**PR Number:** R7470110413

**Award Number:** **P11AT10690 NAU-406**

**Park/NPS Unit: Walnut Canyon National Monument**

**Title of Project: Genetic Analysis of the Arizona Walnut (*Juglans major*) at Walnut Canyon National Monument**

**Administered through the: (pick from drop down list):** Colorado Plateau Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200-09-0005

**CESU Partner (pick from drop down list):** Northern Arizona University

**Project Contacts**

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**Funding Information:**

**Amount Funded: $4,282.00**

**Project Dates:**

**Start Date: 15 July 2011**

**Any Other Product Milestone Dates you need to include:** Collection of samples by 31 December 2011

**End Date:** 30 September 2012

**PROJECT ABSTRACT:**

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| The ephemeral streambed of Walnut Creek meanders along the bottom of Walnut Canyon. The associated riparian corridor contributes greatly to plant diversity, wildlife habitat, and scenic quality within the monument. Upstream dams have disrupted the natural flow regime since 1941, altering the hydrology, channel morphology, and vegetation. Certain riparian deciduous tree species have likely declined over the last 66 years. Severe drought and stress from climate warming may be exacerbating this trend. Resource managers are concerned that the Arizona walnut, for which Walnut Canyon is named, is at risk of extirpation from the canyon. The distribution of tree age/size classes will be surveyed to determine population stability. As part of this agreement the genetic differentiation of the Arizona walnut in Walnut Canyon National Monument will be assessed to support plant conservation planning and trend analyses. The results will be used to establish a baseline and to inform ongoing interagency efforts under the Little Colorado River basin water rights adjudication to lessen the impacts of the dams on Walnut Canyon. |