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Erigeron basalticus, *Botrichium lineare* lose candidate status

In December 2007, the U.S. Fish and Wildlife Service (USFWS) removed the basalt daisy *(Erigeron basalticus)* and slender moonwort *(Botrichium lineare)* from candidate status. In the Candidate Notice of Review, the USFWS noted that basalt daisy populations appear to be stable, and there is no evidence that identified potential threats are affecting its numbers, distribution or recruitment. USFWS cited the work done by Rare Care in June 2007 and noted that our efforts provided documentation on two new populations (see *Rare Plant Press* Fall/Winter 2007).

The slender moonwort was added to candidate status under the Endangered Species Act in 2001 when only 9 populations were known from 4 states including Washington. Moonworts are members of the adder's-tongue family (Ophioglossaceae) and resemble small ferns. Moonworts often occur in small populations and can be very hard to locate. Since the slender moonwort was added to candidate status an additional 13 sites have been discovered, and its range is now known to span 8 states and 2 Canadian provinces, with a distance of over 3,300 miles between the most distant sites. Most of the sites in the United States are on federal lands. The sites vary considerably in character, making it difficult to describe the species' preferred habitat. In fact, some researchers consider the slender moonwort to be a colonizing species, and several recently discovered sites are on disturbed lands.

USFWS listed several reasons for removing the slender moonwort from candidate status. The fact that the populations are very disjunct over a wide area, that they are very hard to locate, and that they appear to occur in a variety of habitat types suggests that there are additional populations that have not been discovered. Also, information on potential threats to the species is general in nature, and there is very little documentation on how specific threats are impacting known populations. USFWS concluded that the slender moonwort is not likely to become in danger of extinction in a significant portion of its range, and therefore listing under the Endangered Species Act is not warranted.

2001-2005 monitoring results shape future priorities

Rare Care plans to take a more species-focused approach to developing monitoring priorities starting in 2008. This comes after an analysis of the first 5 years of monitoring data gathered by volunteers on rare plant populations around the state.

Between 2001 and 2005, Rare Care volunteers found 65% of the more than 350 rare plant populations they visited. Many of these populations had not been visited for 15 years or more. This low success rate raises some interesting questions. Does this rate represent a real decline in populations due to changes in land use during the intervening period? Are certain species declining more rapidly than others? Does this rate actually represent a decline, or do they still exist but were not successfully relocated by Rare Care's volunteers?

Taking the last question first, it is illustrative to study the data more carefully. One trend we find is that sites in remote locations are found less often then those in more accessible locations. This makes sense — remote locations take longer to get to, so the monitor has less time to search for the plant at the site. Another trend we observe in the data is that historic populations — those whose records have not been updated since 1975 or earlier — are twice as likely to not be found as those more recently sighted, while populations that were last visited since 1996 are found 74% of the time.

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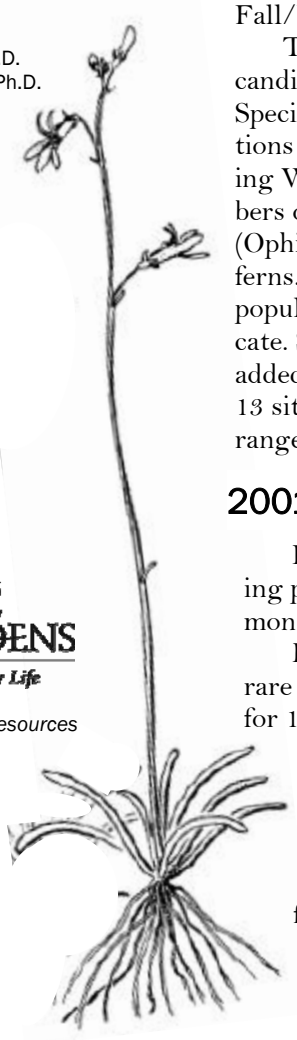

Lobelia dortmanna

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2007 in Review: Rare Care spreads to new locations

Rare Care is becoming less rare across the state! In 2007, 47 individuals joined the ranks of trained rare plant monitoring volunteers; 27 of them live east of the Cascades. Rare Care conducted training sessions in Wenatchee, Spokane and Seattle, and also organized end-of-season gatherings in all 3 locations to thank volunteers, gather feedback and promote volunteer interaction and retention.

This burgeoning team of citizen scientists monitored 121 rare plant locations last year, nearly double the 2006 total. They found 60% of these populations, which is typical, plus 6 new (previously unrecorded) rare plant occurrences. And during Rare Care's inaugural rare plant weekend, volunteers from east and west of the Cascades came together to monitor *Erigeron basalticus* in Yakima Canyon.

Rare Care's trained seed collectors completed 23 rare seed collections for storage in the Miller Seed Vault. Collections were made on public lands under 3 separate grant agreements. These included a National Park Service grant to conserve seeds of alpine species threatened by global climate change.

Read more detailed monitoring and seed collecting annual reports on our website on the Rare Plant Monitoring Page and the Miller Seed Vault Page. (Our website address is printed at the top of page 1.)

Rare Care's contribution to the Seeds of Success program last year included 13 seed collections. Six were sent to Royal Botanic Gardens, Kew.

Celebrating Wildflowers, Rare Care's primary outreach event, took place in a new location last June. Now presented in partnership with Seattle Art Museum at the Olympic Sculpture Park in downtown Seattle, this free family event is positioned to reach a diverse, relaxed audience that may have little exposure to plant-related education. **You and your family are invited to join us this year on Sun., June 8, 12-4 pm** — details on our website.

Anemone patens ssp. *multifida (A. nuttalliana),* one of Rare Care's 2008 "focus species" *(see article, pages 1-2),* is disjunct in Washington. Rare Care has monitored and found 3 of this state's 6 element occurrences, and another party has monitored a fourth. This year Rare Care hopes to take on the remaining 2, although location information from the original 1971 and 1987 sightings is about as fuzzy as the pasque flower's stems. *Photo by Richard Ramsden.*

Rare Care adopts species-focused monitoring strategy

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What accounts for the lower success rate with older records? A major factor might be the poor information available on the location of the population. Rare plant populations were not systematically tracked prior to the late 1970s, so less consideration was given by botanists to obtaining detailed location information. Many of these historic records provide only vague clues on the location, requiring a very time-consuming search spanning multiple visits.

Considering the other questions, the picture is less clear. Certainly, Rare Care has documented a number of populations that no longer exist because of significant habitat alteration. But it is difficult to generalize these results to make any broader conclusion about the persistence of a particular species in the state, primarily because we have monitored only a few populations for each species. Thus, our analysis of previous years' results leads us to a change in strategy for selecting monitoring priorities to a more species-focused approach.

Under Rare Care's new strategy, highest priority is placed on updating population data for a selected group of focus species. The species are chosen based on how imperiled they are and how up-to-date the records on their populations are. The goal is to visit most, if not all, of the populations for each focus species within a 3-year period. By gathering information in a short period of time, we hope to develop a better understanding of a species' status statewide. The Natural Heritage Program and land managers can use this information to improve management strategies and identify where limited resources should be directed.

Lichen pilot study launched

Rare Care is launching a pilot study to monitor sensitive lichen species in western Washington. This year, five volunteer lichen monitors will work in Mt. Baker-Snoqualmie National Forest to revisit known sites of seven sensitive lichens. Volunteers participating in this study already have a working knowledge of lichen identification, and several are members of Seattle Lichen Group. By initiating a pilot study, Rare Care can evaluate logistical needs for working with lichens, funding necessary to expand the program, and the number of interested and skilled volunteers available to conduct the monitoring.

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