SHARPSHOOTER
OREGON SOCIETY OF SOIL SCIENTISTS

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What's Inside This Issue:

President's Message

by James Cassidy

Greetings, soil society members! My name is James Cassidy and I am honored to introduce myself as your new president for 2008. Though I have only been active in the society for a little over one year and am just getting to know you, I have to say that the OSSS is one of the most refreshing, stimulating, diverse, and most importantly, fun groups of people I have ever hung out with—I felt welcomed the moment I attended my first meeting (Winter meeting in Astoria in '06, an awesome meeting). Following in the footsteps of Will Austin will be a great challenge and I will likely be calling on many of you to help me continue in the spirit of Will's amazing leadership and vision—thanks Will, you are truly a gracious and kind soul.

Here is a little background on me so that you'll know a little more of where I am coming from. I graduated from OSU with a master's degree in soil science in 2002 after having worked on a soil physics project with Dr. Maria Dragila, looking at the drainage consequences of burrowing mammals (voles)—a really fun project. I am now a soil science instructor in the Department of Crop and Soil Science at OSU in Corvallis and I share teaching duties for the undergraduate introductory soil science classes we offer, as well as other seminar courses and summer teaching. I am also the faculty advisor for the OSU Organic Growers Club, which is the university's student farm. The club has access to ~2.5 acres of university land (a beautiful silt loam) and we grow, harvest, and market dozens of food and fruit crops and sell them on campus to fund the project. The club has over 300 members and our Thursday-night work parties (with hot supper!) are open to anyone interested in lending a hand—please drop by sometime if you are in the area. I have been with the club since the very beginning and we are in the middle of groundwork and planting for our 8th growing season. Long before moving to Oregon (I am originally from Minnesota) I had careers in both the food industry and in the music business so, as seems typical, you have another person in soils with a diverse background.

Somewhat in keeping with Will's vision (after all, he is just a few doors down from me here on campus) I would like to continue pushing out and making soil connections into the wider culture with the societies activities, tours and meetings, and hope to bring in speakers from a wide array of soil users and thinkers. My hope for the summer tour (August 21-23) is to have us look at alternative agricultures in the Willamette Valley and tour some great organic/sustainable small farms and see how farmers are solving problems and enhancing soil as a medium for plant growth. There are an amazing variety of growers in the valley using sustainable, organic, and biodynamic methods that I think will be fun and interesting for us to look at. Look for details on dates and specifics coming soon. We are thinking of having the winter meeting in Portland this year but it is still a ways off and I encourage your input if you have any ideas for a field trip, speakers, or topic. I already have some speakers lined up and it should be great.

Again, I am honored and excited to meet more of you, have some great events, and continue the great work that the society offers. Thanks!

James Cassidy
OSSS President 2008

2008 OSSS Winter Meeting—Urban/Soil Interface

by Ed Horn

Steller sea lions lounging on a Newport dock. Note the ear flaps that distinguish them from harbor seals.

The 2008 Oregon Society of Soil Scientist winter meeting was held on the coast at the Agate Beach Best Western Hotel located north of Newport, Oregon. Past president Will Austin, put together a great meeting with an amazing group of speakers focusing on "The Rural/Urban Interface." On Wednesday evening we had a bonfire out on the beach. The weather was clear and the stars were out. We watched the fire pop and crackle, listened to the sounds of the surf breaking on the beach, and quenched our thirst with powerfully good refreshments. This was a welcome chance to meet new people and get caught up with the latest happenings.

Thursday morning, Fungai Mukome started off the 1st lineup of speakers with his talk on Soil Water Movement in Fragipan Soils and Fertilizer Transport. Fungai graduated from the University of Zimbabwe with a BS degree in Chemistry and is now in his final year as a PhD graduate student in Environmental Sciences and Management at Portland State University. He was able to measure and show us how moisture fluctuates in a Typic Fragixeralf, using a Stevens Monitoring Systems "Hydra Probe II." He also talked about his current avenue of research, the transport of trace metals from phosphate fertilizers.

Next was Mike Logan. Mike is an undergraduate intern from the OSU-Cascades campus. He talked about how stream diversions have created low water flows in the central part of the Whychus Creek watershed. High water temperatures associated with these low flows is affecting the quality of steelhead spawning, migration and rearing habitat.

The third speaker was Steve Deghetto. Steve is the Parks Operations Supervisor for the City of Corvallis and he talked about strategies and concerns for managing an urban park system. Primary management concerns are: impacts to vegetation, impacts to historic site hydrology, water quality to adjacent urban streams, and soil erosion and sedimentation. He pointed out that a typical urban soil can shed 55 to 75 percent of its moisture over the soil surface.

Batting cleanup was Daniel Moreno, our new Vice President Elect. Daniel is a contractor with the Oregon DEQ Onsite Waste Water Treatment Program. He specializes in evaluation, permitting, and construction inspections of septic systems. He gave us a clean and interesting presentation about the Oregon's DEQ Onsite Waste Water Program. His topics included septic tank and drain field basics and important soil characteristics to consider for sighting drain fields. These characteristics include: depth to water table and or redoxomorphic features, effective soil depth (to clay pans, hard pans), soil texture, structure, color, and consistence.

After a tasty lunch, the afternoon speaker lineup started with Mark Havel. Mark is a forestland owner in the Oregon coast range and is an engineering graduate from Oregon State University. He spoke on Sustainability in Oregon's Forests and brought a number of publications, including "Sustainability and the Global Environment" and "Fire in Oregon's Forests."

Erin Shroll is a horticulturalist and was the senior gardener at Berry Botanic Gardens for two and a half years. She talked about "Green Roofs" or growing vegetation on top of buildings. We found out that not only can you grow food on top of roofs, but that it also helps save on cooling and energy costs during the hot summer months. Pumice soil mixtures are popular growth media for green roofs as it reduces the weight.

Renee Stoops is currently the director of the Sustainable Plant Research and Outreach Program (SPROut) at Chemeketa Community College. Her topic was "Urban Applications for Ecological Horticulture." She talked about phytotechnologys, which is using plants to solve engineering and environmental problems, such as green roofs, constructed wetlands for wastewater treatment, etc.

The final talk was given by Ralph Bloemers, a staff attorney at the Crag Law Center. He talked about the "Aftermath of 2004 Ballot Measure 37." His firm represents local groups throughout Oregon free of charge in their efforts to protect valuable resource land from the onslaught of development since passage of Measure 37.

At our evening banquet, speaker Doug Wilson gave an interesting talk on the "Archeology of a Chinook fur Trade Site at the Mouth of the Columbia River." This site was discovered from a highway construction project and is located just across the river from our 2007 winter meeting site in Astoria. Doug talked about unearthing part of an ancient Chinook plank house and the discovery of numerous artifacts from the earliest days of the fur trade, including Chinese coins, English ceramics, Hungarian beads, gunflints, musket balls, fragments of mirror glass, and nails from ships. Also, much was learned about plank house construction from this dig.

The evening's program continued with Will presenting awards to the 2008 JB Good and OSSS scholarship recipients. Our scholarship winners are David Rand, Laura Diugolecki, and Sabrina Beske.

David is a post-baccalaureate student in the Crop and Soil Science Department at Oregon State University and is a member of the OSU soil judging team. He also has a Bachelor's in music from the University of Oregon and is the one that played the violin for us during the banquet. He has a good conservation ethic, enjoys working with maps and classifying soils, and hopes to do soil survey work after graduation.

Laura is a first year graduate student seeking a master's degree in Forest Resources at Oregon State University and is pursuing a minor in crop and soil science. Her interests are in ecological restoration and she will be working on a vernal pool restoration project in the high desert of eastern Oregon. She was involved with the AmeriCorps program in Northern Arizona, which involved restoring a ponderosa pine ecosystem.

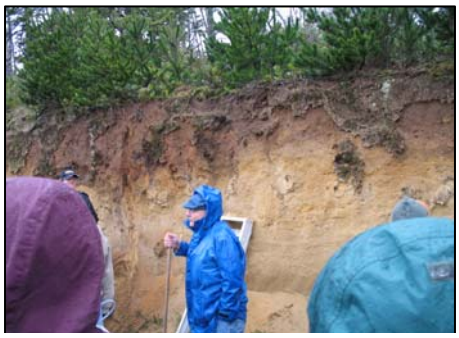
Sabrina is an undergraduate at Oregon State University and started her studies as a General Agriculture major but recently switched to Crop and Soil Science. Her interests are in agriculture, mainly crop production. She has worked with local farmers in seed crop production and is looking forward to continuing her education in this field.

On Friday, we started a new day and a new lineup of speakers. Ron Reuter led off—he is Assistant Professor of Natural Resources at the OSU-Cascades campus in Bend, Oregon. Ron also loves money and is our current OSSS treasurer. Ron's presentation was about ground penetrating radar and how it can be used to see what is in the soil without digging hundreds of soil pits. GPR works best in coarse sandy textured soils and was tested out in the Lapine area on a logged out piece of BLM land south of Bend.

Markus Kleber was our next speaker. Markus is an Assistant Professor in the Crop and Soil Science Department at Oregon State University. He received his Soil Science PhD from Universitat Hohenheim, Stuttgart, Germany and has worked at the Lawrence Berkeley National Laboratory as a Geological Scientist in the Earth Science Division. Markus gave us an amazing talk, taking us down to the molecular level, showing how it is possible to map out and determine on a mineral grain the affinity that organic carbon has for various mineral surfaces.

Mark Johnson talked about ecosystem services and soil carbon storage. Mark is a research soil scientist with the Western division of the Environmental Protection Agency. Ecosystem services are the output of ecosystem functions that support human welfare into the future. Soil along with carbon sequestration plays a large part in providing these services.

Melanie Malone was our last speaker and is currently pursuing an MS degree in Soil Science at Oregon State University. Melanie recently won an award for her presentation "Predictive Soil Mapping in the Fremont National Forest, South Central Oregon." She presented her talk and showed us how remote sensing technologies along with predictive modeling can help us be more efficient and consistent in delineating soils over large areas.



Frank Reckendorf interpreting road cut at the first stop on field tour.

Jay Noller exposed his artistic side, showing us an example of an earth painting he did using colors from a Jory soil. Very nice, Jay! For our meeting, Jay provided a canvas, soil materials of various colors and textures with binders to allow some of our more creative members to try their hand at making an earth painting. Are you wondering what this masterpiece looks like? Later!

Now it was time for the field trip led by James Cassidy. James spread his hands wide and looked into the sky and the clouds opened up and let loose with gale force winds and rain. James' talents, along with being our new OSSS president, include making rain for organic crops and field trips. The first stop was looking at a road cut near Seal Rock, showing

various stages of iron cementation. Frank Reckendorf talked about the fifth soil forming factor "Time" and how soils are aged and put into time sequences based on soil color and degree of iron cementation. The next stop was at Yachats State Park. Rob Witter, the regional coastal geologist of the Oregon Department of Geology and Mineral Industries, led a short discussion of coastal geology and debris fans visible from the site between wind gusts. In his current mapping, he is trying to age the debris fans and is hoping to use soil development on those fans as another indicator to verify fan age. The last stop was the Sea Lion Caves. This tourist mainstay is one of the largest sea caves in the world and the only known sea lion cave rookery on the mainland. It was created 25 million years ago out of basalt flows, intersecting fractures and scouring energy from the ocean. The cave offers California and Stellar Sea Lions protection from stormy weather during the fall and winter months. We were protected also!

Rob Witter talking about coastal geology at the second stop on field tour.

Sea Lion Caves—west opening to the ocean (sea lions on the rocks to the left).

EASTSIDE NOTES – Larry Thomas Retires from the Prineville BLM

by Jenni Moffitt

Question of the day: Who do you think of when you hear the word PEPSI™?

For many of you, a two-liter bottle of PEPSI™ triggers many fond memories of Larry Thomas. January 3, 2008 marked Larry's "last" day at the Prineville BLM. While no longer officially an employee, Larry showed up at the office daily during his first days of retirement. It takes a long time to clean out a cubicle after 36 years of government service which included military service in the US Army, time with the Bureau of Indian Affairs (BIA), and finally many years with the Bureau of Land Management (BLM).

Larry Thomas--Pepsi™ in Hand and Life is Good!

Larry started his schooling at Riverside City College (California) where he received an associate's degree. He then attended Cal Poly in San Luis Obispo, where he earned a dual BS in soils and biology. In October of 1975 Larry took his first position with the BIA in Window Rock, AZ. He worked with the Navajo nation. He soon transferred to the BLM in Rawlings, WY, where he stayed until April 1979 and then he made his final move to Prineville, OR where he was hired as the District Soil Scientist. This position included soil, air, and water responsibilities. As a result Larry did many tasks in his job. In addition to his soil responsibilities, Larry's work included stream surveys, water quality assessments, and he worked on teams addressing watershed health, specifically addressing juniper encroachment. Larry was able to work on the tail end of the Brothers Soil Survey and SVIM (Soil Vegetation Inventory Method) done on the Prineville District. In the mid-1980s, Hazardous Material responsibilities were added to his plate. By 1992, Larry's official title changed to Environmental Protection Specialist.

Between 1991 and 2001 Larry served as the weed coordinator for the district. Then in 2001 he started working on the Rangeland Health teams on the district doing Standard and Guideline assessments for the various grazing allotments.

Now that Larry has retired he is looking forward to the warmer weather so he can start gardening. He also hopes to do a little bit of traveling.

Many people in the Prineville BLM office and around the state of Oregon have found memories of working with Larry. They talk of his passion for soils and natural resources, and the fact that he was never without his two-liter bottle of PEPSI™. During his time at the BLM, Larry shared this passion and was popular with young and old alike. During the Prineville District's Chimney Rock Education Days each spring, Larry would share his passion for soils with grade school kids. Kids were always excited to go to the soils station, and it was sometimes hard to get them to leave. Larry really made an impression on the kids with his stories of soil formation, impromptu hands on particle size analysis (soil shaken in bottles of water and allowed to settle), and discussion of the role plants play in protecting the valuable soil resource.

Thank you, Larry! Congratulations on retirement.

Editor's comment: Pepsi does trigger some stimulating memories of Larry. Larry would always bring his two-liter Diet Pepsi™ to meetings. He would consume part of it, creating empty space in the bottle. Just when everyone was about ready to doze off, his plastic Pepsi™ bottle would contract making a loud pop. Everyone would jump, now wide awake for the meeting!

WESTSIDE NOTES

by Steve Campbell

New Enhancement to Web Soil Survey (websoilsurvey.nrcs.usda.gov)

Web Soil Survey is a web-based application that can be used to produce soil maps and reports, and does not require the user to have geographic information system (GIS) on their computer. All you need is a web browser and a connection to the internet

Recently a number of enhancements were added to Web Soil Survey:

- In earlier versions you could query for location by public land survey township and range. Now you can query by section, township, and range.
- When you enter an address or latitude/longitude coordinates on the Area of Interest (AOI) tab, a point marker appearing as an orange/red plus sign (+) marks the requested location.
- On the Soil Map tab, you can click the map unit name to display a map unit description in a floating window. This is a quick way to view basic soil properties and qualities for your area of interest, such as slope, frequency of flooding and ponding, depth to water table, available water capacity, calcium carbonate, and salinity.
- In addition to viewing your maps with an aerial photography, now you can view your maps with USGS topographic map background.
- In addition to printing or saving soils data on a page-by-page basis, you can now add maps and data to the shopping cart for inclusion in a Custom Soil Resource Report. It's an easy way to get one report containing all relevant information for your area of interest.
- Now you can navigate to an area of interest using one of several Federal land categories: BLM field offices, Department of Defense installations, National Forests, or National Park.
- Color aerial photography background to soil maps will be available for sometime in 2008.

Other News

Soil Data Viewer is an extension to the ESRI ArcGIS software. It allows the user to create soil maps and reports of soil properties and interpretations. Capabilities are similar to those in Web Soil Survey, except that local spatial data can be used. A new version of Soil Data Viewer for ArcGIS 9.2 was recently released and is available for download at the following web site: soildataviewer.nrcs.usda.gov

Dates to Remember

June 16-20, 2008: Western Society of Soil Science with Western Regional Cooperative Soil Survey, Spokane, Washington. Information available at https://www.soils.org/branches/western/
July 19, 2008: Smithsonian Soil Exhibit Opens; Washington D.C. Information available at http://forces.si.edu/soils/
July 24-26, 2008: Washington Society of Professional Soil Scientists Summer Tour. Information available at http://www.ieway.com/wspss/wspss_events.html
August 21-23, 2008: Oregon Society of Soil Scientists Summer Tour; Corvallis, Oregon. Information available at http://osss.peak.org/
October 5-9, 2008: Joint meeting between The Geological Society of America (GSA), Soil Science Society of America (SSSA), American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and the Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM (GCAGS), hosted by the Houston Geological Society (HGS); Houston, Texas. Information available at: https://www.acsmeetings.org/
February 18-20, 2009: Oregon Society of Soil Scientists Winter Meeting; Portland, Oregon.

Soil Judgers Competed at Nationals

by Will Austin

The OSU soil judging team traveled to Rhode Island to compete in the National collegiate contest. Rhode Island is a very small state, about the size of Benton County, Oregon. Although small in size, Rhode Island had a lot of features to challenge the soil judging team. First of all, there is no significant clay in the soils. The southern portion of the state is mostly glacial outwash, drumlins, eskers and moraines. The soils occurring on these features are inceptisols and therefore you should not expect any clay illuviation. Secondly, there are Ap horizons below the A horizons!!?? This is because the land was cleared in the 1700s for farming, subsequently abandoned in the 1800s, and the forest has grown back and there you have it—A over Ap. Thirdly, there are sub aerial soils. To put this in clearer terminology, these are soils that occur under water. They occur in estuaries and glacial lakes. I am not wholly sold on this concept of underwater soils but I am willing to try and understand this new idea.

2008 OSU Soil Judging Team (left to right) – Phillip Iverson, Julie Collins, Priscilla Woolverton, Jon Iverson, Daniel Meyers, and David Rand

Mark Stolt at the University of Rhode Island put on a great contest. This was one of the best soil judging learning experiences I have attended. Well done, Mark!

The OSU team placed 8th in the team judging portion of the contest and 12th overall. Our top judger was Phillip Iverson. Phillip placed 27th overall. This year's team members are Phillip, Jon Iverson, David Rand, Julie Collins, Priscilla Woolverton, and Daniel Meyers.

Soil Judgers Host Oregon DEQ

by Will Austin

The OSU soil judging team hosted a two-day field experience for the DEQ. The field experience consisted of one day of practice pits and a second day of individual and team contest pits. The soil judgers acted as official pit judges and official scorers for both the practice and contest pits. There were 60 DEQ participants in attendance.

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