

Trend Study 10-19-00

Study site name: Lower Cottonwood .

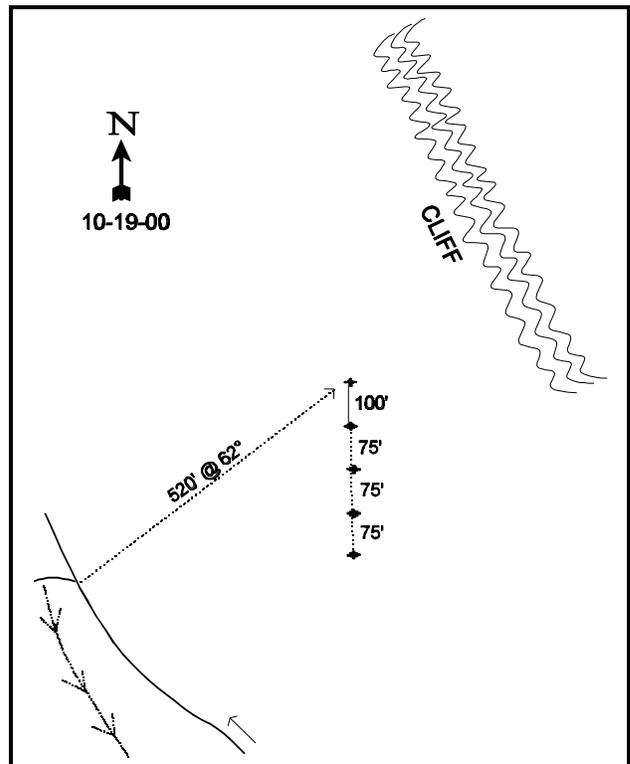
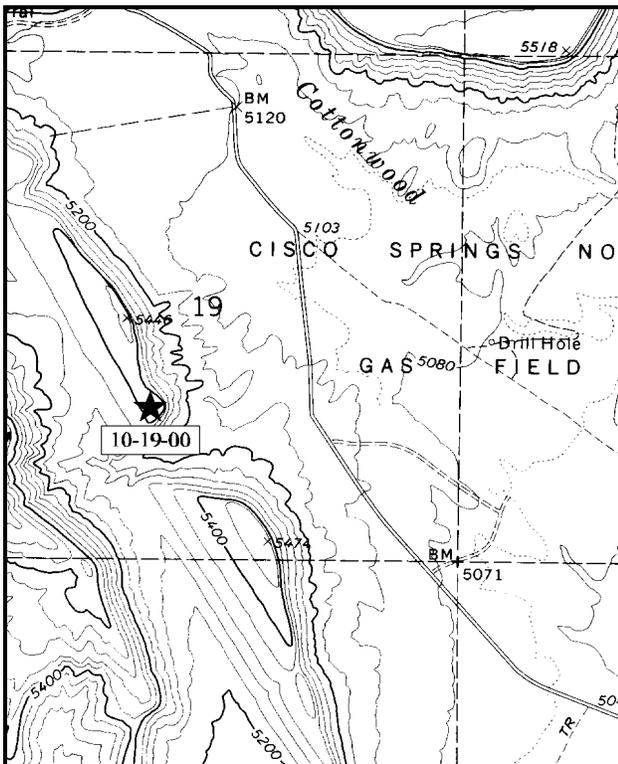
Range type: Pinyon-Juniper .

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

From I-70, take the east Cisco exit, then go 10.55 miles north towards Cottonwood Canyon to a road going into a small canyon to the west. Turn left here and immediately pass between two "Buried Gas Line" warning signs. From the turn, go 0.3 miles and turn right. Go another 5.75 miles to a faint fork in the road. Park here. Walk approximately half way up the hill to the east (520 feet bearing 62 degrees) to the 0-foot baseline stake.



Map Name: Flume Canyon

Diagrammatic Sketch

Township 19S , Range 23E , Section 19

## DISCUSSION

### Trend Study No. 10-19 (16B-6)

\*\*\* 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.

Located midway up the west facing slope of a small ridge, the Lower Cottonwood transect samples a juniper-cheatgrass slope above a greasewood valley bottom. The dry wash in the valley below drains to the east. Elevation on the moderately sloping hill is 5,400 feet. The transect is located in the Cisco Mesa Allotment which is grazed by sheep (2,628 AUM'S) from late-November to mid-May. Horses are permitted from the first of December through mid-May for 94 AUM's. The average use by sheep from 1981 through 1986 was 1,884 sheep. No land treatments have been conducted and none are planned. Although there is concurrent sheep and deer use, it appears the amount of deer use is minimal. The scattered junipers provide marginal thermal and escape cover for deer. Human pressure is low, except when sheep are in the immediate area, especially since there is no active oil and gas drilling currently in this area. There are some old drill holes located in the lower country to the east.

The soil on the slope is moderately shallow and the ridge ends in a steep broken cliff of exposed rock. The whole slope appears to be underlain by a continuous sheet of sandstone. The surface is fairly rocky along the transect with a cover value of various sized flat rocks and pavement estimated at almost 25%. The cover value for bare soil is almost 6%, which is made of a grayish-tan, fine sand. Litter cover (39%) is composed mostly of dry cheatgrass. Though few definite erosion channels are evident, sheet erosion occurs all over the hillside. Sedimentation mostly occurs on the study site from runoff of high intensity storms on the higher rocky slopes.

Utah junipers are scattered throughout the site with an estimated density of 33 trees/acre. The junipers are vigorous and show little use. As in 1986, few young or seedling of any browse species, with the exception of broom snakeweed, were encountered on the transect. Broom snakeweed density appears to be increasing with a generally mature population and many seedlings. Broom snakeweed was reported to actually show some signs of being used for forage in 1986, but in 1995 this is not the case as none of the plants show any hedging. Shadscale and Wyoming big sagebrush are the key browse species for both sheep and deer. The shadscale, with an estimated density of 500 plants/acre, is lightly hedged and without the insect damage that was reported in 1986. The sparse Wyoming big sagebrush population still has some heavily hedged individuals, but most are only lightly used. Also present are a few green ephedra, yucca, and cactus in lower densities.

Perennial herbaceous vegetation is sparse. Grasses sampled include sand dropseed, bottlebrush squirreltail, needle-and-thread grass, and Indian ricegrass. Wildrye is found in large bunches near the ridge top. As on most sites in this area, cheatgrass is the most abundant herbaceous understory species providing nearly 70% of the total vegetative cover. Only one perennial forb, an *Astragalus spp.*, was sampled in 1995. Storksbill is the most abundant annual followed by prairie pepperweed, both of which provide little forage or soil protection.

### 1986 APPARENT TREND ASSESSMENT

Production potential on this site is limited by the shallow rocky soil and low rainfall. Although the area is in poor condition, site potential will greatly limit the ability of the area to respond favorably to changes in management. Overgrazing and extended drought has caused the decadence of the desirable browse species, as well as the replacement of perennial grasses by cheatgrass. The vegetative trend will continue to decline with winter and spring sheep grazing. Erosion and sedimentation is a continuous and unavoidable natural process on this slope. The best that can be done for soil stability is to increase perennial vegetative cover.

## 1995 TREND ASSESSMENT

The most abundant browse on the site is broom snakeweed, which is used only sparingly as forage. The remaining shrubs are not as heavily hedged as reported in 1986 with shadscale showing improved vigor. The densities are low and will stay this way due to the highly competitive cheatgrass understory and continued drought. At this time, the browse trend for the key species is declining with broom snakeweed likely continuing to increase while the more palatable shrubs decrease. Even though grazing intensity is lower, competition with the annual herbaceous understory will prevent the more palatable shrubs from becoming re-established from seed. The herbaceous understory has not changed much since 1986. Sand dropseed has significantly increased in sum of nested frequency, but cheatgrass is still the dominant grass. Cheatgrass occurs throughout the entire site and although it provides soil protection, it also provides abundant fine fuels for a possible destructive fire. Because the sum of nested frequency for perennial grasses and forbs increased, the herbaceous understory trend is slightly up, but still in very poor condition. There will likely always be some soil movement on this site and at this time there are no large gullies. There is adequate vegetative and litter cover to protect the soil and slow down most runoff coming from the slope above. The soil trend on this site appears stable at this time.

### TREND ASSESSMENT

soil - stable, but fair condition (3)

browse - declining, key species at low densities (1)

herbaceous understory - slightly up, but with poor composition of mostly annual species (4)