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# NEWSLETTER

Winter 2002

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## Candidates for 2002 ISCA Election

### President Elect

#### Pat Kelsey

Patrick Kelsey is the Senior Soil Scientist at Christopher B. Burke Engineering, Ltd in Rosemont, Illinois. He was formerly the Research Soil Scientist at the Morton Arboretum. He has been a member of ISCA since 1987 and a Certified Classifier since 1988. He served as Newsletter Editor from 1991-2001. He served as President of ISCA in 1996 and represented ISCA in Conservation Congress IV (1998-2001). Pat and his wife LuAnne live in Montgomery, IL with their two children.

#### Mark Stelford

Mark recently completed his Ph.D. in Geology and Environmental Geosciences at Northern Illinois University in December 2001. The title of his dissertation is *Identification of Hydrologic Response Units (HRUs) in Low-Relief Soil Landscapes of Northern Illinois: a Process-Based Approach*. January marks the fourth year of employment at CNH Global, N.V. He is responsible for the design, execution, analysis, and communication of agronomic experiments that compare CNH planting equipment (i.e., Case IH 1200 series planters) with the alternative systems offered by Deere and Company, Kinze Manufacturing, and Agco. The agronomic experiments include several measurements of equipment/soil interactions. In 2001, he co-authored a Site-Specific Management Guideline for the Potash and Phosphate Institute entitled *Site-specific Soil Compaction Mapping Using a Digital Penetrometer*. He is currently working towards ARCPACS certification as a professional soil scientist, and is a candidate for the DeKalb County Board. If elected, he would like to focus on the documentation of tools and methodologies that can be used to implement first-order soil surveys for precision agriculture applications.

### Vice President

#### Dale Calsyn

Dale received his B.S. degree in Agronomy from the University of Illinois in 1975. He began his career as a county soil scientist working on the Henry County Soil Survey in 1975. He became a soil scientist with the Soil Conservation Service in 1977. During the period from 1980 through 1990, he served as the project leader for the Cass County Soil Survey, the Mason County Soil Survey, and the Fulton County FSA HEL mapping project. In 1990, he moved to NE Illinois to serve as the project leader for the McHenry County Soil Survey Update. His position there has since evolved into being the team leader for the NE Illinois MLRA update office with the responsibility of overseeing the soil survey updates for 17 counties. He has been a member of the Illinois Soil Classifiers since 1977.

## **Bruce Putman**

Bruce is a Certified Soil Classifier who has been a consulting soil scientist in Woodstock, Illinois since 1988. He also served as a USDA Soil Scientist for 5 years in Western, Northern and Central Illinois. He earned his B.S. and M.S. degrees from the University of Illinois at Urbana-Champaign.

## **Treasurer**

### **Chuck Frazee**

Chuck has a Ph.D. from the University of Illinois. He is a Charter member of ISCA and is Certified Professional Soil Classifier #10. He has mapped soils in six counties in Illinois. He is presently Treasurer of ISCA and has held this position for the past 9 years.

### **William Teater**

Bill is a 1979 graduate of the University of Illinois with a degree in Agronomy/Soils. He has been a soil scientist with NRCS since 1980 and has worked in several central Illinois counties on regular and update soil surveys. Presently he is a member of the Springfield MLRA Update Office, USDA-NRCS. Bill has previous experience as a treasurer for a scouting group when he was in high school. His wife Debbie keeps the checkbook balanced and laments the thousands of dollars he has lost investing in the stock market. Please don't hold this against him, that was a couple of years ago and she doesn't let him trade unless she co-signs now.

## **Editors Notes**

Some of you may have received a bill from ASA requesting payment for Soil Survey Horizons. Do not pay this as Soil Survey Horizons is paid for through your ISCA dues.

Please, vote for the candidate of your choice for this year's elections. The candidates are listed on an enclosed ballot alphabetically.

Again within this issue, I have included the abstract from Dave Grimley on using Magnetic Susceptibility to Delineate Hydric Soils. I have worked with Dave using this technique in the field and it looks very promising. This should be a very interesting topic for our annual meeting.

I wish to express my gratitude to out going President Karla Hanson for her assistance with the Newsletter over the past year. Karla has put a lot of effort into making sure members submitted articles to me on time.

# **Ballot for 2002 Elections**

## **President-Elect**

**Patrick D. Kelsey**

**Mark Stelford**

## **Vice-President**

**Dale Calsyn**

**Bruce Putman**

## **Treasurer**

**Chuck Frazee**

**William Teater**

You may vote prior to the annual meeting by mailing ballot to Bob Tegeler, 124 Joan Drive, Divernon, IL 62530. Please, mark "ballot" on the outside of the envelope. Mailed ballots must be received by March 22<sup>nd</sup>, 2002.

## Honor Drummer as the Newest Illinois State Symbol With Special Event License Plates

Honor Drummer as Illinois' State Soil by purchasing a Special Event License Plate. Special event license plates are a unique promotional device made available to civic groups and others by the Office of the Secretary of State. To qualify, the event should be open to the public and be an activity that promotes the interest of Illinois citizens. We thought we would use the 2002 Summer/Fall Meeting as our special event.

Upon approval by the Secretary of State, ISCA will design and have manufactured license plates that may be displayed on qualified vehicles for 60 days prior to the last day of the event.

Special event plates can be ordered in quantities of a 50-pair minimum. The basic cost is \$10.00; however, the number of colors used in the design will determine the final cost. (Three colors for example are \$27.96).

ISCA must submit a letter requesting authorization to issue Special Event Plates with a brief description of the event and the beginning and ending dates of the event. The letter must be sent six months prior to the event. This would be an excellent way to publicize Drummer as the Illinois State Soil and ISCA.

Please let us know what you think. Submit your thoughts with your ISCA Ballot. Thank You.

\_\_\_\_\_ Yes, I would purchase Special Events Plates.

\_\_\_\_\_ Yes, I would purchase the plates and serve on the Special Event Plate Committee.

\_\_\_\_\_ No, I would not purchase the plates.

Suggestions: (For design, etc.)

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Name \_\_\_\_\_

Phone Number \_\_\_\_\_

Email \_\_\_\_\_

**USING MS TO DELINEATE HYDRIC SOILS IN ILLINOIS:  
EVIDENCE FOR DISSOLUTION OF MAGNETIC PARTICLES**

**David Grimley and Nancy Arruda, Illinois State Geological Survey, 615 E. Peabody Dr., Champaign, IL 61820, ([dgrimley@uiuc.edu](mailto:dgrimley@uiuc.edu), [arruda@uiuc.edu](mailto:arruda@uiuc.edu))**

Hydric soil identification has become increasingly important for wetland conservation and restoration. Field indicators, used for this purpose, can be somewhat subjective or difficult to identify in some soil types. Magnetite is destroyed under anaerobic conditions and neofomed ultra-fine ferrimagnetic minerals are preferentially preserved under aerobic conditions. Thus, magnetic susceptibility (MS) is higher in well-drained areas than in hydric areas. MS may therefore be a more objective method for identifying hydric soils than those currently used. We examined several sites with different parent materials in central, western, and southern Illinois. At each site, MS readings were taken every 30 feet on transects or grids across transitional hydric boundaries of consistent parent material. MS readings were calibrated with traditional field indicators to obtain a critical MS value for identifying hydric soils. Early data suggests that this value is  $30 \times 10^{-5}$  SI, in sites with loessal parent material, and  $20 \times 10^{-5}$  SI at a site southern Illinois with alluvial parent material. Sandy soils in Illinois may have a critical value as high as  $40 \times 10^{-5}$  SI.

In laboratory tests, frequency dependent MS ranged from 0 to 10 %. Further analyses on grain size fractions of soils show the contribution of clay and fine silt ( $< 8 \mu\text{m}$ ) to MS ranges from 25 -- 70 %. In preliminary examination by scanning electron microscopy (SEM), fly ash (spherical industrial particulates) were found to comprise 7 to 30% of the  $> 8 \mu\text{m}$  strongly magnetic particles. Samples with lower MS readings contain less magnetite and show more dissolution of fly ash and natural magnetite when viewed under SEM. The alteration of fly ash implies that significant magnetite alteration can occur in less than 150 years.

MS values include proportions of their signal from neofomed magnetite and silt-sized detrital magnetite with a secondary contribution from industrial fly ash. Both the formation and dissolution of these magnetic particles affect MS under hydric and non-hydric soil conditions.

**MINUTES**  
**ISCA COUNCIL MEETING**  
**OCTOBER 18, 2001**  
**NRCS OFFICE, NORMAL, IL**

Present:

Karla Hanson, President  
Lester Bushue, President-Elect  
Ken Anderson, Past-President  
Bill Teater, Vice-President  
Charles Frazee, Treasurer  
Bob Tegeler, Secretary  
Jim Hornickel, Secretary-Treasurer Certification Board

The Council Meeting was called to order by President Karla Hanson at 10:00 AM.

Secretary's Report - Bob Tegeler. The minutes were approved as written. Bob discussed two price quotes he had received for ISCA stationary. He will obtain more exact price information from the Capitol Blueprint Company. If their original quote is correct, 500 sheets of stationary and 500 envelopes, with the ISCA logo, will be ordered. Bob will inform Karla Hanson if the original quote has changed.

Treasurer's Report - Charles Frazee. The treasurer's report showed a balance of \$9302.12, as of October 17, 2001. Charles reviewed various expenses in the treasurer's report. The Treasurer's report was approved as written.

Certification Board - Jim Hornickel, Secretary/Treasurer. No new activities to date. Jim reported that there are currently 44 Certified ISCA members. Three of these members will need to re-certify by the end of this year. No new applications have been received to date.

### **Standing Committee reports**

Constitution, By-Laws and Legislative - No report.

Ethics, Certification and Membership - No report. No new applications are pending.

Finance - Bill Teater. No new activities

Newsletter - Karla Hanson reported that the next newsletter will be sent during the first week of December. The deadline for articles is November 23. This newsletter will contain articles regarding the ILICA show, the Central States Forest-Soils Workshop, the ISCA Summer Meeting, and the 2001 Soil Survey Planning Conference. Jim Hornickel will submit information concerning the 2001 Soil Survey Planning Conference, he will try to obtain a copy of the minutes from the conference. A newsletter will also be issued in February 2002, and contain the ballot for the upcoming election of officers.

Nominations - Ken Anderson. Two members have agreed to run for Vice President. Ken is still searching for nominees for President.

Public Relations and Education Committee/Special Appointee to State Advisory Commission on Private Sewage Disposal - No report.

Program - Karla Hanson discussed possible dates for the Annual Meeting. The next Annual Meeting will be held on March 23, 2002. A location for the meeting is yet to be determined. David Grimley, Geologist with the Illinois State Geological Survey, was mentioned as a possible speaker. A thank you note was sent to Melody Arnold for speaking at the Summer Meeting.

### **Ad Hoc Committees**

Historic - Karla Hanson read a report from Roger Windhorn, Chairperson of the Historic Committee. His committee is continuing to review and file the information they have received. They are in the process of categorizing some of the information. There are some gaps in information regarding names of past office holders. The committee is in need of photographs, they can be sent to Roger Windhorn or Earl Voss. The committee is in the process of labeling folders that contain information, this could result in a small expense for ISCA.

State Soil - Bob Tegeler reported on information he had received from Bob McLeese concerning state soil

activities. He displayed a wooden monolith tray containing a Drummer profile. At this time 6 monoliths have been made, more monoliths will be made in the near future. They will be used at schools, etc. A bill of \$1527.00 was sent to Charles Frazee, for the cost of 20,000 state soil bookmarks. At this time, approximately 5800 bookmarks have been distributed for events such as the ILICA Show and the Central States Forest-Soils Workshop. According to Bob McLeese, any reimbursement from Illinois NRCS to ISCA for the bookmarks is dependent on the FY 2002 budget. Bob McLeese received a request from a County SWCD Office for 5000 bookmarks. He suggested that ISCA consider selling the bookmarks to the SWCD Office. The Executive Council decided to sell the bookmarks to the SWCD office at a rate that will cover the cost of postage, and the cost of the bookmarks. Karla Hanson will inform McLeese of this decision. Bob Tegeler also discussed information from McLeese concerning temporary vehicle license plates promoting Drummer as the state soil. These are plates that can be purchased and put on a vehicle for three months. An application needs to be submitted to the office of the Illinois Secretary of State. The application needs to relate to a specific event or events, such as the ISCA Annual Meeting, the Soil Survey Centennial, and/or the state soil designation. The plate could contain items such as the ISCA Logo and information relating to Drummer as the state soil. No design has been determined thus far. The Executive Council decided to put a note concerning the plates in the next ISCA Newsletter, to determine if there is enough interest by ISCA Members to pursue the license plate application. The note in the newsletter would also seek volunteers to serve on a committee. If the decision is made to order license plates, the committee would determine a design for the plates. Bob McLeese volunteered to serve, but not chair the committee, if one is formed. Karla Hanson will contact McLeese to update him on the decision of the Executive Council. The council decided that there would not be enough time to have the plates ready by the Annual Meeting; the Fall Meeting might work out better if ISCA decides to order the plates. The cost of the plates would depend on the design of the plates and the number ordered.

**Technical Criteria (Key to Wastewater Loading Rates) - No report.**

## **Old Business**

**ISCA Web page** - Bill Teater mentioned that the state soil information on the web page should be updated. The possibility of scanning the state soil bookmarks was discussed. If the bookmark does not scan well, a picture of Drummer could be put on the web page, along with information about Drummer.

**Central States Forest-Soils Workshop** - Karla Hanson discussed comments made by some who attended the workshop. Bob Tegeler submitted registration fees and other workshop information to Charles Frazee.

**ILICA Show** - The soil display received favorable comments.

**2001 Soil Survey Planning Conference** - Jim Hornickel represented ISCA at the conference and presented the ISCA report.

## **New Business**

**Membership lapse** - Karla Hanson discussed a letter she received from Tom Hanzely. His membership was discontinued because he had not paid his 2001 dues. Tom had moved and could not be contacted. He expressed a desire to continue his ISCA membership. The Executive Council decided that if he submitted the 2001 dues fee of \$25.00, he could remain a member of ISCA. Bob Tegeler will inform Tom of this decision.

**Secretary and Treasurer terms of office** - A discussion ensued concerning the need to stagger the terms of office of the Secretary and Treasurer. Karla Hanson will contact Jeff Deniger, Chairperson of the Constitution, By-Laws, and Legislative Committee concerning this matter. The committee will need to determine if an amendment is needed to the constitution, to have the Secretary and Treasurer elected in different years instead of at the same time.

**IDNR Letter** - Karla Hanson discussed a letter she had received from the Illinois Conservation Congress. The letter was a request for a donation \$100.00 for the disaster relief fund. For a \$100.00 donation ISCA would receive 100 American Flag pins. It was decided not to make the donation.

**The next ISCA Council Meeting will be held on January 11, 2002, at 10:00 AM, at the Bloomington, Illinois NRCS Field Office.**

The meeting adjourned at 11:30 AM.

Respectfully submitted,  
Robert Tegeler, Secretary

## ISCA Spring Meeting

March 23, 2002 RSVP no later than February 15, 2002 (if you haven't already)

Who: ISCA members, family, friends

What: Annual Spring Meeting and Luncheon-buffet style

When: March 23, 2002; business meeting – 11:00am; luncheon at Noon

Where: University of Illinois; Illini Student Union; Colonial Room

Why: Fellowship with colleagues; Enjoy a delicious lunch; Hear an informative presentation by David Grimley, ISGS; take a tour of the new UI ACES Library

**How Much:** Luncheon costs \$15.25/person and includes *rib eye of beef or stuffed pork chop, twice baked potato casserole, southern green beans, bib lettuce salad, sourdough rolls, Dutch apple pie, coffee, tea, or milk.*

**Parking:** Metered parking available at about \$.75/hour; Public parking in lot NW of Green and Wright at about \$1.50/hour. (figure on 3 hours total)

**Contact:** Chris Cochran at: [chris.cochran@il.usda.gov](mailto:chris.cochran@il.usda.gov) or 217-581-7873

## ISCA SPRING MEETING

March 23, 2002

Name: \_\_\_\_\_

I will \_\_\_\_\_; will not \_\_\_\_\_; be able to make the meeting. Enclosed is my check for

\$ \_\_\_\_\_ made out to ISCA to cover the cost of the luncheon for each person in my party.

Mail To: Chris Cochran, ISCA Program Chair

1515 Casselbury Lane  
Champaign, IL 61822-9275





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# NEWSLETTER

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Spring 2002

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## Mapping Drainage Systems In Golf Greens Using a Ground Penetrating Radar

Boniak, R., S.-K. Chong, and Boniak, T., Southern Illinois University-Carbondale, S.J. Indorante, and J.A. Doolittle, United States Department of Agriculture-Natural Resources Conservation Service.

Good golf green drainage is important for healthy turf and proper playing surface. With time, golf green drainage systems can fail or become plugged up due to improper construction and/or management. Unfortunately, many golf green drainage maps are either unavailable or incorrectly marked. Locating a drainage system in a green is very time consuming and frustrating job. Many golf course superintendents invested many hours in locating these pipes when drainage problems arose. Correcting the drainage problems can be destructive to the green and expensive when location of the present system is unknown.

In this study, a SIR System 2000 GPR manufactured by Geophysical Surveys Systems Inc. was used to map the drainage systems in a USGA style green and a California style green. A previous SIU-C study indicated that GPR could accurately locate the drainage tiles in a golf green with minimum time and minimum disturbance to the green.

### Study Area and Site Conditions

The two study sites were located near Carbondale, Illinois, which is about 90 miles southeast of St. Louis, Missouri. The first study site was located at the Carbondale, Illinois Park Districts Hickory Ridge Golf Course. The greens at Hickory Ridge are typically sand mixes following the California style of green construction on top of a loamy native soil. The green mix was designed to be 12 inches thick. Located under the rooting mix are perforated

plastic drainage lines, 4 inches in diameter, lying in trenches cut into the native soil. The greens at Hickory Ridge are Penncross creeping bentgrass (*Agrostis palustris*) and they were in their ninth season when the study was conducted. The second study site was located at the Stone Creek Golf Course, just south of Carbondale. The greens at Stone Creek are USGA style. They typically have 12 inches of sand above 4 inches of gravel overlying the native soil. The tile is 4 inches in diameter and lies under the gravel in trenches lying in the native soil. Gravel is placed around the tile.

### The Radar Equipment and How It Works

Our study used the Subsurface Interface Radar (SIR) System-2000, manufactured by Geophysical Survey Systems Inc (GSSI)(Photo 1).

With ground-penetrating radar, depth of observation decreases rapidly with increasing antenna frequency and soil conductivity. In one soil, radar may reveal features 10 feet deep, while in another soil material, the radar may only reveal features 2 feet deep. In many radar studies, resolution is often sacrificed for increased observation depths as lower-frequency antennas (10 to 300 megahertz) are used.

When profiling and investigating golf greens, the depth of interest is generally 0 to 24 inches. For this study, a 400-megahertz antenna (Photo 2) was used, because it provides improved resolution of subsurface features at shallow observation depths.

The radar detects the "interface" or contact points between materials with different electromagnetic properties. Density, water content, texture or foreign bodies can influence electromagnetic properties. Each interface revealed on the radar profile is generally displayed as a group of dark bands.

Figure 1 is a portion of a radar scan from the USGA green No. 3 at Stone Creek Golf Club.

The uppermost interface in Figure 1 (the top red band) represents reflections from the soil or green surface. The major subsurface reflections in this radar profile are the sand mix, the gravel layer and the interface where the sand mix meets the gravel layer. With ground penetrating radar even small objects such as rocks, roots or buried cultural features produce unique reflections. These features are referred to as "point reflectors". A point reflector can be seen within the gravel layer between the 1 and 2 meter marks. This point reflector is the cross sectional view of a 4-inch-diameter, perforated, plastic drainage pipe. To map the drainage system in golf greens, the radar scans are made perpendicular to the drainage system and the parallel scan lines are spaced 1 meter apart.

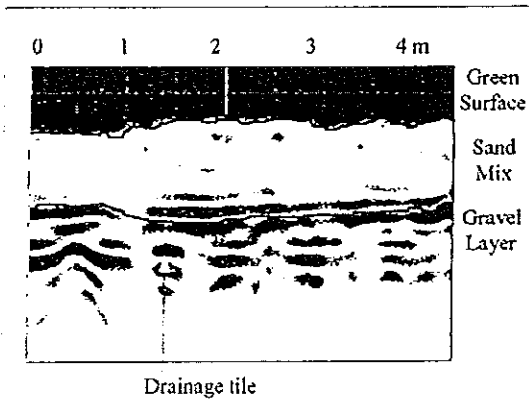


Figure 1.

### Drainage System Maps

Prior to scanning, a 1m x 1m grid pattern was overlaid on the entire green. To establish this grid pattern, the sprinkler heads were used as reference points. The grid was flagged at every meter including the boundary of the green. The GPR system is then calibrated for each green to allow for the best viewing window.

A three persons team worked together for scanning of the greens. A green of 5,000 square feet took about one hour to flag and scan. In general, flagging takes longer time than scanning. The scanning (Photo 3) takes about 15-20 minutes. The data was then analyzed by Radan software (GSSI). The results were transferred and mapped using a simple spreadsheet to plot the boundary and the drainage system of the green. Figure 2 shows

the drainage system of Green #3 (USGA Style Green) at Stone Creek Golf Course and Figure 3 shows the drainage system of Green #2 (California Style Green) at Hickory Ridge Golf Course.



Photo 3. Richard Boniak attempts to locate tile lines using the GPR to scan a golf green.

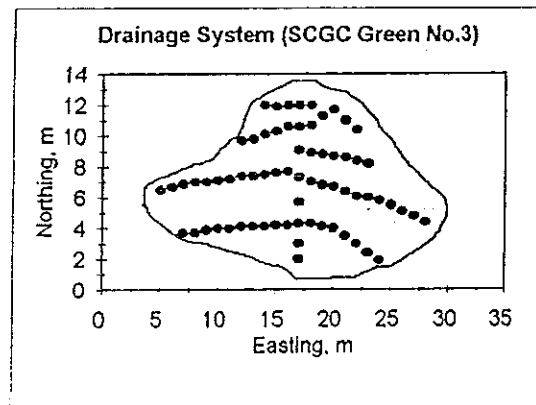


Figure 2.

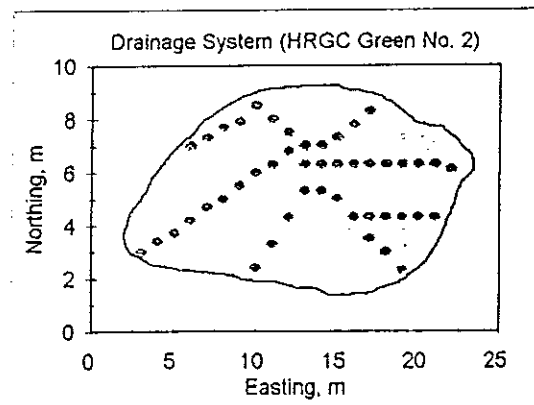


Figure 3.

## Summary

Use of ground penetrating radar for mapping drainage tile in golf greens can be very effective. Superintendents can use this technology to accurately and precisely identify drainage tile and other subsurface features (e.g. areas of compaction or wetness) in a golf green. The application of GPR technology to golf greens is still in the early stages, but it already shows great promise in the trouble shooting and management of golf green drainage systems. Having the ability to study the subsurface features of a golf green without digging a hole will minimize the cost of finding and fixing subsurface drainage problems.

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Richard Boniak, She-Kong Chong and Thomas Boniak are affiliated with the Plant and Soil Science Department at Southern Illinois University in Carbondale. Richard is a Ph.D. candidate, Dr. Chong is a Professor and Thomas is an undergraduate student. Sam Indorante and Jim Doolittle work for the United States Department of Agriculture-Natural Resource Conservation service. Sam is located in Carbondale and Jim is located in New Town Square, PA. Mention of product or equipment names is for informational purposes only and is not an endorsement of the product(s).

## CERTIFICATION BOARD

The following individuals comprise the Certification Board for 2002. Dana Grantham has been approved by the ISCA Council as one of the new Certification Board members. Steve Elmer has agreed to serve on the Board also. But his appointment is tentative, at this point, until approved by the ISCA Council. Officers for the Certification Board were also selected and approved at the certification board meeting after the ISCA Annual Meeting.

Jerry Berning, Chair. 2811 Brown St., Alton, IL 62002, (618)-465-9336

Bob Oja, 1143 N. Seminary Ave. Box 168, Woodstock, IL 60098, (815)-338-0099

Jim Hornickel, Sec.-Treas., 104 Cornell Dr Normal, IL 61761, (309)-862-2500

Doug Gaines, 8611 Wieseman Road, Worden, IL 62097, (618)-459-8619

Dana Grantham, 9238 N. 15th Ave., Butler, IL 62015-2301, (217)-532-5285

Steve Elmer\*, 27892 Ebenezer Rd., Geneseo, IL 61254, (309)-944-0441

**\*tentative - pending ISCA Council approval**

Expiration of board members terms are during the Annual Meeting in the year as follows:

2003 - Berning and Oja

2004 - Gaines and Hornickel

2005 - Grantham and Elmer\*

Submitted by: Jim Hornickel, Secretary/Treasurer, ISCA Certification Board

### Certified Soil Classifiers for Consulting

Name	City	St.	Phone #	2nd Phone #	E-Mail
Ken Anderson	Geneva	IL	630.208.3179		andersonken@co.kane.il.us
Paul Brown	Pontiac	IL	815.842.2042		pldcs@famvid.com
Lester Bushue	Champaign	IL	217.359.7447	888.528.7483	ljbushue@aol.com
Bob Darmondy	Champaign	IL	217.359.8501		rdarmondy@uiuc.edu
Steve Elmer	Geneseo	IL	309.944.0441		
Chuck Frazee	Divernon	IL	217.628.3518		lfrazee@family-net.net
Doug Gaines	Worden	IL	618.459.8619		dbgaines@madisontelco.com
Dana Grantham	Butler	IL	217.532.5285		dbgrantham@mcleodusa.net
Scott Harding	Marine	IL	618.644.8171		sharding@sciengineering.com
Jim Hornickel	Normal	IL	309.824.4826	309.862.2500	mudhen4@msn.com
Bruce Houghtby	McHenry	IL	815.344.4020		Houghtby@Elknet.net
Pat Kelsey	Aurora	IL	630.896.2909		pkelsey@cbbel.com
Mike Kiefer	Watseka	IL	815.432.5741		linus@capstonebank.com
Bill Kreznor	Woodstock	IL	815.338.2362	825.338.8411(fax)	
Gary Lenz	Waterloo	IL	618.939.4986		
Mark McClain	Lafayette	IN	800.288.7645	765.449.1665	mark@soilhorizons.com
Cliff Miles	Terra Haute	IN	812.877.2225		mcmccm@aol.com
Bob OJA	Woodstock	IL	815.338.0099		
John Pearse	West Union	IL	217.279.3651		
Bruce Putman	Woodstock	IL	815.338.6218		
Wiley Scott	Mahomet	IL	217.586.4233		jwscts@earthlink.net
Todd Soukup	Plainfield	IL	815.439.6774		tasoukup@earthlink.net
Bill Teater	Tremont	IL	309.925.5905		billt@dpc.net
Earl Voss	Champaign	IL	217.352.3089		evoss@advancenet.net
Don Walker	Carthage	IL	217.746.8601		
Scott Wegman	Quincy	IL	217.223.3670		sww@mail.klinger.com
Benny Weiss	Harrisburg	IL	618.252.4292		
Roger Windhorn	Champaign	IL	217.433.5293		

MINUTES  
ISCA COUNCIL MEETING  
JANUARY 11, 2002  
NRCS FIELD OFFICE, NORMAL, IL

Present:

Karla Hanson, President

Lester Bushue, President-Elect

Ken Anderson, Past-President

Bill Teater, Vice-President

Charles Frazee, Treasurer

Bob Tegeler, Secretary

Jim Hornickel, Secretary-Treasurer Certification Board

Jeff Deniger, Chairperson Constitution, By-Laws, and Legislative Committee

Don Fehrenbacher, Chairperson Public Relations and Education Committee/Special Appointee to State Advisory Commission on Private Sewage Disposal

The Council Meeting was called to order by President Karla Hanson at 10:00 AM.

**Secretary's Report** - Bob Tegeler. The minutes were approved with one correction noted. Bob mentioned that new stationary was ordered and received. He also reported that 27 non-certified members have paid their 2002 dues to date. Bob contacted Tom Hanzely at his new address, and he has paid his membership dues.

**Treasurer's Report** - Charles Frazee. Two reports were handed out. The first report showed income and expenses since the last council meeting. The second report showed income and expenses for the past year, January through December 2001. Charles mentioned that the \$2000.00 seed money for the Central States Forest-Soils Workshop plus an additional \$500.00, will be sent to the state hosting the workshop next year. The Treasurer's reports were approved as written.

**Certification Board** - Jim Hornickel, Secretary/Treasurer. No new applications have been received to date. Jim reported that there are currently 44 Certified ISCA members. Three of these members will need to recertify by the end of this year. 29 Certified Members have paid their 2002 dues to date. Jim mentioned a note he had received from Earl Voss concerning an individual interested in ISCA Certification. Jim will forward the note to Mark Bramstedt, Chairperson of the Ethics, Certification and Membership Committee.

### **Standing Committee reports**

**Constitution, By-Laws and Legislative** - Jeff Deniger. Jeff discussed options developed by his committee to stagger the terms of Secretary and Treasurer. Various items were discussed. It was decided that the office of Treasurer will be placed on the ballot this year. The candidate receiving the most votes will serve a 3 year term. This will stagger the offices of Secretary and Treasurer. The office of Secretary will be on the ballot in 2003.

**Ethics, Certification and Membership** - No report. No new applications are pending.

**Finance** - Bill Teater. No new activities to date. Charles Frazee, Treasurer, will provide the necessary audit information to Bill.

**Newsletter** - Karla Hanson reported that the next newsletter will be sent during the first week of February. The deadline for articles is January 31.

**Nominations** - Ken Anderson. The ballot for the upcoming election of officers is set. Ken will have the candidates provide biographical information to Matt McCauley, for the newsletter.

**Public Relations and Education Committee/Special Appointee to State Advisory Commission on**

**Private Sewage Disposal** - Don Fehrenbacher. Don reported that there will probably not be a uniform state code, but it may be revised. There is still support for eliminating perc tests. It is possible that aerobic systems will need a subsurface filter field in the future. Don is continuing to work on the database for the ISCA webpage, particularly the map of Illinois that will contain the individual counties and a listing of the certified classifiers working in those counties. He will discuss this with Jake Teater, web master; Tom

D'Avello will also be contacted in regard to the availability of any software that could be used to develop the state map. Don hopes to have the map on the webpage by this summer.

**Program** - Karla Hanson read a report prepared by Chris Cochran, Program Chairperson. The Annual Meeting will be held on March 23, 2002, in the Colonial Room in the Illini Student Union. David Grinley, Geologist with the Illinois State Geological Survey, will be the speaker. Chris is still working on a tour of the ACES Library.

### **Ad Hoc Committees**

**Historic** - No report.

**State Soil** - No report.

**Technical Criteria (Key to Wastewater Loading Rates)** - No report. The new key will need to be ready to be inserted in the code, if the code is updated.

### **Old Business**

**ISCA Web page** - The state soil information was updated on the web page.

**Special Event Plates** - Karla Hanson mentioned that information concerning the license plates will appear in the next ISCA Newsletter. The interest of ISCA members, in purchasing license plates, will need to be determined before any further action is decided upon.

### **New Business**

**LaSalle County Health Department/Roy Mahnesmith** - Karla Hanson discussed a letter she received from Roy Mahnesmith concerning his interest in becoming a certified member of ISCA. He would like to obtain soil classification experience by assisting the LaSalle County Soil Survey Update with field transects, etc. Karla Hanson will meet with him to discuss his request. Jim Hornickel mentioned that he had talked with Roy some time ago.

**Illinois Conservation Congress** - The Congress began its fifth cycle in January, 2002. Karla Hanson will contact Pat Kelsey to determine if he would like to recertify as a delegate.

The next ISCA Council Meeting will be held on March 23, 2002, at 10:30 AM, in the Colonial Room of the Illini Student Union, at the University of Illinois in Urbana.

The meeting adjourned at 11:30 AM.

Respectfully submitted,

Robert Tegeler, Secretary

**MINUTES  
ISCA COUNCIL MEETING  
MARCH 23, 2002  
ILLINI STUDENT UNION, COLONIAL ROOM, CHAMPAIGN, IL**

Present:

Lester Bushue, President-Elect

Bill Teater, Vice-President

Charles Frazee, Treasurer

Bob Tegeler, Secretary

Gerald Berning, Chairperson Certification Board

Doug Gaines, Certification Board

The Council Meeting was called to order by Vice-President Bill Teater at 10:40 AM.

Secretary's Report - Bob Tegeler. The minutes were approved as written. Bob mentioned that three non-

certified members have not paid their 2002 dues to date.

**Treasurer's Report** - Charles Frazee. The treasurer's report showed a balance of \$10,011.09 as of March 21, 2002. Charles reported that the money for the Central States Forest-Soils Workshop was sent to Ohio, the next state to host the workshop. The Treasurer's report was approved as written.

**Certification Board** - All 44 ISCA Certified Soil Classifiers have paid their 2002 renewal fee.

## **Standing Committee reports**

**Constitution, By-Laws and Legislative** - No report.

**Ethics, Certification and Membership** - Bill Teater handed out copies of the membership application of Roy Mahnesmith. Based on the recommendation of the committee and a review of the application by the Executive Council, Roy was approved as an Associate Member. Chris Cochran's application to change membership status from "Out of State" to "Full Member" was recommended by the committee, and approved by the Executive Council.

**Finance** - Bill Teater. The Finance Report and Proposed Budget for 2002 was handed out. It was reviewed by the Executive Council.

**Newsletter** - No report.

**Nominations** - No report.

**Public Relations and Education Committee/Special Appointee to State Advisory Commission on Private Sewage Disposal** - No report.

**Program** - No report.

## **Ad Hoc Committees**

**Historic** - Bill Teater presented Chairperson Roger Windhorn's report. All of the historic information has been filed. There are still gaps in some areas. ISCA needs to consider having an "Official ISCA Photographer".

**State Soil** - Bob Tegeler presented a draft of a poster designed at the Illinois NRCS State Office. It shows some of the soils of Illinois including Drummer, and contains the ISCA logo and web address. The Executive Council approved a motion to provide \$1000.00 toward the cost of the posters. Approximately 10,000 posters will be ordered, at a total cost of about \$5000.00.

**Technical Criteria (Key to Wastewater Loading Rates)** - No report.

## **Old Business**

**ISCA Web page** - Bill Teater reported that the Illinois map with county boundaries is now available on the web page. By selecting a county, web users can obtain a list of the Certified Soil Classifiers, both ISCA and/or ARCPACS, who are willing to conduct on-sites in that county. A motion was approved by the Executive Council, to assess a \$10.00 web user fee for ISCA Certified Soil Classifiers who are listed on the web page map. The fee this year will be sent by Jim Hornickel, Secretary-Treasurer of the ISCA Certification Board. Starting next year (2003), the \$10.00 fee will be sent along with the Certification Renewals/dues. Bill reported that ARCPACS Certified Soil Classifiers, who are not ISCA Members, from Illinois and surrounding states have been contacted by Jake Teater, Web master; the names of those consulting in Illinois are on the web map. These individuals will need to pay the user fee starting in 2003. The approved list of ISCA and ARCPACS Certified Soil Classifiers is on the web. A discussion ensued concerning the minimal awareness of the web page outside ISCA. Possible web links to County Health Departments, and other organizations such as Illinois Land Improvement Contractors Association (ILICA) were discussed. The possibility of placing an advertisement in the ILICA Newsletter was discussed. No decisions were made at this time. Bill Teater handed out a copy of a bill received from the web page



provider. The provider was purchased by another company. ISCA will now receive a monthly bill for approximately \$20.00. ISCA was also charged a setup fee. It was decided that Bill would contact the provider to dispute the setup fee. The monthly bills will be addressed to ISCA, and sent to Charles Frazee, Treasurer. Bill mentioned that the web provider offers 25 free email addresses. The possibility of using these free addresses for the web master, and ISCA Executive Council Members was discussed. This would allow members to send their address changes to the web master's email address. No decisions were made.

### **New Business**

**ISCA Purchase of publisher software** - Bob Tegeler discussed the possibility of purchasing software to enable both the ISCA Secretary and the Secretary-Treasurer of the Certification Board to print the membership cards. No decision was made.

The next ISCA Council Meeting will be held on May 17, 2002, at 10:00 AM, at the NRCS State Office in Champaign. Les Bushue will reserve a room at the state office.

The meeting adjourned at 11:40 AM.

Respectfully submitted,

Robert Tegeler, Secretary

## **ISCA 27TH ANNUAL MEETING MINUTES** **March 23, 2002** **Illini Student Union, Colonial Room, Champaign, Illinois**

Welcome, opening remarks, and call for ballots by Bill Teater, ISCA Vice-President.  
Invocation was given by Bill Teater.  
Approximately 32 members and guests were in attendance.

Lunch was served.

Vice-President Bill Teater called the business meeting to order at 12:45 PM.

**Secretary's Report** - Bob Tegeler reported that he prepared minutes for the five Executive Council Meetings held since the last annual meeting. The ISCA database was coordinated with Charles Frazee, ISCA Treasurer, and Jim Hornickel, Secretary/Treasurer of the Certification Board. Bob urged members to contact ISCA if their address changes during the year. Currently there are 100 members of ISCA.

**Treasurer's Report** - Charles Frazee reviewed income and expenses for the past year. He mentioned the inventory of shirts, caps, magnets, and ISCA cards. Charles also reminded ISCA Members to contact him if they have paid their *Soil Survey Horizons* subscription. ISCA will refund the subscription fee to those ISCA Members who paid the fee.

**Certification Board** - Gerald Berning, Chairperson. Currently there are 44 ISCA Certified Members. Apparently some of the county lists of ISCA Certified Soil Classifiers, do not have the addresses listed correctly. Individuals were urged to check the county lists where they work to insure that the list is accurate.

**Special Appointee to State Advisory Commission on Private Sewage Disposal** - No report.

**Illinois Conservation Congress** - Pat Kelsey reported that the 5th Cycle of the Congress will begin in May, 2002. Each cycle lasts approximately 3 years. ISCA will attempt to gain statewide recognition in the Congress this year. An information package will be assembled to present to the Illinois Department of Natural Resources for their consideration. Pat will continue as the ISCA Representative, ISCA will also have an Alternate Member. Participation in the congress increases public awareness of ISCA. The next

Conservation Congress will be held during Labor Day weekend, 2004.

### **Committee Reports**

**Constitution, By-Laws and Legislative** – Jeff Deniger, Chairperson. Jeff reported that the committee also included Dale Calsyn and Cathy Swain. He discussed his committee's efforts regarding the need to stagger the terms of ISCA Secretary and Treasurer. The Executive Council decided to put the Treasurer's office on the ballot this year.

**Ethics, Certification and Membership** – Mark Stelford, committee member, presented the report. The committee also included Mark Bramstedt, Chairperson, and Gloria Westphal. Mark mentioned that the committee received three inquiries for ISCA membership information, during the past year. The committee received two requests for membership. The Committee received and approved one application for Associate Membership. The Committee also received and approved one request to upgrade membership status from "Out of State Member" to "Full Member".

**Finance\ISCA Web site** – Bill Teater, Chairperson. Bill audited the books of the Illinois Soil Classifiers Association and found that the books were in order and accounts verified. The bank balance as of December 31, 2001 was \$10,626.66. The proposed budget for 2002 was reviewed. Bill mentioned that an added web site expense of \$20.00 per month was included in the proposed budget. He also reported that the ISCA Executive Council approved a motion to assess a \$10.00 fee to the ISCA Certified Soil Classifiers who are listed as consultants, on the Illinois Map on the ISCA web site. This interactive map allows the web user the opportunity to pick an individual county in Illinois, and view a list of consultants who are working in that county. A question was raised concerning whether ARCPACS Certified Classifiers are also listed on the web site. Web master, Jake Teater, has contacted the consultants who are ARCPACS Certified Classifiers from Illinois and surrounding states, to determine if they would like to have their name appear on the web site map. Starting next year, 2003, these individuals will also be assessed the \$10.00 web fee. Bill also reported that some of the links on the web site are not working yet.

**Newsletter** – No report.

**Nominations** – No report.

**Public Relations and Education** – No report.

**Program** – Chris Cochran, Chairperson. The committee also included Ron Collman, Doug Gaines, and Sam Werner. This year the committee planned the Summer\Fall Meeting and the Annual Meeting. Chris reported that a two day ISCA Summer\Fall Meeting was held on September 14 and 15, 2001. A tour of Fragipan soils was held in Crawford, Lawrence, and Richland Counties.

**Historic** – Earl Voss, committee member, read Chairperson Roger Windhorn's report. All information received to date has been filed. However, there are still some gaps in some of the information. The Committee suggests that ISCA consider having an Official ISCA Photographer.

**State Soil** – Robert McLeese, Chairperson. Bob handed out an information sheet discussing the events that led to the designation of Drummer as the State Soil of Illinois. He reported that the State Soil Bill was signed by Governor Ryan on August 2, 2001. Bob also mentioned that ISCA provided \$1400.00 for the purchase of State Soil Bookmarks. These bookmarks will be distributed for educational purposes. Bob also showed the draft of a poster discussing the soils in Illinois, including the State Soil. The Executive Council had previously approved a motion providing \$1000.00 to assist with the purchase of the posters. Approximately 10,000 posters will be ordered at a total cost of \$5000.00.

**Technical Criteria (Keys to Wastewater Loading Rates)** – Chris Cochran reported that according to Bruce Putman, Chairperson, the information in the ISCA Newsletter concerning the new loading rates did not generate any response from ISCA Members. The new loading rates may need to be inserted in an upcoming ISCA Newsletter for additional comment. Wiley Scott mentioned that he tested the new key for loading rates, and found it to be less restrictive than the old key. He thought the new keys worked well.

**OLD BUSINESS** – None

### **NEW BUSINESS**

**Election Results** – Mark Stelford, President-Elect; Dale Calsyn, Vice-President; and Charles Frazee, Treasurer.

**The Keynote Address** – The address was presented by David Grimley and Nancy Arruda, Illinois State Geological Survey. They discussed the use of Magnetic Susceptibility to Delineate Hydric Soils.

**Raffle** -Bob McLeese and Jaimee Hammit each received a book from the dedication of the new Agriculture

Library; Larry Gramm received a \$25.00 gift certificate; and Earl Voss received a refund for the cost of the Annual Meeting Dinner.

**Bent Auger Award** – No nominations were received, so the Bent Auger Award remains with last year's recipients, Ron Collman and Sam Werner.

**Special Presentation** - A plaque was presented to Bob McLeese in appreciation for his efforts as Chairperson of the State Soil Committee.

**Passing of the Gavel** – Vice-President Bill Teater handed the gavel to incoming President Lester Bushue. Les briefly discussed the inconsistency of criteria for conducting on-sites between adjacent states.

#### 2001 ISCA Officers and Committee Chairpersons

##### Executive Council

President – Lester Bushue  
Vice-President – Dale Calsyn  
Treasurer – Charles Frazee  
Secretary – Bob Tegeler  
Past-President – Karla Hanson  
President-Elect – Mark Stelford

##### Committees

Nominations – Karla Hanson  
Finance – Dale Calsyn  
Newsletter – Matt McCauley  
Public Relations and Education – Don Fehrenbacher  
Constitution, By-Laws, and Legislative - Bob Darmody  
Ethics, Certification and Membership – Mark Bramstedt  
Program – Scott Wegman, pending approval of Executive Council at the May 17 council meeting

##### Ad Hoc Committees

State Soil – continuation of this committee will be determined by Executive Council at the May 17 council meeting

Historic – Roger Windhorn  
Special Appointee to State Advisory Commission on Private Sewage Disposal – Don Fehrenbacher  
Technical Criteria – Bruce Putman  
Web Page - Chairperson to be determined at the May 17 council meeting

##### Certification Board Members

Gerald Bering, Chairperson  
Jim Hornickel, Secretary-Treasurer  
Steve Elmer, pending approval of Executive Council at the May 17 council meeting  
Doug Gaines  
Dana Grantham  
Bob Oja

Illinois Conservation Congress Delegate- Pat Kelsey

The meeting adjourned at 2:30 PM.

A brief Executive Council meeting followed. The council approved those selected to serve as Committee Chairpersons. The Program, State Soil, and Web page Chairpersons, and the final member of the Certification Board, were not finalized at the time of the meeting. These positions will be discussed at the next council meeting, as noted above. These minutes will also be approved at the next council meeting.

A tour of the Agricultural Library was held after the Annual Meeting.

Respectfully submitted,

Robert Tegeler Secretary

# 22nd Annual Central States Forest Soils Workshop

October 15th—17th, 2002

Toledo, Ohio Area

Ohio is the proud host of the 22nd Annual  
Central States Forest Soils Workshop

**Tentative program includes:**

- Maumee State Forest
- Tour of Sauder Wood Products
- Sandy glacial outwash
- Discussions on forest-soil relationships
- Goll Woods Nature Preserve
- Ridgeville Corners Wastewater Plantings
- Windbreaks
- Greentree Marsh

The Great Black Swamp



**Hosted by:**

USDA-Natural Resources Conservation Service  
Ohio Department of Natural Resources  
Division of Forestry  
Division of Soil and Water Conservation  
The Ohio State University  
Ohio Society of American Foresters

For more information please contact Frank Gibbs, USDA-NRCS, 7868 County Road  
140, Suite F, Findlay, OH 45840-1898, (419)422-8347, frank.gibbs@oh.nrcs.usda.gov

**Registration form and a detailed agenda will be  
distributed July, 2002 and will be available at  
[www.ohioSAF.org](http://www.ohioSAF.org)**



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# NEWSLETTER

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Summer 2002

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## ISCA SUMMER MEETING

The ISCA Summer Meeting will be held on August 23<sup>rd</sup> in Quincy, IL and August 24<sup>th</sup> in Marion Co., Mo. On the 23<sup>rd</sup>, ISCA members will meet at 7:00 p.m. for dinner at the Holiday Inn in Quincy. A presentation on the GIS system of Adams County or possibly another topic will follow the dinner. On August 24<sup>th</sup>, Don Walker will lead a septic installation tour in Marion County, Mo.

A block of rooms has been reserved at the Holiday Inn (217-222-2666) for \$79.50. Call Scott Wegman at (217) 223-3670 at work or at (217) 223-0383 at home if you are interested in camping or have other questions related to the Summer Meeting.

Cost of the meal is \$10.00. The entrees are BBQ Chicken, Stuffed Pork Chop or Prime Rib. Please, make checks payable to ISCA and RSVP to Scott Wegman by August 16<sup>th</sup>. Please, indicate which meal you would prefer on the enclosed form.

A list of hotels/motels in the Quincy area has been enclosed if you prefer to stay at another location.

## NEW ISCA Members

The Ethics, Certification, and Membership Committee would like to welcome a returning Full Member and two new Associate Members to ISCA.

### Chris Cochran

Chris returns as a Full Member to ISCA. Chris is a Charter member of ISCA and spent the early years of his career working in Illinois. He received his BS in Forest Science from the University of Illinois. He worked with SCS in Illinois as a party member in Kane County and Champaign County soil surveys before serving as the Area Soil Scientist in Macomb.

In 1980, Chris headed west to Arizona and continued working for SCS/NRCS. While in Arizona he was sent on several mapping details and mapped in North Dakota and New Mexico, as well as in Arizona. Chris served as an NRCS interagency liaison with the US Army at both Fort Huachuca and the Yuma Proving Ground for six years in Arizona. At Fort Huachuca, he coordinated the development of their conservation and compliance programs. He did much the same at Yuma Proving Ground and also coordinated the development of wind erosion and vehicular dust studies and models. Chris received several Army citations for his work in locating tank test areas during Desert Storm. He also was awarded for his work as a member of the US Army's Wind Erosion Advisory Group.

Chris kept his connection with ISCA by becoming an Out-of-State Member during his 20-year absence from Illinois. In 2001 he returned to Illinois and wasted no time in becoming involved again with ISCA. In his first year back, Chris volunteered to serve as chair of the Program Committee. He volunteered to fill that position for a second year under the current Executive Council and so he remains the chair of the Program Committee. Chris continues to work for NRCS and now serves as MLRA Project Leader in Charleston. He resides in Champaign with his wife, Elissa, of 18 years and his  
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two children, David and Tiffany. We welcome Chris' return to Illinois and his reinstatement as a Full Member.

#### **Roy Mahnesmith**

Roy is a new Associate Member. He has Bachelor degrees from both Illinois State University (LAS) and from Western Illinois University (Ag. Sciences). He also has two Masters degrees to his credit: an MS from Northern Illinois University in geography and an MS from the University of Illinois in agronomy. (I wonder if he plans to attend EIU and SIU to hit all the state schools?) Roy resides in Princeton and is currently working with the LaSalle County Health Department as an Associate Environmental Health Inspector. He is working towards becoming a Sanitarian, as well. Parts of his job responsibilities include inspecting food establishments and conducting on-site investigations for sewer and septic installations. He also has been conducting soil and landscape analysis for proposed subdivisions.

Before his employment with LaSalle County, Roy worked with several natural resource projects in the state. For a while, he worked as a resource conservationist with the Tazewell County SWCD. During that time he developed an "Intro to Soils" curriculum for elementary-age students. In the late 70's and early 80's, he worked with the Spoon River Watershed Tributary project and Court Creek tributary. According to Roy, this was one of the first watershed projects that focused on a watershed associated with a stream, instead of a watershed associated with a lake.

During his studies at NIU, Roy did some field mapping at Matthiesen State Park in LaSalle County and discovered that limestone and sandstone were also part of the 94G Shale Rockland map unit that had previously been mapped. He also found some areas of wetland seeps (Histosols) and riverine deposits that had not been identified in the county soil survey.

Roy has already been active in ISCA. He volunteered to assist with the soil pit at last year's ILICA show near Peoria. When Roy is not volunteering in a pit, working or attending school he enjoys reading historical fiction, fishing, canoeing, kayaking, and other outdoor activities.

#### **Jessica (Jesse) Kurylo**

Jesse is another new Associate Member. Jesse, who grew up on a farm in New Jersey, came to Illinois via Virginia where she attended Virginia Polytechnic Institute and State University. At Virginia Tech, she completed a double major: Crop & Soil Environmental Science and Environmental Science – Land Resource Management. She has been working for the IDNR Illinois Natural History survey through a grant from the Illinois Department of Transportation. She has been with INHS for about two years. Her major duties include the delineation of hydric soil map units; wetland identification, mitigation, and monitoring; and conducting research projects related to wetlands and hydric soils. Before coming to Illinois, she was in charge of a soil lab for Engineering Consulting Services in Virginia.

Jesse is excited about soil science and has enjoyed seeing the variety of soils of Illinois. Virginia was not a great place to find glacial till and loess, so these are new experiences for her. In her recent past, she also developed presentations about soils for kids and for kids with disabilities or special needs. Jesse gets so excited about the soil that she sometimes wears it as "warpaint" or makeup and feels that a clean field soil scientist is almost a disgrace!

Jesse purchased a home in the Champaign/Urbana area, so in her spare time she is busy with home repairs and other maintenance. She doesn't have too much spare time, however, because Jesse is also a member of Company B of Unit 634 of the National Guard in Champaign. Her unit is part of the Forward Support Battalion. She is in her sixth year with the Guard and has already re-upped for additional time. Other activities Jesse enjoys are fitness related and outdoor activities, such as spelunking, skiing (water and snow), hiking and camping. In Virginia, the Appalachian Trail was almost in her backyard, so it has been an adjustment for her to find substitute opportunities for outdoor entertainment in central Illinois. Hopefully, she will find central Illinois activities (like watching the corn grow) as thrilling as the Appalachian Trail and will become a long-standing Full Member of ISCA. We are excited to have Jessica and her enthusiasm in our organization!

Submitted by Mark Bramstedt

## SOIL PRODUCTIVITY RATINGS

Illinois is one of the most productive agricultural areas in the world, as a result of a favorable humid climate, deep soils with good water-holding capacity, a favorable topography, and the use of improved crop-management technology. Within the state, climate and length of crop-growing season vary significantly depending on region. As a consequence of the variability of climate, soils and management, differences in crop production and soil productivity exist. Soil productivity refers to the capacity of soil to grow crops or plants under specified environmental conditions and is influenced by soil properties, climatic conditions and management inputs.

The University of Illinois, College of ACES recently released two publications which provide soil productivity ratings for all Illinois soils. Bulletin 810 *Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils* provides the 10-year average crop yields under the average management used by all Illinois farmers in the 1990s. Bulletin 811 *Optimum Crop Yields for Illinois Soils* provides the 10-year average crop yield under an optimum level of management.

Sources of crop yield data for validation included the following: the previously published 1970s crop, forage, and timber yields in Circular 1156, *Soil Productivity in Illinois*, the supplement "Productivity of Newly Established Illinois soils, 1978-1994", Illinois Agricultural Statistics Staff records (1969-1999), aggregate Illinois Farm Business Farm Management records (1976-1997), Illinois Agricultural Experiment Station agronomic research center plots (1990-1999), Illinois Experiment Station managed variety trials (1990-1999), check plots on farmer fields (1990-1999), and wide spread use of crop yield monitors coupled with global position satellite system (1997-1999) by both farmers and researchers. In addition, field measurement checks under an optimum level of management were made on 18,000 acres on 1400 parcels and included 3 to 5 years of corn and soybean yield data for 90 soil types.

Our approach to estimating yields included the development of crop yield-soil property models using stepwise multiple regression of established crop yields and soil properties, calculating the magnitude of crop yield change during the last 22 years and comparing updated yields with 1990s farmer reported crop yields on a county basis.

Current crop and forage rotations were determined for 2 soil regions (northern and southern) in Illinois and published in Bulletin 810. As a result of the federal Farm Bills and state T by 2000 programs with conservation provisions Illinois farmers have changed practices and crop rotations. By reducing the use of row crops, farmers have been able to meet tolerable soil-loss standards.

Productivity indices provide a single scale with which soils may be rated according to their suitability for several major crops under specified levels of management. Differences in crop yield and soil productivity may be represented by soil productivity indices. The soil productivity rating is an index that ranks soils types on the basis for the productive capacity of a soil. Productivity ratings are a good indicator of the suitability of soils for crop production. They are useful in determining the best use and management of soils. Crop productivity indices are given for the various soils. A simplified method of adjusting both yields and productivity indices for slope and erosion is provided. The 1990s soil productivity indices were calculated for 786 soil types using average 1990s cropping patterns, which reflect soil conservation concerns, and yields of corn, soybeans, wheat, oats, grain sorghum and forage crops under either a average (Bulletin 810) or optimum (Bulletin 811) level of management.

Forestry productivity data and site index value estimates for 7 important tree species were developed to quantify the effects of soil properties on tree growth. Statistical models were used to quantify the relationship between soil properties and expert-derived values for tree growth. The projected productivity timber site indices will be useful to land managers who wish to allocate time and other resources to land based on the potential productivity of the site.

Update grain-crop yields for Illinois soils based on current farmer and Crop Science fields were collected to assure the availability of current and reliable soil productivity information for many uses such as tax assessment and soil management decisions including the determination of the amount of amendments to apply. The productivity data  
(continued on page 4)

was needed for wise land-use planning, sustainable farm management, and accurate land appraisal. Crop yields are important for economic decision-makers, as well as for farm owners and operators, because yield performance may influence decisions about levels of agricultural imports and adoption of new technologies. Further, information about past, present, and future crop yields may be used as a basis for land valuation, crop insurance, nutrient management plans, protection of prime farmland, and other related farm business.

Copies of the Bulletins can be obtained by calling toll free 800-345-6087. The cost per copy of Bulletin 810 is \$3.00 and Bulletin 811 is \$2.50. They are also available in .pdf files on-line at web site <http://www.nres.uiuc.edu/soil> productivity at no charge. These up-to-date, on-line versions are being maintained for use by various groups including tax assessors, land appraisers, federal and state agencies, foresters and farm managers.

Submitted by Dr. Ken Olson, UIUC

Soil Classifiers on the hardcopy list of Certified Soil Classifiers, who are consulting in Illinois.

**MINUTES  
ISCA COUNCIL MEETING  
MAY 17, 2002  
NRCS STATE OFFICE,  
CHAMPAIGN, IL**

**Present:**

Lester Bushue, President  
Karla Hanson, Past-President  
Dale Calsyn, Vice-President  
Charles Frazee, Treasurer  
Bob Tegeler, Secretary  
Gerald Berning, Chairperson Certification Board

The Council Meeting was called to order by President Lester Bushue at 10:10 AM.

**Secretary's Report** - Bob Tegeler. The minutes were approved as written. Bob mentioned that one non-certified member has not paid the dues for 2002, to date. He will send a reminder to that member. Bob also mentioned that membership cards have been sent to the 55 non-certified members, who have paid their dues for 2002.

**Treasurer's Report** - Charles Frazee. The treasurer's report showed a balance of \$9,158.87 as of May 16, 2002. Charles reported that the Macoupin Co. Soil and Water Conservation District purchased some state soil bookmarks. Charles also mentioned that he submitted 78 subscriptions for *Soil Survey Horizons*. The Treasurer's report was approved as written.

**Certification Board** - The Executive Council approved Steve Elmer as a member of the ISCA Certification Board. A discussion ensued concerning the inclusion of ARCPACS Certified

Currently an ARCPACS Certified Soil Classifier whose name is on the ISCA webpage list, was not allowed to conduct onsites in certain counties, since this individual's name was not on the hardcopy list. Gerald Berning will contact those counties to inform them that the individual is in fact qualified to conduct onsites. The Illinois Department of Public Health prefers to rely on the ISCA list of Certified Soil Classifiers rather than maintain a separate list of ARCPACS Certified Soil Classifiers. ISCA will maintain a list of Consulting Certified Soil Classifiers, both ISCA and ARCPACS. A motion was approved by the Executive Council to make the ISCA webpage map the primary source for the list of Consulting Certified Soil Classifiers both ISCA and ARCPACS, who are conducting on-sites in Illinois; that the list will be updated as needed; and that ARCPACS Certified Soil Classifiers will need to contact ISCA if they want their name to appear on the ISCA webpage.

**Standing Committee reports**

**Constitution, By-Laws and Legislative** - No report.

**Ethics, Certification and Membership** - The Executive Council received an application for membership from Jessica Kurylo. Based on the recommendation of the committee, and a review of the application by the Executive Council; Jessica was approved as an Associate Member.

**Finance** - Dale Calsyn. The members of the  
(continued on page 5)



committee include John Doll and Bill Teater. A discussion ensued concerning the Webpage monthly bills. Charles Frazee has not received any bills to date. Bob Tegeler will discuss the monthly billing with Bill Teater; he will also determine if Bill contacted the provider about the setup fee they were requiring ISCA to pay. The Executive Council approved a motion designating the ISCA Vice-President as the Chairperson of the Webpage AD Hoc Committee.

**Newsletter** - No report.

**Nominations** - Karla Hanson. The members of the committee include Jeff Deniger and Cathy Swain

#### **Public Relations and Education**

**Committee/Special Appointee to State Advisory Commission on Private Sewage Disposal** - No report.

**Program** - The Executive Council approved Scott Wegman as the Chairperson. Lester Bushue will contact Scott about the upcoming Fall Meeting. The date for the meeting will be August 24, 2002. Lester was considering the Quincy, Illinois area as a meeting location, nothing definite to date.

#### **Ad Hoc Committees**

**Historic** - No report.

**State Soil** - No report. A discussion ensued concerning a request by Chairperson Bob McLeese to merge the State Soil Committee into the Public Relations and Education Committee, since Drummer has been designated as the State Soil. A motion was approved by the Executive Council to merge the State Soil Committee into the Public Relations and Education Committee.

**Technical Criteria (Key to Wastewater Loading Rates)** - No report. Bruce Putman has agreed to continue as Chairperson. The Executive Council approved Bruce as Chairperson. Lester mentioned the need for coordination of technical criteria between states. Gerald Berning mentioned that the committee received comments from Missouri and Wisconsin when the keys to loading rates were reviewed. The possibility of Bruce Putman meeting to review the keys with Classifiers from Indiana was discussed. No decision was made at this time. Gerald Berning suggested that the committee needs to continue to be active in regard to maintaining the keys and coordinating the keys with other states.

#### **Old Business**

**Region 3 Soil Judging Contest** - An Ad Hoc Committee will be set up for the contest. Lester

Bushue will determine a chairperson for the committee and update the Executive Council. Karla Hanson will contact Bob McLeese to obtain more information about the contest.

**Vehicle License Plates** - Bob Tegeler mentioned that ISCA Member interest in the specialty license plates was low. The Executive Council decided not to pursue specialty license plates.

**ISCA Shirts** - Bob Tegeler mentioned that the supply of ISCA shirts is low (only 4 left). The Executive Council approved a motion to place an order for 12 shirts, 6 green and 6 blue. Bob will place the order.

#### **New Business**

None.

**The next ISCA Council Meeting will be held on July 19, 2002, at 10:00 AM, at the NRCS State Office in Champaign.**

The meeting adjourned at 11:40 AM.

Respectfully submitted,

Robert Tegeler, Secretary

**ISCA MEMBER LIST 7/25/2002**

<b>Name</b>	<b>Address</b>	<b>City State Zip</b>	<b>Phone - ext</b>
John D. Alexander	2607 Melrose Dr.	Champaign, IL 61820	(217) 356-4649-
Kenneth N. Anderson, Jr.	Kane Co. Dept. of Env.Mgt. 719 Batavia Ave.	Geneva, IL 60134	(630) 208-3179-
Dennis Anthony	4833 Owen Center Road	Rockford, IL 61101	(815) 987-4249-130
Gerald V. Berning	2811 Brown Street	Alton, IL 62002	(618) 465-9336-
Richard Boniak	724 Drury Rd	Carbondale, IL 62901	(618) 351-9555-
Mark W. Bramstedt	USDA NRCS 1001 East Grant Street, Suite A	Watseka, IL 60970	(815) 432-6639-113
Paul E. Brown	%Andrews Engineering 215 W. Washington Street	Pontiac, IL 61764	(815) 842-2042-
Lester J. Bushue	1911 Scottsdale Drive	Champaign, IL 61821	(217) 359-7447-
Dale Calsyn	117 Laurie Lane	Oswego, IL 60543	(630) 554-3965-
Paul Chase	Chase Environmental Services, 3900 S. Mulford Rd.	Rochelle, IL 61068-9626	(815) 562-5158-
Chris Cochran	1515 Casselbury Lane	Champaign, IL 61822	(217) 359-4098-
Ron Collman	200 W. Madison Ave.	Charleston, IL 61920	(217) 345-2054-
Tom Copenhaver	1110 Beverly Dr.	Lake Villa, IL 60046	(847) 265-6042-
Laura L. Craven	761C Columbine Village Dr.	Woodland Park, CO 80863	(719) 686-9408-
Tom D'Avello	108 McKinley Dr.	Mahomet, IL 68153	(217) 586-5011-
Robert G. Darmody	1305 Weathervane	Champaign, IL 61821	(217) 359-8501-
Jeff Deniger	2 S. 621 Wembly	Warrenville, IL 60555	(630) 393-3713-
John C. Doll	1702 Harrington Drive	Champaign, IL 61821	(217) 398-3040-
Darryl Einhorn	Village of Barrington Hills 112 Algonquin Rd.	Barrington Hills, IL 60010-5199	(847) 551-3003-
Steven L. Elmer	27892 Ebenezer Rd.	Geneseo, IL 61254	(309) 944-0441-
Tonie J. Endres	6013 Lakeside Blvd.	Indianapolis, IN 46278	(317) 290-3200-372
Donald J. Fehrenbacher	USDA NRCS 313 - J Naperville Road	Plainfield, IL 60544	(815) 577-3599-3
Bryan Fitch	2904 Delora Lane	Herrin, IL 62948-3703	(618) 942-5837-
Leon Follmer	808 Vista Dr.	Savoy, IL 61874	(217) 359-2090-
John W. Ford	RR 1 Box 248	Greenfield, IL 62044	(217) 368-9162-
Charles J. Frazee	65 Gaffney Road	Divernon, IL 62530	(217) 628-3518-

<b>Name</b>	<b>Address</b>	<b>City State Zip</b>	<b>Phone – ext</b>
Paula French	451 W. North St.	Juneau, WI 53039	(920) 386-9999-127
Douglas B. Gaines	8611 Wieseman Road	Worden, IL 62097	(618) 459-8619-
Kenneth Gotsch	RR 3 Box 246	Shelbyville, IL 62565	(217) 774-5182-
William J. Gradle	3803 Deerfield Dr.	Champaign, IL 61821	(217) 359-3803-
Larry L. Gramm	7325 Janes Avenue Suite 100	Woodridge, IL 60517	(630) 724-9200-
Dana R. Grantham	9238 N. 15th Avenue	Butler, IL 62015-2301	(217) 532-5285-
Gary Greenwood	9026 Blue Ridge Road	Alton, IL 62002	(618) 372-3380-
Jaimee W. Hammit	APSSC, Soil Scientist Regulatory Project Mgr. 111 N. Canal St. #600	Chicago, IL 60606	(312) 353-6400-4033
Karla Hanson	3022 Waters Edge Circle	Aurora, IL 60504	(630) 236-5795-
Thomas M. Hanzely	Project Scientist Roy F. Weston, Inc. 750 E. Bunker Court, Suite 500	Vernon Hills, IL 60061-1450	(847) 918-4135-
Scott D. Harding	9833 Lower Marine Road	Marine, IL 62061	(618) 644-8171-
Clayton Heffter	826 Burnham Ln.	Batavia, IL 60510	(630) 879-3418-
James K. Hornickel	104 Cornell Drive	Normal, IL 61761	(309) 862-2500-
Bruce J. Houghtby	4314-A Crystal Lake Road	McHenry, IL 60050	(815) 344-4020-
Samuel J. Indorante	615 S. Wedgewood Lane	Carbondale, IL 62901	(618) 529-3586-
Jane Johnson	411 East Clare	Pittsfield, IL 62363	(217) 285-2331-
Don Johnson	713 S. Lynn	Champaign, IL 61820	(217) 356-7437-
Dennis Keene	601 E. Pennsylvania	Urbana, IL 61801	(217) 337-1830-
Patrick D. Kelsey	1323 Hickory Ridge Drive	Montgomery, IL 60538	(630) 896-2909-
Linus M. Kiefer	103 Wilson Drive	Watseka, IL 60970	(815) 432-5741-
Mary A. Kluz	3507 River Meadow Drive	Weston WI 54476-1587	(715) 571-3520
Michael Konen	NIU Dept of Geography 118 Davis Hall	Dekalb, IL 60115	(815) 753-6849-
William R. Kreznor	904 Powers Road	Woodstock, IL 60098-2702	(815) 338-2362-
David Krumwiede	RR2 #21	Sumner, IL 62466	(618) 936-2084-
Michael Kuhn	929 Hickory St.	Waukegan, IL 60085	(847) 249-1509-
Jessica S. Kurylo	607 E. Peabody Dr.	Champaign, IL 61821	217 244-0692
Carol Latowski	Box 397 231 Baldwin	Sharon, WI 53585-0397	(262) 736-9458-
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Charles Love	2311 Fullerton DR.	Indianapolis, IN 46214	(317) 243-2997-

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Roy L. Mahnesmith	1001 Phyllis	Princeton, IL 61356	(815) 872-0614-
Rex Mapes	41 Highmeadows Circle	Powell, OH 43065	(740) 548-6788-
Ann M. Mason	PO Box 386	Downers Grove, IL 60515	(630) 241-3364-
Mark Matusiak	10410 Nellie White Lane	Fairfax, VA 22032	(703) 323-6532-
William M. McCauley	1571 Club Road	Carterville, IL 62918	(618) 438-4021-110
Mark S. McClain	Soil Horizons, Inc. 1300 Drawbridge Lane	Lafayette, IN 47905-7814	(800) 288-7645-
Robert L. McLeese	1076 Bucks Pond Road	Monticello, IL 61856	(217) 762-7697-
Pat McNulty	McHenry Co. Dept. of Health 2200 N Seminary Ave	Woodstock, IL 60098	(815) 334-4585-
Clifford C. Miles	510 Keane Lane #1	Terra Haute, IN 47803	(812) 877-2225-
Vonda Miller	206 18th Ave	Sterling, IL 61081	(815) 625-5168-
Neil E. Molstad	V3 Consultants 7325 Janes Avenue, Suite 100	Woodridge, IL 60517	(630) 724-9200-148
James Mulcahy	N 7842 Hillside Dr.	Whitewater, WI 53190	(262) 473-1897-
Robert P. OJA	1143 N. Seminary Ave Box 168	Woodstock, IL 60098	(815) 338-0099-3
Ken Olson	3009 Kyle	Urbana, IL 61802	(217) 384-4335-
Dale Parker	E 12325 Lowery Rd.	LaFarge, WI 54639	(608) 625-4033-
John Paschke	23741 Old Port Rd. #101	Bonita Springs, FL 34135-1716	(941) 992-4035-
John R. Pearse	309 S. State Hwy 1	West Union, IL 62477	(217) 279-3651-
Don Phillips	R.R. 1, Box 14	Shobonier, IL 62885	(618) 846-2202-
Bruce R. Putman	1200 Portage Lane	Woodstock, IL 60098	(815) 338-6218-
David B. Rahe	828 S. Oak Street	Hillsboro, IL 62049	(217) 532-6887-
Elmer L. Readle	103 Dogwood Dr.	St. Augustine, FL 32080	(904) 471-4542-
Loyal Reinebach	1022 S. 21st St.	Quincy, IL 62301	(217) 228-8758-
Richard Rust	1922 Autumn	St. Paul, MN 55113	(651) 644-9514-
Larry Sabata	3030 SE Aries Ave.	Topeka, KS 66605	(785) 267-5091-
J Wiley Scott	411 N. Dorchester Drive	Mahomet, IL 61853-9539	(217) 586-4233-
Martha E. Sheppard	RR 2	Pearl, IL 62361	(217) 829-4409-
John Skrip	3900 W. Bryn Mawr Ave #205	Chicago, IL 60659	(773) 279-9225-

<b>Name</b>	<b>Address</b>	<b>City State Zip</b>	<b>Phone - ext</b>
Todd A. Soukup	P.O. Box 651	Plainfield, IL 60544	(815) 439-6774-
Mark Stelford	12140 Aldrich Rd.	Sycamore, IL 60178	(815) 895-9666-
Steven E. Suhl	101 Deer Creek Road	Rochester, IL 62563	(217) 498-8511-
Catherine A. Swain	1119 Southgate Ct	Aurora, IL 60504-8971	(630) 851-3254-
William M. Teater	10469 Locust Rd.	Tremont, IL 61568	(309) 925-5905-
Robert A. Tegeler	124 Joan Dr.	Divernon, IL 62530	(217) 625-7603-
Earl E. Voss	4009 Farhills Drive	Champaign, IL 61822	(217) 352-3089-
Donald D. Walker	1641 E. County Road 1800	Carthage, IL 62321	(217) 746-8601-
Michael B. Walker	205 Co. Rd. B2 East #242	Little Canada, MN 55117	(651) 481-0994-
Donald L. Wallace	643 North Kansas	Edwardsville, IL 62025	(618) 656-8230-
Scott W. Wegman	Klingner and Associates 616 North 24th St	Quincy, IL 62301	(217) 223-3670-
Benny J. Weiss	755 Walnut Grove Road	Harrisburg, IL 62946	(618) 252-4292-
Sam Werner	320 Jackson St.	Westfield, IL 62474	(217) 967-5381-
Gloria J. Westphal	31849 117th Street	Twin Lakes, WI 53181	(262) 862-2232-
Dwayne R. Williams	111 N. Almond St.	Carbondale, IL 62901	(618) 457-4946-
Roger D. Windhorn	2118 West Park Court	Champaign, IL 61821	(217) 353-6634-
Steven E. Zwicker	251 Country Rd., 1550N	Bradford, IL 61421	(309) 897-7416-

**CERTIFIED PROFESSIONAL SOIL CLASSIFIERS**

<b>Name</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>	<b>Phone</b>	<b>Practice</b>
Kenneth N. Anderson, Jr.	Kane Co. Dept. of Env.Mgt. 719 Batavia Ave.	Geneva	IL	60134-	(630) 208-3179	Gov't/Private
Gerald V. Berning	2811 Brown Street	Alton	IL	62002-	(618) 465-9336	Gov't
Mark W. Bramstedt	USDA NRCS 1001 East Grant Street, Suite A	Watseka	IL	60970-	(815) 432-6639	Gov't
Paul E. Brown	%Andrews Engineering 215 W. Washington Street	Pontiac	IL	61764-	(815) 842-2042	Private
Lester J. Bushue	1911 Scottsdale Drive	Champaign	IL	61821-	(217) 359-7447	Private
Laura L. Craven	761C Columbine Village Dr.	Woodland Park	CO	80863-	(719) 686-9408	Gov't
Robert G. Darmody	1305 Weathervane	Champaign	IL	61821-	(217) 359-8501	Univ/Private
John C. Doll	1702 Harrington Drive	Champaign	IL	61821-	(217) 398-3040	Gov't
Steven L. Elmer	27892 Ebenezer Rd.	Geneseo	IL	61254-	(309) 944-0441	Gov't/Private
Tonie J. Endres	6013 Lakeside Blvd.	Indianapolis	IN	46278-	(317) 290-3200	Gov't
Donald J. Fehrenbacher	USDA NRCS 313 - J Naperville Road	Plainfield	IL	60544-	(815) 577-3599	Gov't
Charles J. Frazee	65 Gaffney Road	Divernon	IL	62530-	(217) 628-3518	Private
Douglas B. Gaines	8611 Wieseman Road	Worden	IL	62097-	(618) 459-8619	Private
Dana R. Grantham	9238 N. 15th Avenue	Butler	IL	62015-2301	(217) 532-5285	Private
Scott D. Harding	9833 Lower Marine Road	Marine	IL	62061-	(618) 644-8171	Private
James K. Hornickel	104 Cornell Drive	Normal	IL	61761-	(309) 862-2500	Gov't/Private
Bruce J. Houghtby	4314-A Crystal Lake Road	McHenry	IL	60050-	(815) 344-4020	Private
Samuel J. Indorante	615 S. Wedgewood Lane	Carbondale	IL	62901-	(618) 529-3586	Gov't
Patrick D. Kelsey	1323 Hickory Ridge Drive	Montgomery	IL	60538-	(630) 896-2909	Private
Linus M. Kiefer	103 Wilson Drive	Watseka	IL	60970-	(815) 432-5741	Private
Mary A. Kluz	3507 River Meadow Drive	Weston	WI	54476-1587	(715) 571-3520	Private
William R. Kreznor	904 Powers Road	Woodstock	IL	60098-2702	(815) 338-2362	Private
Gary W. Lenz	3925 J J Road	Waterloo	IL	62298-2711	(618) 939-4986	Private

<b>Name</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>	<b>Phone</b>	<b>Practice</b>
Michael B. Lilly	214 Dublin Court	Brandon	MS	39047-8051	(601) 992-2562	Gov't
William M. McCauley	1571 Club Road	Carterville	IL	62918-	(618) 438-4021	Gov't
Mark S. McClain	Soil Horizons, Inc. 1300 Drawbridge Lane	Lafayette	IN	47905-7814	(800) 288-7645	Private
Robert L. McLeese	1076 Bucks Pond Road	Monticello	IL	61856-	(217) 762-7697	Gov't
Clifford C. Miles	510 Keane Lane #1	Terra Haute	IN	47803-	(812) 877-2225	Private
Robert P. OJA	1143 N. Seminary Ave Box 168	Woodstock	IL	60098-	(815) 338-0099	Private
John R. Pearse	309 S. State Hwy 1	West Union	IL	62477-	(217) 279-3651	Private
Bruce R. Putman	1200 Portage Lane	Woodstock	IL	60098-	(815) 338-6218	Private
David B. Rahe	828 S. Oak Street	Hillsboro	IL	62049-	(217) 532-6887	Gov't
J Wiley Scott	411 N. Dorchester Drive	Mahomet	IL	61853-9539	(217) 586-4233	Private
Martha E. Sheppard	RR 2	Pearl	IL	62361-	(217) 829-4409	Gov't
Todd A. Soukup	P.O. Box 651	Plainfield	IL	60544-	(815) 439-6774	Private
Steven E. Suhl	101 Deer Creek Road	Rochester	IL	62563-	(217) 498-8511	Gov't
William M. Teater	10469 Locust Rd.	Tremont	IL	61568-	(309) 925-5905	Gov't/Private
Earl E. Voss	4009 Farhills Drive	Champaign	IL	61822-	(217) 352-3089	Private
Donald D. Walker	1641 E. County Road 1800	Carthage	IL	62321-	(217) 746-8601	Private
Scott W. Wegman	Klingner and Associates 616 North 24th St.	Quincy	IL	62301-	(217) 223-3670	Private
Benny J. Weiss	7555 Walnut Grove Road	Harrisburg	IL	62946-	(618) 252-4292	Private
Gloria J. Westphal	31849 117th Street	Twin Lakes	WI	53181-	(262) 862-2232	Gov't
Roger D. Windhorn	2118 West Park Court	Champaign	IL	61821-	(217) 433-5293	Gov't/Private
Steven E. Zwicker	251 Country Rd., 1550N	Bradford	IL	61421-	(309) 897-7416	Gov't

I will be attending the summer meeting in Quincy. My choice of meal is:

\_\_\_\_\_ **BBQ Chicken**

\_\_\_\_\_ **Stuffed Pork chop**

\_\_\_\_\_ **Prime Rib**

I have enclosed \$\_\_\_\_.00 for dinner(s) at a cost of \$10 per dinner.

Members Name \_\_\_\_\_  
Please print

Althoff Motel  
(217) 228-2460  
3511 N 24th St

**Holiday Inn**  
**(217) 222-2666**  
**201 S 3rd St**

Bel Aire Motel  
(217) 223-1356  
2314 N 12th St

Hotel Elkton  
(217) 222-5660  
133 S 4th St

Comfort Inn  
(217) 228-2700  
4122 Broadway St

Hotel Quincy  
(217) 222-2400  
513 Hampshire St

Days Inn  
(217) 223-6610  
200 Maine St

Shepherd's Inn  
(217) 592-3011  
300 S 3rd St

Diamond Motel  
(217) 223-1436  
4703 N 12th St

Stoney Creek Inn  
(217) 223-2255  
3809 Broadway St

Fairfield Inn  
(217) 223-5922  
4315 Broadway St

Super 8 Motel  
(217) 228-8808  
224 N 36th St

Hampton Inn  
(217) 221-8378  
225 S 4th St

Travelodge  
(217) 222-5620  
200 S 3rd St





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# NEWSLETTER

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Fall 2002/Winter 2003

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## ISCA Elections

### President-Elect

Mark Bramstedt graduated from the University of Montana with a B.S. in Forest Soils. He began his soil career with SCS in Knox County and also mapped on the Peoria County survey. He was the Soil Survey Party Leader in Jasper County and Edgar County. After mapping, Mark moved into the Area Soil Scientist position in old Area 2. Currently Mark is the Area Soil Scientist with NRCS in Area 3 stationed in Watseka. Mark has been a member of ISCA since 1978 and Certified with ISCA since 1982. Mark is also ARCPAC Certified and a Registered Indiana Soil Scientist (pending).

Bruce Houghtby is a graduate of the University of Illinois with a B.S. in Agronomy. He has worked in Orange County and Randolph County in Indiana. In Illinois Bruce has mapped in Knox, Coles, Macoupin and White Counties. Currently he is employed with John Raber and Associates Inc. in McHenry, Illinois. Bruce was ARCPAC Certified in 1980 and been a member of ISCA since 1988. He is also Certified with ISCA.

### Vice-President

Steve Elmer is a graduate from the University of Wisconsin-Stevens Point, with a B.S. in Resource Management/Soils Emphasis. He began his soil career in Wisconsin mapping on three soil survey projects. Steve then moved to Connecticut as a Soil Survey Party Leader. In 1977 he came to Illinois as a Party leader and headed four Northwest Illinois Soil Survey Projects. Currently Steve is the MLRA Party Leader in the Rock Falls office. Steve is ISCA and ARCPAC Certified.

Don Fehrenbacher graduated from the University of Illinois with a B.S. in Forestry. He then received his M.S. in Soils also from the University of Illinois. He started his SCS/NRCS career mapping in Iroquois County and then moved west as the Soil Survey Party Leader in Ford County. For a short time Don was the Party Leader in White County before accepting the Area Soil Scientist position in Bourbonnais. Don is currently stationed in Plainfield as the Watershed Team Leader. Don is a Charter member of ISCA and is also ISCA Certified.

### Secretary

Chris Cochran received his B.S. in Forest Science from the University of Illinois and began working with SCS as a party member of the Kane County and Champaign County soil surveys before serving as Area Soil Scientist in Macomb. In 1980, Chris headed west to Arizona still working for SCS/NRCS. While in Arizona he also spent time mapping in North Dakota and New Mexico. Chris continues to work for NRCS as the MLRA party leader in Charleston. Chris is a Charter member of ISCA.

Tom D'Avello graduated from Ohio State University where he received his B.S. in Agronomy. He began his career with SCS in eastern Ohio in 1981. He has also mapped in Florida and Montana. In 1988, he went back to school at Michigan Tech and received is

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## INSIDE THIS ISSUE

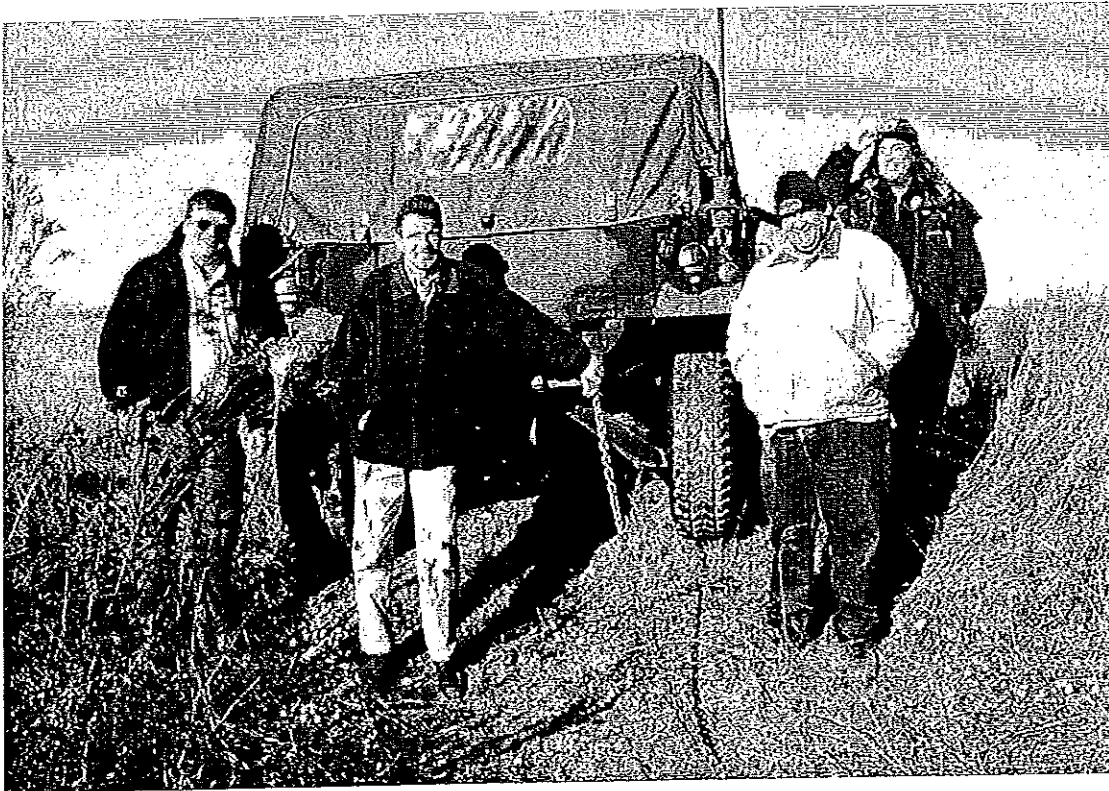
- 3 *Glacial Deposits of Williamson County*
- 7 *ECS of the Shawnee National Forest*
- 9 *Hydric Soil Monitoring*
- 13 *ISCA Minutes*

M.S. in Forest Soils. After receiving his M.S., he went back to Ohio where he was the survey leader in Ross County. Tom has been the GIS specialist in Illinois since 1990 working on projects such as Soilview, SSURGO, bathymetric mapping, GPS and general GIS applications.

### **ISCA Annual Meeting**

The ISCA Annual Meeting has been planned for March 29<sup>th</sup>, 2003. No details about the location or the time have been established as of this date. More information on the meeting will be forthcoming from Program Chairman and or the Current President.

Nominations for the bent auger award will be made at the annual meeting. Below we have a picture of a Humvee high centered, and four innocent people. A couple of ISCA members caught a ride back to town and left these four helpless people stranded in a strip mine in Randolph County. It was a very cold day in December 2001. Just remember sometimes when people leave to go get help, they never come back. The names of Jerry Berning and Sam Indorante were not used in this story in order to protect their innocence.



# Glacial Deposits of Williamson County

Leon Follmer  
ISGS

Glaciers are masses of ice that can grow to immense size and cover an extensive area. All of Williamson County was once covered by a continental-size glacier during the next to the last glacial stage 125,000 to 180,000 years ago, named for Illinois. Glaciers disturb the ground as they pass over and create a large variety of deposits and landform features. To the careful observer it is relatively obvious that glaciers eroded and deposited a mixture of bedrock materials in the process of a glaciation. The evidence is first noticed in the gravel and boulders of the deposits that we call till, which is a relatively uniform mixture of clay, silt, sand and gravel deposited by a glacier. This may seem straight forward but sometimes we find parts of the glacial landscape that are not easily explained, i.e., it is not clear how some of the glacial features and deposits were formed. Some features are quite mysterious on first observation because they do not seem to be compatible with the present landscape. To deal with this we often dismiss the odd relationships we can not explain.

A typical familiar pattern on the Illinoian till plain of southern Illinois is to find thick glacial deposits under level or gently rolling landscapes. This conjures up an image of the glacier carrying the materials or even pushing it along and smearing it out as a more or less homogenous mixture. But when we find stratified glacial deposits scattered around on bedrock controlled upland hills it may seem a bit odd. In a re-examination of the surficial geology of Williamson County, Illinois, a model has been developed to explain the origin of stratified glacial deposits found in many places in the Shawnee Hills and on the bedrock controlled upland hills to the north that have been overridden by the Illinoian glacier.

The odd observations. In many places of Williamson County isolated nearly level areas are scattered throughout the bedrock uplands. In places they join to produce a stepped geomorphic surface. In some views they appear like terraces or benches. The underlying deposits have been examined in only a few places. In places normal till is present but in other places the "odd" observations of stratified glacial deposits have been found or no glacial drift at all. All of these settings have a loess cover up to 8 feet thick. The loess cover is a sequence of Peoria-Roxana-Loveland loesses more than 5 feet thick in most places and covers the underlying materials that range from Pennsylvanian bedrock to a large variety of glacial deposits. The glacial deposits include till, stratified diamicton, sand and silt with some gravel and clay. Diamicton is a mixture of fine-grained sediments and pebbles. In all these settings the soils have been mapped as upland types such as Ava, Hosmer and related soils. The stratified deposits are commonly silty but range from fine silt to coarse sand with lenses of loamy diamicton and clay. They underlie somewhat level areas, which are terraces of a special kind. Where loess directly overlies bedrock in level areas, they are presumably erosional benches. Under soils in sloping areas, the sediments vary from one type to another. In a few places loess-covered stratified glacial deposits are on the highest parts of the local landscape.

The idea for the model comes from places where ice-walled glacial lakes have been studied, such as in North Dakota, Canada, and other parts of the world. During the melting phase of a stagnant glacier, much of the meltwater runs off into glacial streams and away from the area. A large portion of the sediments that had been entrained in the glacier is carried away but some of it remains in place forming normal till. In places some of the meltwater has nowhere to go and collects in basins forming lakes on the glacier. Sediments that collect in the lakes promote melting of the surrounding ice, which promotes the size of the lakes to grow. As lakes grow, they can merge with nearest neighbors to form larger lakes. Eventually the lake bottom melts through the ice down to the ground. At this point the lake becomes surrounded by the remnants of the stagnant glacier, thus becoming an ice-walled lake.

Sediments accumulate in the ice-walled lakes until the glacier finally melts away. In some places the top of the lake sediment is above the surrounding land and stands out like a flat-topped mesa. Where these features occur depends on how the total glacial sediment load is distributed and the melting processes. In hilly bedrock terrain the distribution of glacial sediments is highly irregular compared to a typical ground moraine on a flat landscape where

a diamicton layer can have a uniform thickness over large distances. The nature of the ground beneath the glacier seems to have little connection to where ice-walled lakes occur. Thus the lakes deposits can seem to occur anywhere. There may be a few ice-wall lake remnants on the highest parts of some hills in Williamson County, but none have been verified yet. However, there seems to be evidence for several ice-walled lakes on every topographic quadrangle in Williamson County.

The ice-wall lake model also explains how a series of stepped surfaces on lake sediments can form. A lake at a high level could by chance drain into an adjacent lower lake and eventually merge. Where a series of lakes merged in this way it would produce a stepped geomorphic surface on the lake deposits. In a general sense, ice-walled lake sediments are a special type of basin-fill deposits. They have a facies (lateral) relationship with normal till that is deposited directly from the glacier as well as with glacial lacustrine deposits formed on the glacier or a stable substrate. In general the ice-walled basin deposits are intermediate between what we would call normal till and normal lake deposits. Also, it is reasonable to expect normal till under stratified glacial basin deposits in this model.

The glacial basin model solves another problem in the region. Glacial Lake Muddy covered the northwest corner of Williamson County. It was a glacial slack water lake that formed during the last glaciation [Late Wisconsinan, 14,000 to 25,000 years ago] and produced the Equality Formation, which is largely stratified silty clay loam to clay. It occurs only in the lowest parts of the Big Muddy River watershed and covers parts of five counties north and west of Williamson County. In this regional lowland there are many little hills within the relatively flat lowland. The cores of many of these hills are presumable composed of glacial drift that has been called Illinoian till by many people. Some are bedrock highs or kames of Illinoian sand and gravel, and all are covered by variable amounts of loess.

Where the drift in the hills has been examined it commonly is a soft ablation type of till and commonly contains lenses of fine sand. The upper part of the drift is weathered by Sangamon soil formation. All across this regional lowland, a loess-covered Sangamon Geosol has been found in a variety of parent materials, particularly in fine sand. [Geosol: a paleosol catena defined in stratigraphic terms.] At this point a big picture begins to emerge -- The whole watershed of the modern Big Muddy River system was a big basin formed during deglaciation. When the Illinoian glacier stagnated, the melt water in this region was not able to flow away and accumulated into a gigantic glacial lake. This formed the lowland of the Big Muddy watershed. It would have been a temporary lake of Late Illinoian age similar in character to the large glacial lakes that formed on the Late Wisconsinan till plain of northeastern Illinois. Eventually the late Illinoian lake in the Big Muddy lowland found an outlet to the Mississippi River forming the modern course of the Big Muddy River through the Shawnee Hills. The lowland evolved into a Sangamonian wetland producing thick accretion gley profiles [cumulic Aquolls].

Recent observations of thick till in buried bedrock valleys of southwestern Williamson County suggests that the pre-Illinoian Big Muddy River flowed southwards out of the county before the Illinoian glaciation. In this area the glacier totally changed the drainage pattern. Following the time of Sangamon soil formation [Sangamonian Stage], the rivers of the Midwest during Early Wisconsinan time went into an erosional phase and caused deep incision of the main rivers and significant headward erosion of first order streams into the upland areas. The Mississippi River base level at the time was about 60 to 80 feet below the present level. A portion of the Big Muddy lowland was eroded out and was later refilled with the Equality slack water deposits. The Late Wisconsinan lake did not reach the heights of the Illinoian lake and its deposits completely covered up any expression of the previous topography in the basin. There is some evidence for a middle Wisconsinan [Altonian] lake but it did reach the level of the Late Wisconsinan maximum and its deposits [lower Equality] are now deeply buried. The total Equality thickness is up to 50 feet in the lowest parts of the Big Muddy basin.

When the Illinoian glacier advanced to its limit just south of Williamson County, it filled former valleys with drift and "dehorned" the bedrock hills and leveled them out somewhat. Over the glaciated part of the Shawnee Hills the ice thickness and amount drift in the ice would have been variable from place to place. When the glacier stagnated some of the water and sediments would have collected in low spots forming lakes of various sizes. The glacier was sufficiently thick to cover all of Williamson County which made it possible for ice-walled basins to form anywhere where the local conditions were suitable, even on top of what turns out to be the hill tops of the present topography.

So far, coarse channel deposits of Illinoian meltwater streams have not been found, which indicates a lack of an integrated drainage system in Williamson County during the late Illinoian.

The border zones around ice-walled basins would be unstable and generate mass wasting deposits that flow into the basins as the ice melts. This is probably the major producer of the stratified sandy silty diamicton we see in many places. It is the most likely explanation of how diamicton layers become interstratified with bedded clay, silt, sand and gravel. [Note: Diamicton is a textural name equivalent to pebbly loamy sediments. A diamicton may or may not be a till]. The soft somewhat stratified diamicton is often called ablation till because it is assumed that it accumulated on the glacier as the glacier melted. It is generally not very compact and described by civil engineers as normally consolidated.

Diamicton deposited below a glacier, a good till, is usually compressed and dewatered by weight of the glacier and is usually more uniform and dense. It commonly shows evidence of deformation. If a deposit is compressed by a force greater than the normal overburden pressure, it is called over consolidated by engineers. However, if water is trapped in the diamicton it will not be compressed or over consolidated. Diamicton deposited by a glacier is till and rarely shows much stratification. Diamicton that is mobilized by some event after it was released from a glacier is better called debris flow deposits or stratified drift. In a broad sense this creates three classes of diamicton: good till, ablation till, and diamicton debris or debris flow deposits.

In the investigations so far, the stratified Illinoian glacial sediments appear to be scattered across the uplands of Williamson County and commonly occur under terrace-like landform features. They appear to be related to the location of the present day drainage pattern. Also, they appear to be wide spread across the level areas of the Illinoian till plain in general. In Williamson County the higher terrace features have no concordant relationships with their nearest neighbor. The bigger ones that are larger than a square mile in size usually show some stepped surface features in cross section. At most places the slopes are gradual and are interrupted by flat spots [A slopes on soil maps]. In a few places distinct changes in slope or scarps [C slopes on soil maps] separate terrace levels. The Illinoian sediments underlying terrace remnants are informally called Glasford basin-fill deposits if they are stratified and contain diamicton, or they are correlated with the Pearl Formation if they are dominated by stratified sand and silt. If areas can be delineated that are dominated by bedded silt and clay, they will be correlated with the Teneriffe Formation. All have a mature Sangamon soil profile developed in them.

At lower elevations there are more occurrences of terrace remnants that have concordant relationships, where surfaces on the landform segments have about the same elevation. The lowest level is the most widespread and consistent. These observations lead to a conclusion that the ice-walled lakes that formed during the deglaciation of the Illinoian glacier started out with no pattern. With time the lakes either dried up or coalesced. Surviving lakes at the lower elevations merged to form a final big lake stage in the Big Muddy River basin. The big lake phase had a shore line that ranged from about 400 to 420 feet in elevation. At this time sediments of this lake are correlated with the Pearl Formation because they appear to be dominated by fine sand. A full range of glaciofluvial-lacustrine deposits is expected to occur in other places, but at this time we don't know their distribution. This lake is informally called glacial lake Herrin after the town which is located on the south shore of this late Illinoian lake. It is speculated that at the highest contiguous lake level extended north to beyond Mt Vernon and covered the region that is the present day lowland of the Big Muddy River watershed.

Conclusions. The interpretation of ice-walled, glacial basin features in Williamson County raises other questions that are the focus of a continuing investigation. Primary issues are how many geological units can be differentiated on 1:24,000 scale geologic maps of the county and how the geologic units should relate to the soils of Williamson County. A report will be prepared after the 2003 field season. Work in this project is jointly supported by the Illinois State Geological Survey and the Natural Resources Conservation Service.

**WILLIAMSON COUNTY QUATERNARY MAPPING LEGEND  
FOR 1:24,000 QUADRANGLES**

1/23/03 draft

SYMBOL*	NAME	DESCRIPTION
c	Cahokia	Alluvium. Silt to clay rich, poorly stratified sediments, weathered and leached in most places. Has a weakly developed soil profile in the upper 5 feet. Underlain by Equality clay or fine sand at most places.
e	Equality	Lacustrine silt and clay, interbedded, has a thin covering of alluvial or eolian deposits. Commonly laminated below the zone of weathering and interbedded with some sand. Weathered and leached to 10 feet. Has a well developed soil profile in the upper part and is calcareous in the lower part. Subdivided into 3 map units:
e-1	Low Terrace	Mostly clayey deposits on a surface slightly above the flood plain ranging up to an elevation of about 380 feet. Covered by an indeterminate amount of alluvium (<0-5 feet) which is masked by a well developed soil profile.
e-2	High Terrace	Silt and clay deposits on a surface above e-1 that ranges up to an elevation of about 395 feet. Usually covered by 3 to 6 feet of eolian silt or fine sand. Soils are well developed and more oxidized than e-1 soils.
e-s	Sandy Equality	Sandy facies of e-1 and e-2 in bar or natural levee landforms. Loess and fine sand up to 10' thick in places overlying bedded clay, silt and sand. Soils are well developed and more oxidized than e-2 soils.
pe	Pearl	Fine sand with a Sangamon Geosol in the upper 10 feet. On a terrace level above e-2 at an elevation of about 400 feet near Herrin and rises to a level of about 440 to the east and south. Underlies the Equality north and west of Herrin. Overlain by 5-10 feet of loess (Peoria, Roxana and Loveland), which has a well developed soil in the upper part. Contains beds of sand and gravel where thick. Has a facies relationship with Glasford basin fill (g-b) and Glasford till (g).
g-b	Glasford basin fill	Stratified silt with lenses of sand and loamy diamicton. Upper part modified by the Sangamon Geosol and is overlain by 5-10 feet of loess (Peoria, Roxana and Loveland), which has a well developed soil in the upper part. Appears as discontinuous terrace levels across the upland at elevations from 420 up to 550 feet. Has a facies relationship with Glasford till (g) at higher elevations and Pearl (pe) at lower elevations. Likely contains gravel at the base and overlies till where glacial deposits are thick. Loess over eroded bedrock may be common where depth to bedrock is shallow.
g	Glasford till	Silty diamicton in most places. Modified by the Sangamon Geosol in the upper part and covered by 5-10 feet of loess (Peoria, Roxana and Loveland), which has a well developed soil in the upper part. Usually more dense and uniform than the diamicton in g-b. Is the upland member of a facies with g-b and pe. Overlies Pennsylvanian bedrock and is discontinuous in places.
B	Bedrock	Pennsylvanian sandstone, shale and limestone with less than 4 feet of loess cover. Outcrops of bedrock are common. Discontinuous patches of glacial

		deposits are common. Surface soils are well developed but variable.
L	Loess over Bedrock	Loess, 4-8 feet thick overlying bedrock. Discontinuous patches of glacial deposits are common. Area of strongly developed Grantsburg soils.
ML	Made Land	Disturbed land, unclassified.
SM	Strip Mine	Surface coal mines that are reclaimed to various degrees.

\* Lower case letters are map symbols used by the ISGS. The prefix Q is dropped for convenience. The capital letters are symbols selected for this mapping project.

## **Ecological Classification System of the Shawnee National Forest**

**Bryan Fitch**

**Soil Scientist**

**Shawnee National Forest**

The Shawnee National Forest working with Southern Illinois University (SIU) and the Natural Resource Conservation Service (NRCS) has recently developed an ecological classification system for the Shawnee National Forest using the Forest Services hierarchal classification system (USDA Forest Service, 1995\*). The ecological classification system describes the ecologic potential of the landscape based on soils, geology, physiography and vegetation. This knowledge is helpful in making silvicultural recommendations, identifying potential habitat for rare plant species, wildlife management, and recreation planning.

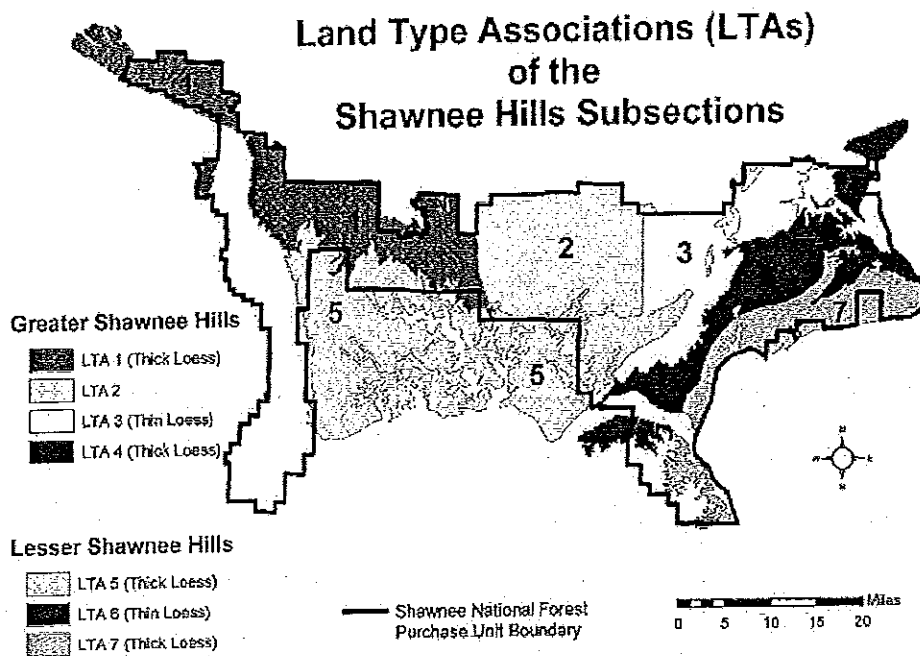
In accordance with the national ecosystem classification system presettlement forest vegetation along with geology and soil associations, more specifically loess depth, were used to characterize the Shawnee National Forest into subsections (tens to hundreds of square miles), and land type associations (LTAs: thousands of acres).

A USGS stack unit map of Shawnee National Forest was primarily used along with forest vegetation and soils to determine subsection boundaries. The soil association map (University of Illinois Bulletin 778, 1984) and loess depth maps along with presettlement vegetation data was used to map land type associations. The presettlement data was taken from the Illinois land survey records of 1806-1810.

The publication that describes in detail the subsections, landtype associations and the ecological land types on the Shawnee National Forest is entitled Presettlement, Present, and Projected Forest Communities of the Shawnee National Forest which at his time is still in draft form.

It was interesting to note how the thickness of loess deposits affected the plant community types across the forest. This was the first time that SIU considered loess depth as a legitimate way to determine ecological boundaries. They were not convinced about the effect of loess depths until they compared it to the presettlement data and recognized an obvious correlation between the loess thickness and presettlement forest communities.

This information will be used extensively in Forest Plan revision for the Shawnee National Forest to help determine management areas and in developing management prescriptions for each management area based on plant community types and forest stand composition. Other federal and state land management agencies and the NRCS can use this information as a technical reference for land management decisions. I would like to thank Jon Bathgate Resource Analyst and Matt McCauley Resource Soil Scientist, the NRCS for their assistance in this project.



The Greater and Lesser Shawnee Hills subsections were the only subsections split into land type associations. The remaining 5 subsections were smaller with less ecological diversity. Presettlement data indicates that Southern Illinois was primarily oak and hickory forest. Thin loess LTAs (LTA3 and 6) had a larger component of post oak and black jack oak (xerophytic species). Forest in the thick loess areas of the Greater and Lesser Shawnee Hills had a larger component of poplar and maple (mesophytic species) especially on north facing slopes, footslopes and stream terraces according to the presettlement data.

\*USDA Forest Service, 1995. Ecological units of the eastern United States, map unit tables, Washi D.C.



# MONITORING OF HYDRIC SOIL TRANSITION ZONES ON SELECTED LANDSCAPES IN NORTHEASTERN AND CENTRAL ILLINOIS

**Co-authored by Michael Whited and Mark Bramstedt**

## INTRODUCTION:

Although hydric soil indicators have been developed or proposed for most conditions found in the Midwestern region, some areas continue to cause significant identification problems. Such areas are in northeastern and central Illinois. Wet Mollisols in shallow basins and nearly level concave areas in this region continue to be a problem for hydric soil identification. Identifying or delineating hydric soils in this area is complicated by the intricacies of the hydrology, soil morphology, and geomorphology. Another complication is long term disturbance (i.e. conversion to agriculture, drainage, urbanization) that may have lowered regional groundwater tables or depleted soil organic matter levels resulting in soils that are believed to be hydric but do not meet any of the presently accepted field indicators of hydric soils.

The study region consists primarily of Wisconsin-age low relief ground moraine intermixed with outwash plains and subdued end moraines. The soils of concern are Aquolls which are extensive on nearly level or depressional parts of outwash plains, till plains, and stream terraces. A layer of silty loess overlies the loamy glacial till and/or outwash in much of the area. Numerous shallow wetlands formerly occurred throughout the region. The broad flat areas were originally covered with tall grass wet prairie and marsh vegetation. Forested areas occurred along stream valleys and in angles where moraines converge, possibly creating the sharp relief and necessary microclimates for woodland. Most of the landscape has been converted to agriculture for many years resulting in a loss of organic matter from A horizons and (possibly) accelerated sedimentation which has made the basins shallower. The representative hydric soil series is the poorly drained Drummer series. Adjacent upland soils include the somewhat poorly drained Elburn or Brenton soils and the moderately drained Blackberry soils.

The delineation of hydric Mollisols continues to be a problem especially in broad concave flats and in the transition area from hydric to non-hydric soils.

Presently hydric indicator TF7 is the indicator used to identify many of these soils as hydric. Because this indicator is listed as a "test" indicator it has little status in the wetland regulatory arena.

The objective of this investigation is to monitor soil water table depths, redox potential and soil temperature and correlate the monitoring data with soil morphological features and plant community data gathered from the study sites and other areas in the region. This information should be useful in providing supporting documentation for the TF7 (and possibly other) hydric soil indicator(s).

## Acknowledgements

Mitch Isoe of the COE, Chicago District, is the financial sponsor for this investigation. Mark Bramstedt (NRCS) is the NRCS technical leader. Technical advisors are Dr. Robert Darmody (Univ. of Ill.) and Michael Whited (NTCHS / NRCS). Bob McCleese (NRCS) State Soil Scientist will make some of his staff available for assistance. Over the course of the project there will be many contributors: ISCA Members who have already been involved in planning, site selection, and/or installation of equipment are: Mark Bramstedt, Robert Darmody, Robert McLeese, John Doll, Don Fehrenbacher, Roger Windhorn, Dale Calsyn, Jaimee Hammit, and Steven Zwicker.

## PROCEDURE:

The investigation will be 2 to 3 years in length. Three monitoring sites with similar properties have been selected in MLRA's 95B (McHenry County) and 110 (DuPage County and Ford County). These sites are instrumented with ground water monitoring wells, observation wells, ferrihydrite rods, thermocouples and rain gauges. Plans are to also use platinum electrodes to measure redox potential. Weekly to monthly monitoring may be done, especially during

times of seasonal saturation. The ground water monitoring wells, rain gauges, and temperature probes contain data loggers capable of storing several months of data. Observation data will be stored and summarized by Robert Darmody of the University of Illinois.

### Site Selection

The sites were selected on low relief ground moraine and/or outwash plains. The National Technical Committee for Hydric Soils (NTCHS) has stated that the data should be collected in "undisturbed landscapes" across a physiographic region. Undisturbed landscapes are practically non-existent in this part of the country. In spite of this, these selected sites are in restored native vegetation. The included watersheds are also in native vegetation. Drainage tile has been removed or crushed and the hydrology has been restored, as much as possible, to natural conditions. At all sites, the restoration was completed 3 or more years before the monitoring equipment was installed. The sites were chosen to avoid localized hydrologic disturbance (i.e. away from roads, ditches, tile drainage, etc.). Initially, several (6) sites were selected. From these 6 sites, 3 were selected at which the monitoring equipment was installed. At all 6 sites several (3) transects perpendicular to the hydrologic gradient will be established. Vegetative communities will be sampled as well as soil morphological descriptions. This data will be used to correlate the presence of hydrophytic vegetation with soil morphology. The monitoring equipment was installed in the fall of 2002.

The site in McHenry County is at the Glacial Park Conservation Area, near the town of Ringwood. This property is owned and managed by the McHenry County Conservation District. It contains several hundred acres of restored grasslands, wetlands, and kames. The Nippersink Creek flows through this property as well. The creek had been straightened in the 1940's was recently restored to its original meanders. Soils at this site were originally mapped as Brenton, Drummer, and Harpster, but have been correlated to Grundelein, Dunham, and Harpster.

Pratt's Wayne Woods in DuPage County is owned and managed by the Forest Preserve District of DuPage County. It is near the quaint town of Wayne in northwestern DuPage County. The site here

contains several hundred acres of wetlands and grasslands. The wetland at the study site was restored with fines collected from wetland violations. Originally, the soils were mapped as Mundelein and Drummer. These have also been correlated to Grundelein and Dunham, because of the presence of gravel in the lower part of the profile.

The site in Ford County is part of a complex called Sibley Grove that is owned and managed by the

Nature Conservancy. It is about 40 acres in size and is near the town of Sibley. The wetland is less than 10 acres and is surrounded by low hills covered by a relatively undisturbed grove of trees. The soils at this site are Blount, Ashkum, and Houghton. Warm season grasses have been restored in the Ashkum areas and the Houghton area appears to be permanently inundated.

### Methods

#### Initial Effort

For each transect, vegetative plots will be used to determine percent cover by species in vegetative communities. This data collection methods will follow accepted sampling practice in order to determine the presence of a hydrophytic plant community using both the 50:20 method (87 Manual) and the prevalence index method. A representative soil morphological description (Form 232) will be completed for each vegetative community sampled.

#### Monitoring Effort

Three of the six transected sites were selected for emplacement of monitoring equipment and for detailed description and sampling of the soils. All monitoring instrumentation is duplicated at each site (i.e. 2 transects will be instrumented in relatively close (50 - 100 meters) proximity. The instrument clusters will be placed to characterize a consensus hydric soil, a consensus upland soil (although close to the transition, such as a SWP drained soil), and the transitional (TF7) hydric soil. Generally on these types of studies, instrument clusters are placed in the deeper concave areas, on the convex upland, and at the transition from concave to convex landforms. An integrated approach using soil morphology, landscape position and plant community relationships were employed to position the instrument clusters.

Near surface groundwater observations will be made at each site using both ground water monitoring wells and observation wells. The wells were installed at 2m depths in the non-hydric sites and at 1m depths in the test sites and the hydric sites. Observation wells (unlined bore holes) are located at each instrument cluster.

Redox potentials will be measured with platinum electrodes. Electrodes will be installed at 25cm depth at each site in the hydric soil, the upland soil, and the transition soil. 5 replicates per depth per elevation are required (electrodes no closer to each other than 15 cm).  $\alpha, \alpha'$ -dipyridyl dye will be used periodically when redox measurements are taken. The platinum electrodes may not be installed the first spring dependent upon timing. Redox potential data must be collected for at least 1 "hydrologic" year as part of this project. A "hydrologic" year is approximately March - October for this area of the country.

In-situ pH will be measured at least seasonally at 25cm to enable the development of eH / pH relationships.

Thermocouples to measure soil temperature were installed at each cluster site at depths of 50 cm. Commercial rain gauges were installed on poles about 7 feet above the ground at each site .

Sometime during the study, an elevational survey of the monitoring sites will be accomplished using standard surveying techniques. The topography of the watershed will be determined from USGS quadrangles. Each observation site was located using the Rockwell PLGR GPS receiver.

### Soil Descriptions

A truck-mounted Giddings soil probe was used to bore the hole to install the monitoring wells. These cores were saved for soil descriptions. The soils will be sampled for characterization. Analyses will be conducted by the NRCS NSSLab for full characterization. Soils will be described by NRCS soil scientists (and other) staff. Additional near surface soil samples were collected and will be analyzed for organic matter content.

### Data Analysis and Summary

The data will be centrally housed and analyzed by Dr. Robert Darmody at the University of Illinois. He will ensure that a scientific study is conducted and

appropriate statistical analyses are made. Michael Whited, in conjunction with Dr. Darmody and Mark Bramstedt will prepare a summary report for consideration by the NTCCHS. Dr. Darmody will retain scientific journal publication rights using the data set.

### Challenges

After the first few weeks of the equipment being in the ground, we returned to the sites to make sure it was functioning and recording data. At the DuPage County site, a large bird (probably a hawk) was using the rain gauge as a perch. The gauge was filled with poop and other debris (so, of course our initial readings will be a little off). We installed a bamboo pole with several types of flagging adjacent to the gauge and the bird no longer uses it as a roost.

Within days after installing the monitoring wells at the Sibley site, an animal (my guess is that it is a deer) chewed the wires from the sensor to the data logger (plastic insulation and metal cable sheath) off of four of the five wells. We also discovered this same problem on one of the wells at the DuPage site. We have sent the wells in for repairs and are covering the remaining wells with galvanized hardware cloth to protect them from curious teeth.

Other animal tricks include one of the bore holes being used as a hideout for a snake and mice nesting under some of our protective coverings. It will be interesting to see how all this equipment fares the elements, the animals, vandalism, and prairie fires over a period of three years.



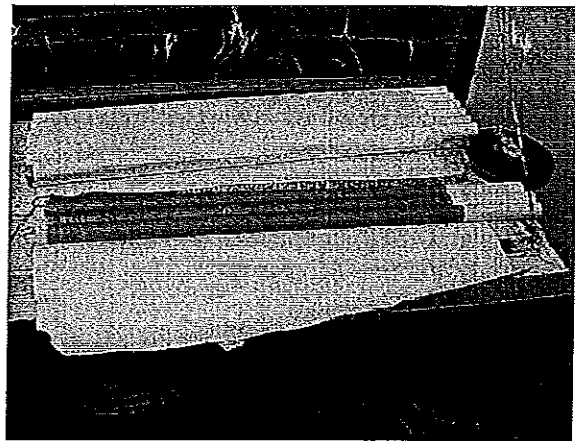
**Bob Darmody with monitoring well**



**Thomas Kohl and Jaimee Hammitt testing with alpha-alpha dipyridyl and describing colors**



**Thomas Kohl, Roger Windhorn, Dale Calsyn at the DuPage site.**



**Coated with ferrihydrite. In reducing environments the ferrihydrite will be reduced and will be removed from the surface of the PVC.**

**MINUTES**  
**ISCA COUNCIL MEETING**  
**August 23, 2002**  
**HOLIDAY INN, QUINCY, IL**

Present:

Lester Bushue, President  
Karla Hanson, Past-President  
Dale Calsyn, Vice-President  
Bob Tegeler, Secretary  
Gerald Berning, Chairperson Certification Board  
Guests: Don Walker, and Earl Voss

The Council Meeting was called to order by President Lester Bushue at 6:00 PM.

**Secretary's Report** - Bob Tegeler. The minutes of the July Council Meeting were approved as written. Bob mentioned that all non-certified members have now paid their 2002 dues.

**Treasurer's Report** - Bob Tegeler handed out copies of the report. The treasurer's report showed a balance of \$8989.83, as of August 20, 2002. The Treasurer's report was approved as written.

**Certification Board** - Gerald Berning. No new applications for certification have been received.

**Standing Committee reports**

**Constitution, By-Laws and Legislative** - No report.

**Ethics, Certification and Membership** - No report.

**Finance** - Dale Calsyn. A discussion ensued concerning the Webpage. Dale sent a note to Jake Teater containing some information for the webpage. The information has not been entered onto the webpage to date. It is possible that Jake may not be able to receive email at his hotmail account, from the government email system. Bob Tegeler will check with Bill Teater on this matter. Bob reported that Jake submitted an invoice, to ISCA, for webpage expenses.

**Newsletter** - No report.

**Nominations** - Karla Hanson reported that she and Jeff Deniger are developing a contact list of possible candidates, for the upcoming election of officers. Les Bushue mentioned that a list of past officers would be beneficial.

**Public Relations and Education**

**Committee/Special Appointee to State Advisory Commission on Private Sewage Disposal** - Karla Hanson mentioned that she contacted the State of Illinois concerning their webpage, which contains information concerning the state symbols. Karla received approval, from the State of Illinois, to put

information explaining Drummer on their webpage. Paige Buck from the IL NRCS State Office, will provide them with the information.

**Program** - No report.

**Ad Hoc Committees**

**Historic** - No report.

**Technical Criteria (Key to Wastewater Loading Rates)** - No report.

**Old Business**

**Region 3 Soil Judging Contest** - Les Bushue reported that the contest will be held October 19, 2002 in the Champaign area. Bob McLeese, Bob Darmody, Roger Windhorn, Mark Bramstedt, and Ken Gotsch will be assisting with the contest. It was noted that \$300.00 was allocated for contest expenses, in the 2002 budget.

**Soils of Illinois posters** - The posters have arrived. ISCA had previously allocated \$1000.00 toward the cost of the posters. This money was not used. A motion was approved by the Executive Council to use this money for future reprints of the poster, or to purchase additional bookmarks when needed.

**New Business**

**Soil Survey Planning Conference** - The conference will be held September 19, 2002 at the IL NRCS State Office. Les Bushue will give the ISCA report.

**The next ISCA Council Meeting will be held on January 24, 2003, at 10:00 AM, at the NRCS Field Office in Normal, IL.**

The meeting adjourned at 6:40 PM.

Respectfully submitted,

Robert Tegeler, Secretary

The evening meeting followed the Council Meeting. Steve Adams discussed activities at the Quincy Museum, and Scott Wegman discussed Adams County GIS activities. Eleven ISCA members and two guests were in attendance.

Nine ISCA members and two guests attended the field trip on Saturday morning. Don Walker led the group to three sites in Missouri. Soil profiles formed in loess, Pre-Illinoian till, and bedrock were discussed.

## ISCA 2003 Ballot

You may vote prior to the annual meeting by mailing your ballot to Bob Tegeler, 124 Joan Drive, Divernon, IL 62530. Please, mark "*Ballot*" on the outside of the envelope. Mailed ballots must be received by March 27<sup>th</sup>, 2003.

### President-Elect

\_\_\_\_\_ **Mark Bramstedt**

\_\_\_\_\_ **Bruce Houghtby**

### Vice-President

\_\_\_\_\_ **Don Fehrenbacher**

\_\_\_\_\_ **Steve Elmer**

### Secretary

\_\_\_\_\_ **Chris Cochran**

\_\_\_\_\_ **Tom D'Avello**