

Coyote Spring Condition Assessment

Location: La Sal Allotment, Coyote Pasture, Manti-La Sal National Forest

Date: September 25, 2016 **Begin/End Time:** 4:45pm to 5:25pm

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I. Introduction

Our purpose was to assess the condition of the Coyote Springs complex in the Manti-La Sal National Forest. The location of the springs complex is NAD 83 UTM 652936 East, 4247830 North at an elevation of approximately 8,550 ft. The spring is located on a slope on the south side of the La Sal Mountains in an area that has been grazed by cattle for many decades. There were four main parts of this spring: (1) a dry fenced exclosure with a covered cistern (Fig.1) and a dry creek bed below (Fig.10); (2) a low flow spring off to one side that was initially muddy but down the slope it dried out (Figs. 8 and 9); (3) below this a thin meadow extending down the hillside appearing to be frequently used by cattle; and (4) another dried up spring to the northeast of the exclosure (Fig 3).

II. Spring Evaluation Methods:

A discrete spring sources was defined as groundwater emergence separated by dry ground and non-riparian habitat. A cartographer, photographer/GPS operator, data recorder, and observer/botanist divided tasks. The spring was divided into different microhabitats and then compared for differing conditions. Flow was assessed on a qualitative scale from 0 to 4 with 0 representing no water present for the past year and 4 representing perennial water. Disturbance was assessed on a qualitative scale from 0 to 3 with 0 being no disturbance and 3 being severe degradation.

III. Photographs:



Fig. 1: Coyote Springs exclosure around cistern. Microhabitat A.



Fig. 2: Puffball mushroom outside the exclosure near the dried up spring.



Fig. 3: Dried up spring in Coyote springs complex.



Fig. 4: Browsed aspen near muddy spring.



Fig. 5: Hummocking in heavily-grazed meadow by dry streambed



Fig. 6: Aspen structure surrounding the grazed meadow.



Fig. 7: Closely grazed smooth brome in the riparian area.



Fig. 8: Dry spring area below muddy spring with water.

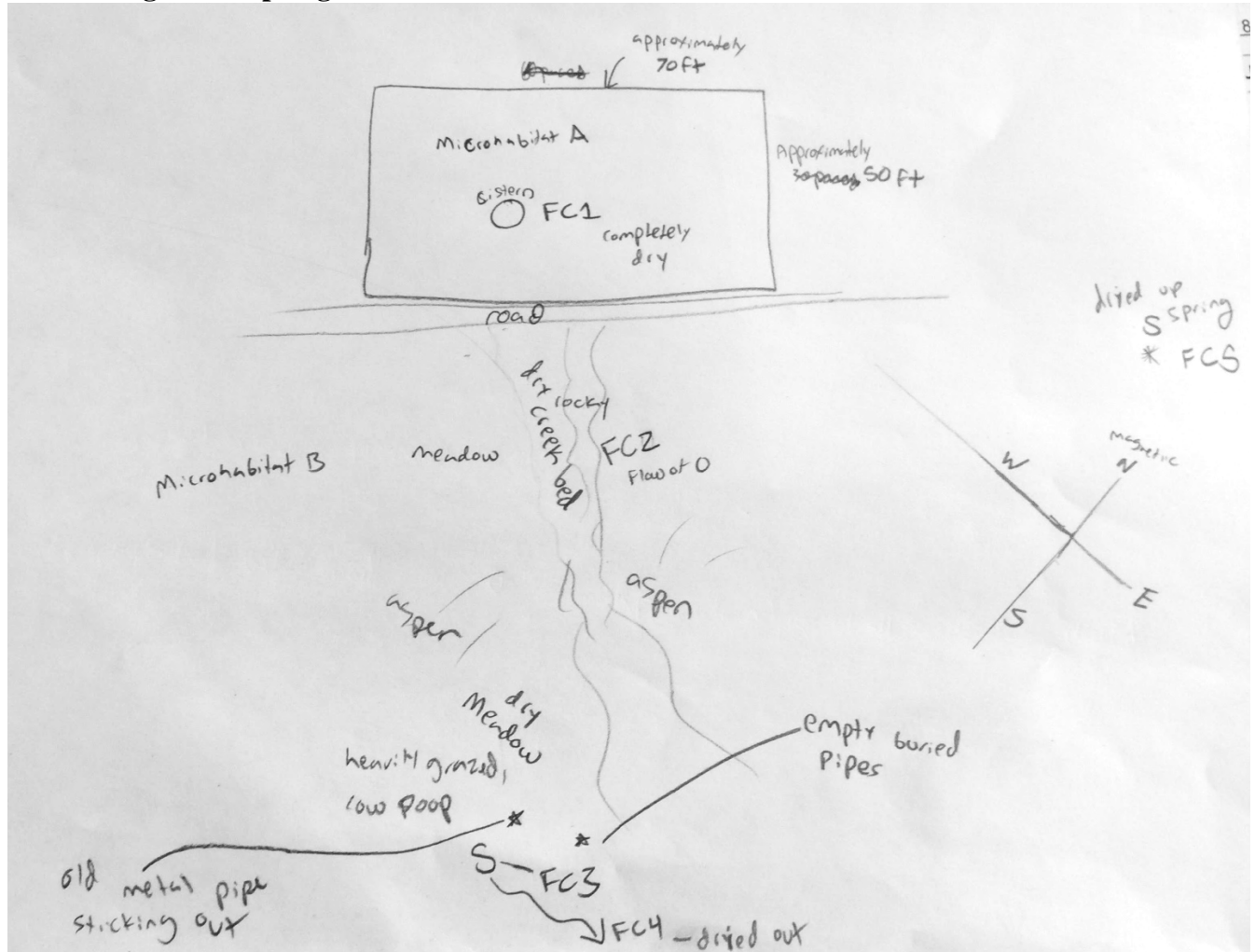


Fig. 9: Heavily trampled pool of muddy spring. Only damp area present at the site at the time of observation.



Fig. 10: Former spring run coming down from fenced in exclosure. Note mullein and closely-grazed grass; some bare soil

IV. Diagram of spring



V. Assessment:

Around the spring complex there were some signs of browsing especially of aspen sprouts in microhabitat B below the road (Fig. 4).

Inside the 50 X 70' enclosure, exotic smooth brome grass dominated the ground cover leaving very little bare dirt. Some aster species were also present and there were a few willows as well as a native chokecherry tree. No rushes or sedges were present. The area inside the enclosure was dry and featured vegetation that did not necessarily seem dependent on the spring itself (Fig. 1). The part of the spring labelled FC1 on the diagram had a flow consistency of 1, because there was moisture once but now there is none. This could be due to the cistern that was present.

Outside the enclosure (Microhabitat B) smooth brome was the primary ground cover and aspen stands surrounded the area (Fig. 7). In some aspen areas the undergrowth beneath the

mature aspen trees was Gambel oak and some areas the Gambel oak was the overstory, like much of the south side of the mountain (Fig. 6).

A small muddy spring (Fig. 9), labeled FC3 on the diagram had a low flow of water but is likely present year round. Around this spring there were several willow trees and very trampled and grazed grasses (Fig. 9). About ten feet below this pool the spring water dried up again, leaving just the remains of a dry creek bed (Fig. 8).

Another small spring was completely dried up and had likely not had any water for at least a year (Fig. 3).

Wildlife present outside the enclosure included birds such as Clark's nutcracker, northern fisher, Townsend's solitaire, Steller's jay, white breasted nuthatch and American robin. In addition to cow pies, some mule deer scat was observed.

VI. Analysis:

The fence around the upper source seemed moderately effective. It went completely around but in some places the wire was stretched and falling down. No grazing was occurring inside the enclosure.

The meadow, dry stream bed, and muddy spring showed heavy trampling and grazing. Many aspen shoots had been browsed and the grass had also been bitten down (Figs. 4 and 7). There was obvious hummocking around the meadow and the muddy spring (Figs. 5 and 9). The areas of the three spring sources that were partially or completely dried up could be naturally that way or diverting water for the cistern could have dewatered the spring run.

VII. Recommendation

- Any water that is currently diverted from this spring should be returned to the water way when cattle are not present.
- The fence should also be repaired, because at this time it most likely keeps cattle out but is falling down in several places.
- The heavily grazed and trampled meadow below the spring is problematic and at least a portion of it should be protected for its potential.
- It would be worthwhile to study this spring further to examine why it dried out and if it could have water again.