Gentry Mountain Spring 181 Condition Assessment

Location: Gentry Pasture, Gentry Allotment (Wasatch Plateau), Manti-La Sal National Forest
Date: September 28, 2016 **Begin/End Time:** 12:50 PM, 1:28 PM
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I. Introduction

Spring 181 is located in the Gentry Pasture of the Gentry grazing allotment of the Manti-La Sal National Forest. The source of this spring is located at NAD 83 UTM E 491655 N 4373479 at an elevation of 9,676'. The assessment of spring 181 was performed to determine the overall conditions in the spring area.

Spring 181 is located in a small draw between two ridges. The stream seems to be in the middle of a firebreak; to the south of the source is an area heavily burned in the Huntington Creek fire. The actual spring habitat is a small, marshy riparian area surrounded by a mixture of forest and scrubland. The spring is located within the actively-grazed Gentry pasture of Gentry allotment, and is accessible to livestock, meaning that the impacts of livestock presence and ungulate browsing are visible within the spring habitat.

II. Spring Evaluation Methods

A team of five volunteers assessed the health and impacts on Spring 181. Specific tasks were assigned to each team member, including observation recording, mapping, assessing and sampling vegetation, and photographing significant features and marking them with GPS waypoints with UTM coordinates. The team walked around the spring source and output, examining microhabitats one at a time and recording observations for each assigned task. Specifically, recorded observations include georeferenced points, photographic and drawn images associated with such points, notation of water presence and infrastructure, vegetation and groundcover composition, native and exotic dominant species samples, evidence of wildlife presence, and evidence of disturbance. The assessment of the spring was completed using a GPS unit, spring survey observation sheets, two cameras, a ruler, and sampling bags for vegetation.

III. Photographs

Fig. 1: *The spring source.*

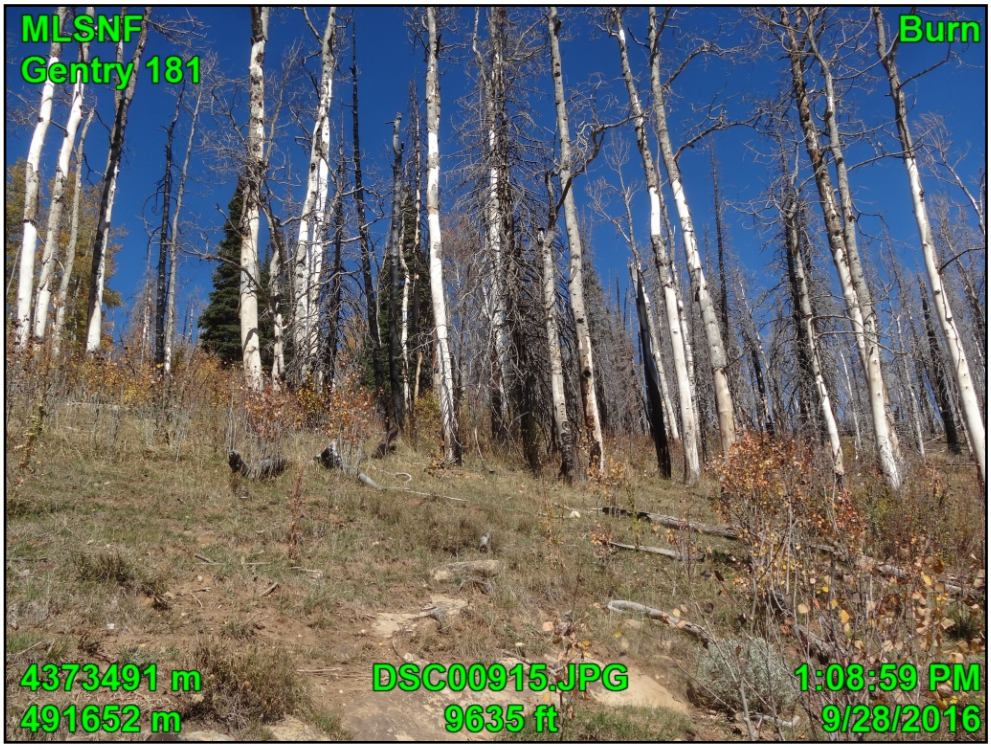

Fig. 2: *Aspen impacted by wildfire on the South slope.*

Fig. 3: *Downstream habitat.*

Fig. 4: *Hummocking and trampling downstream of spring.*

IV. Assessment

Water Presence
At spring 181, there is a strong water presence, starting at the source (see Fig. 1), water flows quickly and consistently downhill. Although a large volume of water does not flow from the stream, it is evident that there is consistently a perennial flow. There are small pockets of standing water, caused by cattle who trample the riparian area.

Water Infrastructure
At the source of spring 181, there is no infrastructure present.

Browsing evidence and Disturbance
Because the source of spring 181 is not fenced, the source and surrounding vegetation have been heavily grazed and trampled. The grass, aspen (*Populus tremuloides*), and nearby shrubs are impacted by ungulate browsing. Aside from browsing, the spring was severely affected by ungulate presence. The cattle who graze in the area contribute to the shearing of the source and stream banks. Hummocks that are present in the source pool are the result of trampling by cattle, and manure litters the area surrounding the source and stream flow.

Aside from wild ungulate impact (most likely deer), the area surrounding the source specifically to the south is impacted by wildfire (Fig. 2). Upslope there is evidence of aspen recruitment and the ground is littered with fallen snags.

Vegetation Composition

Spring 181 is populated mostly with grasses, both in the source and in downstream habitat. The source's most dominant vegetation includes Kentucky bluegrass (*Poa pratensis*), a sedge (*Carex* sp.).. Aspen and round-leaved snowberry (*Symphoricarpos rotundifolius*) are also present in the source microhabitat. The downstream microhabitat (Figs. 3-4), though very similar to the source, has a slightly different vegetation composition. The stream itself is populated by an unidentified grass. Surrounding the flow, though, are shrubs, including sagebrush (*Artemisia tridentata*) and what is a currant, likely Wax Currant (*Ribes cereum*). Fir trees also grow near the water, including young trees as well as burnt snags.

Wildlife evidence
The only wildlife sign near spring 181 is a chipmunk (species unknown) seen near the source microhabitat.

V. Analysis

The general health of spring 181 is undeniably poor. The impacts of livestock—specifically, cattle—presence in the area are extreme. The trampling of the spring source causes the earth to become bare and overturned. This trampling also leads to the hummocking evident at the source and downstream. Livestock presence also has an effect farther down the flow; between one and two hundred feet downstream, where trampling

has created two muddy areas filled with standing water. The vegetation surrounding the source is heavily grazed, including aspen sprouts. The banks of both the source area and the stream flow have been sheared by hooves, promoting erosion and sedimentation of the riparian area and water.

VI. Restoration Recommendation

It is highly recommended that spring 181 be enclosed by a fence. The degradation of the microhabitat is nothing less than extreme, as evidenced by the aforementioned bank sheering, hummocking, trampling, and heavy browsing. Creating an exclosure for the spring would prevent further erosion due to livestock presence as well as improve the water quality at the source and ensure that the source is not buried by perpetuated trampling.

Ideally, the downstream riparian areas would also be protected. The muddy, trampled conditions currently affecting two large areas of the stream could be prevented if cattle were kept from accessing the water at those points and instead were provided a single location to get water. Alternatively,

VIII. Field Map