

PLANT

R E S S

Developing connections with inimitable places, people

RARE CARE

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Hanford Reach. Blue Mountains. Wenatchee Mountains. These three places hold some of Washington's most diverse and unique plant assemblages and were the focus of Rare Care fieldwork this season. Rare Care spent much of April and May on Yakima Ridge and Rattlesnake Mountain at the Hanford Reach National Monument revisiting rare plant populations affected by the 2016 Range 12 wildfire. Some of these populations, such as those of Columbia milk-vetch (*Astragalus columbianus*) and miner's candle (*Cryptantha scoparia*), previously had been visited by Rare Care volunteers; therefore, we had a good baseline to compare with this year's surveys. Several populations of Piper's daisy (*Erigeron piperianus*), on the other hand, had not been visited in a couple of decades. Making any inferences about wildfire impacts is much more difficult in these cases. While many of the populations appear to have survived the wildfire relatively well, the plant communities are shifting as a result of repeated wildfires, and many non-native grasses are becoming established. The long-term impact of these vegetation changes and the increased competition by non-native species is expected to be detrimental to the long-term survival of the rare plant populations.

In June, Rare Care hosted its annual monitoring weekend at the Asotin Wildlife Area in the Blue Mountains. Joined by the Asotin Wildlife Area biologist David Woodall and Umatilla Forest Service botanist Paula Brooks, we visited a range of habitats and rare species on the northeast side of the Blue Mountains. Within this landscape of deeply-incised canyons and high plateaus, we found healthy populations of Arthur's milk-vetch (*Astragalus arthurii*) and Rollins' desert-parsley (*Lomatium rollinsii*) scattered within the lush grasslands on the upper slopes of the canyons. We also discovered a number of undocumented populations of Snake River daisy (*Erigeron disparipilus*) in areas with rocky soils, suggesting it is patchy but more widely distributed than the records show. All told, we documented 18 known and new populations in the region, and our group gained a greater *(continued on page 2)*

Cliffbrake sighting one of several monitoring highlights

Brewer's cliffbrake (*Pellaea breweri*) is not a sociable plant. It grows on rocky outcrops, cliffs and ledges, in crevices and rocky slides. Over the years, diligent Rare Care volunteers have made numerous unsuccessful searches for this alpine fern in the Olympic and Okanogan-Wenatchee National Forests and have found just one occurrence in the Wenatchee Mountains.

This year Laura Potash, former-US-Forest-Service-botanist-turned-Rare-Care-volunteer, requested some of our least accessible assignments. Among them was Brewer's cliffbrake, which she found clinging to a cliff face at 6,000 feet. Her rare plant field data sheet is detailed, professional and valuable. But it's her site sketch that delights us the most. Her route up the mountain is marked with a stick figure splayed across the cliff face, and sites where she observed the plant are marked, not by asterisks or x's as we commonly see, but by hearts.

Potash teamed up with another former-US-Forest-Service-botanist-turned-volunteer Ann Risvold, and together they scrambled up a boulder field to a talus slope at the base of some cliffs to find an occurrence of arctic aster (*Eurybia merita*).

Rare Care has always been focused on getting data into the hands of those who can use it. But thanks to the program's longevity, Rare Care's impacts are maturing. Nowhere was this more apparent than at the *(continued on page 4)*



Top: Ceci Henderson, Myesa Legendere-Fixx, Michael and Janka Hobbs monitor Arthur's milk-vetch (photo by Wendy Gibble). Left: Bee visits Wenatchee Mountains checker-mallow (photo by Ceci Henderson).



Above: Joe Arnett (photo by Jennifer Youngman). Right: A tiny figure traverses the cliff face below Brewer's cliffbrake (inset) (photos by Laura Potash).

Thank you, Joe Arnett!

(continued from page 1) appreciation for the diverse flora of the area.

The Wenatchee Mountains have been an annual destination for Rare Care, and this year was no exception. It was with tempered joy that we returned to Camas Lands to continue monitoring the Wenatchee Mountains checker-mallow (*Sidalcea oregana* var. *calva*)—tempered because it marked our last official partnership with Joe Arnett, the Washington Natural Heritage Program botanist, who retired in July. Joe has been an outstanding partner for Rare Care, supporting our programs by participating in our volunteer trainings and monitoring weekends annually, working collaboratively on recovery of listed species, and contributing seeds to the Miller Seed Vault. His natural gift at teaching and his passion for botany inspires everyone who spends a day in the field with him, and we all come away with a renewed appreciation for the nuances of plant taxonomy. We will miss pondering lupine taxonomy and other confounding plant ID puzzles with Joe, but hope to see him back in the field in the near future. Thank you for your generous contributions to Rare Care and plant conservation, Joe!

Learning from agency partners and watching plant babies grow by Cecilia Henderson

This summer I was lucky enough to work with Wendy Gibble as a Rare Care intern. I can hardly express my gratitude for what has been an incredibly rewarding experience. I have been able not just to learn about rare plant monitoring and seed collection, but participate in many related fields which are integral to rare plant conservation, including weed surveys, burn site evaluations, and rare seed testing and propagation.

One of the most memorable and educational aspects for me has been our plant monitoring assignments, an experience which may be familiar to many Rare Care volunteers but was an exciting new adventure for my co-intern Myesa and me. We discovered a certain thrill in heading out to the beautiful middle of nowhere on a quest for a rare species, and discovering a multitude of plants and animals along the way. One of my favorite monitoring assignments was an early August search for an elusive fern species, Brewer's cliffbrake (*Pellaea breweri*), near Cle Elum. This population had not been observed since 1937. Imbued with a sense of purpose and wary of the sizzling temperatures forecasted that day, we woke up at 4:30 AM. to head to the site in hopes of avoiding direct sun on the exposed rocks around which *P. breweri* grows. We clambered up steep boulder avalanches into cliff ravines and across loose scree slopes, encountering dozens of plant species we had never seen before. Although we never actually found the *P. breweri* population, we gained a very good sense of where it is not located, and even stumbled across a Thompson's chaenactis (*Chaenactis thompsonii*) population to monitor. On our hike back we were ensnared by the siren song of huckleberry bushes loaded with ripe fruit, and arrived back at the car with hands stained purple and a great feeling of accomplishment that we gave our best for the rare plants that day.

As I write we are in the midst of propagating Whited's milk-vetch (*Astragalus sinuatus*) seeds for outplanting with the Bureau of Land Management (BLM), a priceless experience not just to see our plant babies grow up (something which I find embarrassingly exciting), but to participate in every step in the process from seed collection and seed cleaning to germination and potting.

It's no secret that Rare Care carries out critically important work for ecological conservation, but I was also able to observe the importance it holds in the lives of its staff, volunteers, and agency partners. Brigitte Ranne with the Forest Service and Molly Boyter with BLM went above and beyond to share their time, knowledge, and personal experiences, which was invaluable for new grads such as ourselves entering the workforce. Chris from the BLM office deserves a special mention for taking Myesa and me on one of his patented "death marches" (so-called by his coworkers) where we spent a long day hiking up and down steep hillsides doing site burn evaluations in sweltering temperatures. Despite (continued on page 3)

Wading through head-high nettles and scarifying seeds

by Myesa Legendere-Fixx

Working as a Rare Care intern has been a thrilling summer! Over the summer, Ceci and I monitored 17 different plant populations, did 10 seed collections, worked with the US Bureau of Land Management doing rare plant and weed surveys and fire severity assessments of burned areas, improved the seed vault and started almost 500 seeds of Whited's milk-vetch (*Astragalus sinuatus*) for an outplanting. I've been able to grow so much as an ecologist, as a person and as a hiker because of the variety of tasks we got to take part in this summer, both in the field and back at the University of Washington Botanic Gardens. Here are a few highlights.

We drove seven hours from Seattle to attend the monitoring weekend near the Blue Mountains in Asotin County. Here we met a bunch of the volunteers who truly carry the program of Rare Care. Ceci and I were just getting started doing our first monitoring assignments. We were very impressed with the lightning-fast

plant identification, the mountain goat-like hiking skills, and the pride that each volunteer took in his or her project. The monitoring weekend was planned for work, but there was plenty of time for eating, relaxing, socializing and singing in the evening. Let it be known that I sang "Big Rock Candy Mountain" with Joe Arnett (botanist and guitar player extraordinaire).

In the Entiat Mountains north of Wenatchee, we did a couple of surveys for longsepal globemallow (*Illiamna longisepala*) and Thompson's clover (*Trifolium thompsonii*). This task demanded that we literally climb up the Entiat Mountains and do six transects (four on ridges and two in gullies) that spanned 600 feet in elevation. Later in the day, we switched to visual surveys.

We had some adventurous seed collections as well. While collecting *I. longisepala* seeds in Douglas Canyon on the east side of the Wenatchee River, we had to wade through *Illiamna* plants, rose bushes, mullein, and stinging nettles my height in a steep, rocky gully. All of the other sites of *Illiamna* in Douglas Canyon were out in the open, very sparse, and heavily attacked by insects. Here, there was a dense collection of what we estimated to be 3,000 tall, fruiting, healthy plants. It was amazing to visit such a beautiful little area.

Another time, we drove to Smoothing Iron Ridge in Asotin County to collect Arthur's milk-vetch (*Astragalus arthurii*) seeds. Unlike the other sites where we had collected, we had not been to that site earlier in the year. Finding those plants was like searching for hay in a haystack; they almost completely blended in with their surroundings. Once our eyes became better at identifying dry *A. arthurii* from the other three dry *Astragalus* species and the rest of the dried plants, it became a lot easier to gather seeds.

When we were preparing for our outplanting of *Astragalus sinuatus*, we gently scratched the seed coats (scarification) of almost 500 2-mm long seeds so that we could start the germination that night.

It has been wonderful being able to work alongside Wendy and to learn from her. Doing all the different tasks for Rare Care has made me a much stronger ecologist, and I am very grateful to Wendy, the organization of Rare Care, and all the experienced people who trained us in the field. It was a thrilling experience to find, to collect seeds from, and to care for the natural treasures of Washington State.

Ceci Henderson (left), Myesa Legendere-Fixx (photos by Wendy Gibble).

Read the unabridged reflections of Ceci and Myesa on the UW Botanic Gardens blog at bit.ly/RareCeci and bit.ly/RareMyesa

Intern Henderson reflects

(continued from page 2) the challenge, at the end of the day I found myself grinning through the soot and sweat, thoroughly satisfied with all we had accomplished.

I must finally attempt to express my boundless appreciation and admiration for Wendy Gibble. Wendy ensured Myesa and I had the opportunity to learn as much as possible from a multitude of people in a range of knowledge areas, going above and beyond for the sake of our education and experience. At the end of this internship I can only hope in the future that more students and recent grads have the opportunity to work with this invaluable organization and with the wonderful people involved.



THANK YOU, DONORS: JULY 1, 2016 - JUNE 30, 2017

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Collomia, willow, goldthread among other monitoring finds in 2017

(continued from page 1) après-checker-mallow-monitoring gathering for Joe Arnett (lead article, page 1). Here were Rare Care staff, active land managers, retired land managers who now volunteer for Rare Care, and Rare Care volunteers and interns, some of whom may very well become land managers. Data plus community is a pretty powerful combination.

Other notable finds include bristle-flowered collomia (*Collomia macrocalyx*), which we had not been able to find or conclusively identify on two previous attempts within the Yakima Training Center. This spring Richard Johnson found 40 individuals, some of which were in bloom, and verified the ID. Three volunteers had previously searched for an occurrence of soft-leaved willow (*Salix sessilifolia*) within the City of Mount Vernon. Female plants were needed to conclusively identify the population that was located. This year Veronica Wisniewski found both male and female plants in bloom and confirmed the ID. And Robby Wrench, on the trail of spleenwort-leaved goldthread (*Coptis asplenifolia*) in the Mt. Baker-Snoqualmie National Forest, could not reach the site. The road disappeared into a salmonberry thicket and was washed away, and he was unable to continue walking along the river. So why is this visit notable? He kept his eyes open, and 1 1/4 miles west of his site, he found a never-before-documented Spleenwort-leaved goldthread occurrence of the same species and submitted a thorough report.

