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**Award Number:** **P11AT00227 AAF-03**

**Park/NPS Unit:** GUMO

**Title of Project:** Phase 2: Establishing Ex-situ Populations of an Endemic Guadalupe Mountains Violet for Conservation and Genetic Study

**Administered through the:**

[x] Colorado Plateau Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200-09-0005

[ ] Desert Southwest Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200-10-0001

[ ] Rocky Mountains Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200-09-0004

**CESU Partner:** The Arboretum at Flagstaff

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**Project Dates:**

**Start Date:** 5/01/2011

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

**End Date:** (please make end date the last day of the month if possible) 12/31/2012

**PROJECT ABSTRACT:**

The Guadalupe Mountains violet *(Viola guadalupensis)* was discovered in Guadalupe Mountains National Park (GMNP) and newly described to science in 1990. It grows on vertical limestone faces that are heavily shaded by a relict forest at 2,438 m in elevation. The discovered population consists of only 70 plants tightly clustered within a 2.4 m x 3.0 m area. In 2006 a suitability model was created using GIS that identified 10 locations of potential violet habitat. Later in the year location searches resulted in the discovery of a second, smaller population. In 2009 two additional populations were located during a rare plant survey.

In the last couple of years The Arboretum at Flagstaff has successfully propagated individuals and germinated seed. This task continues to be the primary objective with the arboretum. A second objective is to establish one or more geographically separate populations of this violet within the park boundary. Since this species has highly specific habitat requirements it is susceptible to catastrophic fire, disease or herbivore attack. Prior to out-planting propagules, propagation requirements and transplant techniques will be examined and researched by The Arboretum at Flagstaff to determine the set of protocols that will insure the highest success of survivorship.

These steps are necessary to maximize the survival and conservation of this rare violet. Furthermore, results from this study will contribute to critical management decisions whether it will be practical to expand the number of populations of this violet or if it will be necessary to place it into commercial propagation under a cooperative research and development agreement (CRADA).