Seeds, dried and frozen, mark the flora of today

Student interns help preserve native flora with seeds of success

By Sarah McCullough and Kate Pavich
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If you were driving on the back roads of the Owens Valley this summer and saw a small group of people working diligently through the sagebrush with paper bags and wide-brimmed hats, you may have spotted the Seeds of Success crew collecting native plant seeds for the Royal Botanical Gardens and the Bureau of Land Management.

The Seeds of Success project is a cooperative effort between the Royal Botanical Gardens at Kew, England, the BLM, and the Student Conservation Association (SCA), a group that places students in conservation internships.

The goal of the project, which is a millennium initiative sponsored by the British government and funded through lottery monies, is to collect seeds from at least 10 percent of the world's dry land plant species by 2010 for long-term storage at Kew.

The project aims to collect seeds from 24,000 species. Seeds are being collected at many sites around the world, but the species collected by the BLM are expected to make up a sixth

See SEEDS, page A-3

Kate Pavich collects seeds from Tetradymia glabrata at sunset on the Volcanic Tablelands. *Photo submitted*

SEEDS

Continued from front page

of the total. The BLM will keep half of the seeds that are collected, and these seeds will be kept in U.S. seed banks or used in restoration projects on public lands.

This year there were six teams of SCA interns working at sites throughout the west, including the team working out of the Bishop BLM Field Office. The Bishop field crew consisted of two interns: Kate Pavich from Washington, D.C., and Sarah McCullough from Helena, Montana.

The field crew was directed by Karen Ferrell-Ingram, a native plant propagator who has been collecting seeds and growing native plants locally for the BLM and others for nine years.

The project was overseen and guided by Anne Halford, a BLM botanist. Halford said of the intern crew, "Their work on this project provided a model of how public management agencies can work with groups like the Student Conservation Association, whose motto is 'changing lives through service to nature.'"

At the beginning of the season, the crew was given a list of 50 target species. Species were chosen based on local availability, their usefulness in revegetation projects, and for their ecological value.

"It was exciting to try and capture in seed, a representation of the incredible botanical diversity occurring in our area," stated Ferrell-Ingram.

Desert paintbrush (Castilleja angustifolia) is on the list because it is important to pollinators; Bailey's wild buckwheat (Eriogonum baileyi) was chosen because it is closely related to a rare species; and curly bluegrass (Poa secunda) was chosen because it is a wild relative of cultivated and economically important grass species. The crew did not collect any rare or endangered species or invasive weed species.

For each species, the crew collected and submitted between 10,000 and 20,000 thousand seeds and four dried plant specimens. The specimens will be prepared at Kew and divided between the herbarium collections at Kew, the Smithsonian Institution in Washington, D.C., the local BLM office, and the Rancho Santa Ana Botanic Garden in Claremont, Calif.

The amount of seed produced by native plants varies greatly from year to year. Seed production has been low the last couple of years because of drought conditions, but there was good seed production in many plant species this summer due to the wet winter and spring. As a result, the crew was able to collect from 43 of their 50 target species, and the season was a success.

Placing native plant seeds in the Kew seed bank will help preserve the rich biodiversity of the Eastern Sierra. When seeds are placed into long-term storage, they are dried and then frozen. Many seeds can be kept for several human generations in this state before they lose their ability to grow. The stored seeds will be used for research and for species reintroduction into the wild, now and in the future, and will help safeguard species against extinction.

Halford said, "The diversity of seed collected by these dedicated and highly motivated people helps ensure the conservation of this region's native plants and contributes to the understanding and restoration of arid land systems."

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