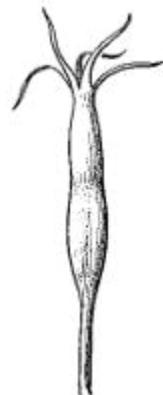


# RARE

# PLANT

Fall/Winter  
2010  
Vol V No 2



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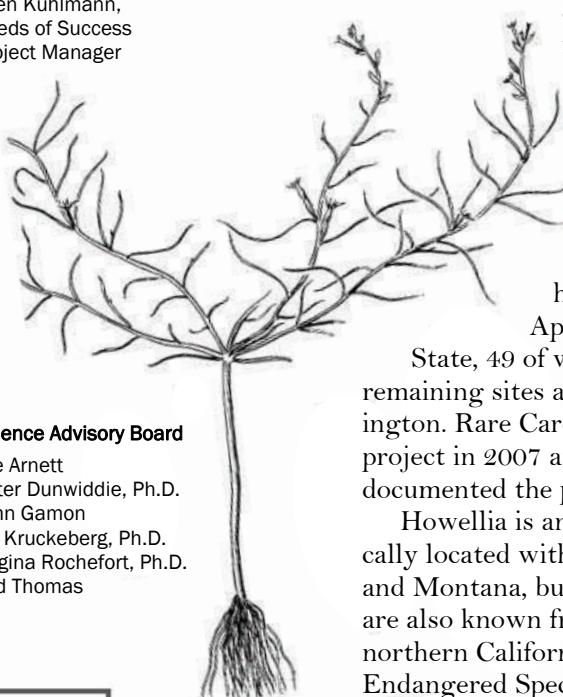
## Rare Care triumphs in its quest for the elusive least phacelia

Monitoring rare plant populations is like a treasure hunt: interpreting the clues, chasing the trail and finding the treasure. Rare Care's quest to relocate a 1986 sighting of the least phacelia (*Phacelia minutissima*) had all the earmarks of a great treasure hunt and culminated in a successful sighting this summer.

Least phacelia is a dwarf annual of the waterleaf family (Hydrophyllaceae) found in Washington, Idaho, Oregon and Nevada. Throughout its range it is considered a sensitive species because of the low number of known populations. It prefers sparsely vegetated microsites in vernal moist seep and riparian areas within sagebrush steppe and montane forests. Its pale blue flowers are arranged in a loose helicoid cyme, similar to a fiddle neck. Its leaves and stems are hairy and glandular. Least phacelia's most distinctive feature is its calyx. The calyx elongates during fruit development, and the sepals become uneven in size.

The one and only known population of this elusive plant in Washington State was discovered in 1986 by Elroy Burnett. Elroy and Steve Rust attempted to relocate it in 1994 and failed. Notes from his original 1986 sighting indicate that he found 3 plants

on July 12 growing near alder and false hellebore at the edge of a montane meadow in Kittitas County. His notes also provide fairly clear directions to the meadow based on an intersection of a Forest Service road with a hiking trail, and indicate that the plant grows with sticky goldenweed (*Pyrrocoma hirta* var. *hirta*). *(continued on page 2)*



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## Volunteers find howellia at 88% of Turnbull sites

In 2010, Rare Care wrapped up a four-year effort to survey howellia (*Howellia aquatilis*) at Turnbull National Wildlife Refuge.

Approximately 67 sites of this threatened species occur in Washington

State, 49 of which are in Spokane County. Of those, 33 occur at Turnbull. The remaining sites are located in Pierce, Thurston, and Clark counties in western Washington. Rare Care volunteers, led by volunteers from the Spokane area, took on this project in 2007 and completed the final surveys this June. Volunteers successfully documented the presence of howellia at 29 of the original 33 occurrences at Turnbull.

Howellia is an aquatic annual found in vernal freshwater ponds and wetlands typically located within forested areas. Most known populations are found in Washington and Montana, but a handful of populations are also known from Idaho, Oregon and northern California. It was listed under the Endangered Species Act in 1994 because of the threat of surrounding land use activities to its habitat and the threat of competition by invasive plants, primarily reed canary-grass (*Phalaris arundinacea*). It is the only member of its genus.

Monitoring ponds for howellia requires a customized survey method in order not to damage the plants. This shallowly rooted plant is easily disturbed by people wading in ponds. That, combined with the fact that it can be difficult to spot *(continued on page 2)*

## Rare Care thanked for role in Seeds of Success achievement

Seeds of Success, a program coordinated by the Bureau of Land Management, received a Department of Interior Secretarial "Partners in Conservation" Award Sept. 30. Recognizing Rare Care for its contributions to the program, BLM Plant Conservation Program Lead Peggy Olwell said, "This special partnership is one piece of the puzzle to develop native plant materials to stabilize, rehabilitate and restore native plant communities across the United States."



Above, least phacelia's corolla is only 1/16 to 1/8 inch long [Janka Hobbs]. Top left, least phacelia grows to 4 inches in height, and its sepals become uneven in size during fruit development [Wendy Gibble]. Top center, howellia grows in vernal ponds and wetlands [Betty Swift]. Top right, howellia resembles other aquatic species, but its flower is distinctive [Beth Mort].

## 2011 RARE CARE CALENDAR

**Sat. Feb. 26 — Monitoring Training,**  
Seattle (Apply by Feb. 4)

**Tue. Mar. 8-Apr. 12 — Plant ID,**  
Seattle, with Dr. David Giblin

**Sat. Mar. 26 — Navigation Training,**  
Seattle

**Sat. Mar. 26 — Volunteer Forum,**  
Seattle

**Sat. May 14 — Seed Collecting**  
Training, Seattle

**Sat.-Sun. Jun. 18-19 — 5th Annual**  
**Monitoring Weekend, Klickitat**  
County

**Dates TBA — Monitoring Training,**  
Spokane and White Salmon

**Dates TBA — Volunteer Forums**  
statewide

**Date TBA — Seed Collecting**  
Training, White Salmon

## Why was it so challenging to find the least phacelia?

(continued from page 1)

*sonchifolia*), another Washington rare plant with only 4 known populations in the state, and Kittitas larkspur (*Delphinium multiplex*).

Armed with these clues and a map, a pair of Rare Care volunteer monitors made the first attempt to relocate this plant in 2003, visiting the site in the third week of July. Although they correctly identified the location, they were unsuccessful in their search. A second attempt was made in 2009 when several different volunteers visited the site on July 10 and July 25. Despite this intensive effort, the tiny annual was not found.

In 2010 Rare Care made what was expected to be its final attempt to locate this species. On June 28, Wenatchee volunteers Dee Curcio and Pam Camp visited the site and discovered 100 plants blooming in the same location searched in previous years. Subsequent visits to the site by Rare Care volunteers and staff on July 10 and 11 documented more than 1,000 individuals in a 500 square meter area. By then, less than 10 percent of the plants were in flower and the rest were in fruit.

Why were Rare Care volunteers successful this year, whereas previous searches, even by the original surveyor, were unsuccessful? While we will never know for certain, it is likely that several factors played a role. All searches prior to 2010 occurred in the second to fourth week of July, which may have been past the peak flowering period. Although there is year-to-year variability in flowering period, it may be that most of the surveys were conducted later than optimum. The small stature of this plant (less than

4 inches) also makes it extremely difficult to spot, even when observing the ground from several feet away. Another factor may be the environmental conditions. Many populations of annuals fluctuate widely in size from year to year depending on moisture availability, and may be completely absent in dry years. It turns out that 2010 was an excellent year for annuals on the east slope of the Cascades, likely due to the wetter-than-normal spring.

In addition to monitoring this site, Rare Care took advantage of what appeared to be an outstanding year for this species and completed a seed collection in August.

## Survey requires special protocols

(continued from page 1)

the plants within the competing vegetation, makes counting individual plants impossible. Therefore, survey protocols call for the presence or absence of howellia to be determined for various sections of each pond based on a survey around the perimeter. Surveyors also note the percent cover of reed canarygrass, cattails, sedges and other emergent vegetation in each pond section containing howellia.

Volunteers assisting with howellia monitoring were required to attend a half-day training with Turnbull NWR biologist Mike Rule to learn the protocols. Spokane area volunteers participating in the project included John Baumann, Lorna Emerich, Lawton Fox, Julie Jose, Brenda McCracken, Beth Mort, Bill Safranek, Mary Lou Safranek and Mary Water. Seattle area volunteers included Suzanne Anderson, Rachel Hulscher, Betty Swift and Ron Toonen.

## Investigating the flora of the Wenatchee Mountains: a conversation with Botanist Joe Arnett

Rare Care has organized its annual rare plant monitoring weekend for the past 3 years in Chelan and Kittitas Counties to assist Washington Natural Heritage Program Botanist Joe Arnett with a study of Wenatchee Mountain flora. In addition to monitoring known locations of 5 rare plant species and documenting 7 new locations for *Agoseris elata*, *Potentilla drummondii* ssp. *breweri* and *Pyrrocoma hirta* var. *sonchifolia*, Rare Care volunteers, staff and land managers created species lists documenting approximately 570 plant species, including 26 Wenatchee Mountain endemics such as *Poa curtipila*, *Cirsium edule* var. *wenatchense*, *Claytonia megarhiza* var. *nivalis*, *Delphinium multiplex* and *Lomatium cuspidatum*. We asked Joe for some feedback on these weekends.

### How have you used the data from these weekends?

Joe Arnett: It has been very useful to review, in a systematic way, our current understanding of the distribution and abundance of many of the endemics and other rare plants found in the Wenatchee Mountains. Because we have taken a floristic approach to the weekend surveys, recording all species observed (depending on the skill levels of the participants) enables us to develop a more complete flora of this area, and a record of which areas have been surveyed. Overall we don't have great records on where people have looked unsuccessfully for rare species, or what else they have seen when the surveys have been successful. The species lists provide an indicator of the completeness of the survey, and also increase our information about the distribution of all species, including common ones.

Because we have a large group of people out looking, we are able to gain better understanding about species that might be more common than we formerly thought (such as *Chaenactis thompsonii*). We also get to review some of the questionable identifications in our database, such as the *Erigeron salishii* reports that we determined to be *E. compositus*. All of this information helps us to consider whether additional species ought to be added to the state rare plant list, or others removed or given a different status.

Have these weekends resulted in any additional species now being on your radar that weren't before?

There have been some noteworthy finds from Rare Care work in the Wenatchee Mountains, including finding *Phacelia minutissima*. Another big find was the *Potentilla breweri* found last year by Rare Care volunteers; it had previously not been seen anywhere near the Wenatchee Mountains.



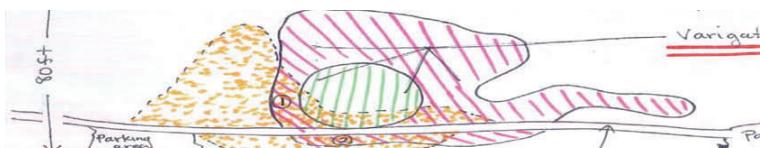
Rare Care volunteer Richard Ramsden (left) and WNHP Botanist Joe Arnett explored a variety of habitats while developing species lists. Photo by Jennifer Youngman.

### Have you drawn any conclusions?

I have not yet had the opportunity to carefully review all the work that has been done in the Wenatchee Mountains... Any changes in status will have to wait for that review, which is scheduled for this winter, preliminary to our bi-annual review of the Washington rare plant list. The Wenatchee Mountains include a great deal of terrain that is difficult to reach, and great biological diversity that will not be quickly reviewed in a few weekends, or in the five years or so that I have been able to carve a little time out of each field season. Perhaps the biggest contribution these weekends make is that they mark a step forward in the WNHP mission of compiling the efforts of many into a central database that can be used by all who have interest in biodiversity.

## Melissa Rathbun battles yellow archangel to save a rare trillium

When Rare Care volunteers Melissa Rathbun, Tina Taylor and Arlen Hill monitored a population of small-flowered trillium (*Trillium parviflorum*) last spring, they found that yellow archangel (*Lamiastrum galeobdolon*), an extremely aggressive invasive, was overtaking the rare trillium. Melissa completed a monitoring report with stunningly detailed hand-drawn maps (portion of Melissa's sketch map below shows *Lamiastrum* encroaching on trillium). Then with land owner Washington State Department of Transportation's approval, Melissa organized a volunteer work party in May to manually remove the invasive plants (photo by Tina Taylor). She recruited family, Rare Care and Washington Native Orchid Society volunteers Martha Anderson, Suzanne Ferris, Elizabeth Hatten, Arlen Hill, Teresa Nelson and Tina Taylor, plus a neighbor of the trillium site! Further action like this isn't expected of monitoring volunteers, but it illustrates how community science projects may lead to nontraditional solutions to challenges facing public agencies and land managing entities.





## Fred Stark receives Brian Mulligan Award

In 7 years of volunteering for Rare Care, Fred Stark has monitored more than 20 rare plant species in more than 20 different managed areas. He has mentored other volunteers, documented new occurrences of black lily, small-flowered trillium and bristly sedge, and tackled tricky (*i.e.*, less popular) grasses, sedges and aquatic species. He's pictured above in a King County wetland. The UW Botanic Gardens recently awarded Fred the Brian Mulligan Award for exemplifying a high standard of volunteerism through qualities such as expertise, focus and attention to his work. (Photo by Katie Messick)

From Tweedy's willow in the north to clustered lady's slipper in the south,

more than 320 rare native plants grow in Washington State.

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for how much  
longer?

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Washington Rare Plant Care and Conservation

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Rare Care relies on grants and donations to fund all program activities. We extend thanks to donors—and to volunteers, who have contributed more than 4,200 hours of service.

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