

Soil, Sunshine, Good Wine and Good Company

PRSSS Okanagan Field Trip: September 26-27

By David Clements, Professor of Biology, Trinity Western University, and treasurer of the BC Chapter of the Soil and Water Conservation Society

It was a cool September morning as the bus picked us up for our road trip. However, we were headed for the BC Interior, where the sun nearly always shines. Indeed, it was a blue sky September weekend to remember, though some of it was spent in the pits – soil pits that is.

After a colourful commentary about the Sumas prairie as we drove through the Abbotsford area, the 16 of us introduced ourselves. I was among the novices in terms of soil knowledge in the group, but I noted by Soil and Water Conservation Society affiliation. After that, Leslie Dampier, an M.Sc. student at both UNBC and SFU (at the same time) turned and mentioned that she had just joined the Soil and Water Conservation Society. Welcome to SWCS Leslie!

Our first stop was a Ponderosa Pine forest. Andy Jakoy, soils specialist retired from BCIT, showed us some colluvial soils there (created by gravitational flow of material). We also found a fossil of a redwood twig, indicating that the range of this organism had changed over time.



Andy Jakoy (foreground) with Trevor Murrie and Tinghui Jiang

The Similkameen Valley is a great place for growing organic fruit, as we found out. Linda Edwards, of Mennell Orchards in Cawston explained how it was too dry for the usual disease problems experienced by apples. We were invited to try her amazing Ambrosia apples, as she told the story of how her brother-in-law had discovered and patented this special apple variety.



Ambrosia apple

There was also a soil pit set up there, which provided the sunken stage for a comprehensive soil nutrient study comparing Fraser valley and interior soils as expounded by David Poon, our field trip leader and current President of the PRSSS, along with Erica Milligan and Scott Smith, a soil scientist with Agriculture Canada in Summerland.



Dave Poon (left) and Scott Smith (right)

After the apples, it was about the grapes, as we went to the Crowsnest Vineyard, did some wine tasting and enjoyed a German meal at Crowsnest. Some of us stayed overnight there, while others braved the cool, windy Okanagan night in tents at Mennell Orchards.

The next morning, it was more about the grapes, as we stopped in at Road 13 winery just north of Osoyoos in the Okanagan Valley. As we learned from Scott Smith, we were at that point in the Golden Mile where something like 70% of BC best wine grapes are grown. Scott explained the soil science behind Road 13's motto: "It's all about the dirt."



Road 13 Winery

Road 13's winemaker, Michael Bartier, says it eloquently: "The Golden Mile is unique. Nowhere else in the world are you going to have this combination of soil, this type of soil, at this particular latitude and altitude with this climate at this level of exposure. More simply, it is the conspiracy of these variables to make a wine that no one else in the world can make. The resulting wines will have fingerprint of the Golden Mile terroir as we continue to learn what works well given all of these elements." [quoted from www.road13vineyards.com].



None of this great Okanagan dirt is any use without water, however, as we heard from Denise Neilsen from Agriculture Canada in Summerland at our lunch stop in Oliver, overlooking the Okanagan River. Denise brought us to that spot to graphically demonstrate how little water is available. The southern Okanagan gets only about 30 cm of rain annually, and we were looking at the whole supply going under the bridge.



Okanagan River at Oliver

Neilsen discussed a number of ways that water might be conserved, but it was clear that the region faces many critical challenges in water allocation over the next few years as the population expands along with water use for vineyards and other agricultural uses.

On our way back to the van (as usual Dave Poon was doing his best to keep us on schedule), some of us spotted a small group of salmon making their way upstream. It was a powerful reminder of how much the natural environment depends on our stewardship, even in the midst of an urban centre.

From there we drove north to Vaseux Lake, passing through some of the most scenic rock formations in the Okanagan Valley on the way. At Vaseux Lake, David Scott of UBC Okanagan, discussed a study that looked at soil properties in the wake of a fire that occurred in the area in 2003. Scott discovered a curious phenomenon he refers to as “fire-induced water repellency” whereby charred soils lose their ability to absorb water from rainfall. So even in this dry climate, erosion could be problematic in burnt-over areas.



David Scott

At the same site, I went on to describe research I had conducted on soil seed banks in this unique semi-desert environment, whereby the soil is often protected by a microbiotic crust comprised of algae, moss, lichens and spike mosses. Although some of the invasive plant species such as diffuse knapweed and cheatgrass formed sizeable seed banks at the 10 sites I had studied in the Okanagan, there were also native species such as sand dropseed that should provide very good candidates for restoration work. I was happy to be able to find examples of all 3 species on location to show to the group.



Group picture at Vaseux Lake

Reluctantly we piled back into the van and headed back towards the coast. We still managed to fit in one more soil stop though – this time checking out a salt marsh soil someone had spotted out of the window on the way up. Road trip soil science – can you dig it? We all came away with a memorable layer deposited on our souls, and having made some good symbiotic connections with fellow soil-loving creatures.

