Late Spring on the slopes of the East Cascades, Yakima County, WA. June 7 - 9, 2019
(Registration deadline is April 15th. No refunds after April 30th)

The East Cascades run the length of Washington and harbor a significant amount of the state’s plant diversity. The lowest elevations contain intrusions of the sagebrush desert, with alpine tundra found at the highest elevations. This year we will be centered outside of Cliffdell in the Naches River valley, west of Yakima along Highway 410. Ponderosa pine forests and meadow openings dominate much of the valley, with open talus on south-facing slopes, wet meadows in riparian zones, and grasslands at the lower elevations. Visiting in early June ensures a mix of late spring and early summer species.

Botany Washington is co-sponsored by the Washington Native Plant Society (WNPS) and the University of Washington Herbarium at the Burke Museum (WTU). Our goal is to provide an outstanding learning opportunity for participants of all botanical skill levels. This year we will be exploring the floristic and taxonomic diversity of central Washington’s East Cascades.

Evening Programs

On Friday evening Laura Potash, Tapash Collaborative Coordinator will present on ecosystem restoration in the Little Naches Watershed.

On Saturday evening Dr. Jon Bakker, Professor, School of Environmental and Forest Science, University of Washington, will present on thirty years of vegetation change in the sagebrush steppe.

Study Sessions and Field Trips

Participants choose one field trip each day from the following topics:

1) Taxonomic Study

Participants in these sessions have some prior experience with technical botanical terminology and wish to deepen their knowledge of specific families or groups of plants. Participants will need their own hand lens for these sessions.

Saturday:
   A) Poaceae (grasses) - led by WNPS Past-President and Herbarium Research Associate Clay Antieau. After an introduction to basic grass morphology and terminology, emphasis is placed on field identification of common genera. Background information and keys will be provided.

   B) Lomatium - Lomatium - led by Herbarium Research Associate Mark Darrach. Mark will provide an overview of the genus, taxonomic challenges associated with it, and lead participants into the field to discuss the ecology and identification of Lomatium species in the area.

Sunday:
   Boraginaceae and Hydrophyllaceae (borage and waterleaf families) - led by David Giblin. The focus of this session will be on recognizing diagnostic difference between the families, with additional focus on a limited number of common genera and species within each. A short introductory presentation will be followed by examining live plants both in the field and brought in for the session.

2) Keying with Hitchcock (Saturday only; Leader David Giblin)

You will join others who wish to hone their technical keying skills using of keys in the new Flora of the Pacific Northwest, 2nd edition (copies provided). Basic knowledge of some botanical terminology and how
to use a technical plant identification key (i.e., dichotomous key) is helpful but not necessary. Opportunities are provided for keying as a group and individually.

3) Wildflowers of the East Cascades (Saturday and Sunday)

This is for participants interested in exploring and appreciating the native flora in a more informal setting. Field trips with knowledgeable botanists will be held on both Saturday and Sunday. There will be two trips each day:

A) Oak Creek Wildlife Area covers 67,100 acres in Yakima and Kittitas counties, with 48,000+ of those acres in the Oak Creek Unit. Talus slopes, grasslands, forest understory, and riparian zones are all accessible from a well-maintained road that follows Oak Creek. Nearly 200 species have been documented from this area. If time allows the trip will include a drive up to nearby Bethel Ridge. (Saturday leader Jeff Walker; Sunday leader Molly Boyter).

B) Little Naches River – nearly 150 species have been documented in this relatively narrow valley with forested slopes, wet meadows, forest openings, and riparian zones. A well-maintained road through the valley provides easy access to stops of botanical interest. (Saturday leader Alex Wright; Sunday leader Ed Lisowski).

4) Botanical Illustration (Sunday only; Leader - Crystal Shin; maximum of 10 participants).

Learn the basics of botanical drawing, including measurement, observation, and drawing techniques. Drawing in pencil in the morning session and inking the drawing in the afternoon as time allows. Subjects could be simple ones - a single leaf, a leaflet, a flower or a whole plant. We can pick a subject from the field together, or you can bring your own specimen if you have a particular one that you want to draw.

5) Rare Plant Hunting along the American River (Sunday only; Leader - Walt Fertig)

This session will focus on field methods for surveying rare plant species, with an emphasis on pre-field data collection (identifying target species, mapping known occurrences, assembling information on likely habitat and phenology) and on-site data recording. The emphasis will be on honing observation skills and “thinking like a plant”. Our target species will be Heterotheca oregona, which is known from several patches along the American River, but we will keep our eyes peeled for other species of interest too. Limit 12 people.

Base Camp

Located just south of the Naches River along Highway 410 near Cliffdell, Lost Creek Village Camp will be serve as our center of operations. From here we will have ready access to a diversity of habitats to explore the flora, including Ponderosa pine forest, riparian corridors, and sagebrush meadows. Meals will be catered, with six meals included as part of the Botany Washington package from Friday evening dinner through Sunday lunch (Saturday and Sunday lunches are sack).

Why register?

Botany Washington will provide botanists, plant ecologists, restoration ecologists, conservation biologists and other professionals with access to experts and an opportunity for in-depth study of selected taxonomic groups. It is also an opportunity for individuals new to the Flora of the Pacific Northwest to gain additional practice in technical keying with the support of expert guidance. The interested enthusiast wishing to learn more about regional floras of Washington will have two days in the field with knowledgeable local experts. Finally, it is an opportunity for botanists and others interested in our native flora to work together in a
shared community of botanical learning. Membership in the Washington Native Plant Society is not required.

Cost

The cost of the weekend will be $250.00. This includes two nights rustic lodging, six meals and the opportunity to explore the flora of the East Cascades slopes with knowledgeable botanists who will help enhance your knowledge and skills no matter where you reside on the botanical spectrum.

Presenters and Field Trip Leaders

Field Trip Leaders and Presenters

Clay Antieau, M.S., Ph.C.  Past WNPS President; University of Washington Herbarium Research Associate

Clay is a horticulturist, botanist, and environmental scientist who enthusiastically combines these disciplines to offer unique abilities and perspectives in environmental education and science. Clay currently works for the City of Seattle as an environmental permit specialist. He’s a recognized local authority and educator in Northwest flora and has taught courses in plant identification, wetland science, restoration science, and related subjects at the University of Washington and numerous technical and community colleges around Washington. He’s been teaching grass identification for more than 20 years and is well regarded for providing engaging and effective learning experiences for students.

Jon Bakker, Ph.D., Professor, School of Environmental and Forest Sciences, University of Washington.

Jon is an ecologist who asks both basic and applied questions about the restoration and management of terrestrial ecosystems. His work touches on a variety of biomes—prairies, savannahs, forests—and starts with the premise that humans have the opportunity play an integral, positive role in these ecosystems. To that end, he looks at the ways that different factors, such as climate change or disturbance, influence how plant species coexist with each other in different communities. He also works to develop quantitative tools that can be adapted to the specific needs of particular projects on a case-by-case basis.

Molly Boyter, M.S. Botanist, Bureau of Land Management.

Molly moved to Washington in 2010 to take a position as a botanist for the U.S. Bureau of Land Management in Wenatchee. Her position entails inventorying, monitoring, and conserving rare plants, and working on restoration projects in shrub-steppe including native plant materials production and post-fire restoration. Previously she has worked for the BLM in Oregon, the National Park Service in northern Arizona, and a variety of other organizations in northern Idaho, Colorado, and southern California. Molly earned her B.S. in Biology from George Mason University in Virginia, and a M.S. in Rangeland Ecology from Colorado State University.

Mark Darrach, M.S., Botanist, Research Associate, University of Washington Herbarium, Burke Museum

Walter Fertig, Ph.D. Rare Plant Botanist, Washington Natural Heritage Program.

Walter moved to Washington in 2017 to become the new state heritage botanist after Joe Arnett retired. His job includes maintaining a state list and database of locations of endangered, threatened, sensitive, extirpated, and “review” species of vascular plants, lichens, and mosses. Part of this work also entails conducting surveys of rare species or interesting natural areas across the state. Previously, Walter was the state botanist for the Wyoming Natural Heritage Program, was curator of lichens and digital vascular plant data at the Arizona State University Herbarium, lead botanist for Grand Staircase-Escalante National
Monument in Utah, and owned his own botanical consulting company in Kanab, Utah. Walter has a B.S. in botany from Oregon State University and a M.S. and PhD. In botany from the University of Wyoming.

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

David has been the Collections Manager at the University of Washington Herbarium at the Burke Museum of Natural History and Culture since 2002. His research focuses on the distribution and diversity of Washington's vascular plant flora, and he is co-Coordinator for the project to revise the one-volume Flora of the Pacific Northwest. In addition to his duties in the Herbarium, David serves as a Board Member and Taxon Editor for the Flora of North America Project. He holds a Master's degree in plant conservation from the University of Washington and a Ph.D. in plant evolutionary biology from the University of Missouri.

**Ed Lisowski,** Washington Native Plant Society, Central Washington Chapter.

**Laura Potash, M.S.** The Nature Conservancy; retired US Forest Service Botanist; Past WNPS President.

Laura served as lead Botanist for Mt. Baker-Snoqualmie National Forest from 1990-2014, where she managed a program to protect rare plants, prevent the spread of invasive species, and promote the use of native species for restoration. Now she lives in the central Washington Cascades and serves as the Coordinator for Tapash Sustainable Forest Collaborative. She earned her M.S. in plant ecology from the University of Washington, where she conducted research the effects of fire on *Phylloco empetriformis* (red heather).

**Crystal Shin,** Botanical Artist and Natural Science Illustrator

Crystal studied botanical illustration at Gage Academy of Art and the Center for Urban Horticulture, and earned a Scientific Illustration Certificate from University of Washington. She worked as the primary illustrator on the second edition of *Flora of the Pacific Northwest* at the Herbarium from 2015 to 2018, generating 882 new illustrations. Crystal is a natural science illustrator as well. She illustrates fossil drawings for a paleontologist at the Burke Museum. She is passionate about serving science as an artist. She loves working on any nature subjects found in flora and fauna. She works in graphite, pen and ink, color pencils, and watercolor.

**Jeff Walker, PWS, Botanist and Wetland Scientist**

Jeff received his Botany degree from the University of Washington and has continued his association with the UW via active participation with the Herbarium. He is based in Seattle and manages the natural resource team for an environmental consulting firm. His job has brought opportunities to work throughout the Pacific Northwest, with recent projects along the southwestern coast of Washington conducting botanical surveys for the Washington State Parks and Recreation Commission.

**Alex Wright,** Curator of Bellevue Botanical Garden

Alex maintains the taxonomy of and audits the living collections at the Bellevue Botanical Garden. He holds a BS in botany from Washington State University, and currently works on the taxonomy of western North American *Cardamine* (shotweeds, bittercresses, and milkmaids).

DSCN1577.JPG: Montane slopes of East Cascades. Photo by David Giblin.

DSCN1539.JPG: Botany Washington participants keying plants. Photo by David Giblin