

PENNSOIL

February 2005

The Newsletter of the

Pennsylvania Association of Professional Soil Scientists

P.O. Box 61035, Harrisburg, PA 17106-1035

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PAPSS 2004 Fall Technical Session on GIS and Digitized Soil Surveys

The PAPSS 2004 Fall Technical Session was held at the Penn State Conference Center following the morning Annual Business Meeting and a luncheon. In addition to the many PAPSS members that attended, Larry Hepner brought students enrolled in the Del Val

College's Environmental Science/Agronomy program to hear the experts talk on the subject of digitized soil surveys and GIS (Geographic Information System).

Penn State's Rick Day introduced the ag-map and soils-map web sites to the group. The ag-map site offers many features beneficial to PA's agricultural community, and can be accessed at <http://agmap.psu.edu>. The soils map site, accessible at

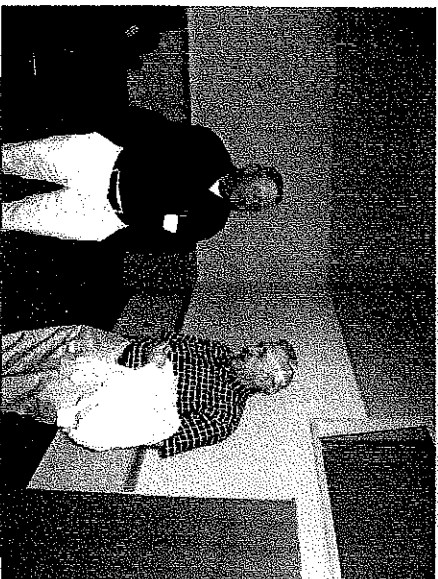
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<http://soilmap.psu.edu> is a powerful tool for soil scientists and other groups needing soils information. Rick explained that the color system in the mapping legend uses yellow to identify counties with no digital data, green for SSURGO certified counties, and blue for preliminary release soils mapping information. Rick petitioned the group for suggestions and comments to add or improve the site.



USDA's Tim Craul demonstrated the www.pasda.edu website and discussed the soils data mart. Tim indicated that soil surveys will be available on a CD-ROM and/or a few select surveys will be published in a three ring binder and printed on demand. Tim also introduced the PA Map Compilation and



Jake Eckenrode and Ed Ciolkosz-
About 100 Years of Pennsylvania
Soil Science Experience !!

Digitizing Center web site at <http://mcdc.cas.psu.edu>. Atanas Entchev from Civil Solutions presented information on GIS. He stated that most people think GIS is a computer program. Although a computer program could potentially make a map, you would not be able to query the map, or analyze data on the map without GIS. Atanas defines GIS as a system of

computer software, hardware, data, and personnel used to manipulate, analyze and present data tied to a spatial point. GIS is a system that is integrated into our daily lives and is available to soil scientists. Atanas works with clients to meet their specific objectives. He can be reached at Civil Solutions, 850 S. White Horse Pike, P.O. Box 579, Hammonton New Jersey 08037-2019. Telephone (609) 204-4346 and <http://www.civilsolutions.biz>.
Editors Note: The Soil Data Mart is available at:
<http://soildatamart.nrcs.usda.gov>

PAPSS Reaches Smithsonian Soil Exhibit Fund Raising Goal

The Pennsylvania Association of Professional Soil Scientists has reached and surpassed the \$10,000 state goal to sponsor the State Soil Monolith at the Smithsonian Soils Exhibit. Pennsylvania is one of eight states to reach the goal so far. Tax deductible donations are still needed to fund the Smithsonian Soil Exhibit. The Soil Science Society of America has also submitted a grant to the National Science Foundation for a traveling soil science exhibit. For more information check the web site:
<http://www.soils.org/smithsonian/index.html>

Do You Know?

www.scienceinaction.org has free to members of the Soil Science Society of America (and ASA or CSA members) service where you can receive an email of research summaries from your areas of interest? Check their website or CSA News.
In other news from the Soil Science Society of America, the President's (John Havlin) two important projects are the Smithsonian Soils Exhibit and the 2006 World Congress of Soil Science.

Forensic Soil Science Helps in Murder Case

The following was submitted by an anonymous PAPSS member who assisted this person.
Since the case has been settled, I can tell you that yes, the case I was working on was in fact the same one you read about. Here's what my role was: The prosecution hypothesized that the defendant transported the deceased to the location near Logan Mill. The State Police investigated the scene and took soil samples. They vacuumed the defendant's car. Their forensic scientist examined the soil from the

scene and what was vacuumed up in the trunk of the car (no particles were found anywhere else in the car) and determined that the particles from the scene were similar to those found in the trunk of the defendant's car. I interviewed the forensic scientist and agreed with his findings that the soil found at the site was in fact what should have been found there. He stated that the soil found in the trunk was "similar to" the soil from the site. I agreed with his assessment even tho he incorrectly used terminology, such as texture, which he used as describing the surface properties of the particles (i.e. they were smooth or rough) rather than the size of the particles which is how you and I use the term. My job was to determine if there were any other areas in the vicinity of Loch Haven where the same soils could be found. That's when I contacted you (a PAPSS member). Looking at the geology of the area, I knew that there would be a number of areas with the same soils since the topography and underlying bedrock were the same. You provided me with the maps to confirm that there were a number of areas with soils similar to the scene. The question I raised was this: assuming that the deceased was transported in the trunk and dropped off at the scene, how did the soils from the scene end up in the trunk? I did not testify for this case. My guess is that the Commonwealth realized that the soil evidence was useless and did not introduce it. One of the major questions I had was this: if the deceased was removed from the trunk and placed at the scene, how did the soil from the scene end up in the trunk?

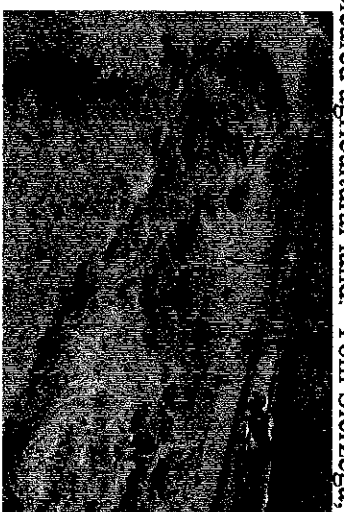
PAPSS News from SW PA

Tim Ratvasky

The rains that fell on Pennsylvania in late 2004 and early January in 2005 produced a large number of landslides and soil slumps across the southwestern region. The reason for some landslides was pretty obvious. Lubricated by the heavy rains infiltrating into soil and bedrock along steep road cuts and similar excavations, soil and rock material break free and slide into roadways and buildings. Along some roads, this phenomenon is an annual occurrence.

More prevalent in our region is soil slumping. Until I moved to Washington County, I did not really pay attention to this problem. The combination of steep rolling hills, clayey subsoil (especially the Dormont soil series), and types of underlying bedrock create conditions ideal for soil creep and soil slumps. The slumps are most

readily seen in pastures and cleared agricultural land. Tom Sierzega, Soil Conservationist for Washington and Westmoreland counties indicated that the problem occurs as frequently in wooded land. Tree roots do not penetrate the silty clay and clay subsoil, and cannot effectively anchor the soil. With plenty of infiltrating water, the frequency of soil slumping in the region has noticeably increased.



Mining is still a big business and a large employer in southwestern Pennsylvania, and mining companies generally seem to get deep mining permits passed without excessive trouble. However, UMCO Energy, Inc. was recently denied permission to begin longwall mining on a proposed panel in Fallowfield Township, Washington County, because the mining would create permanent loss of water flow to a tributary of Maple Creek. Twelve springs providing a substantial portion of the flow of this tributary were threatened by the proposed mining. Longwall mining is a total coal-removal technology that can result in immediate subsidence above the mining operation. Groundwater, and especially springs, can be permanently lost when the bedrock perching the groundwater fractures and the water drains into the subsidence zone. UMCO appealed to the Environmental Hearing Board, who upheld the PADEP's decision. UMCO still has the option to use room-and-pillar mining techniques, which leave pillars of coal in-place to support the overlying bedrock, and protect the shallow groundwater sources.

Northeastern Forest Soils Conference 2005

The Northeastern Forest Soils Conference will be held July 18 - 21 in southern West Virginia in conjunction with the West Virginia Association of Professional Soil Scientists meeting. The website: <http://www.ma.nrcs.usda.gov/neasoils/mo12nefsc2005.html> provides more information.

First Announcement

You are invited to southern West Virginia for the 2005

Northeastern Forest Soils Conference, held in conjunction with the annual summer meeting of the West Virginia Association of Professional Soil Scientists (WVAPSS). Come visit us July 18-21, 2005 in Logan County, WV, and spend time in the lovely forests and hills of southern West Virginia while meeting with your colleagues. You'll learn about the role of soils in mine land reclamation, and about soil development and important processes as affected by mountaintop removal and reforestation. In addition, we'll be looking at the effects of repeated fires on forest soils and the relationship of soils to productivity and various forest management uses. Finally, WVAPSS will host a hands-on workshop on collecting and preparing soil monoliths.

The Conference will be based in Logan County, West Virginia. The meeting will start on Monday, July 18, with a dinner, and an introduction to West Virginia's history and natural resources. Two and a half days in the field, with lots of soil pits, will follow, and the 2005 conference will adjourn on Thursday, July 21 at noon. A block of rooms has been reserved at the Best Western Logan Inn, in Chapmanville, West Virginia. Camping is available at near-by Chief Logan State Park, and there are other lodging opportunities available. More details about lodging and registration will be forthcoming shortly.

Please mark your calendars now for this exciting opportunity! If you have questions, please contact Mary Beth Adams (mbadams@fs.fed.us; 304-478-2000) or Stephanie Connolly (sconnolly@fs.fed.us; 304-636-1800).

Northeast Collegiate Soil Judging Contest

Joe Valentine provided an update on this year's collegiate soil judging competition at the PAPSS Annual Meeting. Ten teams competed, Delaware Valley College had two teams competing. Ohio State won first place, Delaware Valley fifth, and Penn State sixth. Members of the soil judging teams get a free annual PAPSS student membership.

NATIONAL SOILS JUDGING CONTEST, APRIL 7-8, AUBURN, AL

ASA-CSA-SSSA Meetings

November 6-10, 2005 Salt Lake City, Utah

www.saltlake2005.org

Steps to Achieving Soil Science Licensing in Our State

Editors Note: In the 2/2005 issue of CSA News, Luther Smith (p8) has an excellent article titled "Certification Update", he stated that SSSA started a matching-fund program where SSSA will match up to \$5,000 of a state's soil science licensing efforts. Do you know the difference between licensing and certification? Licensing protects the public and is usually mandatory and certification protects the profession and is typically voluntary, licensing programs are controlled by a government entity.

The Soil Science Society of America (SSSA) with help from licensed soil scientists that had experience in helping to get soil science licensing established in their state produced this document. It is a tool to help other soil scientists establish licensing in their state. It is also important to have uniformity between state licensing acts to help with reciprocity issues.

These are practical steps learned by those with the experience. Please realize that what worked in one state may not work in all states. Be flexible and approach the process in a positive manner, wanting to find solutions. Don't be confrontational and realize this may be a long process and success may not come on the first attempt. Don't give up. Determination and persistence are important. The staff and members of SSSA are willing to help. Their contact information is at the end of this document.

One major advantage and you will want to share this with contacts throughout this process is that SSSA's Council of Soil Science Examiners (CSSE) has already created the exams for your state to use in the licensing process. This is a major asset to getting licensing started.

Why is Soil Science Licensing important?

1. Protection of public health, welfare, safety and property.
2. Promote the profession (higher salaries, greater name recognition, greater respect for the profession).
3. Protect the profession by preventing abuses in the practice of soil science by untrained or unprincipled individuals.

4. Protect the profession by preventing other professions from excluding soil scientists from performing work that they are qualified to do.
5. Establish credibility for the practice of soil science equivalent to that of other professions (engineers, geologists, surveyors and architects).
6. Define the practice of soil science as a profession by establishing standards of ethical conduct and professional responsibility.

Step 1: Basic Analysis

1. Identify a core group of soil scientists, representing the major segments of soil science. Government, private sector, academia.
2. Define the mission: To protect life, property, health, and public welfare through regulation of the practice of soil science in the State; to define the practice of soil science as a profession by establishing minimum standards of ethical conduct and professional responsibility and by establishing professional education and experience requirements; and to prevent abuses in the practice of soil science by untrained or unprincipled individuals.
3. How does it benefit the profession, the licensee and the citizen of the state? Be prepared to explain and defend to the state legislature including real life examples for your state. Know the difference between licensing, certification and registration.
4. Is the group willing to invest the time (multiple hours per week when legislature is in session over multiple years) and money (tens of thousands) to see this through to the end? If not, quit now.
5. The core group takes it to the larger soil science audience (use professional gatherings or organize one). Is the larger group willing to invest the time and money to see this through to the end? Are all sectors of the profession committed to obtaining and maintaining their license indefinitely as well as promoting licensure to their employees and students? If not, then the core group better re-think licensing because it probably isn't financially sustainable.

6. Define the practice of soil science for your state. Develop the definitions you plan to use. Review statutes from other licensing states.

Step 2: Strategy Time

A. Analyze parallel professions.

1. Identify the groups in your state that are licensed and those that are not, such as, geologists, engineers, landscape architects, land surveyors and any others that are appropriate. Identify key personal contacts within the professions listed in number one. Focus on individuals in other professions that the core group knows will be supportive. Educate other professionals about the benefits to them regarding soil science licensure including shared liability.

2. Obtain copies of existing statutes and rules for the professions that have them in your state. Obtain copies of soil science statutes and rules in other states. (See resource list for web site links.) Begin thinking about how to draft a proposed bill for your state. (The bill becomes the language for the act.)

This is a logical time to hire a lobbyist or you will need to do the following alone. Some states have spent from \$15,000 to \$25,000 (2004 dollars) to get licensure through the first legislative session. Some states have had to go through multiple legislative sessions before achieving licensure. Typically the cost for additional legislative sessions is less than the first.

Keys to look for in a lobbyist:

- a. Lobbyist needs to have experience in natural resource issues.
 - b. Preferably understands the thinking of scientists.
 - c. Experience with key legislative committees.
 - d. Lobbyist needs to be non-controversial, non-polarizing and highly respected.
- B. Analyze state legislature/Governor's office
1. Determine the general climate towards new licensing acts in both the executive and legislative branches.

2. Identify politicians in both houses that you know or believe would be receptive to sponsoring or supporting the bill.
 3. Evaluate the legislative process including the committees and sub-committees most likely to be involved. Identify the chairs and ranking committee members and who in your group knows them.
 4. Identify the legislators for all of your members in the group and tell them to get to know them now.
- C. Analyze state regulators and regulations in the natural resource, environmental, public health, agriculture and revenue departments.
1. Identify key agencies and staff to determine who are supportive and work with them to develop reasons to present to the legislature that licensing is needed.
 2. Analyze the regulations to determine which would be affected. Identify areas within current regulations where the public health, welfare, safety and property are not adequately protected without licensure.
 3. Identify areas within regulations where soil scientists are qualified to perform work but currently are not allowed to do so because they are not licensed.
 - D. Analyze budgetary requirements to get the bill passed and to operate the program.

Checkpoint: *Have you identified anything that would keep you from moving forward at this time? If yes, wait until the obstacle is removed or take action to remove it. If no, proceed.*

Step 3: Developing the plan

1. Make an integrated assessment of all data collected to this point.
2. Determine whether you are going to work with another profession or go it alone. If yes, start a dialogue with the other profession. Going it alone, to maintain the soil science profession's identity, is preferable unless political or financial reasons prohibit it.
3. Are all sectors of the profession (government, private practice and academic) still committed to obtaining and maintaining their

- license indefinitely as well as promoting licensure to their employees and students? If yes, it may be feasible to go it alone, short term and long term.
4. Develop a draft bill that addresses: (items to consider, see licensing states' web sites for additional examples)

- a. Definitions
- b. Penalties
- c. Exemptions and limitations
- d. Board make up and training of its members
- e. Powers of the board
- f. Records and reports – Disposition of funds
- g. Licensing required (corporate, partnerships, firms, individuals)
- h. Eligibility – Application
- i. Examinations
- j. Professional soil scientists – Qualifications
- k. Soil scientists-in-training – Qualifications
- l. Issuance – Form – Evidence
- m. Registration fees
- n. Expiration and renewal
- o. Re-issuance
- p. Code of ethics
- q. Disciplinary actions – Grounds
- r. Disciplinary actions – Procedure
- s. Seals; requirements and its use

Step 4: Implementation

Strategy is important. Understand and determine what works in your state with respect to timing of bill introduction. If you don't know this, you probably need a lobbyist.

1. Divide the core group into:
 - a. Bill Drafters
 - b. Coordinators of Political Contacts
 - i. potential bill sponsors and co-sponsors
 - ii. all other legislators
 - iii. appropriate committee chairs and members
 - iv. every soil scientist in the state must contact their representative and insist that they support the bill
 - c. Fund Raisers

2. Track the bills after introduction. Be prepared for timely contacts with legislators and their staffs while the bills are moving through committee.
3. Develop a contact list of soil scientists willing to testify at committee hearings on short notice. They must be committed to drop what they are doing and attend a meeting on very short notice. *This is very important!*

Step 5: After the Legislation is Passed

1. Maintain legislator and regulatory contacts.
2. Stay engaged in the rule process and informed about other legislation and rules that may impact this program. Use political connections to ensure that soil scientists are on boards and commissions that are responsible for passing regulations that would affect the practice of soil science. Be aware that start up funding will be required and understand what your state government will expect.
3. Prepare administrative, licensing, code of professional conduct and compliance and enforcement rules.
4. Develop continuing education requirements.
5. Re-analyze budgetary requirements for operating this program.
6. Identify soil scientists willing to serve on the licensing board and agreeable to the appointing body or individuals.
- 7.

Resources and Contacts States' web sites for licensing acts:

Maine Code

<http://janus.state.me.us/legis/statutes/32/title32ch73secO.html>

Minnesota Code

<http://www.revisor.leg.state.mn.us/arule/1800/3910.html>
New Hampshire Code (listed as "natural scientist")

<http://www.state.nh.us/itboard/home.htm>

North Carolina Code: <http://www.ncbills.org/>

<http://www.ncbills.org/hbill0826.html> (direct to the act)

North Dakota Code (classifiers)

<http://www.state.nd.us/lr/ccencode/t43.html>

Go to: 43-36 Professional Soil Classifiers

Texas Code: <http://www.tbpg.state.tx.us>

Wisconsin Code

<http://drl.wi.gov/dept/codestats.htm> (look under Geology)

Soil Scientists:

Bob Kendall, Georgia, bob@kendallassociates.net

Dawn Tracy, Minnesota, dtracy@co.scott.mn.us

Jim Culver, Nebraska, j4culver@aol.com

Kevin Martin, North Carolina, kmartin@sandec.com

Murry Milford, Texas, mmilford@tca.net

Jerry Tyler, Wisconsin, ejtyler@wisc.edu

SSSA Contact:

Luther Smith, lsmith@agronomy.org

608-268-4977

SOIL SURVEY HORIZONS

Within this newsletter is a page with information regarding submission of articles and subscribing to

Soil Survey Horizons. Soil Survey

Horizons is published by the Soil Science

Society of America as a service to

pedologists. As such, it belongs to all of

us and needs our support. Please copy and

pass the subscription form to soil

scientists, cooperators, editors of

regional/state newsletters, other

professional organizations, and retired soil

scientists (geologists, geomorphologists,

and others) in your area.

Subscription numbers have been falling

over the past several years, but for the cost

(\$17), it's one of the best bargains in science. It covers a wide range

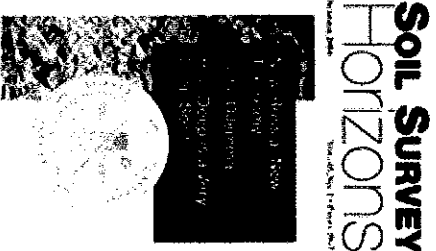
of topical areas related to soils and likely has something of interest for

everyone.

Soil Survey Horizons welcomes papers, short essays, news, and

images. Topics include

Interesting case studies from consulting activities



- Soil survey problems and applications
- Innovative methods and equipment
- Classification issues
- History of soil science
- Travelogues of soil expeditions

- Poems or personal essays
- News about soil and people who work with soil
- Photographic images (historic and modern)

Michael A. Wilson
Editor of Soil Survey Horizons

2006 World Congress of Soil Science

The second announcement for the World Congress of Soil Science is available at www.18wcss.org

Symposia as well as post, pre and mid Congress tours are listed. Abstracts can be submitted now through the Deadline of September 15, 2005

DEP-SERO ISSUES NEW POLICY ON SOIL TESTING FOR SEWAGE DISPOSAL SYSTEMS IN FROZEN SOILS

By
Russell Losco

The following is a memorandum, which was received in early December 2004 from the Southeast Regional Office of DEP regarding soil testing for sewage disposal systems in winter:

"The DEP Southeast Regional Office has received several inquiries regarding sewage disposal system soil evaluations during times of sustained frost in the upper soil horizons. In anticipation of the upcoming winter season, we are sending out this advisory:

Sufficient information cannot be obtained from soils that are in a frozen state. Ultimately, no portion of the soil profile should contain frost during evaluation. However, the Department is willing to allow a maximum frost depth of three inches to be present in the surface horizon during evaluation, only if the surface horizon (A) is equal to or greater than eight inches total depth. In shallower A horizons, there can be no frost during evaluations.

We have based these depth horizons on the fact that open agricultural fields typically have an eight inch or greater A horizon depth, unless significant erosion has

SOIL SURVEY HORIZONS

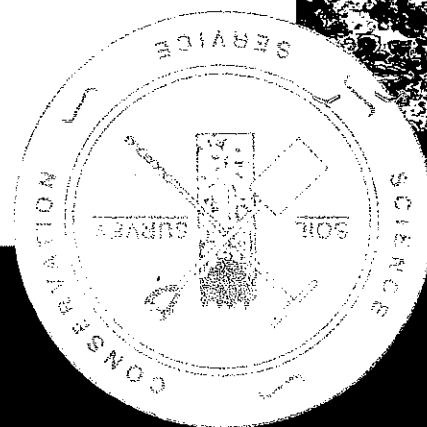
**Have you looked at
Soil Survey Horizons lately?**

Soil Survey Horizons is your forum, your communication network with other soil scientists. It is a publication for the expression of ideas, experiences, history, and research regarding the study of soils from a field perspective. The audience and contributors include: soil survey personnel, private consultants, university faculty, and students. *Soil Survey Horizons* welcomes papers, short essays, and notes on topics such as:

- Interesting case studies from private consultant activities
- Soil survey problems and applications
- Innovative methods and equipment for properties of soils/landscapes
- Classification issues related to Soil Taxonomy or other systems
- History of soil science (persons or events)
- Travelogues from soil expeditions or summer mapping details
- Poems or songs related to soils or associated activities
- News about soil and people who work with soil
- Photographic images (historic or modern)

Submit your article to the associate editor for your region (see the inside front cover of a recent *Soil Survey Horizons* issue or contact Lisa Al-Amoodi at lalamoodi@agronomy.org). This person will review and technically edit your work to get your article ready for publication. There is no publication charge.

Subscription rates are \$17.00 per year (\$22.00 per year outside the United States). Single copies are available at \$4.00 each (\$5.00 outside the United States). All payments must be in U.S. funds. Advance payment required on all orders. Subscribe online at: www.soils.org (see the periodicals section in the Online Store).



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occurred. More often, open fields experience deeper and more sustained frost than wooded areas, which generally have a shallower A horizon and are insulated by organic mat and tree cover. Due to the variability of soils, ground covers, and other conditions that contribute to frost development across the site, some soils on a site may contain frost, while others may have a varying degree of frost or the absence of frost all together. We believe that this maximum depth approach will allow evaluations to proceed on certain areas of a site while ruling out other areas that contain too much frost for a sufficient evaluation.

This approach also allows for site evaluations on "wetter" soils, which can experience less surface damage if the soil contains frost to support the weight of the excavation equipment. Three inches of sustained frost could potentially decrease tire smearing or rutting of the soil surface, while the remaining five inches of the soil horizon can be used to obtain sufficient information in conjunction with the entire soil profile.

This procedure will allow for site evaluations to appropriately continue for replacement sewage systems and new development during the winter season, and will be applied regardless of the type of system proposed at the time of site evaluation.

Clinton Cleaver
Sewage Planning Specialist Supervisor
Municipal Planning and Finance Section
Bureau of Water Management
Norristown, PA 19401
484) 250-5172"

NOTE TO PAPSS: I would be interested in hearing the comments of any and all soil scientists on this policy. Please copy any comments to me at soldude@comcast.net

ASA Northeastern Branch Meeting, July 10-13, 2005
University of Connecticut, Storrs, CT;
thomas.morris@uconn.edu

WHERE IS OUR STATE SOIL?
Legislative Session Ended without Passing
HB747

Although many PAPS members and the Board made a valiant effort to have Hazleton officially recognized as the State Soil in Pennsylvania, our efforts to have HB747 passed did not succeed. Special thanks go to Past President Bruce Willman, Larry Hepner, Lew Auchmoody, Mark Mills and all the PAPS Board and Members who devoted time and effort to contact Legislators and gather support. **What's next?** PAPS will again have to contact former sponsors, find new sponsors and supporters and reintroduce a Bill in the upcoming legislative session and work harder and faster to make a State Soil successful.

SOIL SCIENCE AND ANTIQUE HOUSES

OR

WHERE HAVE ALL THE ALBIC HORIZONS GONE?

Russell Losco

My wife, Cindy and I are lucky enough to live in a stone farmhouse built in 1834. As we both appreciate antiques, having an antique house, barn and outbuildings as well is a real joy.

Coincidentally, the house, unknown to us when we bought it, was built by a distant relative of Cindy's and was always owned by relatives through the years until the early 1990's when a couple bought it and lived there for three years before being transferred to Europe. We purchased it shortly thereafter, returning it to the family.

The front part of the house, which is the oldest part, still has the original glass windows. The window panes are flawed and rippled and thicker at the bottom than at the top. This is due to the fact that glass is not a true solid, as it lacks a crystalline structure, but is actually a super-cooled liquid. As a liquid, it flows under the influence of gravity, albeit very slowly, so that, over long periods of time, any piece of glass left in position will become thicker at the bottom than at the top.

A few years ago I was discussing old houses with an elderly client of mine who has been a farmer in the area all of his life and who also lives in an old house of a similar age. When I brought up the windows, he nodded knowingly and proceeded to relate to me how those windows were made. According to him, during the early settlement of southeastern Pennsylvania, each village tried to be as

self-sufficient as possible and would typically contain such necessities as a blacksmith shop, a gristmill, and a glass factory.

What, you may ask, does this have to do with soil science? The glass factories were supplied with silica sand by a rather unique method. The land was cleared for agricultural use by first cutting the trees. Then a team of horses dragged a blade, stripping off the Oa horizon. Below that a layer of high quality pale sand was found which was then stripped off and stockpiled for use by the glass factories. The topsoil was then re-spread and the area plowed. The farmers were actually mining the albic horizon for use in glass making. The glass industry in this area didn't last due to the depletion of the needed raw materials.

The soils in southern Chester County are deep soils often derived from crystalline metamorphic and igneous bedrock. The soils in this area are largely lacking in any type of E horizon. The E horizons that we do encounter are usually thin, anemic and restricted to the forested ridge-tops, though I did once encounter one in a test pit in a backyard in an old subdivision, but that appeared to be very isolated. The lack of any E horizon is usually attributed to plowing of the soil mixing the E horizon into the Ap horizon, however, this scenario, where the E horizon is actually mined prior to plowing, could help explain some of the dense and apparently compacted Bt horizons that I have encountered in some areas. While I have not had the time to research the local history enough to confirm this story, I have not yet seen any data to deny it either. It is possible that it may have been such a short-lived phenomenon that it may not be mentioned extensively in the literature. If anyone else has heard similar explanations, I would be interested in hearing about it.

Whether this story is apocryphal or not, it does point out two interesting points. First, that the elderly have many stories to tell us that are valuable and may be lost if we do not take the time to listen to them. This is especially true of the aging farming population, who know much about the world around them and the soils that we would do well to listen to. Second, that soil science is all around us and impacts all of our lives in many ways. If you will take the time to look and listen, there is always more to learn.

Technical Notes

Soil Survey Technical Note No. 6, Saturated Hydraulic Conductivity: Water Movement Concepts and Class History,

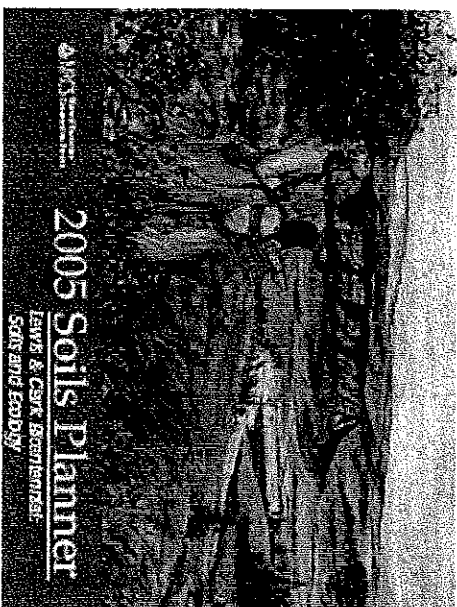
https://policy.nrcs.usda.gov/scripts/psisits.dll/TN/TN_SS_6.htm

Soil Survey Technical Note No. 7, Soil Moisture/Soil Temperature (SM/ST) Pilot Project Final Report,

https://policy.nrcs.usda.gov/scripts/psisits.dll/TN/TN_SS_7.htm

2005 Soil Planner "Lewis and Clark Bicentennial: Soils and Ecology"

A limited supply of the 2005 Soil Planner-"Lewis and Clark Bicentennial: Soils and Ecology" may be available from multiple sources, if you have not received a copy. It is available to download in PDF format from <http://soils.usda.gov/>

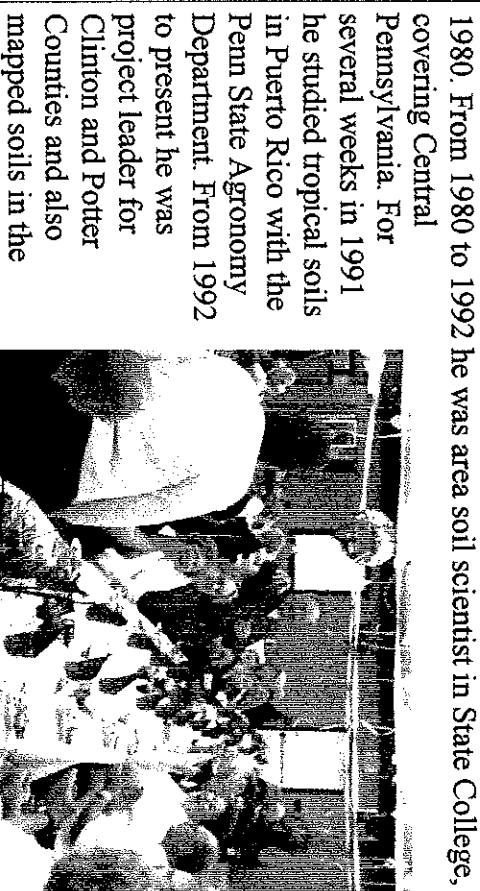


Or you can request copies from the Soil and Water Conservation Society, Tina Morris at (512)289-2331 ext. 30 or by email: tina.morris@swcs.org; or at 1-888-LANDCARE.

The 2005 Soil Planner was designed to illustrate the emphasis that the Lewis and Clark Expedition gave to exploring and describing soils, vegetation, and landscapes in the West. It includes painting created from soil pigments, soil profiles and soil descriptions.

Jake Eckenrode Retires from NRCS

Jake started his career with SCS in 1966 as a Soil Scientist in Crawford County, Pa. He worked as soil scientist project leader in Lackawanna and Wyoming Counties from 1968 to 1975. He also mapped soils in Luzerne County in 1972-1973 and worked in Florida during the winter of 1972-1973. He was soil survey project leader for Montour, Northumberland, Snyder and Union Counties from 1975 to

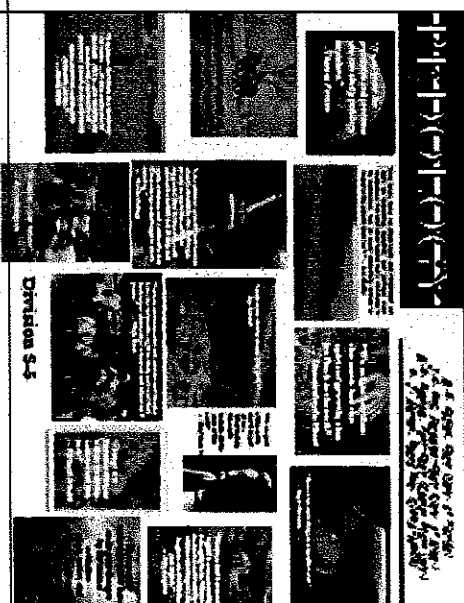


1980. From 1980 to 1992 he was area soil scientist in State College, covering Central Pennsylvania. For several weeks in 1991 he studied tropical soils in Puerto Rico with the Penn State Agronomy Department. From 1992 to present he was project leader for Clinton and Potter Counties and also mapped soils in the Anchorage Soil Survey Area, Alaska in 1999 on a detail. Jake has been active with the State FFA Land Judging for over 20 years and has conducted the State Envirothon Soils Station since it was started in the mid 80's. Jake plans to do some part time consulting and enjoy more hunting, fishing, family and license collecting. Jake started the Pennsylvania Soil Survey Archives, developed a Pennsylvania Soil Survey Centennial Exhibit, and is known as "the Monolith Man." More than 130 attended his Retirement party hosted by his wife Sharon and their families.

The Division S-5 Seattle poster is on-line at the SSSA Division website

<http://www.essc.psu.edu/sssa/index.cgi?fyi>

The full color poster depicts photos and soil science (pedology) quotes. It is available to download as a PDF or Power point file.



Meeting the Needs of Professional Soil Scientists – Summary of Survey Results

This past year the Soil Science Society of America (SSSA) and the United States Consortium of Soil Science Associations (USCSCSA) conducted an electronic survey on the needs of soil scientists. Margie Faber, President of the New England Society of Professional Soil Scientists was the lead coordinator. The SSCSA managed the operations of this electronic survey.

Margie presented the results of this interesting and informative survey during the Professional Soil Scientists Roundtable at the SSCSA annual meeting in Seattle, Washington on November 2, 2004. The title of Margie's presentation was "Meeting the Needs of Professional Soil Scientists – Summary of Survey Results".

The results of this survey entitled "Professional Soil Scientist Survey Results" prepared by Margie Faber are below. You may wish to share the summary of this survey with soil scientists and others in your area of responsibility. These results are also posted on the USCSCSA web site at <http://soilsassociation.org> under What's New.

Best Regards,
Jim Culver, Advisory Group, USCSCA

Professional Soil Scientist Survey Results

Margie Faber

The Soil Science Society of America and the U.S. Consortium of Soil Science Associations conducted an electronic survey of professional soil scientists in the spring of 2004. Nearly 900 soil scientists from the U.S. (and a few from other countries) completed the on-line survey. The compiled results of the survey are summarized below.

The percentages are based on the number of people who answered each specific question.

Question 1: Please check the following terms that describe your current position (check all that apply) (897 responses)

Soil scientist for a federal agency, state agency, or local government agency (38%)

Soil scientist working for a university (27%)

Self-employed soil scientist (15%)

Soil scientist for a company other than my own (12%)

Not currently employed as a soil scientist (8%)

Retired (5%)

Question 2: How long have you been a soil scientist? (845 responses)

21 to 30 years (28%)

11 to 20 years (23%)

More than 30 years (19%)
6 to 10 years (14%)
5 years or less (13%)
Never been (3%)

Question 3: What is the highest degree you have received? (845 responses)

PhD degree (44%)
B.S. degree (28%)
M.S. degree (24%)
Other (3%)

Question 4: Are you an ARCPACS certified soil scientist and/or soil classifier? (834 responses)

No (63%)
Yes (37%)

Question 5: Are you licensed by a state as a soil scientist? (842 responses)

No (83%)
Yes (17%)

Question 6: Are you certified as a soil scientist and /or soil classifier? (234 responses)

No (68%)
Yes (32%)

Question 7: What can the Soil Science Society of America do to promote certification and licensing and to support professional soil scientists? (548 responses)

1. Work with states / state societies on soil legislative matters and certifications / licensing. (18%)
 2. Continue, support, and increase visibility of ARCPACS with SSSA (10%)
 3. Lobbying to support soil science and ARCPACS soil scientists in federal legislation and with state and federal agencies (8%)
 4. Provide compelling reasons why one should be certified (8%)
 5. Promotion of profession to the general public, high school students, other professions (7%)
 6. More applied training, business information, networking opportunities, affordable newsletters, SSSAJ summary articles (7%)
 7. Vigorous promotion of discipline / certification at university, 2 & 4 year college levels (6%)
 8. Don't know (5%)
 9. Minimize interference and maximize recognition from engineers / geologists, etc. (3%)
 10. Consider qualifications other than coursework (experience, academic papers) (3%)
- Question 8: Please list the following professional soil science societies where you hold membership. (775 responses)**
1. SSSA or ASA, no regional or state soil society (42%)
 2. SSSA or ASA and a state or regional soil society (24%)
 3. Only a state or regional soil society (16%)
 4. No membership in soil society (10%)
 5. NSCCS, SWCS or other national soil society and a state or regional soil society (5%)

6. NSCSS, SWCS or other national soil society, no state or regional soil society (3%)
7. International soil societies (2%)

Question 9: What specifically does each society do to address your professional needs? (all answers by a respondent were categorized) (633 responses)

1. Meetings (25%)
2. Publish journals and books (21%)
3. CEU opportunities, training, workshops (21%)
4. Keep me informed on events, issues, research, education (19%)
5. Networking (19%)
6. Not much, nothing (12%)
7. Platform for exchange of ideas (8%)
8. Legislative (federal, state including licensing) issues (7%)
9. ARCPACS certification (7%)
10. Newsletters / email announcements (6%)

Question 10: What else do you wish they would do to address your professional needs? (answers not tied to question 8, may refer to state, regional, or national soil society) (449 responses)

1. Nothing more / not sure (16%)
2. More training, meetings, workshops for non-academic soil scientists (local, webcast, internet based) (14%)
3. Lobby, work with national / state representatives (mostly certification/licensing) (12%)
4. Increase visibility, promote the profession (not directly certification/licensing related) (12%)
5. More practical articles and information on applied research, education, environmental soil issues (7%)
6. Provide more job listings and career development advice (4%)
7. Business training, insurance (3%)
8. Grants information, provide funding (3%)
9. SSSA – less focus on ag and academia, less bureaucracy (2%)
10. Cheaper price for membership, subscriptions to journals, attend meetings (2%)

Question 11: How else do you address your professional needs? (525 responses)

1. Read, internet, self study (30%)
2. Meetings, workshops, field days, classes (19%)
3. Networking (19%)
4. On the job training or work colleagues (14%)
5. Work with other societies and disciplines (9%)
6. Professional service (5%)
7. Nothing (3%)
8. Certification (1%)

Question 12: What websites (if any) do you use to find out information about soils? (each website mentioned is logged separately) (572 responses)

1. soils.usda.gov (NRCS) (51%)
2. SSSA-ASA (Tri Societies) (21%)
3. University/Extension (14%)
4. Don't use the web (9%)

5. Many unspecified websites (9%)

6. Unspecified USDA sites (6%)

7. Google search (5%)

8. Other federal agencies (4%)

9. SSSSNE (2%)

10. State agencies (2%)

Question 13: Would an applied online magazine / journal focused strictly on practical issues to professional soil scientists be of interest to you? (794 responses, 431 comments)

Yes (75%)

No (25%)

Comments for Question 13:

1. Soil science application articles (27%)
2. New technologies / modeling / GIS articles (10%)
3. Soil surveys / soil maps / soil survey databases (9%)
4. Basic soil science articles (chemistry, properties, etc.) (8%)
5. Synopses of current research (7%)
6. Practical / current issues soil scientists face (6%)
7. Soil taxonomy / NRCS updates (5%)
8. State issues / licensing / legislation (4%)
9. Employment (listings, info, statistics) (4%)
10. Case studies (3%)

Question 14: Have you ever attended a national soil society meeting? (829 responses, 131 comments)

Yes (76%)

No (24%)

Comments Question 14:

1. Practical applied topics and discussions
2. Better location
3. Cheaper cost
4. Time off work
5. Employer does not support attendance
6. More field trips
7. Hands on demonstrations
8. Other meetings more valuable to me

Question 15: What are your number one short term and your number one long term concerns as a soil scientist? (635 responses)

The top 10 concerns overall:

1. Recognition of profession
2. Declining # students and university soil science departments
3. Job security and job opportunities
4. Funding (research, programs, agencies)
5. Keeping skills/knowledge up to date and using the latest technologies
6. Agricultural sustainability and soil erosion
7. Certification, licensing, and registration
8. Finding work
9. Soil science as a viable science and profession
10. Future of NRCS and soil survey program

Top 10 Short term concerns:

1. Recognition of the profession (public, legal, regulatory, marketplace)
2. Finding work
3. Low funding (for research, programs, agencies)
4. Declining number of students and university soil science programs
5. Keeping skills/knowledge up to date and using the latest technologies
6. Job security and career advancement
7. Certification and licensing
8. NRCS budget cuts/reduction of number of soil scientists
9. Business issues
10. Technical soils issues

Top 10 Long term concerns:

1. Public understanding of importance of soils
2. Declining # students studying soils, few to recruit for jobs
3. Recognition of soil scientists, erosion of the profession by engineers, etc.
4. Job security and job opportunities
5. Research issues (funding, etc.)
6. Soil science as a viable science and profession
7. Maintenance of competency, acquiring new knowledge and technologies
8. Agricultural sustainability and soil erosion
9. Future of NRCS, short supply of soil survey expertise
10. Regulatory recognition of soil science

Top 10 unspecified concerns:

1. Better visibility of profession/erosion of profession by others
2. Declining # students and university soil science departments
3. Job and job security
4. Agricultural and soil sustainability/soil quality
5. Societal appreciation of soils
6. Acceptance of soil science by environmental regulators and policy makers
7. Certification and state licensing
8. Keeping up with science and technology
9. Soil scientists and/or others doing soils work with less than adequate education
10. Funding

Question 16: Do you feel there are obstacles that hinder your success as a professional soil scientist? (742 responses) What are they? (437 comments)

Yes (56%)

No (44%)

Comments Question 16:

1. Lack of recognition and competition from other disciplines (45%)
2. Money (12%)
3. Low demand for soil scientists (4%)
4. Gender/ethnicity issues (4%)
5. Getting information and tools (3%)
6. Limited career advancement opportunities (2%)
7. Societies and soil science is too conservative, cliquish, and/or academic (2%)
8. Politics (2%)
9. I am my only obstacle! (2%)
10. Communication (2%)

11. Bureaucracy (2%)
12. Association of soil science with agriculture (2%)
13. Notion that I need a PhD to get anywhere (2%)

Soil Scientist Recruiting

Laurel Mueller, PAPS Soil Science Recruiting Committee, is working on a SOIL SCIENCE CAREERS display and web page. You can help in this effort by sending Laurel a short, exciting, informative description of what you do as a Soil Scientist along with photos of "Soil Scientists at Work."

You may also want to send a note on how/why you became interested in Soil Science as a Career.

SEND To: soilservices@epix.net

Derry Twp. project defended

By Dwayne Pickels
TRIBUNE-REVIEW Wednesday, February 2, 2005

"With a large pool of water sitting where they plan to expand the township building, Derry Township supervisors are once again defending the controversial project. A handful of residents at a supervisors' meeting Tuesday once again questioned the logic and wisdom of the nearly \$400,000 project to repair, renovate and expand the township building along Route 982, near Bradenville. Supervisor Charles Muchnok said workers ran into an "unexpected" water problem shortly after work started last month. "We didn't have a crystal ball," Muchnok said, noting that the plan has been revised to eliminate a basement that was outlined in the schematic. Resident Judy Knopsnider, who "could have told them that this building sits on swamp land," asked whether test borings or soil samples were taken before starting the work.

"We didn't feel they were necessary," Muchnok said."

EDITORS NOTE: The article is quoted from the Tribune-Review. Derry Township is in Westmoreland County and a good example of WHY Marketing Soil Survey and Soil Science IS important. The soil maps around the area show areas of Wharton, Guernsey, and Ernest soils (all

ARTICLES
FOR
PENNSOIL
NEWSLETTER
Can be
submitted
anytime to the
Board or by
email to
edgar.white4@verizon.net

*moderately well drained, with seasonal high water tables and limitations for basements)) and some Urban Land—
THEY had the "crystal ball" - they just didn't know what it was!!! The crystal ball is called a Soil Survey or a Soil Scientist.*

Maurice Mausbach – NRCs Deputy Chief for Soil Survey and Resource Assessment Retires

After more than 37 years of federal service, the last 7 as Deputy Chief for Soil Survey, Dr. Maury Mausbach retired in January 2005. Through his career Dr. Mausbach was a Soil Survey Project Leader, Research Soil Scientist, in charge of Soil Databases, National Leader for Soil Interpretations, chaired the Hydric Soil Committee and was Director of the Soil Quality Institute.

Dr. William Puckett has been named the new Deputy Chief for Soil Survey and Resource Assessment with NRCs. Dr. Puckett has held numerous positions with NRCs. He began his career in 1983 as a field soil scientist in Florida. He became State Soil Scientist in Oklahoma in 1991 and two years later he was named Assistant State Conservationist for Operations in that state. In 1995, he moved into an Operations Management position in the South Central Regional Office in Ft. Worth, Texas. In 1997, he joined the Oversight and Evaluations staff in Atlanta, Georgia and also served as a Major Land Resource Area Leader in Auburn, Alabama from 1999 to 2001.

He received his Bachelor of Science in agronomy and a Master of Science in soil physics and mineralogy from Auburn University. He received a doctorate in soil genesis and classification from the University of Florida.

Special Thanks to
Tim Ratvasky, Nancy Sansoni, and Russ Losco
for contributing to PENNSOIL
Next Issue: June 2005



This year, Earth Day Network's theme is Protecting Our Children's Health and Our Future. Despite the extraordinary and often false obstacles that we face in our efforts to protect our natural resources and our biodiversity, few will dare argue with the moral imperative to protect our children from harm. As a consequence of that imperative, we call on governments, corporations, faith-based organizations, and all people in our troubled world to work with us to ensure that children everywhere are healthy, educated, and free
<http://www.earthday.net/>

PAPSS 30th Anniversary

Seems like only yesterday we at PAPSS celebrated our 25th Anniversary. This year we celebrate our 30th. Not a bad age to be: grown up, mature, plenty of knowledge and still learning, a little spending money, and still full of energy.

Nancy Sansoni prepared this logo (shown here in B&W) to help remind us we are now 30 and to celebrate this occasion.

30th Anniversary

