

Development of a citizen science-based rare plant monitoring program for northern Arizona

The first step towards conserving Arizona's rare plants is knowing where they occur, how they are faring, and what threatens them. This project will assist the U.S. Forest Service (Coconino National Forest and Kaibab National Forest) by getting more people in the field searching for and observing rare plants. By utilizing citizen scientists, the U.S. Forest Service will be able to effectively receive more current information about rare plant species for Forest Service planning needs, without requiring Forest Service staff to make multiple field trips. Citizen scientists make ideal partners for this project due to their interest, knowledge, and availability. This project will also increase community knowledge and engagement in saving rare species leading to further financial and intellectual support for the conservation of Arizona's native flora. If this pilot project is successful, additional funding will be sought to expand the program to other lands in northern Arizona.

Working in collaboration with the Museum of Northern Arizona, the education team will focus on training citizen scientists on species that were chosen because they do not have current occurrence data or recent collections and are likely to occur in the four rare plant hotspots near Flagstaff.

The objectives of this project are to:

- 1) Gather current knowledge on at least 10 U.S. Forest Service Sensitive Species from regional Forest Service offices, Arizona heritage database, U.S. Fish and Wildlife, literature, and research.
- 2) Develop and train a pool of citizen scientists to survey for rare species and gather basic population information that is compatible with USFS data systems.
- 3) Establish a seed bank of select rare plants.

This will be hybrid classroom and field based project. Training materials will be developed based on protocols already established by successful citizen science rare plant monitoring programs like Chicago Botanic Garden's Plants of Concern, University of Washington's Rare Care, New England Plant Conservation Program, and California Native Plant Society's Rare Plant Treasure Hunts. In the springtime, citizen scientists will be trained to conduct basic monitoring on specific rare species. Several field trips will occur to rare plant hotspots to show volunteers the appropriate habitat and field monitoring protocols. As the data are gathered, accuracy and completeness will be verified and the data will be reported to the proper agencies.

For more information on this project, or to become involved as a trained citizen scientist, please contact Sheila.Murray@thearb.org.

