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Visual Observations of Rhyolite Canyon Vegetation: Change Since 1937

Objective: To determine changes of the vegetative types in Rhyolite Canyon.

Purpose: As part of the development of a fire management plan at Chiricahua National Monument, and concerning the Rhyolite Canyon watershed area, it was necessary to investigate the status of the native vegetation; specifically to discover changes of the major plant types which may have taken place within the last fifty years. Using a vegetation type map for the area prepared in 1937 by R.D. Roseberry and N.E. Dole Jr. I compared the present vegetative status with that observed in 1937.

Methods: Methods were those used by Roseberry & Dole (R&D) in 1937. I went to vantage points and ~~from~~ visually observed the surrounding vegetation. I walked through the canyon bottom and along the canyon slopes making visual observations. I compared my observations with those made by R&D and illustrated by their 1937 vegetation survey map.

Data: See field notes and maps. Only obvious changes which I observed in the vegetation types are illustrated on the white map. This map should be compared with the R&D map to see context of change.

Conclusions: Change in the major vegetative types has been minimal throughout most of Rhyolite Canyon. The most obvious change occurred in between Totem Canyon and Sarah Demming Canyon. In Totem Canyon-bottom and the Rhyolite Canyon-bottom between Totem and Sarah Demming Canyons there has been an increase in the presence of Douglas fir. This is particularly noticeable because the R&D type map shows an absence of Douglas fir in these areas.

The second obvious change is the increase in ~~the~~ Arizona Cypress in Madrone Canyon.

Discussion: All observations reflect the major vegetation visible from a certain vantage point; therefore no consideration of understory vegetative change was made. Type boundaries are approximate on both maps and subtle boundary changes were not investigated. However, from my observations I suspect:

- ① increase in the size and number of understory oaks in the canyon bottom pine type.
- ② increase in the number of tree species present in the transition Chaparral type.
- ③ enlargement in area of the woodland type with decrease in area of the pine type.

J.M. BURNS summer 1979

July 31 Hiked to a spot ~~high~~ up on the grassy slope of the rim north of Rhyolite Canyon creek bed (Pt #1) to observe vegetation in area ~~from there~~ between the mouth of Madrone Canyon & and a point about one half mile up Rhyolite Canyon. From this point, making reference to the 1939 Vegetation map, I noticed that there appeared to be more oak in the creek bed - specifically on the near side directly below me at the margin of the grassland. This was in contrast to the mixed oak/pine seen elsewhere in the creek environs. Secondly, I observed an increase in the amount of *Cupressus arizonica* growing in Madrone Canyon. I saw the stand of cypress which the Veg. map has marked as being near the mouth of Madrone Canyon. In addition there I observed a number of other large & small cypress growing in Madrone Canyon in the area marked (on the '39 map) as woodland and extending up the Canyon for less than  $\frac{1}{4}$  mile.

August 1 Hiked to spots ② on the south slope of Rhyolite Canyon to confirm previous observations. Only additional change noticed was in the 'Transition Chaparral' area south of me. This area ~~now~~ appears to contain a considerable number of tree-sized oak species. It also appears that in the area of ②a the area of this 'woodland' has increased in the direction of the canyon bottom. Altho, difficult to visually determine exact boundaries, it looks like the strip of 'pine' in the canyon bottom has become narrower with the increase in oaks ~~on~~ from the ②a

August 2 Hiked down the Rhyolite Canyon trail. The exceptions I noticed to the vegetative status described on the 1939 map were: ① pine and douglas fir are growing up Totem Canyon from the Rhyolite mouth to the source. ② Where the trail crosses Rhyolite Creek and then follows the creekbed I noticed many douglas fir trees growing among the pines. The map does not indicate any douglas fir growing there. ③ further along the trail (heading down canyon) at two pts. ④ There is much more extensive oak stands than the map indicates.

August 5 Hiked up to the top of the ridge to the West of Madonna Canyon, behind Paul's house. Looked across to Madonna. It appears that the Cypress in Upper Madonna C. has extended down canyon - but not much. Also the strip of Chapparral-transition has <sup>less</sup> more than 20% ~~shrub~~ shrubs. In other words - more tree species, > 20%.

August 6 Hiking down Rhyolite Canyon trail. Area 11 (Totem Canyon) - the canyon bottom now contains a mixture of pine & douglas fir. The fir is prevalent at the upper end with pine becoming more common as altitude decreases. Both pine & fir are present on the canyon slopes (this is not indicated on the R & D map) although they are scattered individuals surrounded by the Chapparral Transition type.

Further down Rhyolite Canyon referring to side canyon ④ the upper section has much douglas fir, further down there is fir mixed with pine which at the <sup>junction</sup> bottom blends in with the fir & pine in Rhyolite. Beginning at ~~some~~ side canyon ⑤, in the bottom of Rhyolite Canyon there is now a mixture of douglas fir & pine. This extends to the junction of Sarah Deanna Canyon & Rhyolite. From there the frequency of fir diminishes.