

Memorandum

Date: April 27, 2013

To: Paul Gremillion, WREP, NAU

From: Kyle Paffett, Graduate Research Assistant, Geology Program, NAU

Subject: Final Progress Report for NAU WREP Grant 1001917

Background

A springs ecosystem assessment project has been undertaken by a research team from Northern Arizona University, the Springs Stewardship Institute, the Grand Canyon Trust, and the Grand Canyons Wildland Council. 200 springs were selected for assessment of springs ecosystem functionality in the Coconino and Kaibab National Forests with an end goal of developing restoration plans for a select number of springs. Through the Watershed Resources Education Program, I was awarded a research grant with funds to collect 74 water samples for stable isotope analysis of the spring waters. This laboratory analysis is occurring at the Colorado Plateau Analytical Laboratory (CPAL).

Progress

This project is being divided into two field seasons with the first field season being completed from June 2012 to October 2012. 82 sites were visited with 40 water samples taken and analyzed for isotopic values of deuterium and oxygen. The data from these samples have been used to supplement an undergraduate research project completed by a student in the Grand Canyon Honors Semester at NAU. Not all 74 water samples were taken during the field season due to a substantial number of springs being dry. CPAL has billed the grant for 74 water samples. The second field season will start in June 2013 and the remaining water samples will be collected and analyzed. The isotopic values of the spring waters will be used in my masters thesis research, as well as follow on research projects dealing with waters in northern Arizona. 200 dollars of the grant were used for travel to the Society of Rangeland Managements annual meeting where I presented my research groups method of spring assessment to professionals working in wetland management.