



For the Love of Ponderosa Pine

By Ramona Arechiga

I recently returned to Oregon to work for Oregon Department of Forestry (ODF) and became familiar with the J.E. Schroeder Seed Orchard. For much of the last two years I have been working on issues pertaining to reforestation of our State Forests. As part of this work, I have had the opportunity to spend some time at the Schroeder Seed Orchard, a repository of genetic resources for reforestation throughout our state. I vaguely remember visiting the orchard more than a dozen years ago, and when I revisited it for my current job, I was struck by the beautiful stand of ponderosa pines there. One of the big questions I had was, *do our partners in ecological restoration*

throughout the Willamette Valley (and even southern Washington) know about this amazing genetic resource?

In 1994 a thoughtful group of foresters, landowners, and scientists set out to address a gap in high quality seedling stock of native Willamette Valley ponderosa pine trees. In 1996 they formed the [Willamette Valley Ponderosa Pine Conservation Association](#) (WVPPCA) to improve our understanding of restoring this species to Willamette Valley and increase access to high quality seed. Through their efforts more than 400 native stands have been mapped, and about 150 parent trees have been grafted

into a fifteen-acre J.E. Schroeder Seed Orchard near St. Paul, Oregon operated by Oregon Department of Forestry.

This forward-thinking group of PIPO (*Pinus ponderosa*; PIPO) enthusiasts wanted to "...conserve and reestablish the native strain of Willamette Valley ponderosa pine for both genetic conservation and future timber, wildlife and urban uses." The PIPO seed orchard was initially planted in 1996 with seedlings from 40 different parent trees. The second phase included an additional 72 parent trees in 1998. The ultimate goal was to establish an orchard representing at least 160 different parent PIPO trees. This would



Willamette Valley ponderosa pines seed orchard. Photo Credit: Jason Cox

Curious about the current state of affairs on whether or not Willamette Valley ponderosa pine is its own unique variety?

Check out Willyard et al. (2017) article titled, "[Pinus ponderosa: A checkered past obscured four species.](#)"

improve the vigor and longevity by facilitating genetic crossing of the remaining native Willamette Valley ponderosa pine. Today, this seed orchard is approximately 4.5-acres with 78 individual families representing the vast majority of genetic variation present in Willamette Valley ponderosa pine. It is the largest repository of germplasm for this species in the area.

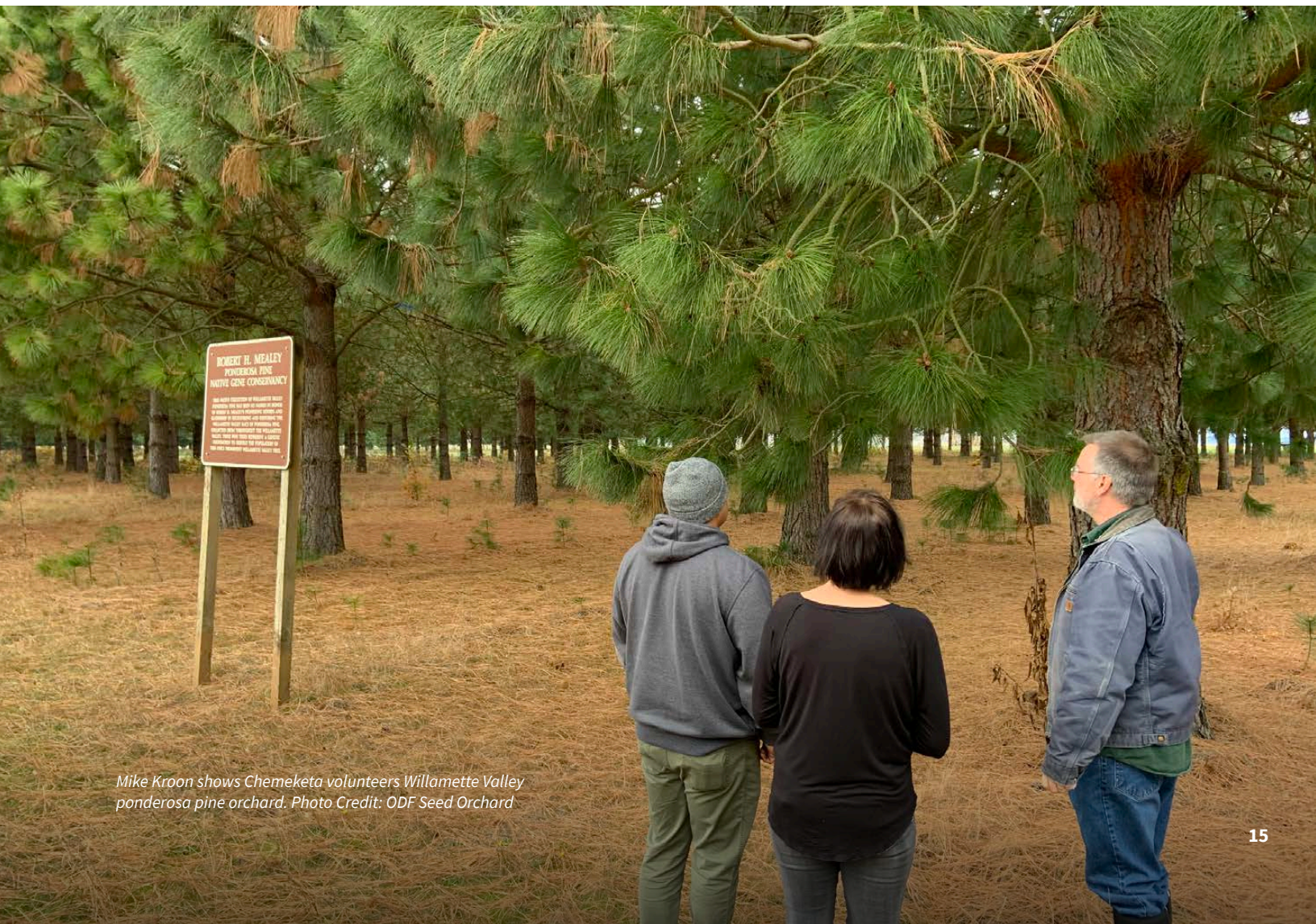
The ODF geneticist during this time, Sara Lipow, noted concerns about seed collections and seedlings grown out from the native PIPO stands. Lipow cited a report by Geoff Gooding (1998) that showed a high proportion of inbred seed resulting from these native stands. The resulting trees grown out from the seed collected from the native stands were at greater risk of failure due to environmental stressors like drought. Additionally, these trees were likely to be “shorter and skinnier than their

non-inbred relatives” (Lipow 1999). Fast forward to today, the JE Schroeder Seed Orchard in collaboration with the WVPPCA has established a healthy orchard representing much of the genetic variety of ponderosa pine found in the Willamette Valley. This orchard has produced a repository of high-quality improved seed through cross pollination of the collections done in the late 1990s and early 2000s. The seed available from Schroeder does not have the same issues as you would find in wild collections of these native ponderosa pine stands as Sara Lipow noted above.

Work by the WVCCPA is ongoing to ensure sound regeneration practices for Willamette Valley Ponderosa Pines. In 2002 they completed a project to map and identify native [Willamette Valley PIPO stands](#) for future genetic collections. Through this effort they

mapped and categorized over 400 stands of PIPO between Beaverton and Cottage Grove ranging from 1 to over 100 trees. The intended purpose of this project was to provide “... historical documentation, cone collection certification and soils correlation for site adaptability” (McNitt 2002). This group also developed [Establishing and managing ponderosa pine in the Willamette Valley](#) and several other resources including guides to common pests like ips, bark beetles, and others.

Coming home to Oregon has been a blessing for me and my family; I love the diversity of ecosystems and believe sharing knowledge and resources is critical to further our conservation and restoration goals. If you are interested in ordering Willamette Valley ponderosa pine seed for your next restoration project please contact the folks at [JE Schroeder Seed Orchard](#).



Mike Kroon shows Chemeketa volunteers Willamette Valley ponderosa pine orchard. Photo Credit: ODF Seed Orchard