

The Sharpshooter

Oregon Society of Soil Scientists

Quarterly Newsletter

Autumn, 2020



Greetings from your new OSSS president! In case we haven't met, my name is Marissa Theve (*Teve*) and I work as a soil scientist at the Bureau of Land Management in Salem. I cover two field offices, Marys Peak (BLM lands in the Coast Range from around Eugene to just north of Newport, including the beautiful and recently painted Yaquina Head Lighthouse) and Cascades (the West Cascades from Eugene to the border with Washington). In the past five years I have fallen in love with Oregon and made it my home. I look forward to sharing in the landscapes the state provides us in one way or another in the coming years!

In a previous life, I worked for the USDA-NRCS as a Soil Survey soil scientist based in Tolland, Connecticut. For the first six years of my career, I cut my teeth on the glacial soils of the Northeast including lots of dense rocky till, layered glaciofluvial de-

posits, and loess caps. The first couple years overlapped with my graduate work, which dealt with examining the relationship between ocean-derived salts ([halinity](#)) in soil and tidal marsh vegetation. This is where I fell in love with histosols. I wrote a few Ecological Site Descriptions based on that work. I also had the opportunity to work with Coastal Zone Soil Survey updates, including the dunes of Cape Cod and subaqueous soils in Rhode Island. I assisted with the completion of mapping urban soils in New York City and upstate New Jersey- hence our first ever urban soils presentation with Dr. Cheng at this year's virtual winter meeting!

On a personal note, you may also know by now from the last two winter meetings that I'm an avid yoga enthusiast, especially when it comes to vinyasa (flow yoga with sun salu-



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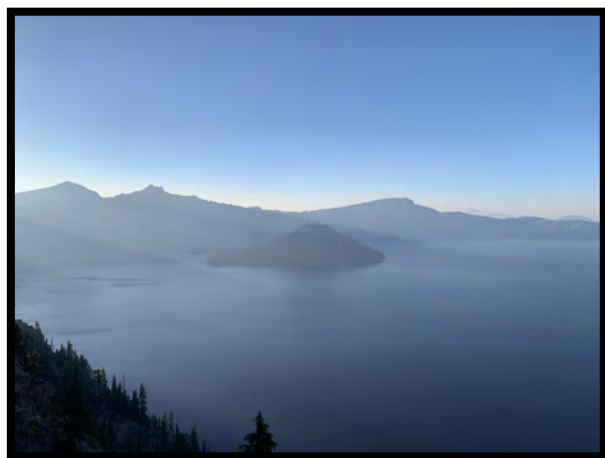
salutations) or aerial yoga (yoga with a hammock as a prop). You may not know that I also have an obsession with making ice cream and brewing beer. I have a four-tap kegerator in the garage and won third place in the sour category in *She-Brew*, an all-female homebrew competition in Portland in 2019 for my oud bruin. I brew a batch of this recipe every January and age it for 2 years. This year was my 8th batch! Anywho, it was wonderful to be able to connect with many of you in March and I look forward to seeing what unfolds for OSSS this year. Keep an eye out for our Winter Meeting save-the-dates announcement for Bend this Feb 24th-26th, 2022. Until then, cheers! — *Marissa (OSSS President)*

Save-the-date Northwest Forest Soils

The [North West Forest Soils Council \(NWFS\)](#) will be hosting a meeting on March 3rd in Walla Walla, WA (specific location TBD). The NWFS is organized to facilitate exchange of forest soils information and ideas among interested professionals in the Northwest, and encourage a more widespread understanding that soil is the basis for production of forest wealth -- timber, forage, water, wildlife, and recreation values.

Editors Corner

Hello and welcome to the Fall/Summer edition of the Sharpshooter. It's been quite a long time since our last edition, too long in fact. I feel like a year has passed with so much happening that I barely noticed how much time had actually passed. In this edition we have a couple of updates stemming from the winter meeting, the election of new board members and some odds and ends. It's of the short and sweet variety. Also, this edition marks the end of my time as the Sharpshooter Editor (can you believe it has been two years!). With Katrin (Katie) Chambers soon to be at the helm of the OSSS Sharpshooter.



Oregon Envirothon

The 2021 Oregon Envirothon virtually hosted 115 students this May. 23 teams competed in aquatic, forestry, wildlife, soil and land use, and the special topic: water resources management: local control and local solutions. Congratulations to Amity High School for winning overall and qualifying for the international competition, followed by Logos Charter School, Churchill High School, Crater Renaissance, and Sutherlin FFA. The best score for the soils and land use portion was West Linn High School! Go Teams! The Oregon Society for Soil Scientists proudly sponsors the event each year with a small donation, thanks to our members.



You can read more about it here: [Students test their environmental sciences knowledge in competition | News | tillamookheadlightherald.com](#)

Reflections on the 2021 Winter Meeting

I have been teaching college classes remotely now for the past 4 terms. I teach labs for an introductory science course and have been spending 12 hours a week teaching on zoom during that time. To say this has me a little burned out on video meetings would be an understatement. The hardest part for me is that most of the time my students never turn on their videos or answer questions using their mics, and very few even use the chat to interact. This often makes it feel as though I'm lecturing to myself, and (as I've warned them many times) when I can't see any visual cues from my audience, I'm more likely to go on tangents and tell random stories. I can't blame them though – it's awkward to have your classmates see your bedroom, and they're probably just as tired of remote learning as I am of remote teaching.

However, I was so impressed with how our winter meeting went; how respectful, attentive, and engaged our members and audience were during presentations and how refreshing it was to interact with all of you after such a long break. The OSSS board and winter meeting organizing committee were all so thrilled with the turnout, especially since we assume everyone else is equally tired of video conferences at this point. It was a joy to spend a Friday afternoon and Saturday morning with you all, and my daughters were thrilled to be able to help draw the raffle winners. I'm sure I'm not alone in saying that I can't wait until we get to meet again over some soil pits in the field, but until then it was great to see you all virtually. — *Alicia Leytem (OSSS Vice-president)*

The 2021 OSSS Virtual Winter Meeting was a breath of fresh air! It provided a great opportunity for folks to connect with peers and meet new people all with their love of soil still strong despite the challenges of the pandemic. The organizers did such a great job balancing content and casual interaction utilizing the virtual platform to add to the experience. Highlights for me included the Keynote Speaker looking at nitrogen in boreal

forests and of course getting the chance to share the work that the USDA-NRCS Soil and Plant Science Division is diligently working on across the state. So many soil surveys are close to publication!

The care and dedication of those who worked so hard to put together the virtual field tour was so evident in the careful videos, explanations, and photos of soils. We say more in a morning than we could have ever seen in a day! The lightning rounds were also a highlight and the passion and dedication of the presenters was evident even though we only heard them each for 5 minutes!

Though I can't wait for OSSS to gather in person as soon as we can, there is no way that the 2021 meeting won't go down in history as a complete success! — *Cory Owens (OSSS Member)*

I thoroughly enjoyed the OSSS winter virtual meeting, It was very well organized with great Zoom experts running the show. Dr. Tom Deluca's keynote presentation on nutrient cycling in forest ecosystems was fascinating and I learned a lot.

I particularly enjoyed the virtual soil tours by Pam and Mark Keller, Katie Chambers, Shannon Cappellazzi, Sage and Ron Reuter, and Meghan Krueger. They all made great presentations. We saw soils and landscapes all across Oregon on our computer screens.

The lighting round talks were also excellent, with very interesting topics.— *Steve Campbell (OSSS Member)*

If anybody would like to go back and watch any of our winter meeting presenters, you can do so at the following links:

[2021 OSSS Winter Meeting Day 1
Friday, March 5th](#)

[2021 OSSS Winter Meeting Day 2
Saturday, March 6th](#)

Treasurer's Corner

The past year was relatively uneventful financially because we didn't have our usual events! We track income and expenses by event (Summer Tour, Winter Meeting, additional special workshops) and on-going general operational income and expense (memberships, Oregon state reporting fees, website fees, postal, insurance). In addition, we track donations to and from OSSS for scholarships and other support related to our mission. Our fiscal year runs from July 1 to June 30. Here is a summary of what came in and out of OSSS coffers during our last fiscal year (ending soon).

Scholarships: Last year we awarded \$1000 to Brad Remsey (OSU) and \$500 to Chelsea OBeidy (UO) During our March 2021 online winter meeting 24 people donated a total of \$1240 toward scholarship (s) in 2021. The board agreed to again award two scholarships (\$1000 and \$500) and the selection process is happening now. We also donated \$200 to Envirothon, a high school educational program.

Memberships: We have 58 current regular (professional) members (\$50/year), 9 student members (\$30/year) and 26 lifetime members (\$500 one-time).

Operational Expenses: We paid \$198 in fees for online payments (our processor is Stripe which charges \$0.30 plus %3 per transaction), \$199 for membership software, \$21 for our domain, \$350 for liability insurance, \$134 for PO Box rental, \$61 for OSSS notecards and \$70 for State of Oregon corporation and reporting fees (OSSS is an Oregon Domestic Nonprofit Corporation with Federal 501c3 tax-exempt status).

Advertising Income: We received \$200 for AMS and Stevens Water ads placed in the Sharpshooter.

Winter Meeting: Expense specific to the meeting was \$158 for soil lab analysis. Income specific to the winter meeting was \$455 for nonmember registrations.

Not to be forgotten are the tremendous raffle prize donations. Many thanks to Emerson Vineyards (James & Nina), Marissa Theve, Jim and Tom Andrews families, Jenessa Stemke, Scott Burns, Andy Gallagher, and Summer Lake Hotsprings Resort (Vance).

Grand total income – expense: \$5,535 - \$2,891 = \$2,644
Current Bank Balance: \$14,822

Please don't hesitate to give me a call or email and ask questions. Our finances are simple. We have one bank account (Umpqua checking) and one spreadsheet (Ledger) with entries for every transaction in or out. Monies are categorized in a way that allow easy reporting and comparison between events and years. I'm happy to email the spreadsheet to anyone with an interest. — Pam Keller, OSSS Treasurer, June 2021

Passing Away of Soil Faculty



David Douglas Myrold, of Corvallis, passed July 15, 2021. "Throughout his career in soil science, Dave became one of the preeminent researchers in the fields of soil biology and ecology. He attended or presented at scientific conferences or universities on each of the continents. The 47 graduate students he mentored spanned all corners of the globe. Dave received many awards, he was elected a Fellow by the American Association for the Advancement of Science (2020), Soil Science Society of America (2001), and American Society of Agronomy (2000). His scientific publications numbered in the hundreds " .



Veril "Van" Volk passed away on May 19, 2021 at the age of 82 at home in Corvallis. Van followed in the footsteps of his father and two uncles to earn his doctorate in Soil Science at the University of Wisconsin in 1966. He joined the faculty at Oregon State University in 1966, where he taught soil chemistry and continued as Associate Director of the Oregon Agricultural Experiment Station. He enjoyed his work travels abroad (Kuwait, Albania, India, etc.) and throughout the U.S. He retired in 1998 and was elected a Fellow of the American Society of Agronomy.

Both were known to many and beloved by all, they surely are missed.

Basalt is Not Always Boring

Working in Central Oregon, one can travel through many different landscapes. The high lava plains produce shallow, rocky, sandy soils that tend to be fairly young. Upland soils in South Deschutes County often evidence the dramatic volcanic history of the region with coarse pumice ash from Mazama or Broken Top, or even older sediments that make up the water-bearing portion of the La Pine Aquifer. The soils that most intrigue me in this area are the wetland soils that make up what I have categorized “cryaquands.”



I have not had these soils tested in a lab, but based on the geology of the area, the morphology of the soils, and the landscape, it certainly seems an appropriate label. In South Deschutes County, I have found them fairly consistently on terraces near existing waterbodies (but not at the river’s edge) and also in old river meanders, meadows (old alluvial plains), and in depressions that may have been part of a larger surface water network at times in the past when the aquifer was less depleted. Much of the time, water fills a portion of the pits. The following description is coming from a “lumper,” so I ask forgiveness from the “splitters” out there. These soils often have a dark surface horizon, normally a sticky sandy loam, occasionally a loam. Rarely, there are inclusions of a silt loam conglomerate within this horizon. This is followed by a coarse sandy pumice ash horizon, almost always in the 10YR 4/2 to 5/2 range. The 3rd horizon is either a sandy loam, usually 10YR 4/2, or silt loam, with very white color ranging from 10YR 6/2 to 7/2, all the way to the White page in the Munsell book. These soils are the only time I have ever found the need to use the White page. Often underneath the silt loam is the pervasive black sandy gravel that often marks the upper extent of the year-round water-bearing sediment of the La Pine Aquifer.

The Columbia River Basalt (CRB) Group is a collection of basalt flows that represent the most recent and best preserved flood basalt province on Earth’s surface. These Miocene aged basalts cover ~81,000 sq. mi. of Oregon, Washington, Idaho, and Northern Nevada and thought to have originated due to the eastward migration of a mantle plume known today as the Yellowstone Hotspot. Interestingly, the lava flows that make up the Steens Basalt (named after the Steens Mountains) provide the finest record of a magnetic reversal reported from volcanic rocks (Jarboe, Coe, and Glen;2011). The resolution is so fine that it recorded a magnetic reversal that occurred ~16.7 Ma

I recently found myself conducting a site evaluation in the Three Rivers area in an alluvial plain, associated with the little Deschutes. The soils in this particular area were not like any other “craquands” I have yet to come across. These soils are similar to the above description, however, instead of a silt loam, the 3rd horizon consists almost entirely of highly weathered, partially cemented vesicular basalt boulders and cobbles.



This is highly unusual and is the first time I have seen one of these wetland soils exhibit an old, buried basalt flow. Basalt is not common in most of the soils of the surrounding area (Shanahan and Sunriver series). I am not sure if this flow is older than the flows seen in the basalt outcrops especially visible along road cuts on nearby highway 97, or if this flow is part of the same unit and just happens to be highly weathered due to the wetland environment. Either way, it sparked my curiosity, and I look forward to encountering this soil again. One of the fantastic benefits of working with soils is constant discovery. We are always learning something new. We are constantly encountering challenges to our assumptions. We adapt to new information and build our base of knowledge about the Earth’s dynamic history. Thus is the nature of science! —*Kevin Hesson (OSSS Eastside Director)*

[Save-the-dates]

2022 OSSS Winter Meeting

Bend Feb 24th-26th!

Join us in Bend at Worthy Brewing Feb. 24-26, 2022 to explore how soil influences our culture and vice versa. We will hear from a variety of speakers and enjoy the hospitality of Worthy Brewing on Friday, and head to the field Saturday to get in the pits at vegetable and livestock producers’ fields. See the OSSS events page for more details and registration. If you have questions about this event contact OSSS President Marissa Theve (oss.s.pres@gmail.com).



Agenda:

Thursday 2/24

Public talk at Worthy Brewing

Friday 2/25

Guest talks and membership meeting; Worthy regenerative garden tour; Kiss the Ground film viewing and discussion; lunch, dinner, and two beers included!

Saturday 2/26

Field tour featuring local farmers and a bagged lunch.

Registration prices:

OSSS Members : \$135

Non-Members: \$200

Students: \$55

Lodging reservations are on your own, but here are some options that are within a short walk or drive of Worthy Brewing, Bend, OR.

Sleep Inn (1 min walk- across the street)

Country Inn and Suites by Radisson (6 min walk)

Home2 Suites by Hilton Bend (8 min walk)

The Camp (10 min drive)

The Sharpshooter is the official quarterly newsletter distributed to the members of the Oregon Society of Soil Scientists. Send address changes or inquiries about membership to: oss.pres@gmail.com or

OSSS | P.O. Box 391 | Corvallis, OR 97339

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Reach more than four hundred soil science professionals with an advertisement in the Sharpshooter.

Whole page—\$50, 1/2 page—\$25, 1/4/ page—\$15, or 1/6 page—\$10*.

* Please provide a .jpeg file copy to the Sharpshooter editor by the deadline (first of the month—January, March, June, and November).



OREGON SOCIETY OF Soil Scientists

Membership Rates:

\$50.00 Regular Member

\$30.00 Student Member

\$500.00 Lifetime Member

OSSS Webpage: www.oregonsoils.org

We always welcome article submissions and news from soil scientists near and far!

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