



The Newsletter of the Pennsylvania Association of Professional Soil Scientists

PO Box 871, Mechanicsburg, PA 17055

October 2017

PAPSS Soils and Geomorphology Tour of Southeastern Pennsylvania – June 16 and 17, 2017

By Yuri Plowden

The Pennsylvania Association of Professional Soil Scientists hosted the Mid Atlantic Association of Professional Soil Scientists and the New Jersey Association of Professional Soil Scientists for a whirlwind soils and geomorphology tour across two Major Land Resource Areas in eastern Pennsylvania. Twenty-six soil scientists began the tour in the Piedmont Province in Chester and Berks Counties, continued through the glaciated Great Valley section of the Ridge and Valley Province of Northampton County, and finished at the Delaware Water Gap in the glaciated Appalachian Mountain section of the Ridge and Valley Province. The tour emphasized the diversity of soils resulting from the underlying geologies, and subsequent geomorphic and human influences. PAPSS Professional Member Joe Valentine organized and led the trip and discussions. This trip was the Pennsylvania portion of the NE Pedology Field trip for graduate students that was conducted on June 13, 14 and 15, 2017. That trip was hosted by the University of Delaware and Delaware Valley University. Eleven Universities with 60 attendees attend that field trip.

The first stop was in Nottingham County Park in Chester County with a look at the Chrome series, a Fine, mixed, super active, mesic Typic Hapludalf soil formed from serpentine geology and containing high amounts of magnesium. The biologists at the park are managing the vegetation for a distinctive, globally rare, Serpentine barrens savannah ecosystem of pitch pine, post oak, green briar, and variety of grasses.



Jay Gregg, Park Superintendent, Nottingham County Park, Chester County and Joe Valentine

The group moved on to the Stroud Water Research Center, where Director Bernard Sweeney gave an overview of the Center's research on riparian buffer restoration, stream biology, and soil quality. The Center has an indoor stream that they can use to incubate and raise local aquatic fauna for their research. Soil pits

included a buried Hatboro fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquept along a woodland floodplain, and the Glenelg series, fine-loamy, mixed, semi-active, mesic Typic Hapludult. Glenelg is an upland soil weathered from micaceous schist.

After lunch, the tour stopped at the Pulte Homes-Chester Springs Development where PAPSS Professional Member Steve Dadio, explained the drip irrigation wastewater system that his company had designed for this townhome development. The housing complex is located in a high quality watershed where wastewater treatment plants with stream discharge are not allowed. Hence, the need for a land application drip irrigation system that could handle the wastewater from the entire development. ▼





2017 PAPSS Soil and Geomorphology Tour with MAPSS and NJAPSS, at Jacobsburg Environmental Center, Nazareth, PA.

The final stop on Saturday was a look at the Gibraltar soil series in Amity Township, Berks County, along the Schuylkill River. The Gibraltar series (coarse loamy, mixed, active, nonacid, mesic Mollic Udifluvent) is an anthropogenic soil that has about 30 inches of black anthracite alluvium overlying the original floodplain soil. This soil is a result of past industrial activities that were carried out before stricter erosion and sediment control regulations were in place. These soils are a unique type of industrial legacy sediment deposit. This soil has been studied by Matt Ricker of Bloomsburg University. Matt sampled the soil at this site and provided the narrative found in the tour guidebook. The tour continued briefly to a nearby historic excavation site as PAPSS Professional Member John Wah described a soil scientist's collaboration with archaeological investigations.

The following morning, after an enjoyable evening of dinner and drinks in Quakertown, the group examined a road cut along route 663 that had an exposure of the early Jurassic igneous Diabase intrusion; contact metamorphic Hornfels bedrock and the pre-existing country sedimentary bedrock of Triassic red shale. Between the diabase and the red shale is a zone of contact metamorphism that produced the metamorphic rock called hornfels. As we walked along the road cut, we could see the transition from the diabase, to the hornfels, and then the red shale.

The first stop in the Great Valley section of the Ridge and Valley Province (locally called the Lehigh Valley) was a look at the Washington soil series, fine-loamy, mixed, semi-active, mesic Ultic Hapludalf, at an excavation in a new subdivision in Nazareth, PA in Northampton County. The Washington series consists of deep, well drained soils formed in old glacial drift (pre-Wisconsin Age) overlying residual limestone-derived soils.

The Ridge and Valley portion continued in Northampton County with a look at mountain colluvium over old till in Jacobsburg State Park. The bedrock in this area is the Martinsburg Shale formation. The pit was described as an Allenwood variant and was a 7.5YR colluvium over 5YR old till. The Allenwood series (fine-loamy, mixed, semi-active, mesic Typic Hapludult) formed in loamy pre-Wisconsin glacial till derived from sandstone, siltstone and shale from the Appalachian Mountains of the Ridge and Valley Province and covered with more recent colluvium from the same source.

The final soils stop included a look at two Wisconsin glacial till soils, Swartswood (coarse loamy, mixed, active, mesic Typic Fragiudept) and Volusia (fine-loamy, mixed, active, mesic Aeric Fragiaguet). The site was also in Northampton County in the Glaciated portion of the Great Valley section of the Ridge and Valley province. The site was near the base of Blue Mountain, the first Ridge in the Ridge and Valley. The tour ended with a beautiful view at the Delaware Water Gap Arrow Island Overlook, along Route 611 in Upper Mount Bethel Township.

A special thank you to Joe Valentine for organizing the tour and to John Chibirka of the NRCS for his help in locating and previously sampling the Nottingham, Stroud and Jacobsburg sites. ■

PAPSS Hosts Wetland Delineation Training Hollidaysburg, PA

PAPSS once again hosted Mr. Frank Plewa of the US Army Corps of Engineers for wetland delineation training. On August 7 and 8, 2017, in Hollidaysburg, PA, thirty students attended a two-day workshop covering procedures for conducting wetland delineations. The classroom activities were led by Mr. Plewa and PAPSS President, Yuri Plowden.



Mr. Plewa graciously offered his local property as the field training ground, and lined up a problematic site nearby. PAPSS members, including Yuri Plowden, Steve Dadio, and Laurel Mueller, assisted with field activities on day two. ■

PAPSS Members Slated to Present at the Conference of the National Wastewater Recycling Organization



Dover, Delaware

140 to 230 pm Tuesday Oct 24, 2017

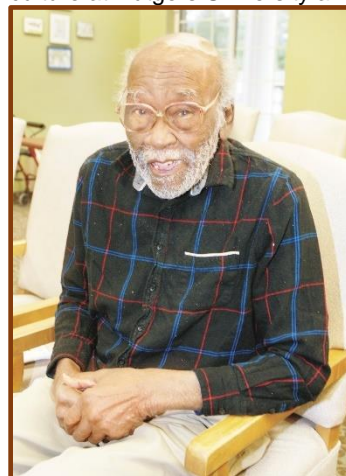
**Human Manipulated and Human Transported Soils and their Significance in
Wastewater & Stormwater Recycling
Russell Losco, CPSS**

230 to 320 pm Tuesday Oct 24, 2017

**Permit Driven High Intensity Soil Survey Mapping for Planning Sewage and
Stormwater Facilities
Laurel F. Mueller, CPSS**

Dr. William H. Farley Celebrates 100 Years

Dr. William H. Farley celebrated his 100th birthday on Sunday, January 29, 2017. A resident at Elmcroft senior living now, Dr. Farley was born in Savannah, Georgia, and moved to Lewistown, Pennsylvania, many years ago. Farley earned his doctorate in agriculture at Rutgers University and was a soil scientist with the U.S. Department of Agriculture. He was also a B-52 pilot in WWII as part of the Tuskegee Airmen, the first African-American military aviators in the United States Armed Forces. Farley was a member of the Grange and Kiwanis Club. His advice for living a long life is to eat well and exercise, but always have a piece of cornbread hanging around. Farley's proudest accomplishments are his children. (Contributed by Lewistown Sentinel, January 2017)

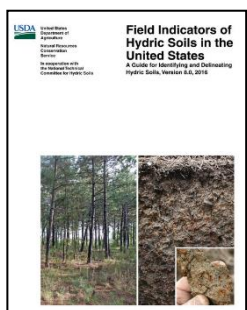


Every day ABC27 honors a military hero and on February 16, 2017, WHTM ABC27 from Harrisburg saluted Dr. William Farley and thanked him for his service.

From February 1995 PennSoil:

Dr. William H. Farley was recently named an Honorary member of the Pennsylvania Association of Professional Soil Scientists (PAPSS). Dr. Farley, of Lewistown, is a charter member of PAPSS and has been affiliated with the organization since 1975. He served many years on the Board of Directors and held the offices of Treasurer and Secretary. He was employed by the USDA Soil Conservation Service and the Pennsylvania Department of Environmental Resources. Along with Gerald Yoder, he was responsible for soil survey work for Juniata and Mifflin Counties. He retired in 1983 and currently lives in Lewistown. Dr. Farley was presented with this honor at the December 9, 1994, Business Meeting of the Association. A photo of the presentation of a plaque to Dr. Farley by Bruce Willman commemorating the occasion appears below. ■





Field Indicators of Hydric Soils, Version 8.0, 2016, has been corrected. The errata have been incorporated into Version 8.1, which is available online at <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/ref/>.

Modifying Layer Properties in Web Soil Survey

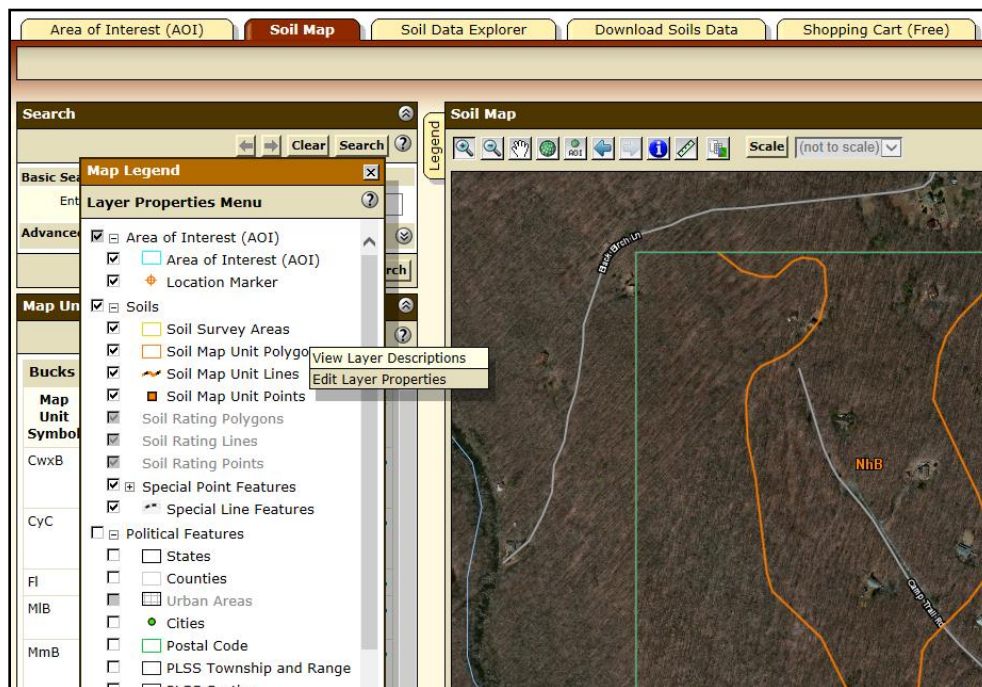
By Nancy Sansoni

The USDA Natural Resources Conservation Service sent out a March 28, 2017 bulletin that included several Web Soil Survey (WSS) tips. (To subscribe to WSS email updates, go to <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>). Among the WSS tips were instructions on how to change display properties within a soil map. This article is based on the bulletin's instructions, but the content has been modified. Below are abbreviated instructions for increasing soil map unit font size, adjusting display of map unit lines, and displaying both a topographic map overlay and aerial map at the same time. Please take note that while the topographic map overlay works on-screen, I was unable to access the overlay map when checking out of the shopping cart or viewing a printable version. My workaround was to just take a screenshot if the information is needed for a presentation or to take into the field.

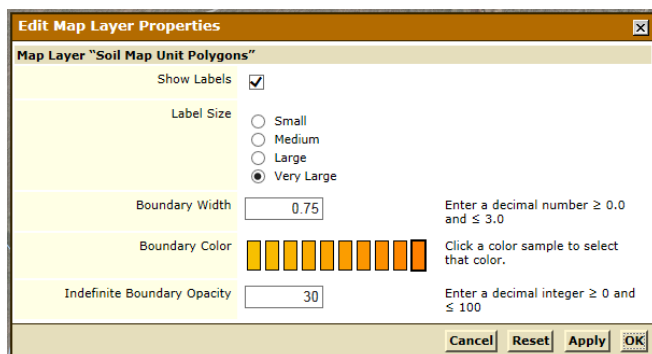
Modify soil lines or change the soil map unit font size:

Several soil map unit properties can be modified to change the appearance of your map.

1. Click on the "Legend" tab, which is located at the upper-left corner of the map, positioned vertically.
2. Once the Map Legend is open, right click on the "Soil Map Unit Polygon" and/or "Soil Map Unit Lines". Then select "Edit Layer Properties".



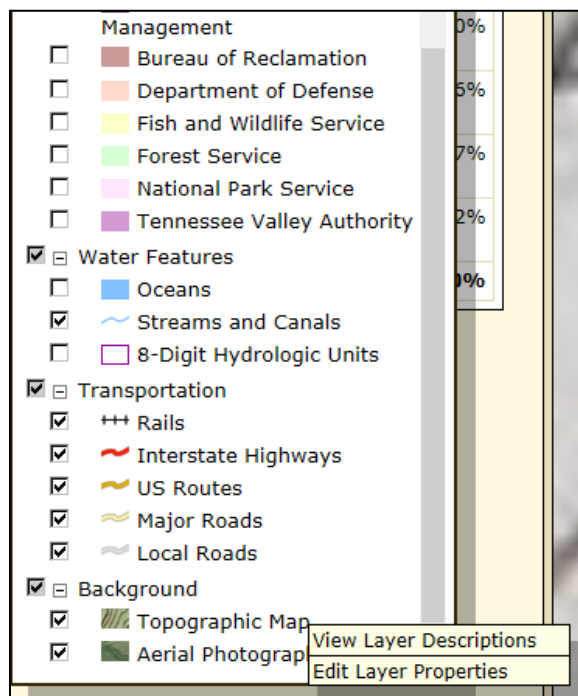
Once the Edit Layer Properties box is open, changes can be made to font size of labels and soil line properties to meet the needs of your map. Go ahead and experiment with the choices. Click OK when done.



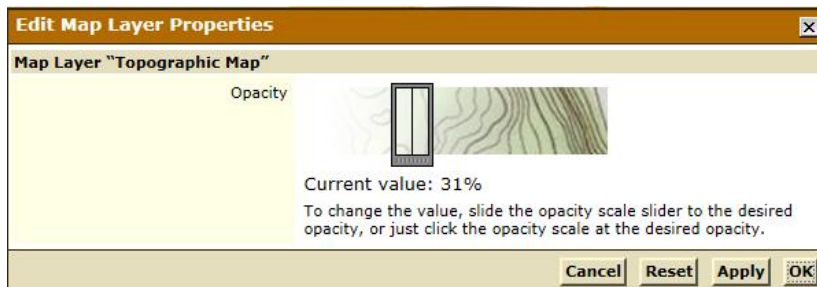
Show both Topographic Map and Aerial Photography on a Map:

Another useful legend property is to turn both the Topographic Map and Aerial Photography on and modify properties to display both simultaneously.

At the bottom of the Map Legend Box, click the Topographic Map button to turn on that feature. Then right click on "Topographic Map" and select Edit Layer Properties.



Within the Edit Layer Properties box, drag the opacity scale slider to the left to about 30% or whatever number meets your map's needs. When finished, click OK.





**Use this one weird
trick to demonstrate
soil microbial activity...**

<http://goo.gl/QmR9Yu>

2017 ANNUAL MEETING and TECHNICAL SESSION Saturday, OCTOBER 28, 2017

Dauphin County Conservation District Office
1451 Peters Mountain Road
Dauphin, PA 17018
www.dauphincd.org
PHONE: (717) 921-8100

9:00 – 9:30 a.m.	Registration (continental breakfast provided)
9:45 – 11:45 a.m.	PAPSS Annual Business Meeting
12:00 to 1:00 p.m.	Lunch (provided by Uncle Moe's Soul Food Catering)
1:00 to 1:30 .pm.	Skill Building with a Soil Texturing Competition Fundraiser
1:45 to 2:45 p.m.	Soil Mapping in Guatemala
3:00 to 4:00 p.m.	Storm Water Site Investigation

Agriculture Research Caucus established in House of Representatives

U.S. House of Representatives members Jimmy Panetta and Rodney Davis, establish the bipartisan [Congressional Agriculture Research Caucus](#). The caucus will focus on topics related to agriculture research, innovation, and mechanization efforts, with the hope to educate and engage other members of Congress on these issues. As Congress prepares for the 2018 Farm Bill, the Caucus will provide a platform for Reps. Panetta and Davis to elevate challenges facing agricultural producers across the country. Help develop new champions for agriculture research by [asking your Representative to join the Agriculture Research Caucus today!](#) ■



PAPSS Online
www.papss.org

Web Soil Survey
websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Comments or contributions?
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