



OHIO PEDOLOGIST

Professional Soil Scientists

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A Look Backward and Forward –



Bob Parkinson

Incredible as it may seem to some oldies but, hopefully, goodies like me, April 21, 2012 was the 42nd anniversary of Earth Day. Originally conceived as a teach-in of sorts by, among others, Wisconsin Senator Gaylord Nelson, an estimated 20 million people participated nationally including one fledgling agronomy major, me. Back then in 1970, embarrassing fire on the Cuyahoga River had barely been extinguished which had only piqued my academic interest all the more into the relationship of land use and soil erosion to water quality and how soil science could be relevant in solving water quality problems.

The year 1970 also brought more fire – this time in the form of student protests -- and ensuing tear gas to many college campuses nationally, as well, but I won't recall those here, except to say I routinely crossed picket lines to attend class, especially when it was Dr. Paul Colinvaux, a biologist (and former Canadian soil surveyor), lecturing to hundreds of students packed into Hitchcock Hall 100 on population biology.

Handouts from the first Earth Day at Ohio State were very few -- if any, as I remember, but I did go home that day with a nice light green Earth Day folder, complete with a Theta symbol printed on the cover, that I saved for future use (being frugal). The Theta symbol was a composite of the letter E, for "Environment" and O for "Organism". I would have liked the graphic artist to have added a BIG capital S, as well, for "Soil", but back then, as today, Soil—the foundation of our terrestrial environment and foundation of our Ohio economy -- was a resource underfoot, out-of-sight and therefore out-of-mind for far too many people.

Soil

Deterred not, and thanks to a super agronomy department faculty at Ohio State that taught soil science and pedology, like many others, I went on to have a terrific 39 year-and-still-counting career in resource inventory, soil survey, on-site investigations, geodatabase development and management, and GIS. Such is the broad nature of the scientific study of soil and the many and varied directions it may take its students that needs to be conveyed to the students of today. As I found out early on, a

career in field soil survey -- working in my 600 square mile land laboratory -- could be every bit as scientific as a soil chemist's work in a 600 square foot laboratory, with a picnic lunch at a different place every day to boot.

Enter the Association of Ohio Pedologists in 1976 to promote the profession of pedology, and 36 years after our founding we're still in there, pitching for the soil scientists of Ohio -- a group whose demographics have changed over the years but whose passion for the study of soil has not.

Looking forward in 2012, AOP will reexamine its organization and its function vis-à-vis the perceived needs of its membership and the clients and customers we serve. The results of the member survey have been further summarized as we look for ways to support the soil science community in Ohio while we adequately maintain our pedological roots. We will be recognizing the 50th Anniversary of the Unio Conservation Camp on its soil conservation day, May 11. We are also exploring the possibility of establishing a current use scholarship fund for a deserving soil science student, and we are exploring the possibility of partnering with the All Ohio Chapter, Soil and Water Conservation Society in some 2012 events. Other important tasks will be to update our membership database and list of soil consultants and to keep this information current as well as upgrading our web site to meet the needs of both members and clients while continuing to publish a great quarterly newsletter.

All this doesn't happen by itself. I invite your ideas and your active participation in your association's activities this -- and every

-- year as we work for a greater understanding and appreciation of what is seemingly the simplest, least understood yet most complex of natural resources, the soil.

Fifteen Years of Soil and Site Evaluation In East Central Ohio-

Joseph R. Steiger, Soil Scientist

Beginning in 1997, the market for private soil science consulting was tested by completing on-site evaluation of soils at 13 locations in Muskingum, Perry and Morgan Counties. These included: 1) tests for wastewater system design, 2) first order soil surveys for four subdivisions totaling 62 lots, 3) prime farmland delineation for a coal mining permit, and 4) tests of soil stability of clay soils on building sites. After many years of soil survey work this focus on site-specific issues was a change, but the fundamentals of soil science still applied and the completed soil surveys for all of Ohio provide a solid footing and guide for continued investigation of soils.

Since that first year more than 1500 site and soil evaluations have been completed. These were scattered over ten counties; Muskingum, Licking, Fairfield, Perry, Coshocton, Guernsey, Morgan, Pickaway, Washington, Franklin and Hocking. The part-time soil consulting continued at the same time serving as half-time soil scientist at Fairfield SWCD in Lancaster until 2006. During that time first order surveys soil surveys were completed for 45 subdivisions and site and soil evaluation for about 80 individual lots. Some of the unique projects completed during this period included; 1) identification and mapping of hydric soils for

the Slate Run Wetland Development in Pickaway County, 2) writing of the Delaware County Farmland Preservation Plan, 3) evaluation of soil stability, wetland and stream crossings for the Marathon-Ashland Petroleum Pipeline from Chesapeake to Columbus, Ohio, 4) estimating quantity of topsoil resources for a landowner impacted by a highway project in Gallia County, and 5) wastewater system site for a National Park Service Visitor Center in Ross County.

After retiring from the position at Fairfield SWCD in 2006, work began as full-time as a private consultant at about the same time the new Ohio Septic Systems Treatment Rules were changed to require onsite soil evaluations. The number of sites visited each year increased from 100 or less to 200-300 per year. The number of subdivisions evaluated declined as the housing bubble burst in 2008. During this period two associates who are learning the fundamentals of soil science have assisted in the description of site and soil conditions and in mapping and writing the summary reports. Kyle Baldwin works as a geologist for ODNR and spends one day/week on soil and site evaluation mainly in Muskingum, Perry, Coshocton and Morgan Counties. Mark Flowers, PE, does wastewater system design and also spends one day/week in Fairfield, Licking Counties and other central Ohio locations.

All of this fieldwork has been very challenging and provided new insights into soils on a variety of land forms. Some of these findings are the result of many deep backhoe pits previously not available on county soil surveys. About half of all sites had backhoe available with at least two test holes on each site. This totals 1500 or more pits evaluated. Sites for pits were often

selected to represent the best possible location for an on-lot leaching system so are somewhat biased by site selection. Some of the findings would justify further study as part of soil survey updates in the future. One concerns the patterns of loess deposition on the Illinoian till plain and the uplands of the Muskingum and Licking Valleys. The second involves the variability of bedrock materials and weathering as well as estimates of coarse fragment content and soil formation in skeletal soils. The third issue is the pattern of hydric soils on minor floodplains and the extent of non-hydric soil inclusions in upland soils. These issues will be discussed in detail in future articles.

SoilWeb: An Online Soil Survey Browser

UC Davis Soil Resource Laboratory

<http://casoilresource.lawr.ucdavis.edu/drupal/node/902>

I've only used the Google Earth version, but have found it pretty amazing. For those of you with Smart Phones you can download an app to give you locational soils data (where you stand).





2012 AOP Officers

From left to right, Bob Parkinson, President, Steve Prebonick, State Rep., Matt Sullivan, Academic Rep., Joe Steiger, Private Practice Rep., Jeff Glanville, Treasurer, Rick Griffin, Federal Rep., Gordon Starr, Secretary, Duane Wood, Editor

**Association of Ohio Pedologists
Executive Council Meeting Summary
March 27, 2012
Knox Service Center**

Members Present: Danielle Balduff, Matt Sullivan, Jeff Glanville, Duane Wood, Joe Steiger, Rick Griffin, Steve Prebonick, Gordon Starr, & Bob Parkinson. Member absent: Steve Miller.

The meeting was called to order at 9:30 by Bob Parkinson. Potential activities for the coming year to address some objectives, goals and actions for AOP were discussed. The AOP member survey has been further analyzed which should provide more input for council and for the Bylaws Committee.

Minutes of the December 9, 2011 and the March 9, 2012 meetings were reviewed. Position descriptions for each Executive

Council member were distributed respectively.

Jeff Glanville gave the treasurer's report and noted he would be comparing American Fund long-term performance relative to some other low-cost, no-load index funds. Jeff reported he has some AOP archival material and has scanned many old AOP newsletters.

Duane Wood discussed the AOP Newsletter and some target publishing dates for the coming year and called for members to submit content. There was also discussion of developing some protocol for adding content to the AOP Website and keeping it current working with Matt Lane, AOP Webmaster. There was discussion of possibly establishing a current use scholarship for a soil science major. Bob Parkinson will investigate this.

There was general discussion of having some sort of presence at the SSSA "Visions for a Sustainable Planet" in Cincinnati, Oct. 21-24, possibly a poster session. We will investigate the possibility of displaying a poster session. There was also discussion of AOP recognition of the Unioto Elementary School for the 50th anniversary of its Conservation Camp. Specific information on the conservation camp will be obtained for possible recognition by AOP. Further business relative to conservation camp recognition will be conducted by email if needed*, given the early May scheduling of the camp. Reimbursement for AOP Annual Meeting expenses for pop, water and ice for Bob Parkinson was approved as documented.

There being no further business, the meeting was adjourned. The next council meeting will be Tuesday, June 5 at the Knox County Service Center at 9:30.

*A special Executive Council meeting was later convened electronically concerning recognizing the Unioto Conservation Camp whereby information was distributed and a motion was made, seconded and approved unanimously to award a plaque and a \$500 cash award to Unioto School to commemorate this half century milestone.



Award presentation at Unioto Conservation Camp, May 11.

If you attended the entire AOP Annual Meeting, don't forget to enter 4.5 CEU hours towards your certification.

**Visions for a Sustainable Planet
October 21-24th 2012 Cincinnati Ohio**
<https://www.acsmeetings.org/>

The American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America will host more than 4,000 scientists, professionals, educators, and students at the 2012 International Annual Meetings, "Visions for a Sustainable Planet," Oct. 21-24, 2012, Cincinnati, OH.

Featured Events:

Matt Deaton and Jason Sneed are setting up a **Regional Collegiate Soil Judging Competition** prior to the SSSA Meetings (October 16th through the 19th). Matt would really like to see some AOP participation.

Frank Gibbs, George Derringer, Gordon Starr and Steve Hamilton are setting up a Field Indicators of Hydric Soils Tour on Sat Oct 20th called the **2012 SSSA Field Indicators of Hydric Soil Tour.**

Hydric Soil Field Indicators in Disturbed, Buried and Problem Soil Situations

Local and national experts will be available to discuss the types of field indicators found, and to help participants describe and interpret them even in disturbed or problem situations.

This tour will begin with a **Wetland being restored by the Cincinnati Zoo** on a farm degraded by historic erosion and sedimentation.

Three back hoe pits will be examined across the Landscape:

- 1) Buried Hydric Soil on cropland near a fencerow
 - 2) Wooded Vernal Pools with over wash showing multiple Indicators
 - 3) Wet Meadow with slight sedimentation near restoration site
- Catered Lunch at Ft Ancient National Historic Earthworks.**

See Vernal Pools with Hydric Soil Field Indicators created within this Hopewell Native American Earthwork dating back to 50 BC.



Ancient Vernal Pool with Hydric Soil created by construction of Native American Earthwork

Discussion of the range of Characteristics for the Clermont Series and Why the Field Indicators are so important for onsite delineations.

View 3 stages of Wetland and associated Hydric Soil Degradation

- 1) Degraded Cropland reverting to red maple forested wetland...
- 2) Early Pond type Wetland Restoration destruction of Hydric Soil and incidental Red Maple wetland enhancement...
- 3) High Quality Vernal Pool Area (not degraded) of Pin and Swamp White Oaks...

For more information regarding the details of this SSSA 2012 Field Indicators of Hydric Soils Tour please contact: Frank E. Gibbs, CPSS, CPSC, and PWS

Email: frank.gibbs@oh.usda.gov or feqibbs21@gmail.com

Office Phone: 419-422-8347 X 139 or I-Phone: 419-963-2542

Brian Cooley, Jeff Glanville and others are setting up a Tour on Sunday Oct 21st called the **Southwest Ohio Soils Tour**.

This tour begins with an overview of the Cincinnati Urban update, recently completed by the Frankfort, KY Soil Survey Office. The first stop will be to view one of the most expensive retaining walls in the U.S. Hamilton County was named in a USGS publication as having the highest annual per-capita cost due to landslide damage in the nation. We will see a few examples of mitigation from landslides as we head out of town. We will discuss how the soils, geology, and urban pressure of the area have combined forces to be a perpetual hazard to the area. The second stop will be an example of an urban map unit and discussion on how the data can be used for current issues such as storm water planning and development.

Lunch will be at Rankin House, a prominent stop on the Underground Railroad, and a National Historic Landmark. We can take a brief tour of the house and grounds. There will be 2 pits within walking distance. Rossmoyne is a soil formed in loess and Illinoian till. Eden is a moderately deep soil formed in limestone and shale.

The tour will end with a stop in the flat Illinoian till plain in northern Brown County. Here we will have a soil pit on Clermont, and time for discussion of the area and the trip as a whole.

Steve Miller requests that you hold August 23 and 24th for the AOP Workshop. More details will be forthcoming.

To submit future newsletter material contact Duane Wood at woosterwoods@embargmail.com or 330-464-4722.