

OHIO PEDOLOGIST

Summer 2001

VOLUME 28, NUMBER 2

PROFESSIONAL SOIL SCIENTISTS

PRESIDENT'S MESSAGE

AOP Goes Wild!

Or to the Wilds! I should say!

On Saturday, August 11th, you will have the opportunity to take your family and friends on a special tour of the African Big Game Park, "The Wilds" located between Cambridge and Zanesville, Ohio. In the morning, you and your family will be taken on a "Big Game Safari Bus Tour" of the 10,000 acre grounds which is home to approximately 200 of these animals.



There will be a catered luncheon at noon followed by a "Behind the Scenes" tour of the Wilds facilities which most visitors never get to see. This segment of the tour will be lead by Dr. Mark Atkinsons, Director of Animal Health. You will see the Clinic where the animals are treated, Chutes used to restrain them, and even Cranes used to move them. Finally, the tour will conclude with viewing the special paddocks used for the Rhino Center and the Giraffe Barn (a very large barn indeed!).

This special tour is being arranged by your AOP Executive Council to serve as our Summer Picnic. How did it come about that we can offer a special tour? Last year I brought a pitcher of margaritas to a Cinco de Mayo celebration at the Atkinsons' farm house. As we discussed the finer points of reclaimed mine spoil and African Big Game Poop, the idea of bringing a bunch of Soil Scientists in for a tour surfaced. The Wilds is faced with a quandary. They would like to achieve the integrity of a Savannah Prairie Ecosystem, but most prairies have topsoil (unlike this mine spoil). Also, many of the Savannah Prairie Plants are deep rooted (another challenge on compacted mine spoil).

So the Wilds staff is eager to "pick your brains" for any ideas that would help them in their attempts to restore a viable ecosystem. I sincerely hope you and your family

are able to come to this unique AOP Picnic!

And speaking of "brain picking", check out the article on the "Instrumentation Workshop". An excellent mix of government soil scientists, private consultants, sanitarians, wetland scientists, and a "token" engineer attended AOP's Technical Workshop on May 4th in Toledo, Ohio. The attendees were able to "pick the brain" of the featured speaker, Wes Miller, State Wet Soil Specialist for Texas, while actually instrumenting a site with a nest of piezometers. Wes's presentation was not only technically informative, but practical as well. What tools and materials are required and site selection, layout, expenses, and maintenance requirements were all covered. Chasing out aggressive snakes that lay claim to your instruments and keeping spiders out of the electronic control box with moth balls was also covered. (Yes, even automated data recorders need a high degree of maintenance!).

Ohio's Draft sewage rules have not been "moth balled"; they are being revised with a target date of August 23rd, 2001 to present to the Public Health Council. Be sure to contact Jean Caudill at ODH very soon, if you have concerns or suggestions.

Be sure to carefully read the proposed amendments to the AOP bylaws that were drafted by the Executive Council to allow a Certification Review Board to be established. These proposed amendments will be voted on at our summer picnic at the Wilds.

And finally, congratulations to our own Tim Gerber, who was chosen as the winner of the 2001 National Cooperative Soil Survey Scientist Achievement Award. Tim will receive his award at the SSSA Meeting in Charlotte, N.C. on Oct. 21-25, 2001. Way to go, Tim!

I hope to see you all at the Wilds in August!

Frank

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ARE THE GOOD OLD DAYS OF FIELDWORK GONE?

By Rick Buzzard

I am submitting this piece with the hope that we never actually experience the scenario that was described to me by several officers from ODNR, but as soil scientists we can be a little curious if not a down right nosy group of individuals from time to time. Our inherent curiosity, which helps us perform our work as soil scientists, **could** have dangerous consequences.

Steve Prebonick and myself have been working in an area along Little Beaver Creek close to the Pennsylvania border in Columbiana County. This is a very scenic and rugged area due to the fact that the Little Beaver Creek has cut a deep valley that runs north to south along the Pennsylvania state line. The area is unique in that it is a remote island in a sea of urbanization. Not far away are Pittsburgh, Youngstown, East Liverpool and some smaller Columbiana County communities.

At one time, almost 4,300 acres were privately owned by a wealthy family from the Pittsburgh area. Some of this acreage has been acquired by the Division of Forestry and the Division of Natural Areas and Preserves within the Ohio Department of Natural Resources. It consists almost completely of rugged, wooded hill country.

One day late in April, Steve and I had just finished a description from a pit that we had dug and were back at the truck eating lunch. An officer from the Division of Wildlife that I knew came by and talked with us for a few minutes. He said that he was to meet an officer from the Division of Forestry here and asked if we had been up on the ridge to see the vehicle that had been "shot up". We had no idea what he was referring to and told him so. About that time the Division of Forestry officer showed up, and after some brief introductions they proceeded up the hill to the ridge but they invited us to come up if we wanted.

Being excellent soil scientists, we were naturally curious. In addition, we were considering the possibility of doing some work in that area in the near future. Steve and I decided to go up when we finished eating.

What we saw up on the ridge that day makes one stop and think a little, but what we learned by talking to the investigating officers for just a few minutes is what I believe is really important and what I want to emphasize here. They showed us a burned and bullet riddled Chevy pickup truck that they believed was a drug-related drive by shooting, probably in Youngstown or Pittsburgh. Approximately nine 45 caliber rounds passed through the passenger door and no less than a dozen 9 mm rounds went through the tailgate and back of the cab.

Their theory at the time was that the bodies were probably dumped somewhere else and under the cover of night the truck had been driven to this remote location and was burned to destroy any evidence. The fire was intense enough to completely destroy the tires and melt the rims.

They told us of their frustration of acquiring a scenic area such as this one and trying to keep it safe for people to use for recreation. Unfortunately with the drug business being so lucrative, areas such as this one are being used for places to get rid of evidence and to manufacture illegal drugs such as the popular methamphetamine or "crystal meth".

A "meth lab" can be carried in a large duffel bag and much of the apparatus is fairly common and not high tech. Apparently a vast array of "over the counter drugs" can be used in the "cooking process".

One of the officers had just gone through DEA training and during our conversation they told us of several indicators that meant an area was being used by drug types to "cook crystal meth". They told us that if we happened to see a large amount of matchsticks, from a book of matches, without any heads that we were probably in an area we might not want to be in. The phosphorous from the match heads are used in the process. **They stressed the need for us to stay away from propane tanks (like off a barbecue grill) if we happened to find any lying around out in the woods. If they have a blue or greenish blue look to the top fittings, they could be potentially explosive!!** Apparently these propane tanks are filled with anhydrous ammonia which is used in the "cooking process". The ammonia becomes very corrosive and unstable in a short period of time as these tanks are designed to hold propane not anhydrous ammonia. They sadly said there have been instances when people, not knowing any different, have given the tanks a kick with deadly results.



They also stressed the use of extreme caution, as stumbling onto these people could be a very bad scene. One of the men said something like this – if these nuts are willing to put their own lives in jeopardy to make this junk, don't think they won't hesitate to take a shot at you. **TRUST YOUR INSTINCTS. IF SOMETHING DOESN'T FEEL RIGHT ABOUT A SITUATION – GET OUT!!**

The chances are good that we will not experience first hand the scenario that these officers described. I do believe that the more facts we have gives us the opportunity to make wise decisions. This holds true whether we are trying to correlate soils or picking areas to do field work.

Are the good old days of fieldwork gone? Hope not. Don't think so. But just **BE CAREFUL OUT THERE!**

ΑΓΕΝΧΨ ΝΕΩΣ

Staffing News from the Division of Soil and Water Conservation

From Tim Gerber

The Soil Inventory and Evaluation Section added two soil scientists to its staff in FY01. Steve Miller began in November as the Soil Survey Assistant for the section's new Soil Information Delivery Program, and Aaron Lantz began as a Soil Resource Specialist on the project office staff in Findlay in May.

Both Steve and Aaron received their Master's Degrees in Soils at OSU in 2000. Steve's research was on the occurrence of fragipans and glacial till in Ashtabula County, and Aaron's research focused on land use effects on soil properties and soil organic carbon pools in the state.

Aaron's position was funded by the Statewide Digital Soils Information (SDSI) Project and is one of two new field positions built into the project. Terry Lucht and Linn Roth have been diverted from the section's primary focus, soil survey project work, to support the SDSI Project. Recent OSU graduate Matt Deaton will be working this summer as a college intern on the project office staff in Wilmington.

New Soil Scientist Welcomed

From Jon Gerken

A belated welcome to Shirley Ooley, soil scientist in the Marietta project office (I missed the newsletter deadline for the last newsletter).

Shirley came to Ohio from Alabama, where she worked since 1992. While in Alabama, Shirley worked in three survey areas; Clarke, Choctaw, and Marengo Counties.

Prior to her work in Alabama, Shirley worked for numerous Soil and Water Conservation Districts in Massachusetts. In Massachusetts, Shirley worked as a soil scientist, as well as on a number of other programs with the districts.

Shirley received her bachelors degree from the University of Massachusetts in Amherst, MA. She is originally from Indianapolis, Indiana.

Welcome Shirley.



From the ODNR Division of Lands and Soil Archives

40 Years Ago

Field work was being conducted in seven project counties: Ashtabula, Champaign, Fayette, Hancock, Lorain, Van Wert, and Warren. Mapping was at least ¾ complete for Ashtabula, Champaign, Fayette, and Warren Counties. During FY61, "an interstate correlation between Ohio, West Virginia, and Kentucky was held. Soils derived from sandstones, siltstones, and shales and common to the three states were studied and their classification discussed. "Additional study is needed on these soils to have them uniformly classified over the area of their occurrence," the head of Public Service Section reported, "problems in the reproduction of soil photo maps are always with us."

30 Years Ago

Bob Brock and Terry Priest were working in Mercer County. Jim Bauder and Richard Kosarko were mapping in Portage County. Jim Ernst and Don Musgrave started working in Seneca County. Dale Garner was working in Greene County, and Dwain Waters was in Logan County. Norris Williams and Jim Kerr worked in Pickaway County. Neil Reeder was working in Geauga and Lake Counties. Forrest Cunningham began the Auglaize soil survey project in FY71. College interns Steve Davis, Tom Graham, Dan Lemaster, and Dorian McKinney mapped during the summer months. Division Chief Dick Jones was put in a "layoff" status on August 31, 1971. A letter written two weeks later included a "grapevine" report that Dick would "be returned to active duty as soon as the state's biennial budget is passed." He was reinstated on October 4.

20 Years Ago

The Division of Lands and Soil staff included 22 field soil scientists, nine of whom are among the 12 full-time soil scientists currently employed by ODNR. The projects in Adams, Gallia, Hardin, Jefferson, and Noble Counties were in their first full field season. Projects in Marion, Sandusky, Scioto, and Trumbull were well established by then. Tim Wiater and Syed Quadri resigned and Ron Trivisonno was hired during the summer months. Ed Miller and Jim Ernst won the "golden auger award for FY81 with over 30,000 acres each."

How to Properly Instrument Heavy, Cracking, High Shrink-Swell Soil to Accurately Determine Water Table Measurements

By Jeff Glanville



Wes Miller discusses wetland soils with participants

The Association of Ohio Pedologists sponsored a workshop May 4th on instrumenting high shrink-swell soils to determine water table depth. The workshop was held at Pearson Metro-park in Toledo.

The morning was spent inside getting a background on issues concerning water tables in high shrink-swell soils.

The speaker was Wesley Miller, Soil Scientist at the Victoria Wet Soils Office in Victoria, Texas. Wes converted from a project soil scientist to a wet soils specialist several years ago. Since then he has been working exclusively on water table investigations and the relation to soil morphology.

Participants included personnel from ODNR and NRCS, county health departments, Army Corps of Engineers, and private consulting firms.

One of the reasons there's so much work being done on water table depths in Texas Vertisols is because of the apparent disagreement between soil morphology and ponding duration. Some areas that were historically assumed to be wet soils have no redoximorphic features (RMF's). Wes said that in areas with ankle-deep ponding for 4 months cumulative, there are no RMF's, but areas that are ponded for 6 months continuously have RMF's. Lack of RMF's in the areas with shorter and/or less continuous ponding may result from either not enough iron in the soil, or from organic matter masking the color of the RMF's.

Wes stressed several times that it takes a major commitment to monitor and do maintenance on the piezometers, even with automated electronic recording equipment. He says it also takes a long time to get data that you feel is representative, considering that it takes a while to determine what a "typical" year is.

After lunch, we walked to the instrumentation site. This site is in a Toledo map unit. We gridded an area about 10 feet square, and installed 4 piezometers each for depths of 25cm, 50cm, 100cm, and 200cm. We installed piezometers 1m apart. We used 3 inch bucket

augers for the holes. Piezometers were 3/4 inch schedule 40 PVC pipe, slotted at the bottom ends, and geofabric wrapped around the slots. We put sand in the holes, enough to cover up the geofabric on the piezometers. Then we filled the holes with bentonite, packing it slightly as it was added. We gently placed PVC caps on the tops of the piezometers.



Sand being placed around piezometer in the hole



Participants install soil moisture monitoring equipment

After we completed installing the "nest" of piezometers, we watched Wes demonstrate the use of alpha-alpha-dipyridyl. Wes stressed that this chemical is hard to use, and shouldn't be used by itself as an indicator of reducing conditions. We didn't see Wes use the Eh meter because of technical reasons. (We forgot to take it with us.)

The specifications we used for the installation of the piezometers are those approved for NRCS investigations in Texas. These specifications (number of piezometers, depths, everything) may have been designed with heavy Texas Vertisols in mind, but should be adequate for any site or soil. Wes suggests checking these specifications again for changes before considering installing piezometers.



α , α -dipyridyl reacting with reduced iron producing the reddish color on left side of ped.

National Collegiate Soil Judging Contest

The 41st National Collegiate Soil Judging Contest was hosted by Penn State, April 8 - 13, in Happy Valley which is watched over by the Nittany Lion. The first three days were spent examining ten practice pedons which included Alfisols, Ultisols, Inceptisols, and one Spodosol. The soils in the valley are derived from old alluvium, colluvium, and limestone/shale residuum, whereas the soils on the ridges on both sides of the valley are derived from colluvium and/or acid shale and sandstone residuum. Many of the soils contain fragipans or fragipan-like horizons. Believe it or not, the judges were considerably more liberal than I in the identification of fragipans. So much so that my conservative coaching on fragipans may have cost the team a considerably higher placing in the contest. Particularly troublesome for our team was one soil in the team judging event that contained 45% clay in the horizons they identified as a fragipan. Mis-identification of a fragipan not only costs points in the taxonomy section of the score sheet, but also many points in the interpretations section. The OSU Team placed dead last on that particular pit. Nevertheless, the team placed 6th in the field of 21 teams in the contest with a score of 3432, only 130 points out of first place. This was our fourth straight contest in which soils with fragipans were present (Delaware Valley, Idaho, Cornell, and Penn State) and in all four contests, our placing suffered due to conservative identification of fragipans. In Ohio, many soil scientists consider me quite liberal in the identification of fragipans! In individual competition, Matt Deaton placed 4th and Justin Ringler 18th in a field of 82 contestants.

Before departing Happy Valley, we gave the Nittany Lion a bushel of buckeyes to snack on. I hope it will curtail his frequent roaring!

Neil E. Smeck
Coach

Proposed Changes for AOP By-laws

Changes to the AOP By-laws in order to allow AOP to form a Board of Certification are in the process of being written and will be considered by the Executive Council at their next meeting on June 21, 2001. The changes are not extensive but do involve a number of Articles and sections in the By-laws. It is currently proposed to have the general membership of AOP vote on these changes at the AOP Summer Picnic at The Wilds in August.

THESE ARE THE TEXT OF THE PROPOSED CHANGES TO THE AOP CONSTITUTION AND BY-LAWS AS THEY PERTAIN TO ESTABLISHING AN

AOP BOARD OF CERTIFICATION. CHANGES TO WORDING AND ADDITIONS ARE IN **BOLD ITALICS**.

AOP CONSTITUTION—ARTICLE II -- PURPOSE
ADD---Section 5.

To administer a program certifying individual with soils expertise.

BY-LAWS—ARTICLE I – SECTION 4 – DEFINITIONS
ADD---

Board of Certification: The group of persons referred to in Article VII, Section 5 of the By-laws, appointed by the Executive Council, to administer the Certification Program of the Association.

BY-LAWS—ARTICLE II – MEMBERSHIP – SECTION 4 – RIGHTS OF MEMBERS
ADD---Section 4. Rights of Members.

A. General. All categories of membership shall have the right to vote, and to receive newsletters and other official publications of the Association.

The right to hold office, ***serve on the Board of Certification***, announce affiliation with the Association on professional cards, professional reports or otherwise consistent with dignified practice, and to use any seal or symbol of the Association is reserved to those who have Pedologist or Soils Professional membership status.

The right to become certified as having soils expertise by AOP, provided the member meets certification requirements.

BY-LAWS—ARTICLE IV – EXECUTIVE COUNCIL – SECTION 3

ADD---Section 3. Duties of the Executive Council

The Council shall manage the affairs of the Association between meetings of the membership. The Council will meet at a minimum of 4 times a year. Its members shall make all necessary decisions except about those which are reserved or require final decision by the Association membership, or are delegated to the elected officials.

The Council shall appoint members to serve on the AOP Board of Certification, hereafter referred to as the Board. The Council shall specify the qualifications to be Board members, approve the annual operating budget of the Board, and approve any fees to be levied by the Board in the course of its operation. The Council shall also approve any modifications needed in the Certification Document. (NOTE: Current Certification Document states that change to certification "policy" will be approved by the Board and the membership of AOP.)

BY-LAWS—ARTICLE VII – COMMITTEES
ADD---ARTICLE VII – COMMITTEES ***AND THE BOARD OF CERTIFICATION***

Section 5. The Board of Certification

The Board of Certification, hereafter referred to as the Board, following protocol and qualification standards established by the AOP Certification Document, shall administer a program certifying individuals as having soils expertise who meet said qualifications. The Board shall be administered as set forth in the AOP Certification Document. The Board shall also work in conjunction with the Ethics Committee and Certification Committee on an as-needed basis.

BORN TO BE WILD!!!!!!!

Well, the main thing is to be born at all! And an AOP member, family or guest. If you meet any of these qualifications, your presence is requested at:

THE AOP SUMMER PICNIC!

The registration fee for AOP members and their immediate family is \$4.00 for adults and \$1.00 for children under 12. *Note: AOP has subsidized \$5 of the original \$9/\$6 registration.*

An optional Catered Lunch is available for \$7 (you may bring your own picnic).

Take Advantage of this Great Opportunity as a Member of AOP!!!

AGENDA

- 10:00 Check In – Meet at the Johnson Center
- 10:30 Safari Bus Tour
- Lions, Tigers and (Beeears?), Oh My!
- 12:00 Deli Style Luncheon at the large pavilion
- 12:45 Short Business Meeting (Bylaws Revision Vote) at the large pavilion.
- 1:00 Behind The Scenes Facility Tour By Dr. Atkinson
- Clinic
- Paddocks
- Chutes
- Ladders
- Cranes
- Giraffe Barn
- Rhino Riding (just kidding!)
- 2:30 Happy Trails Back Home!

-----detach here-----

Registration Form
Due July 31st

No. Adult/Child

Number of guests attending at full price (non-family \$9 adult, \$6 child under 12) _____/_____ \$_____

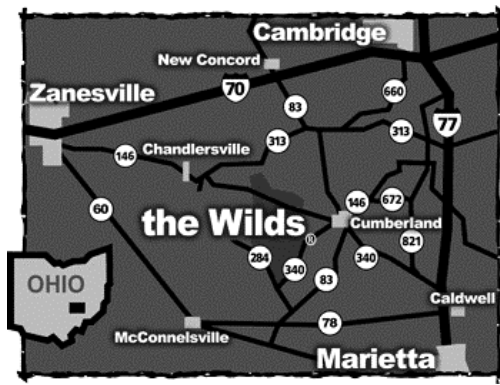
Number of guests attending that will be charged a reduced registration fee (AOP members and immediate Family \$4 adults, \$1 child) _____/_____ \$_____

Number of optional catered lunches requested (\$7 each). _____ \$_____

Total enclosed \$_____

Make checks payable to ***The Association of Ohio Pedologists.***

Mail to:
Mr. Matt Sullivan, AOP Treasurer
6250 Biggert Road
London, OH 43140-8521



The Wilds is the largest facility of its kind in North America. The Wilds was opened to the public in 1994 and spans nearly 10,000 acres of reclaimed, surface-mined land--a gift from American Electric Power. Thousands of acres have been developed and divided into large sections where African, Asian, and North American species roam freely--unencumbered by cages, pens or bars. During the past few years, we've invited the public to participate in our growth and development.

While at the Wilds, you'll observe our many animal species as you ride through the park on a guided bus. You'll learn about the animals and the conservation issues facing their survival. After your tour, you may want to have a bite to eat in our cafe and find that special item in the gift shop. Come visit the Wilds for a unique day of fun and learning.

WILD DIRECTIONS

From the South:

Take I-77 N to Belle Valley (Exit 28)
 Turn right onto SR 821 N (~1 mile)
 Turn left onto SR 340
 Drive 7 miles to Cumberland
 Take SR 146 West 5 miles to Zion Ridge Road
 Drive 3.5 miles and turn left onto SR 284
 Proceed 1 mile and turn left onto International Road
 Proceed 1/2 mile to the Wilds' entrance

From the West:

Take I-70 E to Zanesville (Exit 155)
 At 4th traffic signal, turn left
 Follow SR 146 E to Zion Ridge Road (~16 miles)
 Turn right onto Zion Ridge Road
 Proceed to SR 284 (~3.5 miles)
 Turn left onto SR 284
 Drive to International Road (~1 mile)
 Turn left onto International Road
 Proceed to Wilds' entrance (~1/2 mile)

From the North:

Take I-77 S to I-70 at Cambridge
 Take exit to I-70 West
 Follow I-70 to SR 83 (exit 169)
 Turn left onto SR 83 South
 Go 12 miles on SR 83 to Cumberland
 Take SR 146 West 5 miles to Zion Ridge Road
 Drive 3.5 miles and turn left onto SR 284
 Proceed 1 mile and turn left onto International Road
 Proceed 1/2 mile to the Wilds' entrance

From the East:

Take I-70 W to SR 83
 Turn left onto SR 83 S Exit #169
 Proceed 12 miles to Cumberland
 Take SR 146 West 5 miles to Zion Ridge Road
 Drive 3.5 miles and turn left onto SR 284
 Proceed 1 mile and turn left onto International Road
 Proceed 1/2 mile to the Wilds' entrance

Please park in the lower parking lot and take the bus up to the buildings on top of the hill (a parking fee may be required). We will be meeting in the gazebo just left of the museum building. Good luck.

ABSENTEE BALLOT

If you plan to attend the AOP Summer Picnic at the Wilds on August 11, 2001,
DO NOT send in this ballot.

I vote in favor of the changes to the AOP Constitution and By-laws enabling
AOP to establish a Board of Certification.

_____ YES

_____ NO

Please send this ballot to Matt Sullivan, 6250 Biggert Road, London,
Ohio, 43140-8521 before July 31, 2001.

