Trend Study 10-22-00

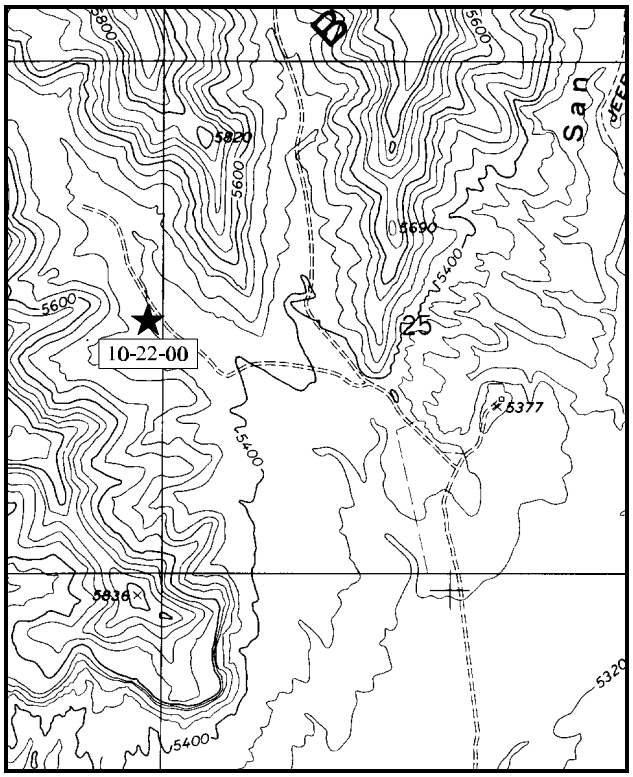
Study site name: Bryson Draw . Range type: Big Sagebrush .

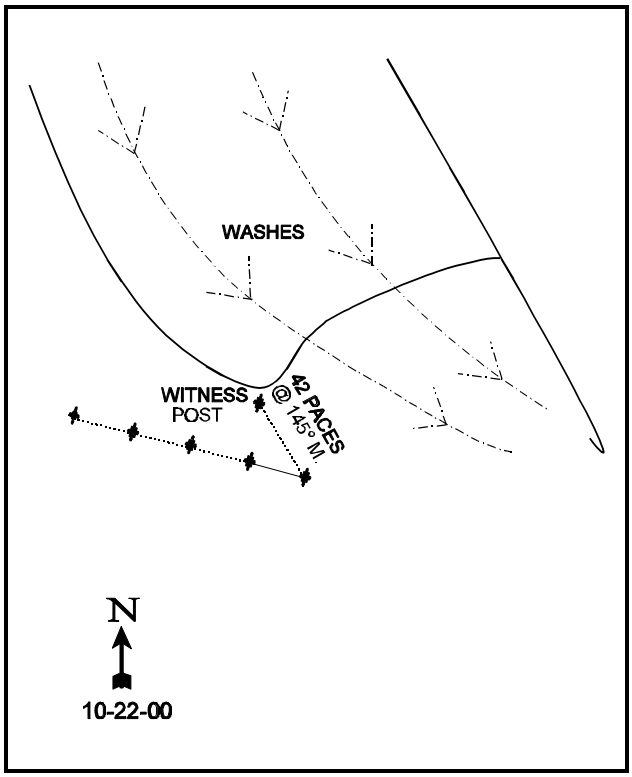
Compass bearing: frequency baseline 165°M .

First frame placement on frequency belts 5 feet. Frequency belt placement; line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

Take I-70 to the Westwater exit near mile marker 225. Go north 0.2 miles to a "T" intersection and Book Cliff Ridge sign. Turn right and follow an old paved road parallel to the freeway for 2.1 miles to a left turn at a sign to Hay Canyon, East Canyon, PR Springs. Turn left. After 1.85 miles, there is a minor fork to the right, stay on main road. Continue 3.75 miles to a major fork. Turn right and go 2.65 miles to a fork. Stay to the left and go 1.55 miles to another fork. Stay to the left. Go 0.2 miles to the point of a hill past a fence line. Just beyond the old fence line, turn left on a faint old road. Go 0.25 miles. The transect is just past the second wash, where there is a witness post in the sage flat on the left. The 0-foot baseline stake, a rebar tagged #7892, is 42 paces at 145/M from the witness post.





Map Name: Bryson Canyon Diagrammatic Sketch

Township 17S , Range 24E , Section 26 UTM. 4351243 N, 653757 E

DISCUSSION

Trend Study No. 10-22 (16B-9)

*** This trend study was not read in 2000 and is being discontinued. Only text from the 1995 Utah Big Game Range Trend Studies report is included. Consult the 1995 report for maps and data tables.

The Bryson Canyon transect is located at the mouth of a wide canyon just west of Bryson Canyon. Elevation at the site is 5,400 feet on a gently sloping big sagebrush covered flat with an easterly aspect. Just below the site is a wash that drains south-southeast out of the canyon. This land is administered by the BLM and is part of the Winter Camp Allotment. Prior to 1986, the BLM estimated that overall browse utilization on the allotment as usually less than 20%. The 5-year average (1980-1985) stocking rate was 620 sheep for two months from mid-December to mid-February (248 AUMs). An increase in AUMs allocated for sheep is anticipated upon completion of a proposed land treatment involving 640 acres of sagebrush (not near the Interagency study). Sheep are now permitted to graze from late-December through the last of February at 347 AUM's. Quadrat frequency of pellet groups show moderately high sign for both sheep and rabbits.

The soil is moderately deep and well-drained. It is a fine sandy loam formed in residuum and alluvium from sandstone and conglomerate. There is less bare soil exposed (30%) than reported in 1986 when it was 39%. Litter cover is the same as sampled in 1986 with an estimated cover value of 38%. The litter is found mostly under sagebrush and patches of perennial grass. Vegetative cover is estimated at 36% with 52% of the cover coming from one species, cheatgrass. There is a low level of sheet erosion with some evidence of slight wind erosion.

Like most of the other winter range study sites on the South Book Cliffs, this site samples a sagebrush flat adjacent to a juniper woodland. There is an estimated 5,680 Wyoming big sagebrush plants/acre with 71% of the sampled plants classified as mature. There were no seedlings encountered which is not unusual with the abundant cheatgrass cover on the site. Hedging is reported as mostly light to moderate with 15% of the population being heavily hedged. A higher percentage of plants are classified as chlorotic or dying than reported in 1986, although the decadency rate declined from 39% to 9%. As in 1986, some of the mature sagebrush is parasitized by white fuzzy galls, but these do not appear to be causing a reduction in vigor.

The spiny hopsage has an estimated density of 160 plants/acre with heavy hedging on 63% of the population and a decadency rate of 37%. Broom snakeweed has shifted to a mostly mature age structure with good biotic potential. The estimated density of broom snakeweed is 2,240 plants/acre with no apparent utilization. Juniper do not appear to be invading down the slope. It presently provides good escape and thermal cover. Both pricklypear cactus and fourwing saltbush are present in low densities and do not appear to be increasing at this time. Winterfat was reported in 1986 as being present but none were sampled in 1995.

A moderate amount of perennial grasses are present with the most abundant being the low-growing, warm season galleta grass. Galleta occurs in scattered bunches and also dominates grassy openings in the sagebrush. It has decreased significantly in sum of nested frequency value since 1986 along with Indian ricegrass and needle-and-thread grass. Muttongrass significantly increased in sum of nested frequency and is now the second most abundant grass. Although cheatgrass is not as robust as on other sites, it still has a quadrat frequency of 100% and provides 52% of the total vegetative cover. The cheatgrass is mostly associated with the Wyoming big sagebrush canopy, but also occurs scattered throughout the interspaces. The total sum of nested frequency for perennial forbs is nearly the same as in 1986 with several new species sampled. The most common is longleaf phlox and others include Astragalus, Onobrychis, and scarlet globemallow. The most abundant annual forb is wooly Indianwheat which contributes 58% of the total forb cover. Total forb cover (<1%) is low with most of the species not providing much cover or forage.

1986 APPARENT TREND ASSESSMENT

The soil trend appears stable. Overall, the vegetative trend also appears stable. The sagebrush, although parasitized, is moderately hedged and vigorous and there appears to be sufficient recruitment of new plants into the population. The site appears capable of sustaining the current level of use by livestock and deer with normal precipitation.

1995 TREND ASSESSMENT

The Wyoming big sagebrush population shows a mostly mature age structure with no seedlings sampled. Hedging is mostly light to moderate with a decrease in decadency. It is unlikely there will be much seedling establishment of Wyoming big sagebrush in the future due to the competition for soil moisture with cheatgrass and other annual forbs. The broom snakeweed population does not appear to be increasing at this time and has also shifted to a more mature age structure. These factors lead to a slightly upward browse trend with a need to reduce annual herbaceous understory competition so seedling sagebrush can become established. The herbaceous understory has remained nearly the same in total sum of nested frequency value. Overall, the herbaceous understory trend is stable with a very high frequency of cheatgrass. Some slight erosion was noted as well as slight pedestaling in the interspaces. Erosion does not appear to be any worse now than in 1986, so the soil trend is considered stable.

TREND ASSESSMENT
soil - stable but fair condition (3)
browse - slightly upward (4)
herbaceous understory - stable but with a very high proportion of annuals (3)