4 | b45 | a14 | a8 | .03 | .18 | .02 | .04 |
| F | Artemisia ludoviciana | 3 | 4 | - | - | - | - | - | - | - | - |
| F | Aster chilensis | ab87 | a67 | ab100 | bc128 | ab91 | c139 | 1.87 | 2.64 | 3.00 | 6.65 |
| F | Astragalus convallarius | a12 | a7 | a4 | a11 | b31 | ab20 | .01 | .22 | .41 | .15 |
| F | Astragalus lentiginosus | - | 2 | - | 6 | 8 | 16 | - | .09 | .30 | .39 |
| F | Calochortus nuttallii | - | - | - | - | 2 | 5 | - | - | .00 | .01 |
| F | Cirsium sp. | abc13 | c31 | bc18 | ab3 | a1 | ab4 | .52 | .09 | .01 | .01 |
| F | Collinsia parviflora (a) | - | - | a5 | b118 | b123 | c165 | .01 | .46 | .30 | .83 |
| F | Collomia linearis (a) | - | - | - | 10 | 6 | 24 | - | .02 | .01 | .07 |
| F | Comandra pallida | c68 | bc51 | a4 | a18 | a4 | ab21 | .01 | .09 | .09 | .26 |
| F | Cryptantha sp. | - | - | - | - | - | 1 | - | - | - | .00 |
| F | Draba sp. (a) | - | - | a- | b11 | b32 | c72 | - | .19 | .06 | .63 |
| F | Epilobium brachycarpum (a) | - | - | a- | a- | c163 | b49 | - | - | .47 | .16 |
| F | Eriogonum umbellatum | b19 | ab14 | ab10 | a5 | a7 | ab9 | .23 | .09 | .24 | .25 |
| F | Hackelia patens | - | - | 7 | - | 4 | - | .06 | - | .06 | - |
| F | Helianthella uniflora | b28 | b32 | a- | a- | a2 | a7 | - | - | .03 | .36 |
| F | Heterotheca villosa | - | - | 3 | - | - | - | .00 | - | - | - |
| F | Holosteum umbellatum (a) | - | - | a- | a- | a- | b16 | - | - | - | .05 |
| F | Lappula occidentalis (a) | - | - | - | 4 | - | 2 | - | .03 | - | .00 |
| F | Lithospermum ruderale | - | - | 1 | 1 | 1 | - | .03 | .15 | .03 | - |
| F | Lupinus argenteus | a3 | a3 | ab11 | b39 | c49 | c51 | .10 | .78 | 1.12 | 1.71 |
| F | Machaeranthera canescens | - | - | 5 | - | - | - | .01 | - | - | - |

| Type | Species | Nested Frequency | | | | | | Average Cover % | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | '84 | '90 | '96 | '01 | '06 | '11 | '96 | '01 | '06 | '11 |
| F | Microsteris gracilis (a) | - | - | a- | b16 | d134 | c59 | - | .03 | .39 | .22 |
| F | Penstemon sp. | - | - | - | - | - | 1 | - | - | - | .03 |
| F | Phlox longifolia | a- | b33 | bc52 | bc65 | c75 | b30 | .14 | .32 | .30 | .09 |
| F | Polygonum douglasii (a) | - | - | b39 | a- | a6 | a1 | .12 | - | .02 | .00 |
| F | Ranunculus testiculatus (a) | - | - | a105 | b194 | b220 | b165 | .37 | 1.91 | 2.17 | .82 |
| F | Senecio integerrimus | - | - | - | - | 7 | 4 | - | - | .09 | .01 |
| F | Sphaeralcea coccinea | - | - | - | - | 1 | 1 | - | .03 | .15 | .15 |
| F | Taraxacum officinale | - | - | - | 1 | 5 | 4 | - | .00 | .03 | .03 |
| F | Tragopogon dubius (a) | - | - | - | 3 | 7 | - | - | .00 | .07 | - |
| F | Viola sp. | - | - | - | - | - | 8 | - | - | - | .09 |
| Total for Annual Forbs | | 0 | 0 | 149 | 356 | 691 | 562 | 0.50 | 2.67 | 3.52 | 2.82 |
| Total for Perennial Forbs | | 433 | 288 | 293 | 420 | 397 | 537 | 3.88 | 5.87 | 6.73 | 12.18 |
| Total for Forbs | | 433 | 288 | 442 | 776 | 1088 | 1099 | 4.39 | 8.55 | 10.26 | 15.00 |

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

BROWSE TRENDS--
Management unit 04, Study no: 1

| Type | Species | Strip Frequency | | | | Average Cover % | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | '96 | '01 | '06 | '11 | '96 | '01 | '06 | '11 |
| B | Amelanchier alnifolia | 4 | 7 | 4 | 4 | .41 | .71 | 1.03 | .91 |
| B | Artemisia tridentata vaseyana | 34 | 62 | 69 | 80 | 4.92 | 8.73 | 17.01 | 22.02 |
| B | Chrysothamnus nauseosus albicaulis | 1 | 1 | 0 | 0 | .38 | .38 | - | - |
| B | Chrysothamnus viscidiflorus viscidiflorus | 99 | 100 | 94 | 94 | 22.09 | 19.86 | 14.38 | 12.13 |
| B | Purshia tridentata | 5 | 4 | 2 | 5 | .00 | .00 | .03 | .03 |
| B | Rosa woodsii | 29 | 30 | 31 | 29 | 1.77 | 1.62 | 2.40 | 1.86 |
| B | Symphoricarpos oreophilus | 8 | 8 | 8 | 7 | .67 | .53 | .18 | .56 |
| B | Tetradymia canescens | 0 | 0 | 1 | 1 | - | - | .03 | .03 |
| Total for Browse | | 180 | 212 | 209 | 220 | 30.26 | 31.85 | 35.08 | 37.55 |

CANOPY COVER, LINE INTERCEPT--
Management unit 04, Study no: 1

| Species | Percent Cover | |
|---|---|---|
| | '06 | '11 |
| Amelanchier alnifolia | .43 | .80 |
| Artemisia tridentata vaseyana | 17.10 | 24.29 |
| Chrysothamnus viscidiflorus viscidiflorus | 17.95 | 12.14 |
| Purshia tridentata | .18 | .68 |
| Rosa woodsii | 2.13 | 1.64 |
| Symphoricarpos oreophilus | 1.01 | .86 |

KEY BROWSE ANNUAL LEADER GROWTH--
Management unit 04, Study no: 1

| Species | Average leader growth (in) | | |
|---|---|---|---|
| | '01 | '06 | '11 |
| Amelanchier alnifolia | 3.5 | 4.2 | 2.4 |
| Artemisia tridentata vaseyana | 3.3 | 2.1 | 1.9 |
| Purshia tridentata | 1.8 | 2.5 | 0.8 |

BASIC COVER--
Management unit 04, Study no: 1

| Cover Type | Average Cover % | | | | | |
|---|---|---|---|---|---|---|
| | '84 | '90 | '96 | '01 | '06 | '11 |
| Vegetation | 6.75 | 10.25 | 48.59 | 55.00 | 51.95 | 52.77 |
| Rock | 0 | 0 | .14 | .64 | .10 | .07 |
| Pavement | 3.00 | 1.25 | .72 | .59 | 1.17 | .38 |
| Litter | 58.75 | 51.75 | 45.24 | 38.59 | 35.07 | 36.57 |
| Cryptogams | .75 | .75 | .34 | .31 | 1.85 | 1.28 |
| Bare Ground | 30.75 | 36.00 | 22.39 | 26.87 | 25.97 | 27.88 |

SOIL ANALYSIS DATA --
Management unit 04, Study no: 1, Study Name: Heiner's Creek

| Effective rooting depth (in) | pH | Clay-Loam | | | %OM | PPM P | PPM K | ds/m |
|---|---|---|---|---|---|---|---|---|
| | | %sand | %silt | %clay | | | | |
| 10.1 | 6.6 | 31.9 | 32.1 | 36.0 | 3.2 | 19.9 | 144.0 | 0.4 |

PELLET GROUP DATA--
Management unit 04, Study no: 1

| Type | Quadrat Frequency | | | |
|---|---|---|---|---|
| | '96 | '01 | '06 | '11 |
| Rabbit | - | 2 | 56 | 18 |
| Horse | 3 | - | - | - |
| Elk | - | 2 | 23 | 6 |
| Deer | 15 | 17 | 32 | 23 |
| Cattle | 1 | 2 | 4 | 3 |

| Days use per acre (ha) | | |
|---|---|---|
| '01 | '06 | '11 |
| - | - | - |
| - | - | - |
| 1 (3) | 16 (40) | 11 (26) |
| 41 (101) | 46 (112) | 18 (45) |
| 5 (13) | 6 (14) | 7 (18) |

BROWSE CHARACTERISTICS--
Management unit 04, Study no: 1

| | | Age class distribution | | | | Utilization | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Plants per Acre (excluding seedlings) | % Young | % Mature | % Decadent | Seedling (plants/acre) | % moderate | % heavy | % poor vigor | Average Height Crown (in) |
| Amelanchier alnifolia | | | | | | | | | |
| 84 | **0** | 0 | 0 | - | - | 0 | 0 | 0 | -/- |
| 90 | **33** | 0 | 100 | - | - | 0 | 0 | 0 | 14/20 |
| 96 | **80** | 25 | 75 | - | - | 0 | 25 | 0 | 18/30 |
| 01 | **320** | 44 | 56 | - | - | 31 | 6 | 0 | 20/27 |
| 06 | **100** | 40 | 60 | - | - | 40 | 60 | 0 | 28/39 |
| 11 | **180** | 0 | 100 | - | - | 44 | 56 | 0 | 32/41 |
| Artemisia tridentata vaseyana | | | | | | | | | |
| 84 | **332** | 40 | 60 | 0 | - | 0 | 0 | 0 | 19/17 |
| 90 | **299** | 0 | 89 | 11 | - | 22 | 33 | 0 | 24/23 |
| 96 | **1060** | 19 | 79 | 2 | 180 | 23 | 0 | 2 | 26/35 |
| 01 | **4120** | 67 | 31 | 3 | 1000 | 4 | 0 | 5 | 29/39 |
| 06 | **4360** | 42 | 50 | 8 | 760 | 15 | 2 | 4 | 25/38 |
| 11 | **4180** | 29 | 62 | 9 | 100 | 35 | 0 | 8 | 24/38 |
| Chrysothamnus nauseosus albicaulis | | | | | | | | | |
| 84 | **33** | 0 | 100 | 0 | - | 0 | 0 | 0 | 20/31 |
| 90 | **33** | 0 | 0 | 100 | - | 0 | 0 | 0 | -/- |
| 96 | **20** | 0 | 0 | 100 | - | 0 | 0 | 0 | 25/35 |
| 01 | **20** | 0 | 100 | 0 | - | 0 | 0 | 0 | 18/24 |
| 06 | **0** | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 11 | **0** | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| Chrysothamnus viscidiflorus viscidiflorus | | | | | | | | | |
| 84 | **6898** | 15 | 77 | 8 | 66 | 0 | 0 | 0 | 15/24 |
| 90 | **5564** | 20 | 63 | 17 | - | 7 | 0 | 0 | 11/15 |
| 96 | **14240** | 14 | 83 | 3 | 160 | 3 | 0 | .28 | 14/23 |
| 01 | **14840** | 8 | 88 | 4 | 120 | 1 | 0 | .67 | 11/19 |
| 06 | **13180** | 14 | 80 | 6 | 120 | 5 | 0 | 2 | 10/18 |
| 11 | **10900** | 20 | 74 | 6 | 20 | 4 | 0 | .91 | 10/17 |
| Purshia tridentata | | | | | | | | | |
| 84 | **66** | 0 | 100 | 0 | - | 100 | 0 | 0 | 8/21 |
| 90 | **33** | 0 | 100 | 0 | - | 0 | 100 | 0 | 13/39 |
| 96 | **100** | 40 | 60 | 0 | - | 20 | 40 | 20 | 14/41 |
| 01 | **100** | 20 | 80 | 0 | - | 20 | 60 | 0 | 13/38 |
| 06 | **40** | 0 | 100 | 0 | - | 0 | 100 | 0 | 15/52 |
| 11 | **100** | 0 | 80 | 20 | - | 40 | 60 | 0 | 13/56 |

| | | Age class distribution | | | | Utilization | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Plants per Acre (excluding seedlings) | % Young | % Mature | % Decadent | Seedling (plants/acre) | % moderate | % heavy | % poor vigor | Average Height Crown (in) |
| Rosa woodsii | | | | | | | | | |
| 84 | **7499** | 98 | 2 | 0 | 766 | 0 | 0 | 0 | 14/11 |
| 90 | **8565** | 94 | 3 | 3 | - | 0 | 0 | 0 | 12/8 |
| 96 | **3780** | 31 | 69 | 0 | 500 | 0 | 0 | 0 | 14/16 |
| 01 | **5960** | 94 | 6 | 0 | - | 55 | 0 | 0 | 15/9 |
| 06 | **6980** | 73 | 26 | 0 | 420 | .57 | 0 | .57 | 9/8 |
| 11 | **3700** | 37 | 63 | 0 | 80 | 0 | 0 | 0 | 9/8 |
| Symphoricarpos oreophilus | | | | | | | | | |
| 84 | **399** | 8 | 92 | - | - | 50 | 8 | 0 | 14/29 |
| 90 | **199** | 0 | 100 | - | - | 17 | 33 | 0 | 17/27 |
| 96 | **200** | 10 | 90 | - | - | 30 | 0 | 0 | 17/36 |
| 01 | **240** | 0 | 100 | - | - | 42 | 0 | 0 | 14/29 |
| 06 | **220** | 9 | 91 | - | - | 0 | 0 | 0 | 16/31 |
| 11 | **220** | 9 | 91 | - | - | 9 | 0 | 0 | 22/51 |
| Tetradymia canescens | | | | | | | | | |
| 84 | **0** | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 90 | **0** | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 96 | **0** | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 01 | **0** | 0 | 0 | 0 | - | 0 | 0 | 0 | -/- |
| 06 | **20** | 0 | 0 | 100 | - | 0 | 0 | 0 | -/- |
| 11 | **20** | 0 | 100 | 0 | - | 0 | 0 | 0 | 11/22 |