



2007 Fall Tour

Indiana Association of Professional Soil Classifiers (IAPSC)

Indiana Association of Professional Soil Classifiers **Fall Tour**

Location: Angel Mounds State Historic Area Warrick/Vanderburgh Counties
Evansville, IN

UTM 460532E 4200117N NAD83

When: September 14, 2007

Agenda

ALL TIMES EASTERN DAYLIGHT SAVINGS

- | | |
|-------------|--|
| 9:00-10:00 | Registration – Angel Mounds
Visitors/Conference Center (Coffee,
doughnuts, juice, and milk)
Visit museum in Visitors Center |
| 10:00-10:05 | Welcome - Dena Marshall, President
IAPSC |
| 10:05-10:20 | Welcome to Angel Mounds and
History of Site – Mike Linderman |
| 10:20-11:00 | Dr. Bill Monaghan - Site
Investigation and studies using non-
invasive technology |
| 11:00-11:45 | Stephen Ball - NRCS Cultural
Resources Specialist - Historic
Significance of the site |
| 11:45-12:45 | Lunch – BBQ |

12:45-2:00 IAPSC Business Meeting - Dena
Marshall

Nifty door prizes - Dena Marshall

2:10-3:30 Travel to soil sites – Liquefaction in
soil pit with Ancient house
foundation
Examine and review soil pits formed
in Ohio River sediments (IRSS field
exam review)

3:30 Adjourned

The Indiana Association of Professional Soil Classifiers (IAPSC) is a not-for-profit organization of soil scientists who are interested in the field study and evaluation of soils.

Dena Marshall, President
John Bowen, Past President
Brad Lee, President Elect
Steve Neyhouse, Vice President
Paul McCarter, Jr., Secretary-Treasurer
Norm Stephens, Pedestal Editor

<http://www.isco.purdue.edu/irss/iapsc.html>

Indiana Registry of Soil Scientists
(As written on the IRSS web site.)

The Indiana Registry of Soil Scientists is a program that establishes ethical standards and education, examination, and work experience criteria for Indiana Registered Soil Scientists.

<http://www.isco.purdue.edu/irss/>

This year's IAPSC Annual Meeting will be at Angel Mounds State Historic Area in Warrick / Vanderburgh Counties near Evansville, IN.

The Angel Mounds Story

For over a thousand years, Southwestern Indiana was home to many Native Americans. Today, Angel Mounds State Historic Site is nationally recognized as one of the best preserved prehistoric Native American sites in the United States. From 1100 to 1450 A. D., a town on this site was home to people of the Middle Mississippian culture, who engaged in hunting and farming on the rich bottom lands of the Ohio River. Several thousand people lived in this town protected by a stockade made of wattle and daub. Because Angel Mounds was a chiefdom (the home of the chief) it was the regional center of a large community that grew outward from it for many miles.

This settlement was the largest known town of its time in Indiana, but the Mississippian people eventually deserted it. No one today knows why. Fortunately, preservation and archaeological efforts at Angel Mounds State Historic Site offer a glimpse into this highly developed culture of the distant past. For 60 years, this living museum has told the story of one pre-contact Native American culture on the Ohio River.

Characteristic of their culture, the Mississippian people at Angel built mounds in their town. In chiefdoms like Angel, the high-status families lived and were sometimes buried on top of some of the mounds. Priests and chiefs carried out ceremonies and rituals on the large temple mounds that dominated the town. Some of the mounds at Angel have been excavated by archaeologists, and they contain evidence of being many things: site of the chief's residence, religious and burial locations, garbage dumps, and even natural elevations.

More information can be found at: <http://www.angelmounds.org/>



A registration fee of \$10.00 will cover the cost of lunch. Please fill-out the registration form on the last page and **mail to Paul McCarter by September 5th**; registration after September 5th will be \$12.00.

Primitive camping (no showers) onsite for the Soil Classifiers wishing to camp.

Directions To Angel Mounds

Take I-164 to the Covert Ave Exit (Exit 5.) Take Covert Ave East (right turn) approx. one block and turn right on Stacer Rd. Follow Stacer Rd to the 3-way stop (Pollack Ave). Turn right on Pollack Ave and take the **second** left. (You'll turn into the site after the big sign.)



HASTI in 2007 and 2008

The Indiana Association of Professional Soil Classifiers continued their sponsorship of a booth at the 2007 Hoosier Association of Science Teachers (HASTI) in February. The 2007 HASTI Convention had one big change in the program. Thursday, the Exhibit Hall was open until 6:30PM instead of 4:00PM as in past years. They moved the Thursday evening Social to the Exhibit Hall to allow the exhibitors more access to the teachers.

Unfortunately, our booth was located along a back wall that did not see as much activity as the more centrally located booths did. We distributed a good deal of soils information and education CDs to the teachers.

IASPC Soil Classifiers and volunteers working the booth were: Dena Marshall, Genny Helt, Gary Struben, Kevin Norwood, Alena Stephens, Mike Wigginton, Asghar Chowdhery, and Norm Stephens.

The teachers had a strong interest in collecting attractive educational posters for their rooms. This may be something we should consider producing for the 2008 HASTI Convention.

2008 booth rental has gone up \$50 per booth to \$450 for one booth, but we are still getting our Non-profit group \$200 discount this year.

If you would like to help with the HASTI project, please contact: norm.stephens@in.udsa.gov

Indiana Association of Professional Soil Classifiers Survey

Thank you all for your participation in the survey that was presented at the Fall 2006 conference at Potato Creek State Park. Sixty-five full-time and part-time consulting soil scientists completed the survey. We will use this information to help direct future education and conference programs.

The survey questions followed by your responses are listed below. Some answered questions were omitted from an individual survey if answered incorrectly. For example, if a question requested that an individual circle only one answer and the respondent circled more than one, the question was thrown out of that survey. As a result, many of the question responses will not add up to 100%.

1. How many years have you been describing soils, not including your college or high school education?

Average = 25 years

Maximum = 58 years

Minimum = 0 years

2. Where do you spend most of your time on the job? (circle one)

- a. **5%** writing reports
- b. **3%** working with health department staff
- c. **9%** travel
- d. **58%** describing soils
- e. **2%** dealing with homeowner questions
- f. **0%** advertising / Marketing

3. What portion of your work is composed of onsite septic system investigations? (circle one)

- a. **22%** 0 – 20%
- b. **5%** 20-40%
- c. **8%** 40-60%
- d. **15%** 60-80%
- e. **49%** 80-100%

4. How do you earn your IRSS CEU credits? (circle all that apply)

- a. **51%** High school soil Judging contests
- b. **51%** Onsite investigations
- c. **86%** Soils and septic System workshops
- d. **46%** Speaking engagements

5. Where in Indiana do you work **most often**? (circle one)

- a. **26%** Northeast
- b. **14%** Northwest
- c. **15%** Southeast
- d. **9%** Southwest
- e. **26%** Central

6. How often is the local health department environmental specialist present during a soil evaluation?

- a. **75%** 0-20% of your soil evaluations
- b. **8%** 20-40%
- c. **8%** 40-60%
- d. **0%** 60-80%
- e. **6%** 80-100%

7. Most of the time, how do you collect soils and evaluate them during a septic system soil evaluation? (circle one)

- a. **28%** Hand held push probe
- b. **5%** Pneumatic push probe (e.g. Giddings probe)
- c. **43%** Auger
- d. **2%** Shovel
- e. **8%** Backhoe

8. In the last year, how many septic system soil evaluations did you conduct? (circle one)

- a. **23%** 0 – 25
- b. **8%** 26-75
- c. **15%** 76-150
- d. **32%** 151 – 300
- e. **22%** More than 300

9. Who usually hires you for an onsite evaluation?
(circle one)

- a. **12%** developer
- b. **77%** homeowner

10. Are you a full-time or part-time consultant?
(circle one)

- a. **52%** Full-time
- b. **42%** Part-time

11. What is the average cost you charge for one onsite investigation at a home lot? (circle one)

- a. **0%** \$99 or less
- b. **22%** \$100-\$199
- c. **57%** \$200-\$299
- d. **15%** \$300 or more

12. What type of training would help you in your consulting business? (circle all that apply)

- a. **37%** Computer software
- b. **11%** Money management
- c. **5%** Time management
- d. **45%** Soil training
- e. **57%** Septic system design and function
- f. **35%** Marketing and business development

13. Within the past 5 years, what other types of consulting jobs have you done? (circle all that apply)

- a. **46%** Wetland delineation
- b. **22%** Agricultural soil sampling
- c. **42%** Building structural investigation
- d. **5%** Stream sedimentation investigation

14. On a scale of 1 to 5, how would you describe your relationship with local health departments?
(circle one)

- a. **0%** 1 -Very poor
- b. **3%** 2 -Poor
- c. **8%** 3 -Ok
- d. **40%** 4 -Good
- e. **43%** 5 -Excellent

15. On a scale of 1 to 5, how would you describe the competency of local health departments to evaluate soil reports? (circle one)

- a. **0%** 1 -Very poor
- b. **11%** 2 -Poor
- c. **22%** 3 -Ok
- d. **48%** 4 -Good
- e. **11%** 5 -Excellent

16. Are you using the standardized soil form for onsite septic system soil evaluations? (circle one)

- a. **29%** Yes
- b. **66%** No

IRSS Field Exercise

The CEUF exercise will be held on September 13, Thursday, at Angel Mounds near Evansville. As in the past, a morning and an afternoon session will be available. If you want to take part in the exercise, Please notify Cyndy Anderson (andersonc@purdue.edu) by September 5th with your preference for a morning, or afternoon session.

Office of the State Chemist;

(765) 494-1492; Fax: (765) 494-4331
Mon-Fri, 8-5 p.m.; Closed Noon to 1 p.m.

(Directions to the exercise) For those traveling on I-164 to Newburgh, use the Covert Ave. exit. Angel Mounds State Park is directly south of the exit, so you can reach it by going either direction on Covert and turning south at the first opportunity. The easiest way to the field exam is to go west on Covert about 0.6 miles to Fuquay (stop sign), turn left on Fuquay and go 1 mile to Pollack Av., turn right on Pollack and go 0.6 miles to Lynn Rd, and turn left on Lynn for about 0.3 miles. Before reaching the south end of the trailer park on the right side of Lynn Rd, turn left into the farm field that is opposite the 5 empty trailer pads (Nov. 2006 tornado path). The farm field was not planted this season, so there will be ample area to park near the test pits. For those going to Angel Mounds State Park, it may be easier to go east on Covert to the first traffic signal, turn right on Stacer Road and then turn right on Pollack Ave.

ASH TREE THAT PRODUCES PEACHES

By Lester J. Bushue

I want to relate one of those incidents that have assisted in keeping me working in soils after 52 years. I even remember the date and place. In the month of July 2006, I had a job in the Northern part of Danville, Illinois As a matter of fact; it was in an area West of Lowes. I don't want to pin down the location too closely. That is a part of Danville where the soils are usually formed in higher clay and thinner loess than farther South in the city of Danville. Septic systems don't work as well in these soils. I would rather work in the lower clay soils.

I did notice while checking the county soils report, that lower clay soils were mapped nearby in the area, near the North Fork Vermilion River, so I was hoping. The home owner, I'll call him Bob, mentioned that his soils were sandy and he had to water his garden often so I assumed it was fine sand blown out of the low land from the nearby river. The afternoon work was looking up already. It was a hot day, but decent soils, goes a long way in improving the odds of having a good day.

Bob had lost a tree. The naked limbs of the unfortunate tree stood in stark contrast to his other leafy trees and the dark green lawn grass helped by the recent rains. I sympathized with Bob for losing such a large ash tree. Bob said, "He hadn't cut it down because he wanted to give it every chance to revive."

Near by there was a younger tree, full of life looking vibrant and healthy, in contrast to the dead tree. I asked if it was an offspring from seed of the older tree-produced when the older tree was in its prime. Bob said, "No that the younger tree was a peach tree, but it hadn't produced peaches for sometime." Now I wasn't about to contradict him since he seemed so positive and since I wanted him to write me a check for my fee after the job was finished. I had learned in my earlier years that one needs to be careful about correcting people.

Several years ago I noticed that a neighbor had put white rock around his red maple tree. Red maple trees are acid loving and the white rock was limestone that reduces acid. When I informed my neighbor of his error I expected him to be grateful. I had failed to notice that his grandson was nearby and

had heard that grandpa was less than brilliant, at least as far as trees go. The neighbor wasn't very friendly for a few days and the red maple continues to suffer from the excess limestone to this day.

Back to Bob's peach tree, I saw that it was getting rough bark, appearing like undersized pale colored marbles from a distance that characterizes ash trees as they get older. It had a pinnate arrangement of leaves and opposite branching. Opposite branching in trees produces areas suitable for slingshots and were highly valued in my younger days. The number of trees with opposite branching is limited and doesn't include peach trees.

I swallowed my need to correct people in error and left him to wait for his green ash trees to produce peaches. By the way I did get my fee.

Soil Scientists in the Field



Tribune Photo/Robin Toepp

Tim Jones demonstrates a soil boring during an interview for Robin Toepp's November 26, 2006 Jobs article in the South Bend Tribune.

Geology Tour of Lawrence County, Indiana



Siebolt Quarry located on the Oolitic Quadrangle

A geology tour of Lawrence County, Indiana was conducted on June 27, 2007 by the soil survey staff to assist in the update and refinement of the Lawrence County Soil Survey.

Findings and Comments:

The St. Louis limestone formation was identified as the bedrock with the most chert content and the formation which produces the most pronounced karst topography in the area. The “central karst” area is mainly in the St. Louis limestone formation. The Salem limestone formation is more massive than the other formations in the area and is the one mined for building stone.

The Paoli and Ste. Genevieve formations are found mostly in transitional areas between the MLRA 120B sandstone and shale soils and the “central karst” soils. These formations have less chert and smaller karst topography than the St. Louis formation. The St. Gen formation is mined for gravel and ag lime.

The Harrodsburg limestone formation is found mostly in transitional areas between the MLRA 120C siltstone and shale soils and the “central karst” soils. This formation also has less chert and smaller karst topography than the St. Louis formation.

The Ramp Creek limestone member marks the boundary between the limestone soils and the underlying siltstone and shale soils of the Borden Group. This formation is a major source of geodes.



Zamir Libohova collects geodes

The Mt. Carmel Fault is an isolated feature and is not active. The west side of the fault dropped down, resulting in younger bedrocks being exposed on the west side of the fault.

Time did not allow us to make all of planned stops, so these and other subjects may be explored as the work in Lawrence County progresses. The presence of springs at bedrock contacts and re-emerging sinkholes in dunes are two subjects that were not covered on this tour. Much of this tour was spent on the limestone formations and in the future more emphasis may be placed on the siltstone and shale formations.

The soil survey team has progressed quite well in Lawrence County and probably is currently ahead of schedule on addressing many of the map units that need to be updated. The information gained on this geology tour will aid them in making further refinements.

Participants:

Brian D. Keith; Senior Scientist Subsurface Section, Indiana Geological Survey; Bloomington, Indiana

Marni D. Karaffa; Glacial Research Geologist; Indiana Geological Survey; Bloomington, Indiana

Phillip R. Owens, Ph.D.; Assistant Professor, Purdue University Agronomy Dept.; West Lafayette, Indiana

Zamir Libohova; Soil Scientist/Graduate Student; NRCS/Purdue University; West Lafayette, Indiana

Zach Rigg; Soil Scientist; USFS-Hoosier National Forest; Bedford, Indiana

Jerry Lish; District Conservationist; NRCS; Bedford, Indiana

Dena Marshall; Soil Scientist; NRCS; North Vernon, Indiana

Genny Helt; Soil Scientist; NRCS; North Vernon, Indiana

Steve Neyhouse; Soil Scientist; NRCS; Corydon, Indiana

Byron Nagel; Resource Soil Scientist; NRCS; North Vernon, Indiana

Norm Stephens; Soil Scientist; NRCS; Indianapolis, Indiana

Daniel Wood; Soil Scientist-Student Trainee; NRCS; Indianapolis, Indiana

Rick Neilson; Soil Scientist; NRCS; Indianapolis, Indiana

Steve Blanford; Soil Data Quality Specialist; NRCS; Lexington, Kentucky

Gary R. Struben; Soil Data Quality Specialist; NRCS; Indianapolis, Indiana

2007 Surface Mine Reclamation **Field Day**

Black Beauty Coal hosted the 2007 Surface Mine Reclamation Field Day at the Miller Creek Mine near Bicknell, Indiana on June 28th.

Equipment demonstrations included deep ripping, mulching, crimping, and land leveling.



Caterpillar track type tractor prepares for ripping demonstration.



Surface soil is stripped off and stockpiled prior to coal mining.

The field day was well attended with over 125 pre-registered for the event. Two school buses, and the attending vehicles, packed with participants were also solid testaments to the success of the field day.



Genny Helt, Rex Decker, Bob Jones, Gary Struben, Daniel Wood

The IAPSC was well represented at the field day. Dogwood Catering served up an excellent lunch and no one went away hungry.

Steve Wade presented an award to John McCall for over 50 years of service to the Daviess County SWCD.

A panel discussion group including local farmers, agency representatives, and vendors provided an open forum to discuss the special problems and requirements related to working with, and farming reclaimed strip mine ground. Unfortunately, an afternoon thunderstorm cut the meeting a little short, but not before visiting one of several soils pits available for inspection on the tour.



Participants examine soil structure in a reclaimed mine land soybean field next to active coal mine.



Making the Benefits of Conservation Clear

On my first day as an NRCS employee I had the opportunity to address most of the National Headquarters staff. I mentioned my dislike for meetings and a desire to be an advocate for the agency. Well, I'm still participating in a lot of meetings, but there is a positive side: they help me advocate for conservation and the agency.

To say that my office is a high-traffic office is an understatement. It receives many visitors, with differing conservation backgrounds and experiences. Turns out, it is a great opportunity to showcase the benefits of conservation.

My bookshelf is now a working display; a tool in demonstrating the benefits of conservation practices. The most recent addition is a runoff model. This infiltration and erosion simulator was designed at the National Geospatial Development Center in West Virginia by **Henry Ferguson**, an **NRCS employee**, and Drake Asberry, a student at West Virginia University, and constructed by the research support staff at West Virginia University.

It helps sum up and make simple some of what NRCS has been about for the past 70 years and helps make clear why we need to keep it for the next 70. This is the type of visualization tool that helps convey conservation concepts between landowner and conservationists, and promote education to a wider audience, including students and policy makers and others who may not be familiar with the effects of erosion or the benefits of our programs.

This tool allows us to demonstrate infiltration and runoff on real samples of undisturbed soil taken from fields with different management histories. The samples for the models have come from conventionally tilled fields and no-till fields in

Hendricks County, Indiana. While we at NRCS know about the benefit of conservation tillage, many of my visitors are not aware of its benefits. With this model the benefits of conservation-tillage are readily apparent. Simulated rainfall runs off the sample from the conventionally tilled field in a few seconds. Initially if the surface has been disturbed as in tillage, the runoff water has a lot of sediment in it. After several rainfall simulations, the runoff becomes clearer, and more water runs off as a crust develops. As for the samples from the no-till fields, much more water infiltrates, and what water does runoff is relatively clear. These results are very typical of the loam and silt loam soils throughout the corn and wheat belts.

I often speak about three immediate goals: 1) ensuring we can meet new challenges; 2) making conservation easier; and 3) demonstrating the benefits of conservation. The infiltration and erosion simulator does all three—it helps us reach new customers, makes conservation easier to understand, and helps explain the benefits of conservation.

It's a great addition to my office and one that I hope will inspire conservation and better understanding of what we do as an agency.

Sincerely,
Arlen Lancaster
Chief, NRCS



(Note) Henry Ferguson was a former Indiana Soil Scientist on the MLRA 111 staff of Travis Neely.

New Soil Scientists in Indiana



Zach Rigg; Soil Scientist; USFS-Hoosier National Forest; Bedford, Indiana



Zamir Libohova; Soil Scientist/Graduate Student; NRCS/Purdue University; West Lafayette, Indiana

Soil Humor

There was a pastor who was supposed to do a funeral for someone, but he didn't know the deceased or his family well. He was running late and went straight to the cemetery. He looked across the cemetery and saw a backhoe and a couple guys gathered around it ... so he headed that direction. When he got there ... the vault was already in the ground. So, he went through his eulogy for the deceased and then he left. One of the fellows looked at the other and said, "I've been in the septic system installation business for 20 years and I never saw anybody get that worked up over a leach field!"

Need CEUg credits for you IRSS certification?



Please Checkout the registration form for the Central States Forest Soils Workshop on page 11.



IASPC Campers Tom Ziegler and Scot Haley show off their best Corn-hole form.

Thank you to everyone for your Pedestal submissions ... and we'll see you at the Fall Tour.

Norm Stephens

Norm.stephens@in.usda.gov

**27th Annual
Central States Forest Soils Workshop
Carbondale, Illinois Area
October 9th -11th, 2007**

Sites Include:

Crab Orchard National Wildlife Refuge: A White Oak Plantation planted in the early 1940's on a fragic inter-grade soil and Comparison of White Oak growth at the end moraine of the Illinoian Glacier to nearby unglaciated soils.

Visit to a private White Oak Timber Sale site near Carbondale managed by Carbondale Veneer Company.

Shawnee National Forest: Deep Loess Timber Sale Site.

Trail of Tears State Nursery Black Walnut Seed Plantation---Comparison of growth from clones.

Dinner at Von Jakob Vineyard

Dixon Springs State Park Wheel---Comparison of forestry management techniques.

Dixon Springs Agricultural Center---Fragipan soils and discussion of Best Management Practices
Garden of the Gods Recreation Area

Lodging Information: A block of fifty rooms has been reserved with the **Holiday Inn** under "Central States Forest Soils Workshop or USDA-NRCS." The Holiday Inn is located at 2300 Reed Station Parkway, Carbondale, IL, (618)-549-2600 or 1-800-Holiday. **Sign in for the conference begins at the Holiday Inn Conference Center at 3:00 pm on October 9th. The meeting will begin at 6:00 pm in the conference room.** Lunch and Dinner along with refreshments during breaks will be provided on October 10th. Additional hotels in the area include: **Hampton Inn** 1-800-Hampton (The Hampton is within walking distance of the Holiday Inn.) **Super 8** -618-457-8822

For More Information please contact Matt McCauley, USDA-NRCS, 502 Comfort Drive, Suite F, Marion, IL 62959, (618)-978-0814 **or Bryan Fitch**, 148 East Pleasant Hill Road, Suite 105, Carbondale, IL 62903, (618)-453-5579.

Matt.McCauley@il.usda.gov , or Bryan.Fitch@il.usda.gov http://www.illinoissoils.org/announce_files/register07.pdf

Sponsored by: USDA-Natural Resources Conservation Service, Illinois Department of Natural Resources, Southern Illinois University-Carbondale, USDA-Forest Service, Illinois Soil Classifiers Association, Society of American Foresters

27th Annual Central States Forest Soils Workshop

Name_____

Mailing Address_____

City_____State_____Zip_____

Email Address_____

\$75 Registration by August 31st, \$85 Registration by September 28th, \$50 Student Registration

Mail to: Matt McCauley,
USDA-NRCS 502 Comfort Drive, Suite F
Marion, IL 62959

2007 FALL TOUR REGISTRATION FORM

Send in your Check Today!

Registration Fee \$10.00 before SEPTEMBER 5th

LATE FEE after SEPTEMBER 5TH - \$12.00

If at all possible register before SEPTEMBER 5TH

Paul will be out of town and will not be able to take last minute reservations.

Make checks to I.A.P.S.C. Inc.

Clip and mail to Paul McCarter

R.R. #1, Box 252A

Bloomfield, IN 47424-9750

Name(s): _____

Members please update the following, if needed:

Name: _____

Address: _____

Phone No: _____

E-mail address: _____