



PEDOLOGUE

• Fall 2006

Newsletter of:
Mid-Atlantic Association of Professional Soil Scientists
Edited by Del Fanning

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Editor's Comments.

This issue of Pedologue is again available from the MAPSS Web Site, <http://sawgal.umd.edu/mapss/>. Hard copies are not sent unless the editor, dsf@umd.edu or 301-405-1308, is informed of someone who needs one.

I have to take the blame for all of the hassle within MAPSS to force a vote to reconfirm the Sassafras soil series, originally selected by MAPSS in 1993, as the MAPSS selection for state soil as we go for official recognition of a Maryland State Soil by the state. I did everything that I could think of to do to get MAPSS to change its selection to Annapolis. That included a long editorial in the Pedologue Spring 06 issue, getting sufficient (20% or more as per MAPSS by-laws) members' signatures to force a special meeting of the organization on Dec. 18, 06, at which it was decided to conduct a vote by e-mail, supervised by President Needelman, on which of three soil series (Sassafras as nominated by Charlie Hanner, Annapolis nominated by me, or Hagerstown nominated by Susan Davis) would be selected by the full and honorary members of the organization (official voting members). As members have been previously informed by President Needelman, Sassafras received 18 votes, Annapolis 10, and Hagerstown 1.

I cried in my beer a little and feel that MAPSS lost great educational opportunities by not selecting Annapolis and bemoan the likelihood that the Maryland state soil monolith in the Smithsonian state soil exhibits, scheduled to open in 2008, will look very much like those of other nearby Mid-Atlantic States. I also feel that if student members of the organization had been given the opportunity to vote, Annapolis might well have won – but Sassafras supporters would say that the students were brain-washed. However, now that the election is over and Sassafras still reigns supreme, I have switched horses and am

now doing everything that I can to get the Sassafras series recognized as state soil by the state. I have been working on an Assembly Delegate, Justin Ross, from my legislative district, who promised me in an e-mail last fall that he would sponsor a state soil bill in the legislature – but he wanted information to him by early December, 2006. That was the stimulus to get MAPSS to make a new decision on what soil to support. **For a time I was having a difficult time getting Ross’s office to respond again, but wow, finally, on Jan. 11, as this Pedologue issue was about to be posted on the MAPSS web site, I received a telephone message and an e-mail message from Delegate Ross’s office that he and his assistants are putting together a bill that he will sponsor in the 07 legislative session to recognize the Sassafras soil series as Maryland’s official state soil!** I am now working to get an official MAPSS request from President Needelman to Ross’s office for their action to be pushed forward and to get supporting letters from NRCS, University, and other officials. For those who want to send a letter, here is some contact information. I am presently working with Ryan Duffy, but members may want to write directly to Delegate Ross.

Ryan Duffy
Legislative Director
Delegate Justin D. Ross
Chief Deputy Majority Whip
Maryland House of Delegates
6 Bladen Street, Room 151
Annapolis, MD 21401-1991
P: 301.858.3652
C: 240.687.3748
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Duffy’s e-mail address is: rduffy@house.state.md.us. Ross’s is justinross@justinross.us

One thing that has come out of our recent state soil efforts is that the MAPSS membership strongly supports going for the passage of a state soil bill. I became aware of the Maryland Kids Page <http://www.mdkidspage.org/StateSymbols.htm> (or just search for Maryland Kids Page and once there click on state symbols) and how Maryland has 20 different state things/symbols, headed by the Baltimore oriole, the state bird – but no state soil. Soil science and the citizens of our country need an official state soil of Maryland to give attention to soils, soil diversity, soil science and our dependence upon soils. Let’s get busy and get one. Every MAPSS member should be promoting this. How about some promotional lapel pins, tee shirts, and sweat shirts? How about every member (even those from out of state) contacting at least one Maryland legislator and/or our new Maryland governor, Martin O’Malley, to urge them to get behind the passage of the Maryland state soil bill? Find legislator’s addresses and e-mail addresses at <http://mlis.state.md.us/>. We are planning to email a sample letter to MAPSS members in the near future.

Thanks to all of those who have contributed written materials and pictures to this Pedologue issue; President Brian Needelman and Skye Wills for their article on the ditch tour and symposium, Jim Brewer for the write-up and pictures regarding the 06 Land Judging Contest, and Needelman again for informing us about Maryland’s success in the Northeast Soil Judging Contest in Maine. Also, for MAPSS, congratulations Brian for

your coaching efforts and thanks for being our President.

MAPSS DITCH TOUR AND SYMPOSIUM

MAPSS Ditch Soils Field Tour Improved Management of Agricultural Drainage Ditches for Water Quality Protection Aug. 22-23, 2006

By Brian Needelman and Skye Wills

On August 22, 2006 MAPSS sponsored a Ditch Soils Field Tour in collaboration with the Ditch Project and several institutions. The tour participants included MAPSS members and a range of others interested in ditch management and water quality issues from universities, local, state and federal government agencies, soil conservation districts, private consulting agencies, environmental and agronomic organizations, and public drainage associations from around the region and nation. The field tour had 86 attendees.

Tour sites were chosen to give participants an opportunity to understand the status of ditch management in the Delmarva and exposure to the opportunities and challenges we face as we work to improve ditch management in the region. There were five tour stops. At each site, soil and water samples were analyzed for total carbon and phosphorus to give participants an idea of the dynamics of the ditch system. Field and ditch soil pits were dug to highlight the variability within and between sites both in and outside the drainage ditches. Data from these, as well as information for each tour stop, was available to attendees in the Ditch Tour Field Guide, which is available online at <http://www.sawgal.umd.edu/DrainageDitches/2006DitchTour.html> .

The tour convened at the University of Maryland Eastern Shore Research Farm, Princess Anne, MD. At this site, participants were separated into three groups to tour and discuss a variety of ditch and agronomic research studies being conducted by the Ditch Project. Brian Needelman from the University of Maryland and Ray Bryant and Peter Kleinman from the USDA-Agricultural Research Service Pasture Systems and Watershed Management Research Unit led the discussions and demonstrations. The topics included: effects of phosphorus and nitrogen based manure management on soil and runoff phosphorus, drainage ditch soils, morphology and iron and sulfide biogeochemistry, and sequestering dissolved phosphorus in ditch drainage water. The smaller groups facilitated discussions that set the tone for the rest of the day.

The group next visited the Cullen Farm near Marion, MD. This farm is one of the four on-farm study sites of the Ditch Project where the water quality implications of water-control structures and clean-outs are being investigated in a real-world context. Frank Coale, University of Maryland, discussed water control structures and a novel ditch water sampling technique. David Mister, Maryland Department of Agriculture, discussed public

drainage associations and public watershed associations as they pertain to environmental regulations.

After lunch on the bus, the tour went north to a The Cropper Site, Snow Hill, MD. This ditch has been converted to a wetland for water quality benefits as part of Maryland state highway construction. MAPSS member and former officer Gary Jellick, an independent soil scientist, spoke on the construction and the remarkable transformation of the site. This site was highlighted by the distinctly different vegetation and soils present in the upland soil pit and the drainage ditch pit.

The next tour stop was the Haines Stream and Wetland Restoration Project in Felton, DE. Another ditch-to-wetland conversion, in this case a meandering floodplain has been created that will ultimately turn into a forested wetland. There are also small wetlands at field ditch outlets. One of the goals of this project is to determine the ability of these restored wetlands to ameliorate nutrients and sediment inputs from these fields into downstream waterways. Thomas Barthelemeh, Delaware Division of Soil and Water Conservation, spoke about the complementary goals of water quality improvement and wildlife habitat restoration.

The final tour stop was at The Collier Farm near Goldsboro, MD. This site is part of the Choptank River Watershed study and includes one of the oldest drainage ditches in the country. Several studies are being conducted at this site by the Maryland Department of Agriculture and other agencies. John Rhoderick (MDA) and Dean Hively (USDA-ARS Hydrology and Remote Sensing Laboratory and the Maryland Department of Agriculture) discussed an investigation of denitrification rates as affected by the installation of water-control structures and an evaluation of the use of commodity cover crops. A weed-wiper was also demonstrated. This machinery is used to target pesticide application to only woody vegetation along ditches.

As part of the event, five ditch soil monoliths were constructed by Jim Brewer and Charlie Hanner. We believe that these are the first monoliths ever made from ditch soils. Two of these monoliths will be mounted in permanent displays (at UM and UMES), two will be used for presentations, and one will be integrated into the MDA's traveling display on ditch management practices.

As part of a symposium that was held in conjunction with the field trip, a special section of the Journal of Soil and Water Conservation is being prepared on ditch management. The issue has an approximate publication date of July, 2007. We will let you know when it is published and how you may obtain copies.

Some pictures from the tour are on the succeeding two pages.



Brian Needelman, MAPSS president, points out the presence of vegetation (a proof-positive indicator of a soil) in a drainage ditch at the UMES farm.



Peter Kleinman discusses the effect of ditch clean-outs (right) on phosphorus storage and movement.



See above for a collage of photos from various stops on the tour.

2006 Maryland State Land Judging Contest

Article submitted by Jim Brewer.

On October 20, 2006, MAPSS along with NRCS and Maryland Cooperative Extension hosted the 2006 Maryland State Land Judging Contest for high school students. Since 2004 MAPSS has awarded cash prizes for individual 1st, 2nd, and 3rd place winners.

Land judging is about learning to evaluate a soil for its best use through an examination of its properties. Although many sophisticated techniques and instruments are used to determine and measure soil properties, several important soil characteristics can be readily determined by the students in the field. This introduction to soil science equips the students to make several basic evaluations of a soil and to make predictions concerning its behavior under various types of management and use. The contest consists of the students judging three different soil profiles and the surrounding landscapes. The winners are determined from score cards which contain 14 questions on soil properties and 15 questions on agricultural and urban interpretations. Some of the properties determined by the students are slope, surface and subsoil color and texture, available water holding capacity, landform, parent material, permeability and erosion potential. Interpretations are made for land capability classes, erosion control, tillage practices, and residential homes with basements, septic systems, lawns and shrubs. There is a practice period before the contest where the students can fill out a score card which is then reviewed by the officiating soil scientists. During this time the students have the opportunity to ask questions about the practice soil profile and soils in general.

It was beautiful, cloudy Friday when approximately 55 students from eleven Maryland high school FFA teams competed; judging 3 soil pits which expressed various soil properties of Coastal Plain soils. The contest was held in Queen Anne's County on Maryland Department of Natural Resources property near the Tuckahoe State Park. The land is currently being cropped by local farmer Sidney Ashley. Comfort facilities were provided by Earth Data Inc. which was made possible by Cliff Stein, one of their staff soil scientists and fellow MAPSS member.

The soils in the contest were the well-drained Reybold soil series and a moderately well drained Mattapex with some fragic properties.

Several schools also had their envirothon teams participate as a training exercise

This year's FFA Team Awards went to:

- 1st Place – Urbana HS
- 2nd Place – Clear Springs HS
- 3rd Place – Walkersville HS

MAPSS presented individual monetary awards to:

- 1st Place (\$100.00) – Ben Murphy, Urbana HS
- 2nd Place (\$75.00) – Morgan Smith, Clear Springs HS
- 3rd Place (\$50.00) – Brett Hendershot, Clear Springs HS

This is the third year, in a row, that Ben Murphy has been awarded First Place. He plans on attending Virginia Tech next Fall.

MAPSS would like to thank members Phil King, Diane Shields, Charlie Hanner, Cliff Stein, Jim Brewer and Carl Robinette for organizing and putting the contest on. Three pictures from the contest follow (next pages). In the second one, MAPSS council member Carl Robinette is shown providing some instruction.





Maryland Soil Judges take first place!

This article was submitted by Dr. Needelman as written by the UMD soil judging team:

The 2006 Northeast Regional Soil Judging competition in Orono, Maine finished on Saturday, October 7, and the University of Maryland “rocked” the other competitors, winning first place overall. The University of Rhode Island placed second, Wilmington College placed third, and Ohio State placed fourth. All 4 teams are headed to Utah in the spring for the national competition. The Maryland team also did well on the group pits, finishing in second place. Four UMD judges placed among the top 10 individuals: Jason Martin (2nd Place), Pedro Mayorga (4th Place), Jenny St. John (5th Place), and Vera Jaffe (10th Place). Greg Hazzard and John Shearin also did very well, placing 16th and 20th overall out of 44 competitors. Kristen Felix was unable to go to Maine, but still practiced with the team in Maryland and will surely be an important part of the team in Utah.

The weather was beautiful for the entire week, and the students enjoyed the colorful foliage and soils (Sp-“oh”-dosols). Some of the students also took the opportunity to visit Acadia National Park. The glacially formed landscapes gave the judges a chance to learn more about dense till, outwash sediments, and landforms such as till plains and glacial terraces. Of course, it was also a great opportunity for everyone involved to meet other teams and get muddy. The success of the trip was largely due to the hard work and knowledge of our coach, Brian Needelman and our assistant coach, Julie Hill. In Maryland, the coaches introduced new members to the nuances of soil judging and refined the skills of the veterans, and went on to organize the trip and help everyone understand the soils of Maine. Go Terps!!



The 2006 University of Maryland Soil Judging Team enjoying the woods of Maine.



A spodosol in Maine formed in glaciomarine sediments.

Calendar of some coming events

Feb. 5-8, 2007. 4th USDA Greenhouse Gas Symposium, Baltimore, MD;
www.acsmeetings.org/carbon/ .

March 7, 2007. MAPSS Annual Meeting, Election of New Officers etc. and Dinner,
(start time and directions to be forthcoming), Annapolis American Legion Hall, where
previous meetings have take place.

June 24-26. 2007. Northeastern Branch ASA Meeting (Joint Meeting with the American
Forage & Grassland Council), State College, PA; www.asa-cssa-sssa.org/branch/ne/ or
rweismil@umd.edu .

Nov. 4-8, 2007. ASA-CSSA-SSSA International Annual Meetings. New Orleans, LA;
www.acsmeetings.org .