



OHIO PEDOLOGIST

Professional Soil Scientists

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Our Presidents Message–



Bob Parkinson

Well, this last week of October was a real doozy. After surf fishing for striped bass on the soon-to-be inundated beaches and sand dunes of New Jersey, I left the crashing waves and the rarely flooded soils about 24 hours before Superstorm Sandy -- what some had called the Halloween "Frankenstorm" -- made landfall.

Making my way back to the uplands of Ohio -- far above areas depicted as FEMA Flood Zones and my home built on glacial till -- I could only think back east to the people and the impending natural disaster.

Less dramatic, but still eventful, was this summer's terrific joint AOP/AOC-SWCS workshop that was organized by Presidents-Elect Steve Miller (AOP) and Mark Fritz (AOC-SWCS). They brought in an excellent cadre of speakers such as Dr. David Lindbo, NCSU; Dr. Larry Brown, OSU and Dr. Kevin King, ARS to discuss nutrient mobility relative to water quality, soil wetness and hydric soil indicators. Please read Steve Miller's article recounting the workshop and be sure to download Dr. Lindbo's presentation. Thanks go to Steve for helping organize such a successful workshop.

And thanks also goes to Past-President Danielle Balduff, who represented AOP at the October collegiate soil judging contest banquet, informing students from the northeastern states of our association in the event they find employment working with the land and soil resources of Ohio. As an aside, AOP provided \$500 to the cost of the banquet to help defray the students' expenses. For the banquet, I understand the Miamian State Soil display that Mark Johnson made for AOP over 25 years ago was also featured. And, finally, thanks go to Matt Deaton and the numerous other AOP members who were involved in the collegiate soil judging contest and the SSSA field trips held in the Cincinnati area this past month.

Another notable accomplishment this summer was the establishment of the AOP Scholarship Fund to help one or more students studying soil science at the Ohio State University. Thanks to Dr. Jerry Bigham, who was involved in the initial concept development, and to Matt Sullivan, AOP Academic Representative, who worked with development staff from OSU.

We're now a very small -- but not insignificant -- part of the \$2.5 billion fundraising endeavor to help raise Ohio State, in the words of President E. Gordon Gee, from "excellence to eminence". Our significance will be directly proportional to our collective giving, so please contribute any amount to this worthy scholarship, and, together, we can make a difference!!! What a way to demonstrate the importance of the soil sciences as a course of study -- an objective that three fourths of the AOP

membership heartily supported in our 2012 member survey.

The Association of Ohio Pedologists Scholarship Fund is a current use fund meaning all contributions to the fund for a given year will be awarded. It has the following description developed by AOP and OSU, and approved by AOP's Executive Council:

"Scholarship support for one or more students enrolled in the College of Food, Agricultural, and Environmental Sciences (CFAES) studying soil sciences, with an emphasis in soil geography and/or soil genesis, morphology and classification. Special consideration will be given to members of the OSU Soil Judging Team."

Scholarships will be awarded annually in the spring by OSU for the following academic year. Dr. Pat Whittington, Assistant Dean, Student Development, CFAES will use AOP established criteria in selecting the recipient(s). In order to make awards from this fund for the 2014 academic year, contributions should be received by January 31, 2013.

Researching this, we found there are some 26 soil science courses that students can take at OSU including ENR 5260 - Soil Landscapes: Morphology, Genesis and Classification as well as participating on the OSU Soil Judging Team.

Recipient(s) write thank you letters and will be invited to attend the AOP Annual Meeting.

Tax deductible donations may be made directly on-line by visiting https://www.giveto.osu.edu/igive/onlinegiving/fund_results.aspx?fund=314160&Name=Association%20of%20Ohio%20Pedologists%20Scholarship%20Fund or donations may be made by including your donation as itemized on the AOP annual dues renewal form.

Once again, as we begin to plan for 2013, AOP will need a new crop of members to step forth and help out as before. My hope is that if you are contacted

by Danielle Balduff's Nominations Committee to run for a particular position or office, you won't have to think long before happily accepting this honor.

Have a great, productive, profitable, memorable, relevant, fun and safe autumn season and please remember to donate to the AOP Scholarship Fund!

Bob

A Brief History of the Sandusky Plains in North Central Ohio

The dedication of the Daughmer Bur Oak-Savannah State Nature Preserve in August 2012 focused attention on a unique region of north central Ohio. The Sandusky Plains is an area of open prairie and oak savannah that occurred from near Upper Sandusky on the north, to south of Bucyrus and north of Marion. The area was more specifically bounded by the Sandusky River on the east and north, by the Olentangy River to the east and the Tymochtee Creek to the west. This includes parts of Crawford, Marion and Wyandot Counties. Prehistoric climate changes suggest that this may be a remnant from a warmer, drier climate in Ohio that favored grassland over forest. Historic accounts in the 1750's report that the area was burned in "ring hunts" for deer by the native American tribes. The fires discouraged the forest seedlings except for bur oak that can survive grass fires.



R. Smith, former SCS district conservationist next to ant mound

During the 1700's the area was part of Ohio country that was hotly contested for, first by the French and English and later by the English and the American colonies with Native Americans also trying to retain control. At the end of the American Revolution, the Crawford campaign against Native American tribes who were allied with the British in Canada fought a losing battle in the tall grass prairie and oak savannah just north of Upper Sandusky. (William Brug, soil scientist with SCS found a lead musket ball in the area while soil mapping in the 1970's). In 1795 the Treaty of Greenville set aside most of northern Ohio as Native American territory. Later treaties further restricted the natives to reservations, one being the Wyandot reservation that covered much of the Sandusky Plains. The Wyandot Nation remained on the lands until 1843 when they were removed to Oklahoma.

Some of the reasons that the Sandusky Plains were the last lands to be settled by European immigrants were; 1) the impression that land which would not grow trees was unproductive as farmland, 2) timber was not available as building material for houses, barns and tools used on the frontier, 3) much of the land was very poorly drained such as Milford, Luray, Sloan, Pewamo and Paulding soil series that required ditches and tile to make the land productive farmland, 4) the tough prairie sod was difficult to plow prior to the introduction of the steel plow. Also the Sandusky-Scioto watersheds were not served by the canal system that reached most other sections of Ohio so markets for grains and farm products were not opened until railroads came in the 1850's.

Rapid settlement of the Sandusky Plains began with the opening of railroads in the late 19th century. Agricultural technology improved to make the soils of the Sandusky Plains very productive. Nearly all the lands were placed under cultivation with the introduction of steam-power and gasoline tractors in the 20th century.

The soil surveys of Ohio began recognizing the higher organic matter levels and thicker topsoils of the former tall grass prairies in the glaciated portions of the state. The soil surveys of Crawford, Wyandot and Marion Counties in the 1970's found 182,000 acres of soils with high organic matter levels typical of tall grass prairies. A research study by Whitney

and Steiger (Site-Faction Determinates of the pre-settlement Prairie-Forest Border areas of North Central Ohio, Botanical Gazette, Sept. 1983) shows the Sandusky Plains as over 190,000 acres in size.

The Daughmer Bur Oak Savannah is a 33 acre prairie located on Marion-Melmore Road about one mile north of OH Route 294 in the southwest corner of Crawford County. When the Daughmer Savannah came up for public auction in November of 2010, it had never left the White family who had owned it for over 160 years. The Daughmer name honors Hazel White and Frank Daughmer who built their home on a corner of the savannah and prized the special environment that they owned.



R. Smith, former SCS district conservationist next to wet mesic prairie openings

Factors that contributed to the prairie's preservation included its agricultural use. It was most often used to graze sheep which inhibited invasion by woody seedlings. Although some of the native forbs were eliminated by the grazing, the overall effect was positive. Another factor that assisted prairie habitat preservation was fire. Whether sparked by lightning strikes or set by native Americans to corral game, the fires helped the prairie plants regenerate and also killed tree saplings. The large Bur Oak Savannah that remains is a special Ohio and Midwest environment.



Robert Smith, former SCS district conservationist next to a mature Bur Oak with grass/forbe ground cover.

In addition to the Bur Oak Savannah, the preserve also contains other plant communities. This habitat includes mesic prairie, wet prairie, sedge meadow, bluejoint swales and prairie pothole marshes. Stands of big blue stem and little bluestem grasses occupy the dry prairie. Species such as prairie cord grass can be found in the wet areas.



R. Smith, former SCS district conservationist next to open water wetland

Daughmer Prairie is home to state threatened species including Bicknell's sedge, wheat sedge and flat-stemmed spike-rush. This remnant of the Sandusky Plains merits a visit to experience a unique part of Ohio history.

2012 State FFA Soil Judging Contest held at Malabar Farms.

Malabar Farm was the site for the 60th annual State FFA Soil Judging contest held on Saturday October 13th. One hundred teams, consisting of 365 students from all parts of the state competed in the urban and rural contests. The soil pits were located on the sloping and diverse landscape of Mt. Jeez and provided a challenging set of soils and conditions for the students to evaluate. Soil types included in the contest were Wooster, Loudonville, Lordstown, Fitchville, and Wheeling. The Official judges for the event were Matt Lane of ODNR, Jeff Glanville of NRCS, and Brian Slater of OSU.

In the Urban contest, Centerville High School from Montgomery County, Ohio took top honors, followed by Mowrystown in 2nd, and East Knox in 3rd. Top individuals in the contest were: Morgan Paris (Centerville) 1st, Thomas Holley (Gallia Academy) 2nd, and Kristen Eisenhauer (Shelby) 3rd.



In the Rural contest, Gallia Academy from Gallia County, Ohio took top honors, followed by Greene County Career Center in 2nd, and East Knox in 3rd. Top individuals in the contest were: Briggs Shoemaker (Gallia Academy) 1st, Halliesue Hiser (Greene County Career Center) 2nd, and Landon Tomcho (Shenandoah) 3rd.

For a complete list of results please visit www.ohioffa.org



2012 Northeast Region Collegiate Contest held in Wilmington Ohio

Wilmington College was the host of the 2012 Northeast Regional Collegiate soil judging contest. Six colleges and universities from the region consisting of 54 students came together to describe the soils of Southwestern Ohio. Jason Sneed of

Clinton SWCD set up and coordinated the event. Mitch Valerio of ODNR acted as the head official, with Steve Baker of NRCS, Matt Lane and Matt Deaton of ODNR rounding out the official judges.

AOP provided a financial contribution of \$500 towards the soil judging banquet held on Wednesday night prior to the individual contest. The students and coaches enjoyed a barbeque at the Clinton County Fairgrounds. Frank Gibbs entertained the students with a program on his trip to Tibet while the coaches held their meeting.



The contest was split between the Wisconsin and Illinoian till plains to show the diverse set of soil characteristics between the different aged materials. Five of the 10 practice pits were in the Wisconsin till plain, located on the Wilmington College farm, consisting of the following soil series: Russell, Miamian, Treaty, Ockley, and Sleeth. The other five practices pits were located in the Illinoian till plain on the farm of Joe Bailey, consisting of the following soil series: Clermont, Shaffer, Jonesboro, Blanchester, and Sligo.

The individual contest site was held on the Gibson Farm, on the Illinoian till plain and consisted of

Clermont, Shaffer, and Blanchester soil types. The picture provided is the profile view of the Shaffer pit, (Aquic Fraglossudalf). Top individuals were Stephanie Jamis (Maryland) in 1st, April Doroski (Penn State) in 2nd, and Davinia Forgy (Maryland) in 3rd.

2012 SSSA Field Indicators of Hydric Soil Tour, Sat, Oct 20, 2012, Hydric Soil Field Indicators in Disturbed, Buried and Problem Soil Situations

Tour Organizers: Frank Gibbs and Lenore Vasilas

A bus full of Soil Scientists from across the country, Quebec and Denmark viewed buried Hydric Soils with various degrees of active redox going on...

Stops included:

The old Voice of America Tower site now owned by the Cincinnati Zoo that is restoring Wetlands in the Buried Hydric Soils...

Ancient Anthropomorphic Hydric Soils caused during the building of the Ft. Ancient Native American Mound...

Vernal Pools in various stages of restoration on Clermont Soils at East Fork State Park...

Pit Masters and Presenters were:

~Lenore Vasilas, Soil Scientist, NRCS, Washington, DC

~Joe Valentine, Soil Scientist, Consultant, PA

~Dena Marshall, Soil Scientist, NRCS, KY and IN

~Brian Cooley, Soil Scientist, NRCS, OH

~Steve Hamilton, Soil Scientist, Consultant, OH

~John Lafferty, Civil Engineering Tech, NRCS, OH

~Frank Gibbs, Soil Scientist, WSCS Consultant, OH

~Jack Blosser, Archeologist, Ohio Historical Society



AOP's own Brian Cooley explains the buried horizon from historic erosion that occurred during settlement of the area. Pit Meets Indicator A-11, Depleted below Dark Surface. Restored Wetland in Background...



Dr. Mike Verbraskas, North Carolina State Univ. (The Guru of Redox Features) points out the source of iron enriched water that is discharging on the upper edge of this depressional area creating Indicator F-3, Depleted Matrix, over top of a 10YR4/4 Subsoil Layer...



Vernal Pool Voice of America/Cincinnati Zoo Site in April 2012



Same Site as above, during dryer conditions with Pit opened up in Oct. 2012 during the Hydric Soil Tour. Note the buried Surface at approximately 4 feet. This site exhibited multiple current Hydric Soil Indicators in spite of tremendous soil deposition...

Southwest Ohio Soils Tour

Jeff Glanville

There were 2 soils tours in conjunction with the Soil Science Society of America annual meeting in Cincinnati in October, 2012. The Southwest Ohio Soils Tour took place on October 21.

The tour began in downtown Cincinnati, just east of the meeting site, and at the foot of Mt. Adams. Mt. Adams is the area of extensive landslides and costly remediation efforts. Bob Sheets, geotechnical engineer with the Hamilton County Soil and Water Conservation District, gave an overview of the geology of Ohio, Hamilton County, and the area of Cincinnati and Mt. Adams. Bob also discussed the extensive measures taken to stabilize the area. Dan Taphorn, urban conservationist with Hamilton SWCD, presented information on cut and fill records that are required by Hamilton County for developments. The group drove through the streets of Mt. Adams and saw evidence of landslides and the instrumentation installed to monitor slope movement.

The group saw additional landslides and remediation efforts on the way to stop 2 in eastern Hamilton County.

Stop 2 was a visit to a recent development on what were mostly disturbed Rossmoyne and Eden soils. Scott Aldridge, NRCS soil scientist in Kentucky, discussed the methodology and processes they used in updating the urban areas in Hamilton County. Scott showed the group soil cores taken from the area, and led the group on a brief tour through the neighborhood, where they saw different measures taken to address problems associated with cutting and filling in big developments.

The group travelled through Clermont County on US 52, on the way to a lunch stop at Rankin House State Memorial in Ripley.

Save March 7th for the AOP Winter Meeting at Highbanks Metro Park.

Stop 3 was a short walk to view 2 soil pits. The soil mapped as Rossmoyne appeared to be at least one loess layer over limestone residuum, with bedrock around 75 inches. Everyone thought it had a good fragipan. The soil mapped as Eden was a soil formed in colluvium and thinly bedded limestone and shale residuum. The backhoe excavated to around 50 inches. It was not obvious that soil development ended at 50 inches; the alternating layers of bedrock apparently were either very resistant or quite weatherable. Brian Cooley and Scott led discussion at the pits here.

Stop 4 was a Clermont soil in a pasture near Mt. Orab in northern Brown County. Brian and Matt Deaton discussed soil formation and morphology. Chris Rogers, district administrator with the Brown Soil and Water Conservation District, discussed soil health and soil climate data gathered in the county with assistance from NRCS Conservation Innovation Grants. The land owner/farmer discussed his experiences farming and managing Clermont soils.

Matt Deaton was the tour guide. There were 26 participants, from across the USA and Canada and overseas. After a partly cloudy and chilly morning, the weather was sunny and warm.

Conservation Crusader on WKYC Cleveland



Soil and Water Conservation Districts in NE Ohio have been helping Dorothy Farris, ODNR Program Specialist write material

for WKYC Weather personalities to add to a web site (with a video) and also for Live on Lakeside. Todd Houser, Cuyahoga SWCD, CPSSc, Duane Wood Wayne SWCD ,CPSS, and Dorothy Farris developed a basic segment on soil. Check it out at:

<http://www.wkyc.com/weather/environment/article/258703/435/Heres-the-Dirt-on-Healthy-Soils>

Jon Gerken Retires, by Tim Gerber

Jon Gerken retired from NRCS at the end of August as Assistant Program Manager for the Soil Science Division in Washington, D.C. Mike Golden, Deputy Chief for Soil Science and Resource Assessment, was among the colleagues who gathered in September to recognize him.



Jon began his career with NRCS in 1970 and mapped soils in Williams, Franklin, Madison, and Hocking Counties before being promoted to a state office position in 1980. He became State Soil Scientist in 1999, after serving in a similar position with a different title for about five years. He was promoted to the position in national headquarters in 2007 but maintained residency Ohio while working there.

Jon was a charter member of AOP and served as the new organization's first Secretary-Treasurer in 1976 and 1977. He was AOP's President in 1982. He has maintained membership as a Pedologist through his career. Among his plans for retirement are to spend as much time as possible with his family while making improvements on their 15 acres in Fairfield County.

Save March 7th for the AOP Winter Meeting at Highbanks Metro Park.

Joint Summer Meeting and Workshop

On August 23rd and 24th the AOP and the Soil and Water Conservation Society joined forces to offer a workshop on nutrient mobility and hydric soils. The first day was mostly a field day with field discussions about the effect of undrained soils and drained soils on nitrogen and soluble phosphorus mobility. During the afternoon there were two concurrent sessions; the AOP focus was on hydric soil indicators while the SWCS focused on nutrient mobility. The second day was a classroom setting with the primary focus on hydric soils.



Dr. David Linbo

Dr. David Linbo, Research Soil Scientist, NC State University, was the primary presenter for AOP. His vast experience with soil water relationships has made him an expert on hydric soil identification and on sewage treatment and dispersal systems. Dr. Linbo's discussions included redox quantity versus water table duration, wetness indicators in A horizons, and determining water table depths in wet plowed soils. Franks Gibbs presented on the history and development of the hydric soil indicators. Also, on the first day Brian Cooley participated in a discussion on the impact soil characteristics have on nutrient mobility.

The Executive Council would like to thank everyone that participated and attended the workshop. With everyone's help the AOP was able to offer a

workshop that was inexpensive, interesting, technical, and educational.



Special thanks have to go to David Linbo for accepting our invitation and providing several excellent presentations and to the Sherman's for providing a field site, shelter, and hospitality.



Franks Gibbs, the history and development of the hydric soil indicators

Check out the Summer Workshop photo gallery at: <http://ohiopedologist.com/photo-gallery/>

Dr. Linbo's PowerPoint: <http://ohiopedologist.com/news/>

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