

Trend Study 8B-1-00

Study site name: Cedar Springs .

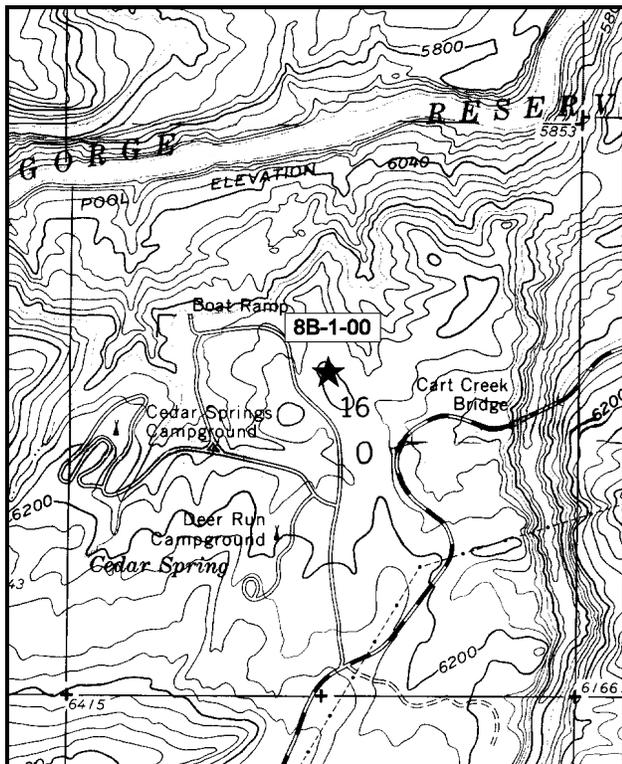
Range type: Pinyon-Juniper .

Compass bearing: frequency baseline 316°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).

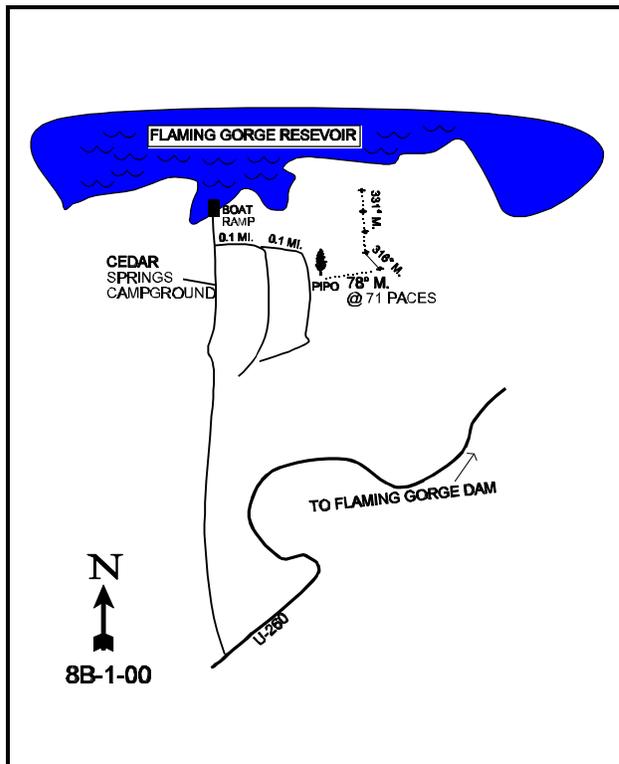
LOCATION DESCRIPTION

From the intersection of Highway U-260 and the road to Cedar Springs Campground, proceed north towards Cedar Springs Boat Ramp. Turn right (east) just before reaching the boat ramp. Go 0.1 miles to a dirt road on the left. Turn and travel 0.1 miles to a lone Ponderosa pine on the left side of the road. The 0-foot baseline stake is on top of the ridge, 71 paces away at a bearing of 78°M from the pine.



Map Name: Dutch John

Township 2N Range 22E ,Section 16



Diagrammatic Sketch

UTM 4530342 N, 631153 E

DISCUSSION

Trend Study No. 8B-1 (9-1)

*** This site was not read in 2000. Text has been retained in this report but consult the 1995 Utah Big Game Range Trend Studies report for maps and data tables. The site is dominated by pinyon and juniper with a few decadent and dying shrubs in the understory. The site provides good thermal cover but it is not representative of deer winter range. Pellet group data was collected in 2000 and is described below.

The Cedar Springs study is on deer winter range slightly east of the Cedar Springs campground and marina. It samples a pinyon-juniper type on a ridge top with a slight northern aspect. The area is at the lower end of critical winter range south of Flaming Gorge Reservoir at an elevation of 6,050 feet. Use of the area by deer has been intense in the past and pellet group data from 1995 indicates moderate deer use with a quadrat frequency of 38%. Quadrat frequency for elk pellet groups is 14%. A pellet group transect was read along the study site baseline in 2000. It estimates 34 deer and 3 elk days use/acre (84 ddu/ha and 7 edu/ha). A few pellet groups were fresh but most appear to be from winter use.

Soils are sandy to gravelly in texture and moderately shallow. Erosion is apparent from the amount of bare ground, rock and erosion pavement on the surface. Total vegetative cover is only 25%, with the herbaceous species only contributing 14% of the total. Most of the vegetation cover (85% of the browse cover) is contributed by pinyon and juniper trees. As a result, plants are pedestaled and numerous small gullies originate on the small ridge top where the study is located.

Key browse on the site consists of mountain big sagebrush with lesser amounts of antelope bitterbrush. Density of sagebrush was estimated at 2,366 plants/acre in 1982. Eighty percent of these plants were mature, 16% were decadent and only 3% were young. Poor vigor was noted on 12% of the mature plants and on 100% of the decadent individuals (33% classified as dying). Utilization was heavy on 58% of the population. By 1988, density was essentially the same, but 90% of the sagebrush was classified as decadent with 31% of these displaying poor vigor. Utilization was again heavy with 63% of the shrubs sampled showing heavy use. During the 1995 reading, the sagebrush density was estimated at only 1,040 plants/acre. The drop in density came primarily from the decadent age class which declined from 2,133 to only 640 plants/acre. Of these, 81% were classified as dying. After the thinning of the population, most of the mature plants now show good vigor. Those plants showing heavy use dropped to 31%.

Antelope bitterbrush is a preferred species yet it only occurs in small numbers. The population has steadily fallen from 700 plants/acre in 1982 to 266 in 1988 and 140 by 1995. Since 1988, the number of mature plants has remained nearly the same, while all of the decadent plants seem to have died out. Heavy use has declined from a high of 90% in 1982 to 38% by 1988. Use was light to moderate in 1995 with no bitterbrush displaying heavy use.

The downward trends in bitterbrush and sagebrush can be attributed to heavy use combined with prolonged drought and the dominance of pinyon-juniper trees on the site. These trees were not counted in the shrub strips in 1995, but point-center quarter data taken during that year estimate 504 pinyon trees/acre and 121 juniper with an overhead canopy cover of 44%. These trees shade out understory plants and effectively tie up the water and mineral resources.

The herbaceous understory is poor with very low sum nested frequencies of both perennial grasses and forbs. All grasses combined provide only a little over 2% cover. The most common species include bluebunch wheatgrass and cheatgrass brome. Forbs are diverse but combine for a total of barely one percent cover.

1982 APPARENT TREND ASSESSMENT

By almost any measure, range condition appears to be declining. Herbaceous vegetative cover is inadequate to hold the soil, and litter is ineffective. Utilization of browse, especially the key species, is heavy and vigor is poor with insufficient reproduction.

1988 TREND ASSESSMENT

Aside from small changes in each ground cover category, the percentage of total ground cover is similar. There is almost 28% bare soil. Soil pedestaling is evident on most plants. The 10% cover of erosion pavement is related to past soil loss. Trend for soil is stable but in poor condition. Trends for sagebrush and bitterbrush are both down due to heavy use, poor vigor, high decadency rates, and lack of reproduction. Trend for the herbaceous understory is slightly up due to an increase in the sum quadrat frequency of forbs. Frequency of grasses declined slightly. The understory is in extremely poor condition.

TREND ASSESSMENT

soil - stable, but poor condition (3)

browse - down (1)

herbaceous understory - slightly up for forbs, but still poor condition (4)

1995 TREND ASSESSMENT

Trend for soil is slightly up due to a decrease in percent bare ground. However, condition is still poor and erosion is continuing. The browse trend is down due to heavy use, poor vigor, high decadency rates, almost no reproduction, a 44% decline in density of sagebrush, and 53% decline in bitterbrush since 1988. The herbaceous understory is in very poor condition but shows a stable trend since the last reading. This site is totally dominated by pinyon and juniper trees which are out competing the understory shrubs. The surviving understory shrubs are in poor condition and heavily hedged due in part to their low numbers. This site needs to be treated. It is not representative of deer winter range.

TREND ASSESSMENT

soil - slightly up but in poor condition (4)

browse - down (1)

herbaceous understory - stable but in poor condition (3)