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Rubus nigerrimus

2015 Field Season: Is gray cryptantha declining?

Rare Care and the Bureau of Land Management (BLM) are working together to evaluate the status of gray cryptantha (*Cryptantha leucophaea*) across Washington State. Revisits to gray cryptantha populations by Rare Care volunteers between 2009 and 2014 suggest that the species may be declining. Rare Care and BLM hope to revisit most or all of the remaining populations on public lands in 2015 to document whether this trend is repeated at other populations.

Gray cryptantha is a perennial species found on sandy substrates associated with partially stabilized areas of sand dunes. It is endemic to the Columbia River Basin and occurs primarily in Franklin, Benton, and Grant Counties. Gray cryptantha is a BLM sensitive species, federal species of concern, and a Washington sensitive species. Potential threats to the species are off-road vehicle use, invasion by non-native species, and changes in sand deposition resulting from dams on the Columbia River.

The Washington Natural Heritage Program records 47 occurrences in the state. The only known occurrence from Oregon is a historical collection that is assumed to be extirpated. Rare Care volunteers have visited 28 sites in the past 5 years and have only found 16 of those. The volunteers estimated that population sizes were smaller than previous estimates on record for 14 of the sites. Previous to Rare Care's surveys, most populations had not been visited since the mid to late 1990s. Only one new site has recently been documented – a site near Wenatchee that Pam Camp, retired BLM botanist, discovered along the Columbia River banks.

Rare Care and BLM staff will focus on revisiting six of the historically largest populations, all of which are located where extensive sand dunes occur. At these sites, historical records suggest that the plants were abundant with population sizes in the thousands. Surveys will require multiple observers because the dunes can extend for 10 or more square miles. And, unlike surveys for most other species, we may not know exactly where to look to find the plants.

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Seed vault volunteers play valuable conservation role

Thanks to dedicated volunteers, rare seeds move quickly through the cleaning /counting/packaging process to long-term storage. Four volunteers in particular—Shelly Carpenter, Eve Dixon, Dana Ericson and Dolores Ranhofer—have kept regular schedules spanning many years and were recognized this spring by Rare Care for outstanding service. All totaled they have devoted more than 700 hours to the seed bank, working in solitude in a small, white, windowless room set at 57 degrees F.

Eve was the first long-term seed vault volunteer, settling into repeat visits the year following the Miller Seed Vault's opening in 2003. Since moving out of the area in 2007, Eve has continued to participate in other projects and still visits on occasion to sort seeds. Shelly jumped in about the time Eve moved. Her facility with tiny seeds has made her the go-to person for species that pack a punch into their capsules or siliques, such as Fremont's combleaf *(Polyctenium fremontii)*, a mustard that Shelly is currently cleaning. Dolores wields a mean nutcracker, which is highly desirable when working with milk-vetch *(Astragalus)* pods. She has persevered for seven years, working every month of the year, as does Dana. For five years Rare Care has depended on Dana to clean seeds. But that's not all she cleans. She has taken the initiative to keep the seed vault itself clean. To say we are grateful is an understatement. For more on Rare Care's seed banking project, visit **www.uwbotanicgardens.org/rarecare.**

RARE PLANT CARE & CONSERVATION

University of Washington BOTANIC GARDENS

School of Environmental and Forest Sciences
College of the Environment

AGENCY PARTNERS PROFILE: Successful restoration projects gratify David Wilderman

Perhaps one of the most satisfying jobs for an ecologist is learning about and taking care of a special place. If that is the case, then David Wilderman is a very lucky ecologist. As the Natural Areas Program Ecologist for the Washington Department of Natural Resources, he works in many special places: all of the natural area preserves (NAPs) and natural resources conservation areas (NRCAs) in the state.

David's path to this career is typical of many aspiring botanists and ecologists. He started right out of college as a Student Conservation Association intern conducting botanical surveys for the Bureau of Land Management (BLM) in Oregon. He continued to work seasonally with BLM in Oregon and Washington while completing his graduate degree. That experience, along with contract work with The Nature Conservancy, inventorying plant communities at the Hanford Reservation, gave him a solid foundation to qualify for the Natural Areas Program ecologist position.

In this capacity, Dave spends much of his time assisting natural area managers with whatever issues come up while managing approximately 100 NAPs and NRCAs throughout Washington. He coordinates and oversees invasive species control, prescribed burning, and resource monitoring. Because he and the rest of the staff are few, they are unable to monitor all of the species and habitats on their natural areas. So Rare Care's monitoring reports, he says, "alert us to any issues or threats that we may need to focus on, such as invasive species and unauthorized grazing." He used a Nuttall's quillwort *(Isoetes nuttallii)* report to help determine the potential impact of a new trail and viewpoint construction project. And "in a few instances, volunteers have discovered new populations of rare taxa that helped support expansion of existing natural areas to incorporate those populations."

Dave's favorite part of his job is seeing positive outcomes from restoration projects. "As anyone who's worked in restoration knows, projects don't always work as planned," he notes. "Even our best attempts at 'restoring' or 'rehabilitating' nature can fall short for various reasons or have unintended consequences. So when projects are successful and appear to really be having the positive effects that we hoped for, or even ones we hadn't hoped for, that's very satisfying."

He cites their recent success at restoring a seasonally wet meadow by diverting water out of a drainage ditch and back into the meadow. In subsequent years he observed extensive seasonal flooding and improved soil saturation as a result of the project, an intended outcome that improves the habitat for the two rare native plants found there. But the project also had an unanticipated benefit: sandhill cranes are now visiting the meadow each spring and staying much longer than in previous years.

While Dave loves all of Washington's ecosystems and natural areas, he has a special fondness for the eastern Cascades' diversity of habitats and species where the shrub steppe intermingles with dry forests. "The mix of these two habitats, plus mountain meadows, riparian canyons, and rock outcrops is pretty spectacular and hosts so many interesting plant species." His favorite natural areas in these areas? White Salmon Oak NRCA, Klickitat Canyon NRCA, and Camas Meadows NAP.

Dave has now worked for the Natural Areas Program for 20 years. "That's hard to believe," he reflects, "but I guess the fact that time has gone by so fast is a testament to how much I enjoy my job."

Cryptantha leucophaea (photo by Don Knoke).

Gray cryptantha often near active dune face

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Usually when Rare Care volunteers visit known populations of other rare plant species, they have accurate mapping from previous visits that leads right to the vicinity of the populations. This may not be the case with gray cryptantha. With the dynamic nature of the dunes, mapping from surveys conducted 20 years ago may no longer be accurate because the dunes have moved. We expect that the populations shift with the dunes because they are often found near the active face of dunes. It raises the question as to whether a lack of success that past surveyors have had at relocating gray cryptantha populations results from the fact that where they were mapped in the 1980s and 90s is not a good indicator of where the populations are today. Therefore, an intensive search for these plants will be conducted at the largest known sites of this species to test this hypothesis.

It is also important to revisit as many of the smaller populations as possible in 2015. This is where Rare Care volunteers will play a vital role in filling in the gaps of knowledge about this species. These surveys will not only document the number of plants remaining for this species, they will also provide valuable information on the condition of the habitat and the prevalence of the perceived threats across the range of the species.

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