FULL AGENDA

9:00 – 10:15am | Opening Session
Welcome
Joy Wood | Restoration Analytics & Design LLC, and Planning Committee Co-chair
Jessica Farmer | University of Washington Botanic Gardens

Keynote presentation: Farmers of Forty Centuries: Agriculture's Conservation Traditions
Eric Lee-Mäder, Pollinator Program Co-Director | Xerces Society for Invertebrate Conservation

Q&A | Facilitated by Rolf Gersonde, Senior Environmental Analyst | Seattle Public Utilities

10:30am – 12:00pm | Heaven for hymenoptera: Restoration for Pollinators
Sustaining an intricate web: plant-pollinator community interactions in conservation and restoration
Susan Waters, Community Ecologist

The past decade has seen widespread progress in restoration of terrestrial plant communities, through a variety of increasingly sophisticated approaches. Yet organisms that interact intimately with plants, such as pollinating insects—whose welfare may feed back to affect the reproductive potential of many plants in a restored community—have been relatively little considered in restoration strategies or metrics of success. Our research explores how networks of interacting plants and pollinators respond to restoration of oak-prairie ecosystems in the Pacific Northwest.

How to Improve Bee Habitat: Get to Know Native Bees
Demarus Tevuk, Environmental Programs | Crown Bees

The social European honey bee gets the spotlight but our native bees live completely differently. Understanding native bee life cycle and behavior can improve bee habitat in our garden, restoration, and landscape designs. This presentation will include tips of what to do to support native bees and what to avoid, and will highlight favorite local native plants. The presentation will also cover pollination effectiveness in order to advocate for why bee diversity is vital.

Q&A | Facilitated by Elby Jones, Green Cities Program Manager | Forterra
2020 Ecological Restoration Symposium
Pollinators, Pests, and Prey
University of Washington Botanic Gardens

12:30 – 2:00pm | Forest’s friends and foes: The dual role of insects and disease in ecological restoration
Selected USDA program pests affecting natural environments – prevention, identification, management, and reporting
Clinton Campbell, State Operations Coordinator  |  United States Department of Agriculture

This year has been designated as the International Year of Plant Health. USDA Plant Protection and Quarantine safeguards agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds to ensure an abundant, high-quality, and varied food supply. USDA Plant Pests and Diseases Programs include key pests affecting natural environments and among these are gypsy moth, Asian longhorned beetle, and emerald ash borer. These pests are good case studies because they represent an array of effects where found and present a variety of challenges to resource managers, the people living in regulated areas, and environmental health. The prevention, identification, management, and reporting of these pests will be discussed along with necessary background information.

Forest Insect and Disease Issues in Ecological Restoration
Glenn Kohler, Forest Entomologist  |  WA Department of Natural Resources

The presentation will cover identification and management of common insects and pathogens that may cause damage to forest trees of concern in restoration work. The focus will be on pests that primarily affect young forest trees, including Douglas-fir, Sitka spruce, western redcedar, grand fir, shore pine, and some broadleaf trees.

Q&A  |  Facilitated by Charlie Vogelheim, Green Cities Project Manager  |  Forterra, and Planning Committee Co-chair

2:30 – 4:00pm | The coleoptera in the coalmine: Monitoring with Invertebrates
From the Mountains to the Metropolis, Integrating Aquatic Invertebrates into Restoration Design and Monitoring
Sarah Morley, Research Ecologist  |  Northwest Fisheries Science Center, NOAA

Aquatic invertebrates occupy diverse roles in stream foodwebs. While many taxa are important prey resource to fish and other higher trophic levels, other play more indirect roles by facilitating nutrient cycling via the breakdown of organic material. Aquatic invertebrate species have been studied as indicators of stream health for over a century, and invertebrate monitoring programs are now well established in many parts of the world. Less common is the incorporation of invertebrates into restoration monitoring and design. This presentation will highlight two examples from Washington State: the Elwha River Ecosystem Restoration Project, and Thornton Creek hyporheic restoration in the City of Seattle. The varied environments, scale, and design of these two studies highlight different invertebrate monitoring techniques. I will discuss both the challenges and advantages of different monitoring tools, and look to the future with the incorporation of molecular techniques such as eDNA.
Insects are strongly affected by climate and changes in climate because their development and reproduction are regulated by temperature. Recent work has shown that climate change has allowed some species to expand their geographical range and abundance, whereas others have been reported to experience range retraction and decreased abundance. Moreover, climate change has critical ramifications to insect populations, such as an increased propensity for more frequent and/or more intense outbreaks that negatively affect forest ecosystems. Forest management strategies thus require an integration of biotic and abiotic factors, and must be future-oriented as the climate continues to change. Using the Pacific Northwest as a study system, I am attempting to understand how the local to regional scale dynamics of bark beetle and defoliator interactions are potentially changing in recent decades through the use of long term remotely sensed aerial detection survey data available through the US Forest Service and the BC Ministry of Forests. Through intensive field sampling across the Washington Cascade Range, I am also measuring how climate and natural enemy communities influence the population dynamics of two economically and ecologically important native forest insect pest species, Douglas-fir beetle and western spruce budworm.

Q&A | Facilitated by Rodney Pond, Executive Director | Sound Salmon Solutions