

2021 Rare Plant Monitoring and Seed Collecting Annual Report

Washington Rare Plant Care and Conservation

SUMMARY

Rare Care was excited to return to a more “normal” year in 2021 and start the third decade of our rare plant monitoring project. With staff and volunteers following COVID19 health and safety plans to keep everyone safe, our season kicked off with field work in early March and continued through October. While the pandemic required some adaptation to safely conduct field work, 2021 brought other challenges including early season drought, high temperatures, and wildfires. Unfortunately, due to social distancing requirements, we once again decided to cancel the annual group monitoring campout.

Volunteers completed 122 monitoring assignments in 2021, finding the target species at 61% of the sites. These include 10 potentially undocumented populations discovered by our volunteers in the course of completing other surveys or observed while out hiking. See the graph below to compare 2021 to past years. We did not have our annual monitoring weekend where we typically monitor 15 to 20 sites in one weekend, so we’re slightly below our goal of 130 completed assignments. Finally, 14 seed collections were also made and Miller Seed Vault volunteers finished cleaning all 2020 collections.

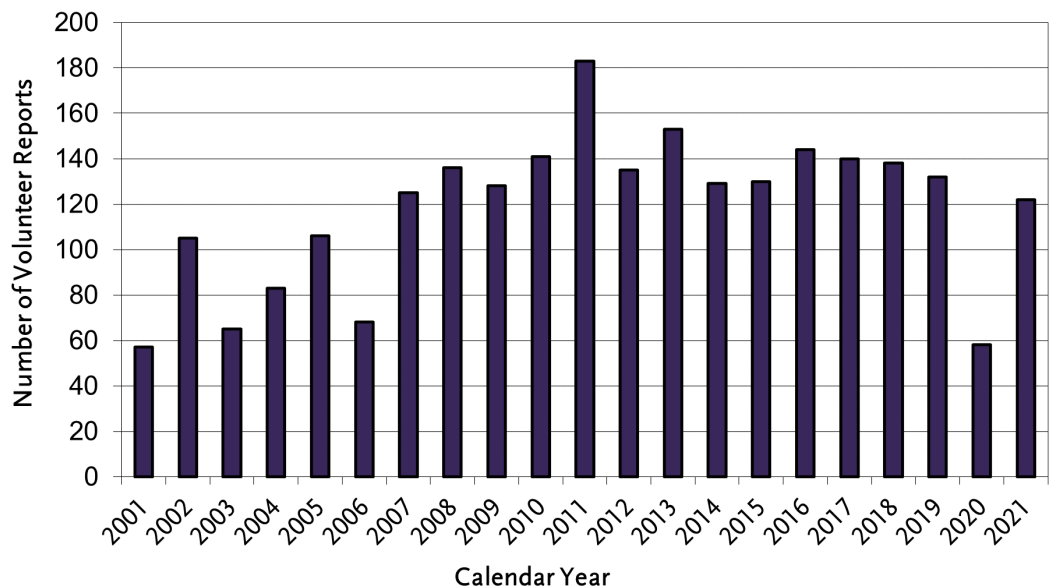


Janka Hobbs photographed by Clare McLean while they were out monitoring Hoover's biscuitroot (*Lomatium lithosolamans*).

2021 BY THE NUMBERS

- *3,068 volunteer hours
- *91 active rare plant monitors
- *122 completed reports
- *10 reports for potentially new populations
- *14 newly trained volunteers
- *14 seed collections added to Miller Seed Vault

COMPLETED MONITORING REPORTS BY YEAR FOR 2001 TO 2021



SEASON SYNOPSIS

Similar to 2020, this year started out dry, with below normal precipitation between February and early May, especially east of the Cascades. This was followed by the heat dome in late June with temperatures well over 100 degrees for several days across the whole state. For western Washington, that was about 30-40 degrees above average highs. East of the Cascades, evidence of drought was observed in stressed plants and dry soils, and inferred by the absence of target plants. March through May volunteers observed many “early bloomers” in southern portions of the states, especially in Klickitat County. They monitored species such as Hoover’s desert-parsely (*Lomatium tuberosum*), Whited’s penstemon (*Penstemon eriantherus* var. *whitedii*), and sagebrush stickseed (*Hackelia hispida* var. *disjuncta*). Cusick’s camas (*Camassia cusickii*) was documented for potentially the first time in Washington state! Volunteers also found new populations of small-flowered (*Trillium albidum* ssp. *parviflorum*).

Over half the monitoring trips completed in 2021 were done over the summer months (June, July and August), with 75 reports submitted. Monitoring efforts were more widespread across the state than earlier in the season with many finds in northern portions of the state including Snohomish and Okanogan Counties. A few exciting finds include a population of Blue Mountain beardtongue (*Penstemon pennellianus*) was relocated in Umatilla National Forest, and three populations of snow cinquefoil (*Potentilla nivea*) in Okanogan-Wenatchee National Forest. Snow cinquefoil is one of nine species designated internally by Rare Care as a focus species so it was welcome news that we checked so many populations off our to-do list. Volunteers also monitored two populations of sagebrush lily (*Calochortus macrocarpus* var. *maculosus*), which is another focus species.



Elyssa Kerr pointing out marsh grass of parnassus (*Parnassia palustris*)
Photo: Cameron McCallam



Blue Mountains penstemon (*Penstemon pennellianus*)
Photo: Darcy Dauble

In the fall, to wrap up the 2021 field season volunteers visited seven more populations including two populations of coyote bush (*Baccharis pilularis* ssp. *consanguinea*) at Cape Disappointment State Park. The weather also cooperated for visiting a population of snowball cactus (*Pediocactus nigripinus*) on a Bureau of Land Management property. Volunteers made several trips to Klickitat Wildlife Area to continue botanical surveys of the Simcoe Unit but didn’t find any more rare plants to add to the species list.

For the complete list of 2021 field results see pages 8-13.



Snow cinquefoil (*Potentilla nivea*)
Photo: Samuel Lee

WHERE WE WORKED



Sagebrush lily (Calochortus macrocarpus var. maculosus) habitat on a Bureau of Land Management property land along the Grande Ronde river in southeastern Washington.
Photo: Veronica Wisniewski

Sites of populations monitored in 2021 were located across Washington State on federal, state, and local public lands as well as a couple of private properties. Approximately 61% of the sites were on federal land, 28% were on state lands, 6% were on local county or city lands, and 6% were on private lands (some sites occurred on two or more jurisdictions). Federal lands visited by volunteers in 2021 included sites in Mount Rainier National Park, all National Forests in Washington, Bureau of Land Management lands, one National Wildlife Refuge (Turnbull) and Hanford Reach National Monument. State lands visited this year included many Natural Area Preserves, Natural Resource Conservation Areas and state trust lands managed by the Washington Department of Natural Resources. State parks visited include Cape Disappointment, Columbia Hills, Elbow Lake, Field Spring, and Paradise Point State Parks.



Shelley Evans searching for Mt. Rainier lousewort (Pedicularis rainierensis) at Crystal Mountain.
Photo: Cathie Conolly



Deborah Naslund surveying tall bugbane (Actea elata var. elata) in Clark County.
Photo: Julia Bent

SEED BANKING



Pink fawn lily (*Erythronium revolutum*)

Photo: Kevin Price

In 2021, 14 seed collections were added to the Miller Seed Vault, representing 10 different taxa, see below table. Five of these collections were made by Rare Care staff, interns, and volunteers, and seven collections were provided by agency and conservation partners. Seed collections support ongoing recovery efforts for species listed under the Endangered Species Act and to add species and/or populations that were of high priority to the *ex situ* collection. We added two collections of the Threatened species, Spalding's catchfly (*Silene spaldingii*), from wild populations at Turnbull National Wildlife Refuge, and one collection of the Endangered species Wenatchee Mountains checkermallow (*Sidalcea oregana* var. *calva*).

We added several other new species to the *ex situ* collection in 2021, including: Klickitat desert-parsley (*Lomatium klickitatense*) from the Columbia River Gorge near Mt. Adams, few-leaf thistle (*Cirsium remotifolium*) from the Joint Base Lewis McCord in the South Sound Prairies, and Western sweet vetch (*Hedysarum occidentale*) from the alpine and subalpine meadows of the Olympic Mountains.

We also added collections from new populations of species that we already have one or more populations in the seed vault, adding to genetic diversity preserved in the vault. These collections were of Suksdorf's desert-parsely (*Lomatium suksdorfii*) and pink fawn lily (*Erythronium revolutum*).

2021 SEED COLLECTIONS ADDED TO MILLER SEED VAULT

Species	EO #	No. of Accessions	Management Area
<i>Lomatium klickitatense</i> ¹	N/A	25	Klickitat State Wildlife Recreation
<i>Lomatium klickitatense</i> ¹	N/A	25	Klickitat State Wildlife Recreation
<i>Lomatium suksdorfii</i> ¹	14	25	Klickitat State Wildlife Recreation
<i>Lomatium suksdorfii</i> ¹	28	25	Klickitat State Wildlife Recreation
<i>Anemone patens</i> var. <i>multifida</i> ²	4	47	Okanogan-Wenatchee National Forest Cle Elum Ranger District
<i>Sidalcea oregana</i> var. <i>calva</i> ³	N/A	1	N/A
<i>Erythronium revolutum</i> ²	65	8	Department of Natural Resources
<i>Sidalcea oregana</i> var. <i>calva</i> ²	9		Camas Meadows NAP
<i>Artemisia campestris</i> var. <i>wormskioldii</i> ³	1	38	N/A
<i>Cirsium remotifolium</i> ¹	N/A	64	Joint Base Lewis McChord
<i>Silene spaldingii</i> ⁴	61	15	Turnbull National Wildlife Refuge
<i>Silene spaldingii</i> ¹	61	17	Turnbull National Wildlife Refuge
<i>Castilleja levisecta</i> ¹	(21)	21	Private
<i>Hedysarum occidentale</i> ¹	N/A	33	Olympic National Park

Notes: 1) Collected agency and conservation partners. 2) Collected by Rare Care volunteers, staff, and interns. *Anemone patens* var. *multifida* for seed longevity study. 3) Nursery grown seeds.

MILLER SEED VAULT

Shelly Carpenter, Marina Kochuten, Sarah McIlwain, Lauren Rowe, Nina Shim, and Shannon Thoele spent 273 hours cleaning the 2020 seed collections. They sifted, tweezed apart, and packaged 9 collections totalling over 16,000 seeds and 0.224 grams of the dust-like seeds of yellow lady's slipper (*Cypripedium parviflorum*). There were over 10,000 seeds of Wormskiold's northern wormwood (*Artemisia campestris* var. *wormskioldii*) alone!

For each collection, seed collectors and cleaners carefully keep the maternal lines separate. Seeds stored in the Miller Seed Vault are preserved indefinitely, in preparation for any catastrophic events that extirpate a local population; for future research projects on re-introductions; and possible genetic testing with partner researchers. Most collections are split 50/50 with the National Laboratory for Genetic Resource Preservation in Ft. Collins, Colorado for redundancy.

We are so grateful for these volunteers who brave the chilly conditions of the Miller Seed Vault and have such patience and dedication to detail.



Yellow lady's slipper (*Cypripedium parviflorum*)
Photo: Elyssa Kerr

SEED LONGEVITY STUDY



Pasque flower (*Anemone patens* var. *multifida*) habitat.

Photo: Josh Wozniak

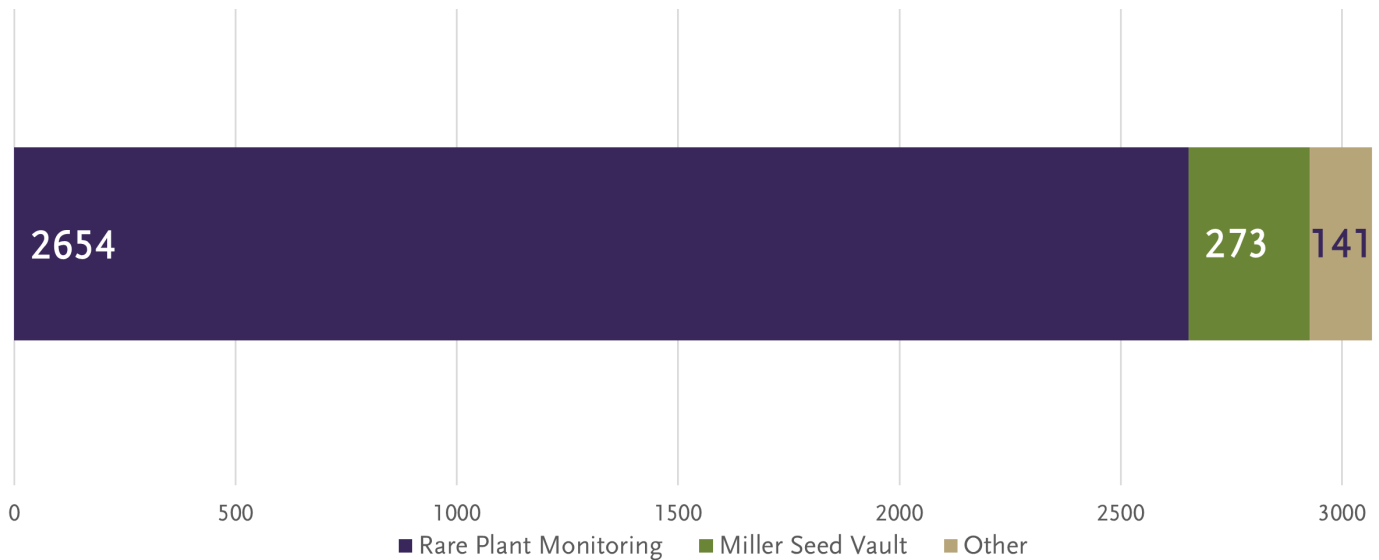
In collaboration with the Center for Plant Conservation (CPC) and many of the botanical gardens in their network across the country, Rare Care collected seeds for their seed longevity study. We contributed a fresh collection of pasque flower, (*Anemone patens* var. *multifida*). We also sent the CPC seeds from an older collection of the same population for comparison of a collection that had been stored for 15 years in the Miller Seed Vault. The CPC seed longevity study will help understand how long seeds can survive in seed banks and in turn inform curation and management decisions. In 2022, Rare Care will also collect two other species: longhair sedge (*Carex comosa*) and golden paintbrush (*Castilleja leavisecta*).



Pasque flower (*Anemone patens* var. *multifida*) in seed.
Photo: Anna Carragee

VOLUNTEER HIGHLIGHTS

Across all Rare Care activities, volunteers contributed 3068 hours.



RARE PLANT MONITORING VOLUNTEER ACCOLADES

91 volunteers monitored 122 rare populations across the whole state. Special honors go to Paul Slichter, Maya Kahn-Abrams, Kevin Price, Robin Fitch, Dan Brake, and Darcy Dauble for completing over 5 monitoring reports each this season. Fourteen new volunteers were trained and four volunteers returned for a refresher.

Rare plant monitoring can be an adventure and some sites require quite the effort to access them. Veronica Wisniewski, Edoh Amrian, and Patricia Otto rafted 8.5 miles of the Grande Ronde River in July to monitor several populations of sagebrush mariposa-lily (*Calochortus macrocarpus* var. *maculosus*). Robin Fitch kayaked down the Columbia River three times in search of the lowland toothcup (*Rotala ramosior*). Peter Boley and Leo Egashiro bushwhacked to find prickly tree clubmoss (*Dendrolycodium dendroideum*) deep in the forest off of Highway 2. Katie & Steve Messick and Josh Wozniak finished up a 5-year effort to find new populations of Sierra cliffbrake (*Pellaea brachtyptera*) along Lake Chelan.



Prickly tree clubmoss (*Dendrolycodium dendroideum*)
Photo: Peter Boley

Top: Sierra cliffbrake (*Pellaea brachtyptera*)
Bottom: Josh Wozniak searching for lowland toothcup (*Rotala ramosior*).
Photos: Katie Messick

THANK YOU VOLUNTEERS



WENATCHEE MOUNTAINS CHECKERMALLOW (75+ HOURS)

State Endangered
Sidalcea oregana var. *calva*
Photo: Anna Carragee

Dan Brake
Shelley Evans
Cleveland Hall
Robin Fitch
Kevin Price
Susan Saul



WHITED'S FUZZY-TONGUE PENSTEMON (26-74 HOURS)

State Threatened
Penstemon eriantherus var. *whitedii*
Photo: Julie Sanderson

Sally Abella	Carol Mack
Lisa Appel	Jacob Maki
Julia Bent	Timothy Manns
Peter Boley	Tracy Maynard
Amy Cabral	Sarah McIlwain
Steve Caicco	Clare McLean
Shelly Carpenter	Katie Messick
Steven Clark	Doug Murphy
Brenda Cunningham	Laura Potash
Darcy Dauble	Kalama Reuter
Matthew Distler	Lauren Rowe
Catherine Flick	Nina Shim
Romey Haberle	Rick Shory
Marilee Henry, Ph.D.	Cynthia Smith- Kuebel
Richard Johnson	Elizabeth Stanek
Maya Kahn- Abrams	John Stuart
Elyssa Kerr	Krista Thie
Ron Klump	Shannon Thoele
Marina Kochuten	Jeff Thorson
Joanna Long	Veronica Wisniewski
	Josh Wozniak



HOOVER'S DESERT-PARSLEY (0-25 HOURS)

State Sensitive
Lomatium lithosolamons
Photo: Betty Swift

Ted Abella	Bob Kent
Talinna Appling	Stacy Kinsell
Joe Arnett	Jill LaRue
Bryan Baunsgard	Samuel Lee
Howard Beuhler	Devin Melville
Sly Beuhler	Ashley Mertens
Ron Bockelman	Katie Mitchell
Sherry Bottoms	Kari Murphy
Colleen Brennan	Deborah Naslund
Anna Carlson	Emily Orling
Natayla Carlson	Sasha Porter
Mickie Chamness	Gail Roberts
Catherine Conolly	Elaine Rybak
Meg Decker	Suzanne Schwab
Janelle Downs	Teresa Sollitto
Emil Doyle	Eric Strub
Niall Dunne	Hally Swift
Jennie Green	George Thornton
Chelsea Gudgeon	Kelli Van Norman
Janka Hobbs	Susan Varnum
Debbie Inglis	Barbara Varnum- Finney
Sophia Kast	Susan Wheatley
Kelsey Kelmel	

***We welcome your help to make our records as accurate as possible. If you think we're missing any hours please send in any relevant time sheets.

RARE CARE IS GRATEFUL FOR THE TIME AND SKILLS VOLUNTEERS CONTRIBUTED IN 2021!

2021 RARE PLANT MONITORING RESULTS

Species Name	EO #	State Status	Visit Date	Species Found	Pop. Size	Managed Area	Owner
A General Survey	None ⁵		4/15/2021			Klickitat WA	ST DFW
<i>Actaea elata</i> var. <i>elata</i>	26	S	6/16/2021	Yes	25	Paradise Point State Park	ST SPR
<i>Actaea elata</i> var. <i>elata</i>	3	S	6/4/2021	Yes	1	Lacamas Heritage Trail	LOCCTY
<i>Agoseris elata</i>	17	S	7/12/2021	Yes	152	Camas Meadows NAP	ST DNR
<i>Agoseris elata</i>	27	S	7/26/2021	Yes	20	Naches RD, Okanogan-Wenatchee NF	USAFS
<i>Allium campanulatum</i>	1	S	6/25/2021	Uncertain	1	Walla Walla RD, Umatilla NF	USAFS
<i>Anemone patens</i> var. <i>multifida</i>	2	S	6/4/2021	Yes	101 -300	Chelan RD, Okanogan- Wenatchee NF	USAFS
<i>Anemone patens</i> var. <i>multifida</i>	4	S	7/9/2021	Yes	501 - 1,000	Cle Elum RD, Okanogan-Wenatchee NF	USAFS
<i>Antennaria corymbosa</i>	6	S	7/11/2021	Yes	2 clumps	Pomeroy RD, Umatilla NF	USAFS
<i>Aphyllon californicum</i> ssp. <i>grayanum</i>	6	E	7/14/2021	Yes	53	Klickitat Canyon NRCA	ST DNR
<i>Arcteranthis cooleyae</i>	2	S	7/4/2021	No		Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Arcteranthis cooleyae</i>	5	S	6/17/2021	No		Skykomish RD, Mt Baker-Snoqualmie NF	USAFS
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	1	S	9/24/2021	Yes	50	Cape Disappointment State Park	ST SPR
<i>Baccharis pilularis</i> ssp. <i>consanguinea</i>	2	S	9/24/2021	Yes	1	Cape Disappointment State Park	ST SPR
<i>Botrychium ascendens</i>	21	T	7/27/2021	No		Snoqualmie RD, Mt Baker-Snoqualmie NF	USAFS
<i>Calochortus longebarbatus</i> var. <i>longebarbatus</i>	18	S	6/21/2021	Yes	1,001 to 10,000	Klickitat WA	ST DFW
<i>Calochortus macrocarpus</i> var. <i>maculosus</i>	26	T	6/22/2021	Yes	17	Bureau of Land Management - Vale District	USABLM
<i>Calochortus macrocarpus</i> var. <i>maculosus</i>	29	T	6/23/2021	Yes	1,001 - 10,000	Bureau of Land Management - Vale District	USABLM
<i>Camassia cusickii</i>	None ⁵	S	4/29/2021	Yes	1,001 - 10,000 clumps		PVTUUU
<i>Campanula lasiocarpa</i>	1	S	7/31/2021	No		Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Campanula lasiocarpa</i>	6	S	6/14/2021	Site not reached		Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Carex comosa</i>	19		8/23/2021	Yes	101 - 300	Elbow Lake State Park	ST SPR
<i>Carex magellanica</i> ssp. <i>irrigua</i>	3		8/29/2021	Yes	501 - 1,000	Newport RD, Colville NF	USAFS
<i>Carex pauciflora</i>	8	S	8/7/2021	Yes	1,001 - 10,000	Snoqualmie Bog NAP	ST DNR
<i>Carex rostrata</i>	2	S	7/12/2021	No		Three Rivers RD, Colville NF	USAFS

2021 RARE PLANT MONITORING RESULTS (CONTINUED)

Species Name	EO #	State Status	Visit Date	Species Found	Pop. Size	Managed Area	Owner
<i>Carex scirpoidea</i> ssp. <i>scirpoidea</i>	14	S	8/17/2021	No		Cle Elum RD, Okanogan-Wenatchee NF	USAFS
<i>Carex stylosa</i>	4	S	8/29/2021	Yes	8 - 12 clumps	Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Carex tenera</i> var. <i>tenera</i>	None ⁵	S	7/12/2021	No		Three Rivers RD, Colville NF	USAFS
<i>Castilleja cryptantha</i>	39	S	8/5/2021	Yes	20	Mount Rainier NP	USANPS
<i>Castilleja cryptantha</i>	7	S	8/8/2021	Yes	101 - 300	Mount Rainier NP	USANPS
<i>Chaenactis thompsonii</i>	37	S	8/8/2021	No		Cle Elum RD, Okanogan-Wenatchee NF	USAFS
<i>Coptis aspleniifolia</i>	10	S	7/10/2021	Yes	301 - 500	Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Coptis aspleniifolia</i>	11	S	7/5/2021	No		Snoqualmie RD, Mt Baker-Snoqualmie NF	USAFS
<i>Corydalis aquae-gelidae</i>	3	T	9/14/2021	Yes	6	Mt Adams RD, Gifford Pinchot NF	USAFS
<i>Cryptantha rostellata</i>	New ⁴	T	4/29/2021	Yes	24		PVTUUU
<i>Cusickiella douglasii</i>	2	S	3/24/2021	Yes	100,000+	Columbia Hills NAP, Columbia River Gorge National Scenic Area	ST DNR,
<i>Cypripedium fasciculatum</i>	16		5/17/2021	Yes	1	Columbia Land Trust	PVTUUU
<i>Cypripedium parviflorum</i>	12	S	5/20/2021	Yes	34 stems	Turnbull NWR	USAFWS
<i>Dactylorhiza viridis</i>	4	S	7/1/2021	No		Tonasket RD, Okanogan-Wenatchee NF	USAFS
<i>Delphinium viridescens</i>	13	T	7/16/2021	Yes	1,001 - 10,000	Wenatchee River RD, Okanogan-Wenatchee NF	USAFS
<i>Dendrolycopodium dendroideum</i>	12	S	8/21/2021	Yes	4	Skykomish RD, Mt Baker-Snoqualmie NF	USAFS
<i>Dendrolycopodium dendroideum</i>	18	S	8/13/2021	Yes	5	Snoqualmie RD, Mt Baker-Snoqualmie NF	USAFS
<i>Dendrolycopodium dendroideum</i>	21	S	8/7/2021	Site not reached		Priest Lake RD, Kaniksu NF	USAFS
<i>Eatonella nivea</i>	11	S	4/30/2021	No		Grant County PUD	LOCCTY
<i>Eremothera minor</i>	6	S	5/5/2021	No		Rattlesnake Hills RNA, Hanford Reach NM	USAFWS
<i>Erigeron howellii</i>	2	T	7/11/2021	No		Table Mountain/Greenleaf Peak NRCA, Columbia River Gorge National Scenic Area	ST DNR, USAFS
<i>Erigeron howellii</i>	5	T	7/1/2021	Yes	47	DNR Trust Lands - Pacific Cascade Region, Columbia River Gorge National Scenic Area	ST DNR, USAFS

2021 RARE PLANT MONITORING RESULTS (CONTINUED)

Species Name	EO #	State Status	Visit Date	Species Found	Pop. Size	Managed Area	Owner
<i>Erigeron oregonus</i>	4	T	6/23/2021	Yes	101 - 300	Columbia Falls NAP, Columbia River Gorge National Scenic Area	ST DNR, USAFS
<i>Erigeron salishii</i>	7	T	7/26/2021	Uncertain	40	Wenatchee River RD, Okanogan-Wenatchee NF	USAFS
<i>Eriophorum viridicarinatum</i>	5	S	7/12/2021	Yes	28 stems	Three Rivers RD, Colville NF	USAFS
<i>Erythranthe suksdorfii</i>	17	S	5/11/2021	No		Yakima Training Center	USADOD
<i>Erythranthe suksdorfii</i>	7	S	5/11/2021	No		Yakima Training Center	USADOD
<i>Erythronium quinaultense</i>	5	T	5/15/2021	Yes	301 - 500	Pacific RD, Olympic NF	USAFS
<i>Erythronium revolutum</i>	65	S	5/1/2021	Yes	101 - 300	DNR Trust Lands - Olympic Region Coast District	ST DNR
<i>Euonymus occidentalis</i> var. <i>occidentalis</i>	18	S	8/12/2021	No		DNR Trust Lands - Pacific Cascade Region	ST DNR
<i>Fritillaria camschatcensis</i>	16	S	6/11/2021	Yes	1,001 - 10,000	Morning Star NRCA	ST DNR
<i>Gentiana glauca</i>	3	S	7/14/2021	Yes		Chopaka Mountain NAP	ST DNR
<i>Githopsis specularioides</i>	28	S	5/17/2021	No		Hamma Hamma Balds NAP	ST DNR
<i>Hackelia diffusa</i> var. <i>diffusa</i>	7	T	6/14/2021	Yes	301 - 500	Klickitat WA	ST DFW
<i>Hackelia hispida</i> var. <i>disjuncta</i>	15	S	5/5/2021	Yes	80	Bureau of Land Management - Spokane District	USABLM
<i>Hackelia hispida</i> var. <i>disjuncta</i>	7	S	5/9/2021	Yes	34	Bureau of Land Management - Spokane District	USABLM
<i>Heterotheca oregona</i>	14	S	8/25/2021	Yes	10,001 - 100,000	Cle Elum RD, Okanogan-Wenatchee NF	USAFS
<i>Heterotheca oregona</i>	8	S	7/16/2021	Yes	>100,000 clumps	Cowlitz RD, Gifford Pinchot NF	USAFS
<i>Isoetes nuttallii</i>	5	S	4/25/2021	Yes	501 - 1,000	Cattle Point NRCA	ST DNR
<i>Lathyrus vestitus</i> var. <i>ochropetalus</i>	4	E	6/13/2021	Yes		Lewis and Clark State Park	ST SPR
<i>Lathyrus vestitus</i> var. <i>ochropetalus</i>	6	E	5/21/2021	Yes	501 - 1,000	Private	PVT
<i>Lepidium oxycarpum</i>	1	S	4/24/2021	Yes	1,001 - 10,000	Cattle Point NRCA	ST DNR
<i>Leptosiphon bolanderi</i>	New4	S	5/22/2021	Yes	>100,000	Klickitat WA	ST DFW
<i>Leptosiphon minimus</i>	2	T	5/5/2021	Yes	>100,000	Deception Pass State Park	ST SPR
<i>Lomatium rollinsii</i>	12	T	5/17/2021	No		Fields Spring State Park	ST SPR

2021 RARE PLANT MONITORING RESULTS (CONTINUED)

Species Name	EO #	State Status	Visit Date	Species Found	Pop. Size	Managed Area	Owner
<i>Lomatium rollinsii</i>	4	T	5/6/2021	No		Bureau of Land Management - Vale District, Chief Joseph WA	USABLM, ST DFW
<i>Lomatium serpentinum</i>	17	S	5/6/2021	Yes	1,001 - 10,000	Bureau of Land Management - Vale District	USABLM
<i>Lomatium tuberosum</i>	13	S	3/25/2021	Yes	101 - 300	Wenas WA	ST DFW
<i>Lomatium tuberosum</i>	16	S	3/26/2021	Yes	1,001 - 10,000	Yakima Training Center	USADOD
<i>Lomatium tuberosum</i>	7	S	4/3/2021	Yes	101 - 300	Crab Creek WA, Bureau of Land Management - Spokane District	ST DFW, USABLM
<i>Lomatium tuberosum</i>	8	S	4/4/2021	Yes	301 - 500	Sentinel Slope ACEC, Bureau of Land Management - Spokane District	USABLM
<i>Meconella oregana</i>	3	E	6/9/2021	No		Lacamas Lake Regional Park	LOCCTY
<i>Montia diffusa</i>	15	S	6/23/2021	No		Cowlitz RD, Gifford Pinchot NF	USAFS
<i>Montia diffusa</i>	18	S	6/2/2021	No		Mt Adams RD, Gifford Pinchot NF	USAFS
<i>Myosurus alopecuroides</i>	1	T	4/25/2021	Yes	1,001 - 10,000	Columbia Hills State Park, Columbia River Gorge National Scenic Area	ST SPR, USAFS
<i>Nuttallanthus texanus</i>	5	S	5/15/2021	No		Glacial Heritage Preserve	PVTUUU
<i>Nuttallanthus texanus</i>	8	S	5/17/2021	No		Deception Pass State Park	ST SPR
<i>Packera bolanderi</i> var. <i>harfordii</i>	New4	S	9/11/2021	Yes	101 - 300	Mt Adams RD, Gifford Pinchot NF	USAFS
<i>Packera bolanderi</i> var. <i>harfordii</i>	New4	S	8/7/2021	Yes	101 - 300	DNR Trust Lands - Pacific Cascade Region	ST DNR
<i>Parnassia palustris</i>	16	S	8/7/2021	Yes	10,001 - 100,000	Pacific RD, Olympic NF	USAFS
<i>Pedicularis rainierensis</i>	49	S	7/28/2021	Yes	101-300	Snoqualmie RD, Mt Baker-Snoqualmie NF	USAFS
<i>Pedicularis rainierensis</i>	53	S	8/1/2021	Uncertain ⁶	501 - 1,000	Mount Rainier NP	USANPS
<i>Pediocactus nigripinus</i>	26	S	5/30/2021	Yes	101 - 300	Colockum WA	ST DFW
<i>Pediocactus nigripinus</i>	53	S	10/14/2021	Yes	1,001 - 10,000	Bureau of Land Management - Spokane District	USABLM
<i>Pellaea brachyptera</i>	5	S	5/21/2021	Yes	101 - 300 clumps	Chelan RD, Okanogan-Wenatchee NF	USAFS
<i>Penstemon barrettiae</i>	11	T	6/18/2021	Yes	52	Columbia River Gorge National Scenic Area	USAFS

2021 RARE PLANT MONITORING RESULTS (CONTINUED)

Species Name	EO #	State Status	Visit Date	Species Found	Pop. Size	Managed Area	Owner
<i>Penstemon eriantherus</i> var. <i>whitedii</i>	23	T	5/26/2021	No	101 - 300	Bureau of Land Management - Spokane District	USABLM
<i>Penstemon eriantherus</i> var. <i>whitedii</i>	4	T	5/17/2021	Yes	101 - 300	Bureau of Land Management - Spokane District	USABLM
<i>Penstemon eriantherus</i> var. <i>whitedii</i>	5	T	5/26/2021	No		Cle Elum RD, Okanogan-Wenatchee NF	USAFS
<i>Penstemon pennellianus</i>	24	T	6/16/2021	Yes	301 - 500	Pomeroy RD, Umatilla NF	USAFS
<i>Penstemon pennellianus</i>	25	T	6/25/2021	Yes		Pomeroy RD, Umatilla NF	USAFS
<i>Penstemon pennellianus</i>	27	T	6/16/2021	Yes	101 - 300 clumps	Pomeroy RD, Umatilla NF	USAFS
<i>Penstemon pennellianus</i>	28	T	6/25/2021	Yes	29 clumps	Pomeroy RD, Umatilla NF	USAFS
<i>Penstemon wilcoxii</i>	8	S	6/16/2021	No		Pomeroy RD, Umatilla NF	USAFS
<i>Phacelia minutissima</i>	1	E	7/6/2021	No		Cle Elum RD, Okanogan-Wenatchee NF	USAFS
<i>Platanthera chorisiana</i>	4	S	7/27/2021	No		Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Polemonium pectinatum</i>	35	T	5/29/2021	No		Bureau of Land Management	USABLM
<i>Polystichum californicum</i>	10	S	1/18/2021	Uncertain	6 9	Mt St Helens NVM, Gifford Pinchot NF	USAFS
<i>Potentilla nivea</i>	13	S	7/14/2021	No		Wenatchee River RD, Okanogan-Wenatchee NF	USAFS
<i>Potentilla nivea</i>	16	S	7/14/2021	No		Tonasket RD, Okanogan-Wenatchee NF	USAFS
<i>Potentilla nivea</i>	17	S	7/14/2021	No		Tonasket RD, Okanogan-Wenatchee NF	USAFS
<i>Ranunculus tritermatus</i>	13	E	3/18/2021	Yes	10,001 - 100,000	Columbia Land Trust, Bureau of Land Management	PVTUUU, USABLM
<i>Ribes cereum</i> var. <i>colubrinum</i>	5	E	5/23/2021	No		Chief Joseph WA	ST DFW
<i>Ribes oxycanthoides</i> ssp. <i>irriguum</i>	21	S	6/9/2021	Site not reached		Pomeroy RD, Umatilla NF	USAFS
<i>Ribes wolfii</i>	16	S	10/16/2021	Uncertain	7 clumps	Pomeroy RD, Umatilla NF	USAFS
<i>Rotala ramosior</i>	1	S	7/31/2021	No			PVTUUU
<i>Rotala ramosior</i>	1	S	10/2/2021	Yes	>100,000	Hanford Reach NM	USAFWS
<i>Silene spaldingii</i>	26	T	8/31/2021	No		Coal Creek ACEC, Bureau of Land Management - Spokane District	USABLM
<i>Spiranthes porrifolia</i>	1	S	5/19/2021	No		Bureau of Land Management, Columbia River Gorge National Scenic Area	USABLM, USAFS

2021 RARE PLANT MONITORING RESULTS (CONTINUED)

Species Name	EO #	State Status	Visit Date	Species Found	Pop. Size	Managed Area	Owner
<i>Swertia perennis</i>	3	S	8/20/2021	Yes	501 - 1,000	Darrington RD, Mt Baker-Snoqualmie NF	USAFS
<i>Trillium albidum ssp. parviflorum</i>	1	S	5/8/2021	No		Bald Hill NAP	ST DNR
<i>Trillium albidum ssp. parviflorum</i>	51	S	4/8/2021	Yes	8	Lewisville Regional Park	LOCCTY
<i>Trillium albidum ssp. parviflorum</i>	New4	S	4/27/2021	Yes	90	Lauretta Norene Forest Preserve and Groth Forest Preserve	LOCCTY
<i>Trillium albidum ssp. parviflorum</i>	New4	S	4/8/2021	Yes	301 - 500	Beaver Marsh Natural Area- City of Vancouver	LOCMUN
<i>Utricularia intermedia</i>	10	S	7/18/2021	Yes	101 - 300	Snoqualmie Bog NAP	ST DNR
<i>Woodwardia fimbriata</i>	20	S	5/17/2021	No		Hamma Hamma Balds NAP	ST DNR
<i>Woodwardia fimbriata</i>	New4	S	1/3/2021	Yes	2 clumps	Maury Island Marine Park	LOCCTY

Table Notes

1. EO num is the element occurrence number assigned to the site by the Washington
2. State Status: E = endangered, R1 = review species (group 1), R2 = review species
3. Population size estimate represents individuals unless otherwise noted.
4. Potentially new site that may not be in WNHP database.
5. Site identified by land owner or other party and may not be in WNHP database.
6. Site may contain hybrids.

Abbreviations

ACEC - Area of Critical Environmental Concern
 BSA - State University Natural Area
 EWA - Established Wilderness Area
 ERD - Energy Research and Development
 IND - Indian Reservation
 LOCCTY - City Municipality or County
 NAP - Natural Area Preserve
 NF - National Forest
 RD - Ranger District
 ST DFW - Washington State Department of Fish and Wildlife
 ST DNR - Washington State Department of Natural Resources
 ST SPR - Washington State Parks and Recreation
 ST UAA - State University Property

ST WDT - Washington State Department of Transportation
 NRCA - Natural Resources Conservation Area
 NSA - National Scenic Area
 NVM - National Volcanic Monument
 NWR - National Wildlife Refuge
 USABLM - Bureau of Land Management
 USADOD - United States Department of Defense
 USAFS - United States Forest Service
 USAFWS - United States Fish and Wildlife Service
 USANPS - National Park Service
 PUD - Public Utility District
 WA - Wildlife Area
 PVT - Privately owned