



watersheds
program

collaborative grow newsletter

September 2020

*Plant beds at Valley Growers Nursery & Landscape,
located in Hubbard, Oregon*

Dear Collaborative Grow community, we are heartbroken by the impacts of ongoing wildfires and we hope that you are safe and healthy. We especially honor those who work outside and are exposed to wildfire smoke, including: nursery partners who are actively tending the 51 species and close to 400,000 plants that will go into restoration sites this winter; and contractor partners who are actively working on fire crews.

Should you require additional plants associated with fire recovery in 2021 we expect to be able to offer plants at no to low cost and would like to hear about your needs.

There are many important ways to support relief and recovery, and we would like to share the **PCUN Farmworker Emergency Fund** for those in a position to give.

Welcome to Our Newest Nursery Partner: Valley Growers Nursery

From Audra Appel, Nursery Sales & Plant Procurement Manager

“The overarching mission and goal of Valley Growers Nursery & Landscape is first and foremost to cultivate authentic and lasting relationships with customers and provide products and services of the highest and most excellent quality that are also reasonably priced.

Valley Growers Nursery is well-known in the area for a few things: a grower that specializes in Pacific Northwest native

plants, and for being a minority woman owned business. “Family Business” also rings true as a unique aspect of the company as it remains led by Victoria- the woman who started it- and is now managed in part by Victoria’s daughter, Audra and her fiancé Nate.

Valley Growers Nursery & Landscape was built and established by Victoria Guevara and her then husband, John Appel. John grew up working in the nursery, landscape and construction industry most of his life and Victoria had studied

and obtained her degree in business. They were considering options on how to combine their expertise to create a business where they could exercise both of their passions while cultivating a lifestyle they wanted for their children and for themselves. In 1993, Valley Growers Nursery & Landscape was born and continues on for its 27th year as a woman and minority owned business.”

We are so excited to work with you Valley Growers!

Assisted Migration and Climate Adaptation

The climate of the Pacific Northwest is changing. Models predict that summers will become hotter and drier. Spring will start earlier and fall will set in later. Precipitation will occur increasingly as rain instead of snow at higher elevations, and it will arrive in less frequent, more intense events with implications for agriculture, forestry, urban flooding and water storage (Mote et al. 2019). Climate change is already having dramatic effects on Oregon ecosystems (Kral, Putnam, & Rupp, pre-print in 2020), and climate and other environmental changes are expected to expand and intensify.

Collaborative Grow partners have been discussing these and related topics since our **Native Plant Materials Task Force meeting in 2018**.

Assisted migration is the intentional movement of genetic material by humans from one geographic location to another to avoid the loss of species and populations due to climate and other environmental change.

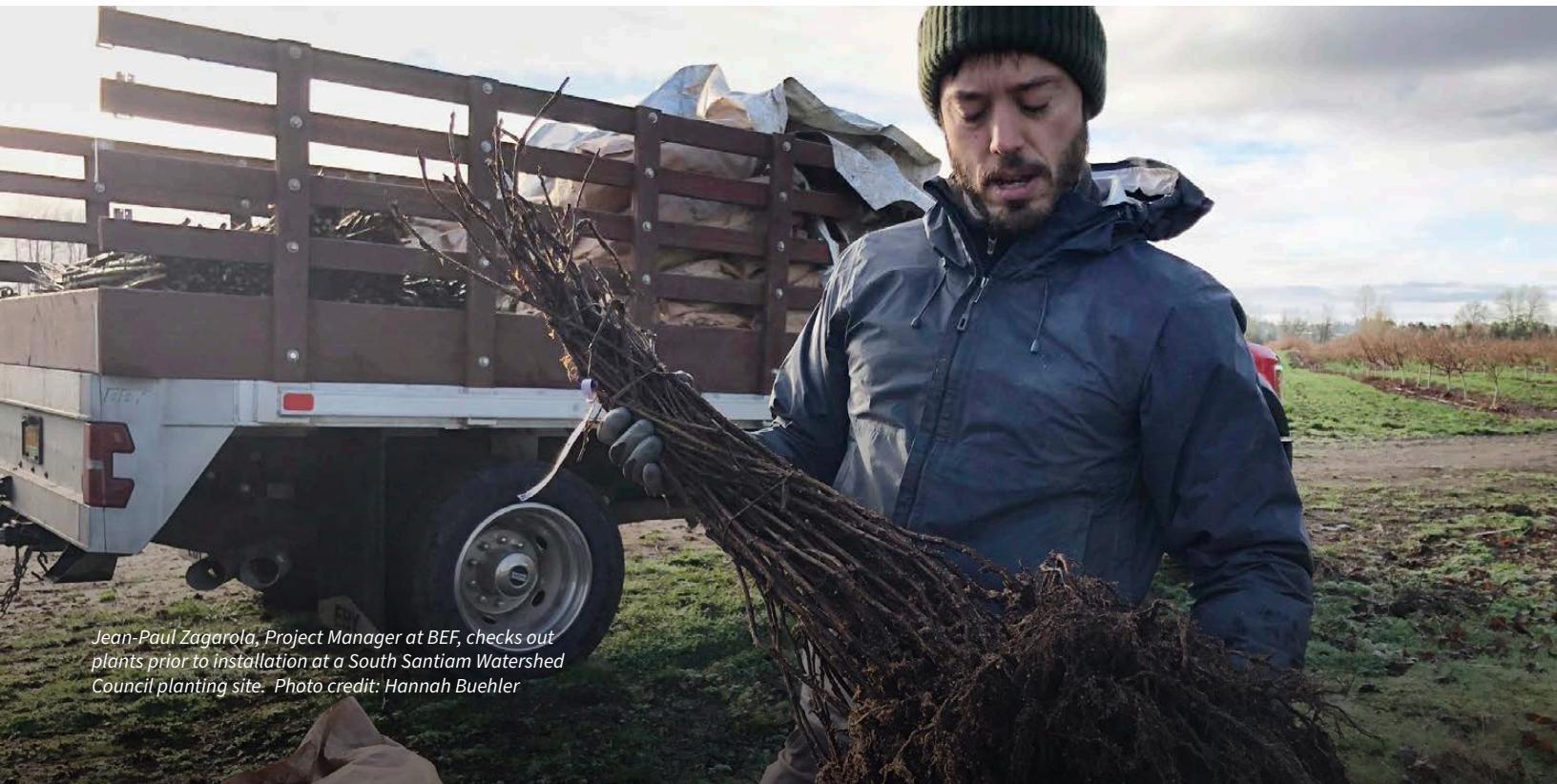
Potential objectives of assisted migration include:

- A** Conserve species or populations that are threatened by environmental change
- B** Maintain genetic diversity of species populations
- C** Overcome artificial barriers to migration in fragmented landscapes
- D** Sustain current or improved levels of ecosystem services provided by diverse natural communities of organisms.

We spoke with George Kral, co-owner of Scholls Valley Native Nursery and current PhD candidate in OSU's Department of Botany and Plant Pathology, and he had the following to share:

“Standing variation is a feature of plant populations that allows for, or limits, adaptation to changing conditions. Plant populations with low standing variation may have limited genetic resources to confer to successive generations, each of which is subject to differing environmental stresses. Populations with high standing variation, on the other hand, have the potential to generate many new genetic combinations, each with differing capacity to weather various environmental changes.

Most plant traits are controlled by numerous genes and complex genetic interactions. Adaptation of these traits to new environmental conditions is a process of selection operating on standing variation. This process requires time and space for selection to act on populations over generations. Without selection, there can be no fine-tuning of the population, and the process of evolution is curtailed.



Jean-Paul Zagarola, Project Manager at BEF, checks out plants prior to installation at a South Santiam Watershed Council planting site. Photo credit: Hannah Buehler

Benefits that could come from assisted migration of plant species will require not only moving plant material, but the right plant material, and then providing a space for natural selection to operate over time. If natural regeneration and selection are somehow prevented (by lack of pollinators, inability of seedlings to compete with weeds, etc), selection cannot act on genetic variability to fine-tune the population. Achieving positive results from assisted migration, therefore, will be a complex, time consuming task for every species that is moved.”

Assisted migration does have risk. Transporting seed and plant materials across distances has the potential to spread non-native insects and pathogens, such as *Phytophthora*. George adds, “Assisted migration can have negative effects on overall population fitness by introducing new alleles that are maladaptive, or by changing the relative proportion of alleles in a negative way. For instance, the massive human-facilitated movement of interior Douglas-fir stock to the Oregon Coast Range may have made the entire population more susceptible to needle-cast fungi, resulting in losses of tree productivity in both natural and planted stands. In this case, selection has to work to weed out maladaptive genes and gene combinations.”

While this work is complex, there are many tasks we can tend to right now with little or no controversy while we consider options:

- 1 Maintain current population variation by protecting key populations and collecting seed from a wide variety of local habitats.
- 2 Encourage natural regeneration as much as possible.
- 3 Collect, process and propagate seed to minimize unintended selection (as described in Basey, Fant & Kramer, 2015).
- 4 Use seed-based field propagation where possible to allow selection to act on critical early establishment phases (seed predation, germination, etc).
- 5 Collect local seed from target locations to match current and likely future site conditions.
- 6 Consider results from existing provenance trials that have moved seed throughout a species range (Doug-fir, red alder, spruces, western hemlock, etc).
- 7 Consider cultural values surrounding plants and the diverse ways that trees and shrubs support people and livelihoods.
- 8 Consider range expansion assistance first. Some good candidates for the Willamette Valley and Puget Trough, include California black oak, white alder, incense cedar, Jeffrey pine, sugar pine, and others.

A regional partner that is putting some of these steps into action, Brenda Clifton, Senior Restoration Biologist at the Skagit River System Cooperative in Washington state, has been intentionally collecting seed from locations within the Skagit watershed that are especially dry or flood-prone.

When Brenda collects seed, she makes sure to include areas that may be more similar to future climate conditions- “sites that are really wet, really hot or dry, and areas that flood all the time.” A good example of a micro-habitat in Washington is Nookachamps Creek. Brenda explains, “When the Skagit River backs up, it backs up into the Nookachamps Creek and the whole valley fills up. Farmer’s hay marshmallows are washed out of the valley and into the tops of trees. Every winter, this valley must get 20 ft of water. It’s a good place to get trees that are used to flooding.”

When asked how this work could benefit communities, and particularly, communities within Confederated Tribes of the Grand Ronde, Lindsay McClary, Restoration Ecologist with the Confederated Tribes of Grand Ronde responds, “This work benefits Tribal communities by protecting, propagating, and promoting materials used by Tribal members for ways of life. This work will help to ensure plant materials are available for future generations.”

If you are interested in discussing further any of the possible actions listed above, please reach out! BEF and others would love to explore how we can collectively support resilient riparian corridors in the face of numerous pressures including climate change.

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Interview with Tana Atchley Culbertson

Willamette River Network,
Co-Director of Network Coordination

For those that don't know, what led to the creation of the Willamette River Network (WRN) and what is its mission?

TANA: The WRN is Meyer Memorial Trust's first baby. It came out of the Willamette River Initiative, a decade long investment from Meyer Memorial Trust, that aimed to take a basin wide look at the Willamette River system and help create a healthy watershed. When the Willamette River Initiative ended, they created a funding pathway to start the WRN.

The mission of the WRN is to create a healthy Willamette river system basin wide including the mainstem and tributaries; to support an equitable river movement that includes voices not initially included when the Willamette River Initiative began; and to create space for communities and rivers to thrive, including safe and healthy spaces for human communities to swim, fish, recreate, and practice spiritual and cultural practices as well as safe and healthy spaces for plants and fish.

How does WRN plan to implement these goals?

TANA: I know there is a lot of anticipation and people asking about what is happening with the network. We're trying not to rush through things. We are laying the groundwork now.

The goal of the WRN is not to replicate the Willamette River Initiative, it is to create something new. So we are inviting a lot of folks to the table from restoration, agriculture, landowners, education, youth and communities of color. We are excited about asking 'where is the energy?' and identifying

where we see gaps and where we see overlap. We want to figure out how we can help all of our partners connect.

Timeline wise, I began convening with our board in January, to talk about who we are and what we want to accomplish. I had just started reaching out and visiting partners in March... and then COVID happened. A lot of the meetings and conferences where we were planning to interact with folks got canceled. So now we are focusing on internal work- branding, identity development, and hiring a co-director of development. Right now the WRN consists of just me and the board. Once we have a co-director hired, they will bring in new and different funding. [Update: WRN has now hired on and welcomed Jesse Richards as the new Co-director of Development!]

Hopefully we will be able to go back out into the community soon. By spring 2021, we'll host some sort of larger convening, hopefully in person.

And prior to that we will have some regional convenings, which may have to be held remotely.

Why is this work important to you?

TANA: My personal life has revolved around living along the river. I was born and raised in Klamath County in southern Oregon. I'm from the Klamath tribes. My tribe was terminated in the 1950s and our land was turned into National Forest land and private property. The area has turned into an agricultural hub for Klamath basin. The river I grew up on, where it originates, looks like beautiful bubbling stream. Lots of logs. Gorgeous. But when you reach where I grew up, it looks like an

irrigation ditch. Lots of cows. Lots of alfalfa grown. Its high desert. A lot of root veggies - potatoes, onions, and horseradish. Over 100 years ago, they put in the first dams on the Klamath river and now there are no salmon runs. My great-grandma remembers salmon in our river but the ag community says that there were never salmon in our river. One of my tribe's first foods is the sucker fish - it is an endangered species now and we can't complete the ceremony in the way it was originally done. I grew up seeing a lot of tension in the community around the river.

What led you to your work here as the Director of Network Coordination?

TANA: I went to UO for undergrad and OSU for graduate school. So I'm half beaver half duck - a platypus! For over a decade I worked in higher ed, looking specifically at how to recruit and retain students of color, low-income students, first generation students. I moved to Portland and worked at Lewis and Clark in multicultural affairs. Then I moved to PSU, and was there for seven years as an advisor to student groups and clubs. I helped them organize and plan events, create budgets - basically helped them run mini non-profits.

To keep myself challenged and motivated, I would save up my vacation time and I would go and work at tribal youth camps. The first one was the Klamath River Salmon camp. During that one week camp, with 20 students, we traveled the entire river. We met with tribes, scientists, landowners. We visited dams. We learned about water quality and tagging fish and ducks and bears. It was one of the coolest experiences I had ever had.

I left higher ed and started at Columbia River Intertribal Fish Commission. I ran their salmon camp and workforce development. Then I moved on to the NW areas Indian Health Board. It was an easy switch because when we talk about our environment, we are talking about our health.

While working there, someone called and asked if I would be interested in the position of director of the WRN. I liked the idea of something starting brand new, centering equity at its core, and encompassing the entire Willamette basin. I saw a unique opportunity to incorporate higher education and youth into the work. Over half of my life has been in the Willamette basin. I am an Oregonian through and through. I started in the south and went all the way north! I love the idea of being able to connect and collaborate throughout the basin.

What challenges are you/the network facing?

TANA: It can be tough being the new kid on the block and having an older sibling with a big reputation, like the Willamette River Initiative does. WRN has to break out and become our own thing.

Partners grow and plant a lot of trees through the Collaborative Grow. What do you love about trees?


TANA: When I was growing up, my dad and grandpa planted a bunch of aspen trees in our backyard. They are now huge and very mature. They are my favorite tree of all time. In the summer, you can sit underneath the aspen with a glass of lemonade and they whisper to you.

Second runner up is juniper. There is an old juniper tree I used to climb and hide out in. It had a middle branch to sit on, another branch for my back, and one for

my feet. That was always my tree. I still can't jump on getting rid of junipers.

How can our Collaborative Grow partners stay updated on Willamette River Network's work?

TANA: You can visit our website, which we're in the process of updating, at WillametteRiverNetwork.org. We also have Facebook at 'Willamette River Network'. Keep an eye out for upcoming regional meetings. We may not have a ton of public stuff available but if you have questions or ideas, just shoot me an email at tana@willametterivernetwork.org!



“When I was growing up, my dad and grandpa planted a bunch of aspen trees in our backyard. They are now huge and very mature. They are my favorite tree of all time. In the summer, you can sit underneath the aspen with a glass of lemonade and they whisper to you.”

—TANA ATCHLEY CULBERTSON



Interview with Jesse Richards

Willamette River Network,
Co-Director of Development and Policy

What does your role entail?

JESSE: As the Director of Development and Policy I am developing a portfolio of philanthropic partners while also engaging prospective policy partners and elected officials to think innovatively about public private partnerships in the basin. I am learning from other national models while staying actively engaged with our restoration partners so that I can evaluate resource needs and fundraising opportunities.

What led you to your work with WRN?

JESSE: The Willamette River Network is building on the success of Meyer Memorial Trust's Willamette River Initiative, which has focused on improving river health with sustained, collaborative investment since 2008. Working with the Network provided a rare opportunity to launch and grow a new network that still very much has strong relational ties with Meyer and Foundations for a Better Oregon. I appreciated that the network is committed to distributed leadership and power sharing as the most strategic

way forward. Being a middle child I certainly feel most comfortable coordinating efforts between parties; and as someone who appreciates diplomacy, I hope I can catalyze consensus around shared purpose and priorities among our partner base. I was also drawn to the position because I knew I would be guided by an exceptional advisory board committed to decolonizing wealth and diversifying the environmental profession.

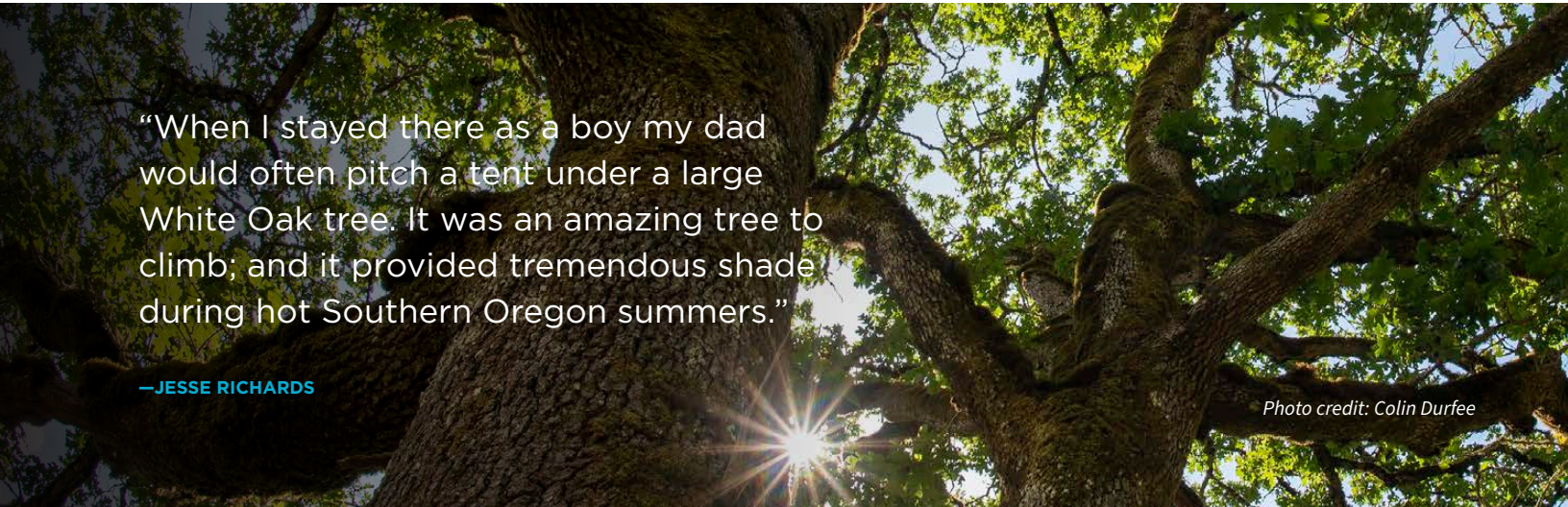
Why is this work important to you?

JESSE: This work puts me at the intersection of so many fields; aquatic habitat, riparian restoration, outdoor access, and public health to name a few. I am an academic and this role affords me plenty of original research to get geeky with. One day I am walking through an oak habitat; and the next I am reading a paper on how outdoor access has been shown to lower cortisol levels for urban youth. I love to learn so I'm having a lot of fun. I am also a fundraising professional and this role affords me the opportunity to work

with private foundations and public policy leaders to maximize financial investment. And, most importantly I'm a proud dad; so this role affords me the opportunity to think about the 2050 Willamette Basin Conservation Strategy in existentially significant terms. When my daughter is 34 years old--and I'm 67--I intend for us to be recreating in a Willamette River that is swimmable, fishable and drinkable. What I do day in and day out in this role could actually help promote such existential conditions in my daughter's future.

What is your favorite tree?

JESSE: My grandfather lived in a trailer on a rural plot of land near the Rogue River. There wasn't much room to sleep in the trailer. When I stayed there as a boy my dad would often pitch a tent under a large White Oak tree. It was an amazing tree to climb; and it provided tremendous shade during hot Southern Oregon summers. The White Oak lives up and down the West Coast and can be found from British Columbia to California so perhaps that's also why I find resonance with the tree.



“When I stayed there as a boy my dad would often pitch a tent under a large White Oak tree. It was an amazing tree to climb; and it provided tremendous shade during hot Southern Oregon summers.”

—JESSE RICHARDS

Photo credit: Colin Durfee

Partner Spotlight: Champoeg Nursery

Interview with
Owner and Manager,
Paul Stormo

When was Champoeg Nursery, Inc. founded?

PAUL: The nursery was founded in 2002, while I was a student at Oregon State University. Like most start-ups we were staffed with a workforce of 1 and had a minimal inventory. Despite our small size and lack of plants I moved forward with a plan, purpose and desire to succeed. I wish we could say we made it exclusively due to our great planning and execution; however, we were lucky with timing because the popularity of native plants began rapidly increasing at about that same time.

What influences led you to create your business?

PAUL: I grew up in an agricultural community and as a teen and young adult worked on farms for summer employment. Most of the jobs were general farm labor, but I enjoyed working outdoors in an active role with an assortment of duties to keep the work interesting. Working independently also suited my personality well. As I progressed through college I caught the entrepreneurial bug and began brainstorming business ideas I could start on my own. I also recreated extensively outdoors, and on those excursions developed a curiosity of our native flora and fauna. Other influences leading up to 2002 were the publicized struggles of the Columbia Basin fisheries and changes in Oregon's forest practices. Witnessing these movements stressed the importance of adopting a sustainability and conservation ethic. I received a brief introduction to special forest products and uses during a Forestry class at OSU and that is what triggered the idea of starting a native plant nursery. It was a great way for me to meld my



Trays of low Oregon grape, Mahonia nervosa, at Champoeg Nursery

entrepreneurial spirit, agricultural experience and love of nature.

What motivates you to do this work? What do you love about it?

PAUL: We are always working to improve our nursery processes and products. As long as there is room for improvement we will stay motivated. I love the diversity of what needs to be done from one day to the next, the general seasonal changes in work, having the responsibility of being a decision maker and turning ideas into something tangible. Legacy also motivates me for two reasons: One, I want a business that can be passed along to when I'm ready to transition to something else and, two,

I like knowing that each year hundreds of thousands of plants produced at our nursery are incorporated into landscapes across the Northwest with the purpose of creating and maintaining a healthy ecosystem that will hopefully be around hundreds of years from now.

What has been one of your greatest challenges running Champoeg Nursery?

PAUL: Finding and maintaining the perfect balance between work and everything else in life has always been challenging. Despite our best efforts to plan and organize our workflow so much of what we do is seasonally dependent and impacted by weather or other external forces such as our clients'

needs at a particular time. I am routinely put in a position to choose between the business's needs and the needs of our family or rest and relaxation. This makes maintaining a well-balanced life tough, but when we are able to find and maintain the balance we're looking for it sure feels great. Loving what I do has also made this easier to handle.

How is COVID affecting your work? What support do you need? What support can you offer?

PAUL: We have had to generate a sanitization plan, reorganize how we are accomplishing our work and change the way we interact with customers. Some of what we do takes longer, but we're adapting and working through the

changes the best that we can. We've also thought extensively of external threats beyond the current virus situation and have planned for how to continue operating our business in uncertain/challenging times. I can't think of any support that we need or can provide but would advise others to plan for flexibility and give some thought to how to react to even the most unlikely of circumstances before they actually occur.

How does the Collaborative Grow enhance your work?

PAUL: We are on the fringe of the Collaborative Grow project but approach our role as committed and seriously as possible and are thankful to have an opportunity to produce plants destined for restoration and conservation uses.

Anything else you want our Collaborative Grow Partners to know about you/your business?

PAUL: In addition to the bare root trees and shrubs we grow to support the Partners' projects, we specialize in producing an extensive palette of shrubs, trees, bulbs and herbaceous plants native to the Pacific and Inland Northwest. These are sold to public agencies, non-profits and private companies. Two highlights include over 100 species of herbaceous plants, most of which are suitable for a home gardeners use in nature scaping projects and that we function as a contract grower for large commercial landscape and mitigation projects.



Special Thanks

Thank you Juan for managing and keeping track of all our bare root plants each winter!

Juan Soriano, Cooler Manager at Adelman Peony Gardens and for our Collaborative Grow Program



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To join the Collaborative Grow Partnership, please contact Tori Yoder at tyoder@b-e-f.org

If you need funding for trees please contact Kathleen "Kas" Guillozet at kguillozet@b-e-f.org

We are incredibly grateful to long term funding partners Meyer Memorial Trust, Arbor Day Foundation and One Tree Planted