Webb Hollow Spring Condition Assessment

Location: Bald Mesa Allotment, South Mesa Pasture, Manti-La Sal National Forest
Date: September 25, 2016 **Begin/End Time:** 2:30pm to 4:00pm
Surveyors: Griffin Cronk, Elizabeth Greenfield, Sophie Poukish, Hannah Trettenero

Table of Contents

I. Introduction

The Webb Hollow Spring is ecologically important for the water and nutrients supplied to surrounding vegetation and as wildlife habitat. The riparian habitat created from the spring is highly sensitive to ungulate browsing and trampling. The purpose of this assessment is to analyze the health and condition of the spring area.

The Webb Hollow Spring is located close to the Loop Road on Brumley Ridge Allotment in the La Sal Mountains (Manti-La Sal National Forest) of southern Utah. The source of this spring is located at NAD 83 0645150E, 4264740N (units are UTM), with an elevation of 7,891'. The source of the spring is found in the northeastern corner of the fenced area F (Map, Fig. 14). The Brumley Ridge Allotment is home to a variety of habitats and wildlife. During the summer months the allotment is grazed by cattle whose grazing has degraded the landscape. The impact of grazing and browsing near and in the Webb Hollow Spring is evident by numerous hoof prints, trampled grasses and scat.

II. Spring Evaluation Methods

Materials used included a GPS, compass, ruler, distometer, camera, clipboard with data sheets, one large map and one small map, and a pen. The group divided into four distinct roles: recorder, illustrator, botanist, and photographer/GPS handler. The recorder compiled all observations and data onto the data entry sheet. The illustrator sketched a map of the spring area. The botanist collected plant samples and identified plants, wildlife, and animal scat. The photographer/GPS handler took GPS points and photographs of important components of the spring area, including microhabitats, animal scat, wildlife, plants, and specific spring features. Plant identification was done on site when the botanist could successfully identify the plant, and plant samples were taken from the site when dominant plants could not be identified. Unidentified plant samples were pressed and will be sent to a botanist for identification.

This stream contains three microhabitats—within the enclosure (which has a broken fence), the source and riparian area near the source (Microhabitat A); the grassy area directly around the riparian area within the enclosure (Microhabitat B); and the riparian area outside the enclosure (Microhabitat C).

Flow is assessed on a ranking from 0-4. A rank of 0 is dry or dewatered and is identified as no water present and likely no water for last year, dewatered; 1 is dry intermittent and is identified as dry, no water present but likely water present intermittently; 2 is erratic

intermittent and is identified as wet, damp soils, likely water present erratically and intermittently; 3 is regular intermittent and is identified as wet, surface water/flow present, likely water present regularly but intermittently; and 4 is perennial and is identified as wet, surface water/flow present, low, moderate, or large flow likely always present. Disturbance is assessed on a ranking from 0-3. A rank of 0 is no or negligible disturbance; 1 is light impact, but spring site is not degraded; 2 is moderate impact, spring site is somewhat degraded; and 3 is high impact, spring site is substantially degraded.

III. Photographs

Fig. 1: Location of coordinates. Not the actual spring

Fig. 2: Source of Webb Hollow Spring

Fig. 3: Trampled and muddy area downstream of the source

Fig. 4: Hoof print in the riparian area downstream of the source

Fig. 5: Scat deposited in the riparian area downstream of the source

Fig. 6: Dried cow patty in the grassy area

Fig. 7: Unidentified scat in the grassy area

Fig. 8: A broken fence in a corner of the exclosure

Fig. 9: A trampled spring run outside the fence enclosure

Fig. 10 Cow patty located outside the fence enclosure

Fig. 11: Trampled grass along the fence boundary

Fig. 12: Irrigation pipe

Fig. 13: Irrigation panel that was in the middle of the black tube in Fig. 12

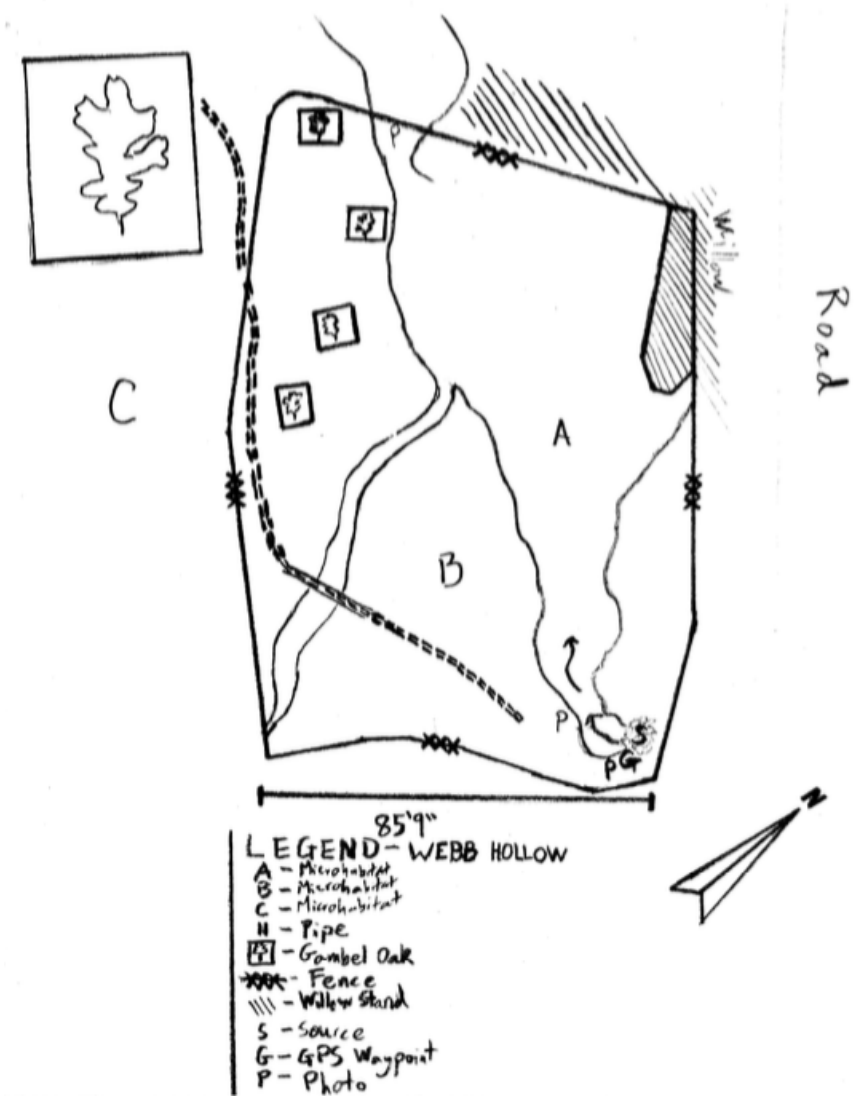

Fig. 14: Map of Webb Hollow Spring

IV. Assessment:

Browsing evidence. There was no evidence of woody plant browsing, but cow, elk, and deer scat were found inside and outside the exclosure (Figs. 5-7, 10). Ungulate hoof prints were also identified in the riparian areas inside and outside the fenced area (Figs. 3-4, 9). Grass was trampled along the fence lines and in the wooded area outside the enclosure (Fig. 11).

Vegetation Composition. The dominant vegetation near the source in Microhabitat A is grasses, rushes/sedges, and forbs . The area was extremely muddy and was mostly composed of bare ground and open water (Figs. 2-3). There were scattered willows, mosses, fungi, rocks, some shrubs, and trees. The most common plants were Nebraska sedge (*Carex nebrascensis*, a native and grazing-resistant sedge), Baltic rush (*Juncus balticus*), also grazing-resistant, and western aster (*Aster ascendans*). In Microhabitat B, the most common types of vegetation were grasses and forbs (Fig. 8). Scattered around

the area were willows and shrubs. Uncommon but still present in microhabitat B were rushes, sedges, trees, and rocks. The dominant species were coyote willow *(Salix exigua)* and exotic invasive redtop (*Agrostis gigantea*). Microhabitat C had a similar composition to Microhabitat A (Fig. 9). The dominant species were oak, aspen sprouts, and coyote willow.

Wildlife evidence. Grasshoppers, bees, and butterflies were observed in Microhabitat B. Spiders were observed in Microhabitat A. Cows were across the road from the spring. Cow, deer, and elk scat were observed within and outside the compromised exclosure (Fig. 8) in Microhabitats A, B, and C.

Water Presence. The water at the source (Microhabitat A) was coming from a rock pile with a white cylindrical tank in the middle (Fig. 2). The water was very clear and there was standing water in pools, slowly trickling downhill. It ranked as a flow of 3 because there was a water flow. In Microhabitat B the water flow ranked as a 2. This marshy area was damp and water was present in the ground and no flow was present. In Microhabitat C, there was a water persistence of 3. There was regular water presence and a slow flow present. The very muddy water was in standing pools. The riparian area in Microhabitat C was extremely trampled, accounting for the muddiness (Fig. 9).

Disturbance. Microhabitat A was highly impacted by cows, deer, and elk and the spring site was substantially degraded. Microhabitat B, which is still inside the exclosure was minimally impacted but has kept most of its vegetation. Microhabitat C was highly impacted by cows, deer, and elk, and the riparian area was substantially degraded.

Water Infrastructure. At the source there was a white cylindrical tank protruding from a pile of rocks with a metal pole marking it (Fig. 2). From the source a black tube ventured by the spring run before veering underground and eventually coming back above ground and going outside the fence (Fig. 12). An irrigation panel connected to the black pipe (Fig. 13).

V. Analysis:

The Webb Hollow Spring is highly impacted by ungulates. The exclosure is not functional because a segment of the fence has been knocked over and does not keep wildlife and livestock out (Fig. 8). The riparian areas inside and outside the exclosure (Microhabitats A and C) are filled with hoof prints and ungulate scat. The trampling has muddied water and decreased vegetation in the riparian areas. The upland grassy area outside the riparian area is minimally impacted by ungulates and shows little signs of grazing or trampling.

VI. Recommendations

- Repair the fence to keep cattle, other ungulates, and wildlife out of the spring source and riparian area. The riparian area in Microhabitat C that is outside the exclosure is trampled and damaged by ungulates.

- Extend the exclosure fence to protect the riparian region within Microhabitat C.