**PR Number: R7179120032**

**Award Number:** P12AC10863

Project Number: UNM-85

**Park/NPS Unit:** CAVE

**Title of Project:** Monitor sensitive vegetation after Loop Fire in CAVE

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

**CESU Partner :** University of New Mexico

**Project Contacts**

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**Funding Information:**

**Amount Funded: $22,600**

**NPS Account Numbers (amounts in parentheses): 7188 F4YK B11**

**Fund Source (e.g., ONPS, FLREA, CRPP, CESU, etc.): Fire--BAR**

NPS Funding

Is this funded using a reimbursable account number? If yes, IMR contracting needs a copy of the Interagency Agreement.

**Project Dates:**

**Start Date: July 15, 2012**

**Any Other Product Milestone Dates you need to include:** (full dates can go in with the project description)

**End Date: December 31, 2012**

**PROJECT ABSTRACT:**

The June 2011 Loop Fire in Carlsbad Caverns National Park (CAVE) burned approximately 8,233 acres in the park. This area has known locations and habitat for *Escobaria sneedii* var. *leei* or Lee’s pincushion cactus, which is listed federally as threatened by the U.S. Fish and Wildlife Service and as endangered by the state of New Mexico. Two weeks after the fire, CAVE personnel surveyed known Lee’s plants in the fire for initial evaluation of impacts on the population. Of the 103 plants located, 48 had been directly burned by the fire to some degree, and of those 16 appeared dead. For 48 other plants, no determination was made about burn degree or status. We will revisit those locations and determine the current status of all plants. In addition, we will record number of stems in a clump and take a photo of each plant or plant group for future analysis. Any additional plants discovered as part of the survey will be added to the sample. Sampling will take place following the 2012 growing season.

The Loop Fire also burned a large portion foothill desert grassland dominated by curlyleaf muhly (*Muhlenbergia setifolia*), an uncommon grassland type in the Southwest. Following the fire, in fact for the entire year, there was little rainfall, raising concerns about grass recovery. As part of the development of the CAVE vegetation map between 1999 and 2006, 46 vegetation plots were established within what is now the perimeter of the Loop Fire. These plots contain pre-fire data on vegetation composition recorded as percent canopy cover. Using these legacy plots to form the foundation, we will perform a reconnaissance survey to quantitatively evaluate the impact of the fire on grass mortality, and in particular *M. setifolia*. We will resample at least 15 burned plots and 15 unburned controls. If the legacy data set proves insufficient to meet the sampling set goals, then new plots will be added based on field reconnaissance. At each plot, the team will have available the previous plot species list without cover values (single blind), and they will record percent cover of all shrub and grass species and the major forbs (>1% cover) along with total cover of the shrub, grass, and forbs layers. Sampling will take place after the 2012 growing season.