

2026 Washington Botanical Symposium

Wednesday, March 4, 2026, 9am-4pm

Reception to follow, 4-5pm

NHS Hall, Center for Urban Horticulture, 3501 NE 41st St, Seattle, WA USA 98105

Co-hosted by University of Washington Botanic Gardens and
the University of Washington Herbarium at the Burke Museum

AGENDA

9:00 **Welcome and introductory remarks**

Opening Remarks:

Wendy Gible, Associate Director, University of Washington Botanic Gardens and the Rare Plant Care and Conservation Program Manager

Symposium Acknowledgements:

Clayton Antieau, Senior Specialist, Environmental Review and Environmental Permitting, Seattle Public Utilities, City of Seattle and Past President, Washington Native Plant Society

Symposium Welcome from Co-host Institutions:

Dr. Christina Owen, Executive Director of the University of Washington Botanic Gardens

Dr. Carrie Tribble, Burke Herbarium Curator and Assistant Professor of Biology

9:20 **Mountaintop Mosaics: Disentangling Floristic Patterns on High-Alpine Summits Across Western North America**

Hannah E. Marx, PhD, Assistant Professor in Plant Biology & Director of the L.H. Bailey Hortorium Herbarium, Cornell University

High-alpine summits remain botanical mysteries. Due to their extreme environments and remote nature, documenting diversity in alpine ecosystems has historically been challenging. Alpine peaks largely lack baseline biodiversity data essential for providing context about how plant communities are changing over time. What we do know from a few well-studied alpine communities is that despite abiotic conditions that push the physiological limits of plant life, mountain summits harbor a higher-than-expected floristic diversity within them, high turnover between regions, and high rates of endemism. They are also currently experiencing dramatic environmental changes that are impacting the flora and therefore are critical to understand as sentinels of change. Here, I present some of the first results from a multi-institutional collaboration to coordinate collections-based biodiversity surveys of alpine plant communities across western North America. From this detailed biodiversity dataset, we are testing specific hypotheses about processes driving the patterns we observe today to better understand how the alpine flora will change in the future.

Moderated by David Giblin, PhD, Collections Manager, University of Washington Herbarium, Burke Museum

10:15 **BREAK**

10:30 **Rooted in the Past: Using Herbaria Collections to Detect Climate Change Signals in Alpine Mycorrhizal Communities**

Sarah Winkowski, Graduate Student, Forest Mycobiome Lab, School of Environmental and Forest Sciences, University of Washington

Plants are never found in nature without their microbiomes. These communities of bacteria and fungi contribute to plant stress tolerance, plant water and nutrient acquisition, and can affect ecosystem services like soil carbon storage. Shifting environmental conditions induced by climate change have the potential to significantly alter these important communities. However, evaluating the response of microbial communities to climate change presents significant challenges due to the absence of baseline historic data. Because the plant-microbiome field relies heavily on molecular characterization of communities with relatively novel technology, data preceding onset of accelerated global change is almost entirely absent. As references of biodiversity across time and space, herbaria collections are uniquely suited to help fill this knowledge gap. However, this method has challenges—plants aren't always collected with roots and DNA degrades over time.

Using herbaria collections of *Carex spectabilis* from the Cascade mountains and high throughput sequencing methods, this study shows that herbaria can provide consistent and high-quality sequencing data of root fungal communities (mycorrhizae) across 129 years (1895 – 2024). This unparalleled access to historic mycorrhizal community data reveals key periods of accelerating shifts in composition, providing critical context in understanding how these communities may be affected by climate change.

Moderated by Helen Lau, Botanist, US Forest Service Okanogan Wenatchee National Forest, Cle Elum Ranger District

11:00 **30 Years of Landscape Change in the Washington East Cascades**

Kerry Kemp, Eastern Washington Area Ecologist, U.S. Forest Service

Over the past 30 years, over 1 million hectares of the East Cascades of Washington on the Okanogan-Wenatchee National Forest have burned in wildfires. The compounding impacts of severe wildfire, climate change, and reburns have the potential to shift the long-term trajectory of vegetation communities, challenging traditional notions of climax communities. This presentation will explore how long-term photo monitoring, remote sensing, and modeling can be used to better understand the post-fire trajectory of vegetation communities over time and highlight some observed and expected outcomes of repeated disturbance in low elevation dry forests to high elevation subalpine forests. Impacts of different management strategies for maintaining or adapting vegetation communities to disturbance and climate change across this landscape will be discussed.

Moderated by Helen Lau, Botanist, US Forest Service Okanogan Wenatchee National Forest, Cle Elum Ranger District

11:30 **Purpose, Place, & Philanthropy: Mitigating Climate Change Through Community Action**

David Lubinski, Consultant, Gates Foundation & Gabriella Nolawiheir, Highschool Student, Lakeside School

Climate change is a global phenomenon with local impact. Mitigating the effects of climate

change requires broad coalitions of government, non-government, commercial and community organizations. This presentation will look at the intersection of private funding, government institutions and community organizations to strengthen coalitions that can act locally but scale globally. The Quimper Parks & Trees Foundation will be used as a model to illustrate the power of organizational and organized community action funded privately but aligned with government organizations. "Where is the money to pay for climate mitigation?" is a question we try to answer.

Moderated by Clayton Antieau, Senior Specialist, Environmental Review and Environmental Permitting, Seattle Public Utilities, City of Seattle and Past President, Washington Native Plant Society

12:00 **LUNCH**

1:00 **Co-Production of Knowledge: Building Collaborative Pathways for Shrub-Steppe Management at Hanford Reach**

Rose Ferri, Project Tracking-Resource Analyst, Tribal Historic Preservation Office, Yakama Nation; Bridget Flanders, Regional Biologist, Pacific Region, National Wildlife Refuges, U.S. Fish and Wildlife Service; Bambi Rodriguez, Assistant Program Manager, Cultural Resources Protection Program, Confederated Tribes of the Umatilla Indian Reservation; and Trina Staloch, Project Leader, Central WA National Wildlife Refuge Complex, U.S. Fish and Wildlife Service

This presentation reflects the outcomes of a workshop focused on evaluating management strategies and ecological futures for shrub-steppe habitats within Hanford Reach National Monument. While the original curriculum emphasized technical planning, our team prioritized relationship building and integrating tribal knowledge systems, values, and perspectives into the process. This approach fostered trust, strengthened collaboration, and influenced the broader workshop dialogue. We will share insights on how early collaboration reshaped conversations, introduced co-production of knowledge as a guiding principle, and laid the foundation for future joint efforts to enhance ecological resilience and cultural stewardship of shrub-steppe landscapes.

Moderated by Wendy Gible, Associate Director, University of Washington Botanic Gardens and the Rare Plant Care and Conservation Program Manager

1:30 **Enhancing Treaty Resources on National Forest: Examples from a USFS Botanist's Perspective**
Allison Rossman, Botanist, U.S. Forest Service (former)

The U.S. Forest Service has a legal obligation to uphold the availability of resources that are important to Tribal members, and staff work with Tribes on projects to this end. As a Botanist with the Mt. Baker-Snoqualmie National Forest, I monitored a huckleberry enhancement project trying to outpace the closing forest canopy and managed native plants in permanent openings to provide forage for ungulates. In this talk, I'll describe these projects and the challenges they presented, as well as reflect on the broader goal of co-managing with Tribes to enhance treaty resources on National Forest.

Moderated by Wendy Gible, Associate Director, University of Washington Botanic Gardens and the Rare Plant Care and Conservation Program Manager

2:00 **Kelp Forest Monitoring in Washington State: Challenges and Opportunities**

Danielle Claar, Marine Ecologist, Washington State Department of Natural Resources

Kelp forests are foundational nearshore ecosystems that are threatened by multiple stressors. In Washington, kelp forest resilience and loss are spatially variable across both regional and local scales. Tracking spatiotemporal changes in kelp forests across the state requires multiple monitoring methods, because not all methods work in all environments. This creates a unique set of challenges for bringing together and analyzing data to inform conservation and management. In 2022, the Kelp Forest Monitoring Alliance of Washington State was formed, and a diverse set of collaborators developed the Floating Kelp Vital Sign Indicator, which tracks status and trends of canopy kelps across the state. The Indicator addresses the challenge of varied data by relying on the co-creation of knowledge – weaving together multiple ways of knowing to better understand status and trends. This seminar will discuss challenges and opportunities for statewide kelp forest monitoring and potential next steps.

Moderated by Wendy Gible, Associate Director, University of Washington Botanic Gardens and the Rare Plant Care and Conservation Program Manager

2:30 **BREAK**

2:45 **The Washington Invasive Ranking System (WIRS): A Standardized Tool for Assessing the Ecological Impact of Non-Native Plants in Washington**

Molly S. Wiebush, Vegetation Ecologist, Washington Natural Heritage Program

The presence and abundance of invasive plants are frequently used in function and condition assessment tools. Existing state lists of noxious weeds and invasive species serve valuable purposes, but incorporate economic impacts and other values that don't always identify the plant species that are most impactful to the ecology of natural ecosystems. With the assistance of regional experts, Washington Natural Heritage Program staff are working to assemble a consistent, defensible list of the most ecologically impactful invasive plant species in Washington State.

The Washington Invasive Ranking System (WIRS) is a method for assessing the ecological impact of nonnative plant species in natural ecosystems of Washington State. The primary output of WIRS is an Ecological Impact rank, which indicates the degree of ecological degradation caused by a given plant in the ecosystems in which it is found. WIRS also produces supplementary information related to each plant's management difficulty, biological characteristics, and distribution and abundance.

Moderated by Tynan Ramm-Granberg, Lead Vegetation Ecologist, Washington DNR, Natural Heritage Program

3:15 **David Douglas' Plant Collections: Is There More to Learn?**

Peter Dunwiddie, Affiliate Professor, Biology Department, University of Washington

David Douglas arrived in western North America in 1825 under the auspices of the Royal Horticultural Society, eager to collect native fruits and specimens of plants that might be of

interest to members of the Society. The work was often grueling and at times life-threatening, and he repeatedly lost large numbers of specimens, journals, and field notes over the next 8 years. Nevertheless, he managed to ship back ample material to England that resulted in the introduction of hundreds of species to European landscapes and gardens, and included over 500 type specimens new to science. Many of these specimens now reside in the herbaria at Kew and the Natural History Museum in London, England. Since his death in 1834, much has been written about Douglas, his travels, and the scientific importance of his work. Given the volume of research and the abundance of books and papers on Douglas, is there any ground that is left untilled in Douglas's legacy? In this talk, I will describe my visits to the London herbaria and my explorations into Douglas's specimens. Surprisingly, I uncovered several avenues that would yield new insights into where, when, and what he collected, despite the absence of much of his documentation of these specimens.

Moderated by Tynan Ramm-Granberg, Lead Vegetation Ecologist, Washington DNR, Natural Heritage Program

3:45 **Closing Remarks**

David Giblin, Ph.D, Collections Manager, University of Washington Herbarium, Burke Museum

4:00 **Reception**