

**Proceedings**  
of the  
**North Central Regional  
Soil Survey Conference**

**Indianapolis, Indiana  
July 12 – 16, 2004**

*Soil Surveys and the Digital World of Web Based Technology*



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*The complete Conference Proceedings are on CD. This document is a selection of only the most essential information and some of the more easily reproduced reports. The CD includes many additional images, reports, and presentations in PowerPoint or other software formats.*

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**Cover photo:** One of the ancient earthworks at Mounds State Park in Anderson, Indiana. The earthworks are in an area mapped as Miami silt loam. Archeologists speculate that the earthworks were built by the Adena-Hopewell people about 160 B.C. [Stop 3 on the field tour of Quaternary Geology and Soils of the Huron and Erie Lobes in East Central Indiana.]

## North Central Regional Cooperative Soil Survey Conference Agenda

### MONDAY – July 12, 2004

9:00 AM – 1:00 PM – Registration – Lobby

General Session – Barcelona A&B

PM Moderator: **Travis Neely**, State Soil Scientist, NRCS, IN

- 1:00-2:00** Welcome to Indiana  
**Jane Hardisty**, State Conservationist, NRCS, IN  
**John McQuestion**, President, IAPSC
- 2:00-2:30** National Soil Survey Program  
**Micheal Golden**, Soil Survey Division Director, NRCS
- 2:30-3:00** Break
- 3:00-4:00** Keynote Address  
*Remote Sensing & GIS*  
**Chris J. Johannsen**  
Professor Emeritus of Agronomy  
Director Emeritus of LARS  
Lilly Hall of Life Sciences  
Purdue University
- 4:00-5:00** Committee Breakout Sessions  
Committee 1 – Taxonomy Barcelona D  
Committee 2 - Research Needs Barcelona A  
Committee 3 - New Technology Barcelona B  
Committee 4 – Interpretations Valencia

### TUESDAY – July 13, 2004

General Session – Barcelona A&B

AM Moderator: **Tommie Parham**, Director, National Cartography and  
Geospatial Center

- 8:00-8:30** NE Indiana Project – **Brad Lee**
- 8:30-9:00** US Forest Service Activities – Forest Service Woodland Interpretation –  
**Neil R. Babik**, Soil Scientist / TERRA Coordinator,  
Eastern Region – R9, USDA, Forest Service
- 9:00-10:00** NCR3 Meeting/NRCS Breakout Valencia
- 10:00-1030** Break

**10:30-NOON** - Committee Breakout Sessions  
Committee 1 – Taxonomy Atrium  
Committee 2 - Research Needs Barcelona A  
Committee 3 - New Technology Barcelona B  
Committee 4 – Interpretations Valencia

**NOON-1:00** Lunch

**1:00-1:15** NCR3 Report – **Gary Steinhardt**

**1:15-2:15** NCGC Update – **Tommie Parham**

**2:15-3:15** Electronic Soil Survey in the Future – **Nathan McCaleb**

**3:15-3:45** Break

**3:45-5:00** Carbon Sequestration – **Rattan Lal**, OSU

### **WEDNESDAY – July 14, 2004**

**Field Trip To:** The Davis-Purdue Agricultural Center  
Bus leaves from in front of the Embassy Suites Hotel at 8 AM sharp!  
Return by 8 PM.

**Tour:** Tour of the virgin Davis-Purdue Research Forest, designated as a Registered Natural Landmark. Review of Site Specific Agriculture Studies, soil pits and dense till discussion.

**Lunch & Supper Provided** Featuring desert by “Wick’s Pies”, known for old fashioned sugar cream pie and more.

### **THURSDAY – July 15, 2004**

**General Session** – Barcelona A&B  
AM Moderator: **Jon Hemple**

**8:00-9:00** Land Use Planning with GIS – **Jeff Wilson and John Ottensman**, IUPUI

**9:00-9:30** RUSLE Update – **Glenn Weesies**

**9:30-10:00** Prime Farmland and Surface Mine Reclamation – **Ken McWilliams, Debra Foye and Ray Sinclair**

**10:00-10:30** Break

**10:30-11:00** Registration of Indiana Soil Scientists – **Don Franzmeier**, Purdue University

- 11:00-11:30** Wetland Reclamation – **Jeff Coats**, NRCS, IN
- 11:30-12:00** Mollisols – **Mike Sucik**, State Soil Scientist, NRCS, IA
- 12:00-1:00** Lunch
- General Session** – Barcelona A&B  
PM Moderator **Mike Sucik**
- 1:00-2:00** Committee Breakout Sessions
- 2:00-3:00** MO Leaders Report (10 Minutes each)
- 3:00-3:30** Break
- 3:30-3:50** Organic Horizons – **Bob Engel**
- 3:50-4:00** National Interpretation Committee overview – **Russ Kelsea**
- 4:00-4:30** Use Dependent Data Bases in Soil Survey – **Mike Sucik**
- 4:30-5:00** Marketing Soil Survey – **Gary Muckel**

## **FRIDAY**

- General Session** – Barcelona A&B  
AM Moderator
- 8:00-8:30** Committee 1 Report – Taxonomy
- 8:30-9:00** Committee 2 Report – Research Needs
- 9:00-9:30** Committee 3 Report – New Technology
- 9:30-10:00** Break
- 10:00-10:30** Committee 4 Report - Interpretations
- 10:30-11:00** Business Meeting  
**Travis Neely**, NCRSSC 2004, Chair
- 11:00-11:15** Closing Remarks

## **ADJOURN**

## U.S. Forest Service Report

The Eastern region of the U.S. Forest Service includes National Forest system lands in the northeastern portion of the country. This region includes national forests and the Midewin Tallgrass prairie, from the New England states, south to West Virginia and then west, along the Mason-Dixon line to Missouri, and then north to Minnesota.

Neil R. Babik, soil scientist, represents the Eastern region. 25 years of experience, with the national forest system, and an additional 6 years as Soil Conservation Service soil scientist in Wisconsin and Hawaii.

Eastern Region Forests in the North Central Region of the National Cooperative Soil Survey (NCSS):

Illinois – Shawnee National Forest and Midewin National Tallgrass Prairie.

Indiana – Hoosier National Forest

Michigan – Hiawatha, Huron, Manistee, and Ottawa National Forest

Minnesota – Chippewa and Superior National Forest

Missouri – Mark Twain National Forest

Ohio – Wayne National Forest

Wisconsin – Chequamegon and Nicolet

Most of the units in the Eastern Region have completed, or are in the process of completing soil surveys and terrestrial ecological unit inventories (TEUI) to the map unit scale (1:24,000) to varying degrees. The most significant “hole” in NCSS progress in the region is on the Superior National Forest lands in Lake and Cook counties Minnesota. There are currently no plans in progress to conduct soil survey mapping in this area which is made up in large part of the Boundary Waters Wilderness Area.

The accomplishments of the NCSS in the Eastern Region over the past several decades have been considerable. The NCSS has produced a product that is very unique among natural resource information data sets. Some of the very valuable qualities of this product include:

- A systematically conducted, quality controlled, peer reviewed natural resource inventory. This type of natural resource inventory is relatively unique. Our peers in other natural resource fields; geology; hydrology; forestry; wildlife management; ecology; have nothing similar in nature and scope to the NCSS products. As a result we find that NCSS products often are incorporated into other natural resource inventory and data collection processes, serving as a unifying, universal and quality controlled common denominator.
- Universal, or nearly so, geographic coverage within the conterminous U.S. Nation-wide in geographic scope, in digital format, encompassing all land ownerships, this is again a relatively unique product in that respect.

- The coordination and foundation that Soil Taxonomy and the Soil Survey Manual contribute to soil survey efforts. Again, our peers in the other natural resource fields have nothing comparable to this guidance with respect to its universality, credibility, and scope.

Our challenges and goals for the future of NCSS in the Eastern Region include:

- 1) Consistency in soil interpretations and spatial data. Our goal needs to be a seamless product across geopolitical boundaries to facilitate analyses of soil data at various scales.
- 2) Development, refinement, validation, and DOCUMENTATION of soil survey interpretations and map unit criteria. Examples include:
  - i) Forest productivity/forest management suitabilities and limitations.
  - ii) Soil biology and ecological site descriptions.
  - iii) Ecosystem restoration, including restoration of soil ecosystems. There is currently a trend in “wild-land” management toward increased emphasis on “ecosystem restoration”, both aquatic and terrestrial. On public, and increasingly on private lands, restoration of naturally functioning ecosystems is becoming a priority. An example is the recently enacted “Healthy Forest Restoration Act” by Congress, and actively promoted by the Bush administration. Ecosystem scientists are just beginning to ask an important question. Theoretically, can terrestrial ecosystems be restored without a simultaneous restoration of soil ecosystems? For soil scientists this leads to a couple of practical questions. Should, or must, terrestrial ecosystem restoration efforts be dependent upon the potential for soil ecosystem restoration? Are the two mutually dependent? What soil criteria might be used to identify the potential for, or prioritize ecosystem restoration efforts?
- 3) Refinement and development of forest management interpretations which are based upon soil surface phase criteria. Need for more detailed and consistent characterization and mapping of soil surface phases. An example is the criteria used to determine limitations for prescribed fire use.
- 4) Need for more detailed and consistent available water content data. Moisture stress is invariably a factor in most, if not all, forest insect and disease situations. The use of soil survey data to analyze and model potential insect and disease potential is likely dependent upon this soil characteristic.
- 5) Current and future forest management and environmental effects analysis generally requires more detailed soil survey data than what has commonly been collected in the past. Early in the development of NCSS programs and projects in “wild-land” environments of forests and grasslands, a general assumption was made that these were “low intensity” land uses, as compared to more “intensive” land uses on croplands and urban lands. And subsequently “low intensity” soil information and

data was adequate. This likely was not an accurate assumption? Forest management decisions may require more detailed initial soil information due to the long-term nature of the commitments, economically, socially and ecologically. As an example, it is not uncommon for industrial forest landowners to routinely conduct what approximates Order I soil surveys on lands which they manage for forest crops.

- 6) Training of the next generation of soil scientists.
- 7) Finally, communications. Future NCSS programs and projects will require improved communications by, and among, the various partners. The Eastern Region of the Forest Service hopes to secure and continue relationships at the local and regional levels, and to the extent possible, moderate or mediate relationships at the national level.

Submitted by:

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Soil Scientist/TERRA Coordinator  
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For general information, upcoming event:

Central States Forest Soils Workshop  
Hazard, Kentucky  
October 12-14, 2004  
Contact Bill Craddock, NRCS, Lexington, Kentucky for registration information.

## **MO 5 Report**

(see MO 5 Report.ppt on CD for complete report)

### **MO 5 Staff**

- MO Leader
- 3 Soil Data Quality Specialist
- 1 Editor

### **Goals and Objectives**

- Provide un-biased soil survey support to the States
- Provide support for MLRA Project Office establishment
- Eliminate English edit and publication backlog
- Provide NASIS support and training to project offices
- Provide interpretation training to project offices
- Complete technical edit and correlation of soil surveys in which field work was completed.
- Assure that MO Staff would not be a stumblingly block for SSURGO initiative

### **MO Responsibilities**

- Soil survey quality assurance reviews
- Soil survey technical assistance
- Soil survey investigations
- Provide support to project office in the use of new technology (GIS)
- Quality assurance review of digitizing, compilation and map finishing
- Provide NASIS support

## **MO 7 Report**

Paul W. Benedict

MLRA Office Leader/State Soil Scientist  
(see MO7.ppt on CD for complete report)

### **PERSONNEL**

- MO LEADER
  - **PAUL BENEDICT**
- SOIL DATA QUALITY SPECIALISTS
  - **MIKE ULMER**
  - **LARRY EDLAND**
  - **C. J. HEIDT**
- EDITORIAL ASSISTANT
  - **LYNETTE LENNICK**
- SECRETARY
  - **KAREN UTTER**

### **MO ACTIVITIES**

- QUALITY ASSURANCE
  - **SOIL SURVEY, MANUSCRIPT, DATABASE, COMPILATION, DIGITIZING**
- GUIDE DEVELOPMENT (SEE WEBSITES)
  - <http://www.nd.nrcs.usda.gov/technical/soils.html>
  - <http://www.nd.nrcs.usda.gov/technical/references.html>
  - **FIELD GUIDE**
    - **MLRA UPDATE PROCEDURES**
    - **DATABASE PROCEDURAL GUIDE**
    - **INTERPRETIVE GUIDE (UNDER DEVELOPMENT)**
    - **FIELD GUIDE, DATA QUALITY, AND INTERP NOTES**
- MOLLISOL TOUR
- PETROCALCIC TOUR
- PHOTO LIBRARY
- REMOTE SENSING/TERRAIN ANALYSIS (WY/ND)
- STATE LAB DATA
- WET SOIL MONITORING
- GEOCHEMICAL SAMPLING
- HYDRIC INDICATORS

## **MO 11 Report**

July 15, 2004

(see NCR-3 Meeting 2004.ppt on CD for complete report)

### **PERSONNEL**

- Travis Neely, MO Leader
- Linda Cox, Secretary
- Marie Roberts, Technical Support
- Asghar Chowdhery, SDQS for MLRA 95A, 95B, 108A, 108B, 110
- Bennie Clark, SDQS for 94A, 94C, 96, 97, 98, 111B, 111C
- Gary Struben, SDQS for 113, 114A, 114B, 115A, 115B, 115C
- Tonie Endres, SDQS for 99, 111A, 111B, 111D, 111E
- Mike Wigginton, Soil Business/GIS Support
- Henry Ferguson, Soil Database Steward

### **WORKLOAD**

#### Soil Quality Assurance Reviews

- Illinois
  - 5 Field Assistance visits
  - 4 Final Field Reviews
  - 4 Final Correlation Conferences
- Indiana
  - 7 Progress Field Reviews
  - 2 Initial Field Review
  - 2 Field Assistance Visits
- Michigan
  - 2 Final Correlation Conferences

### **QUALITY ASSURANCE REVIEWS**

- Ohio
  - 1 Field Assistance visit
  - 1 Final Field Review
  - 1 Final Correlation Conference
  - 1 Progress Field Review

### **MANUSCRIPTS**

- Illinois
  - 8 Technical Edit Reviews, 10 at English Editor or at GPO
- Indiana
  - 4 Technical Edit Reviews, 6 at English Editor or at GPO
- Michigan
  - 2 Technical Edit Reviews or at English Editor

- Ohio
  - 2 Technical Edit Reviews

### **PUBLICATION STATUS**

- Illinois
  - 1 CD, 16 SSURGO Publications
- Indiana
  - 4 CD, 39 SSURGO Publications, 6 Web Base
- Michigan
  - 25 CD SSURGO Publications
- Wisconsin
  - 6 CD, 15 SSURGO Publications

### **MLRA PROJECT SOIL SURVEY OFFICES**

#### Illinois

- Carbondale MLRA Soil Survey Project Office
- Charleston MLRA Soil Survey Project Office
- Aurora MLRA Soil Survey Project Office
- Springfield MLRA Soil Survey Project Office

#### Indiana

- Indianapolis MLRA Soil Survey Project Office
- North Vernon MLRA Soil Survey Project Office
- Plymouth MLRA Soil Survey Project Office

#### Michigan

- Grayling MLRA Soil Survey Project Office
- Grand Rapid MLRA Soil Survey Project Office
- Flint MLRA Soil Survey Project Office

#### Missouri

- Palmyra MLRA Soil Survey Project Office
- Union MLRA Soil Survey Project Office

#### Ohio

- Findlay MLRA Soil Survey Project Office
- Wilmington MLRA Soil Survey Project Office

#### Wisconsin

- Madison MLRA Soil Survey Project Office
- Appleton MLRA Soil Survey Project Office (Proposed)

### **SOIL BUSINESS**

#### 10 Percent Quality Assurance Reviews

- Illinois – 10 Digital Map Finishing, 1 Map Compilation, 7 Digitized Unit

- Indiana – 2 Digital Map Finishing, 18 Map Compilation, 5 Digitized Unit, 6 CD-ROM
- Michigan – 2 Digital Map Finishing, 10 Map Compilation, 6 Digitized Unit, 4 CD-ROM
- Ohio – 1 Digital Map Finishing, 17 Digitized Unit

### **SPECIAL PROJECTS**

- SoLim Study – SE Wisconsin
- Soil Temperature Study – SW Michigan
- Water Table Study – Illinois, Indiana, Michigan, Missouri, Ohio, Wisconsin (132 water data loggers)
- Reclaimed Mine Land Study – SW Indiana
- Western Ohio – Clay Mineralogy Study
- Bulk density/Moraine Study – NE Indiana
- NSSC – Lab Work on Update and Maintenance Soil Survey Activities

### **MO Operating Procedures**

#### Establishing Soil Survey Priorities

Each state sets state priorities based on the following:

- Number of soil surveys out of date
- Age of soil surveys
- Cost-share funds and cooperative agreements (MOU's and MOA's)
- Client and/or customer needs
- Program Issues
  - STATSGO
  - SSURGO
  - AG Handbook 296
  - NASIS
  - FOTG
  - Training
  - New Farm Bill
  - Hiring additional Staff
  - ETC.

#### Developing MOU's

Prior to Reorganization

- MO's will develop one blanket Region-wide MOU
- States will continuous to develop both state's and county wide cooperative working Agreements

#### Collection and Management of Data

Data is Collected at three levels

- The subset soil survey project office

- MLRA soil survey project office
- At the field office by Resource Soil Scientists

Data is Managed at five levels

- MO, SO, MLRA project, and soil survey offices, and Cooperators

### **TRAINING**

NASIS Sessions

- 4 Illinois, 3 Indiana, 3 Ohio

ArcView, ArcInfo, ArcGIS, ArcEditor

Soil DataViewer 10 Sessions

## **National/Regional Conference Task Force Report**

Jon Gerken, State Soil Scientist and Chair of the Task Force

Background: A concern has been raised at various NCSS meetings that we may have lost some of our effectiveness in communicating needs and concerns within the structure of the National Cooperative Soil Survey program. Some of the issues that have been raised as concerns include:

1. When NRCS maintained four regional technical centers, the regional soil scientist was charged with heading the planning committee for the regional conference, participating in the national conference steering committee and attending the national conference. This helped ensure that concerns from the regional conferences were passed along to the national leadership and national activities were reported back to the regional conferences. A perception exists that the current structure does not provide the same level of communication from regional to national conference and back.
2. Conferences no longer commit the same level of resources to deliberation of committee charges as was the case in past years. For example: in 1982 the North Central Regional conference agenda, in 28 hrs. 45 min. of meeting time (excluding breaks) included 15 hours of committee meetings and reports, 5 hours of informational reports, 3:45 of agency meetings and a 5 hour optional field trip on Friday morning. In addition, committee deliberation was largely done prior to the conference by mail so that many individuals that could not attend the conference could contribute. By the time of the conference, committees were expected to have a draft report completed, including any recommendations that would be proposed. These reports were then discussed at the conference. Many committees now have very little activity prior to the conferences, limiting the effectiveness of their deliberations and development of recommendations.
3. In earlier years, the national conference was attended by invitation only and was a working conference. In recent years the attendance at the national conference has been opened to allow many more state program managers (NRCS and Partners) to attend. This may be contributing to the national conference agenda becoming more of an informational agenda than a working agenda.

### Discussion Topics

1. What are the high priority issues that require a regional and national conference structure to deal with? Some suggestions are that it be a few items like Taxonomy (Standards?) and Research Needs and that they be made standing committees in the national and regional conferences that are identified in the bylaws.
2. How can the high priority issues mentioned in item 1 best be discussed within the National and Regional Conference structure?
  - a. Between regional and national conferences
  - b. Between NRCS and cooperating agencies
    - i. University partners

- ii. Federal agency partners
  - iii. State agency partners
  - iv. Private consultants
3. Given the current structure of NCSS and activities within partner organizations, what is a proper mix of agenda time devoted to informational topics, committee activities, and field trips at NCSS conferences?
- a. National Conferences
  - b. Regional Conferences
4. What specific recommendations would you make to encourage participation in national and regional conferences by:
- a. University faculty?
  - b. Federal agency partners?
  - c. State agency partners?
  - d. Private sector soil scientists?

Items to consider:

Loss of regional tech center reps

Loss of resources (agency budgets, loss of institutional knowledge through retirement and reorganization)

References available:

National and regional bylaws

University Cooperators' report from 2003 National Conference

Past Conference Proceedings (available on CD)

## Taxonomy Committee Report

**Committee Chair:** Bennie Clark, Jr., NRCS  
**Committee Co-Chair:** Asghar Chowdhery, NRCS

### Committee Members

Ken Olson, University of Illinois  
Mickey Ransom, Kansas State University  
Richard Tummons, NRCS  
Paul Benedict, NRCS  
Justin Bender, NRCS  
Robert Engel, NRCS  
John McQuestion, Consultant  
Genny Mosher, NRCS  
Kevin Torres, NRCS  
C.J. Heidt, NRCS

### Committee Report

This committee addressed four issues:

1. Classification and Mapping of Eroded Soils in the Midwest United States
2. Pachic vs Cumulic
3. L horizon and limnic materials
4. Typic Fragiudalfs vs Oxyaquic Fragiudalfs

#### 1. Classification and Mapping of Eroded Soils in the Midwest United States.

Committee Focus-

What problems/consequences have been created as a result of the 2001 decision to rigidly classify individual soils based only on soil properties presently observable or measurable with no consideration of evidence provided in the current landscape, soil losses, soil genesis, past history, or the surrounding soils.

There is a concern about the classification interpretation and mapping of the eroded Mollisols as they were classified according to the 2001 decision of classifying as Mollic Hapludalfs. There are problems when these soils are associated with (uneroded phases) of the series. Others implications of this decision are its effect on land values and Agricultural Tax Assessments and problems with erosion phases.

There is a problem of equating or mapping the eroded Mollisols as soils that are forest/prairie intergrades (Alfisols vs Mollisols).

There is quite a difference in the inherent properties like subsoil P and K between these soils.

The committee wants to keep the genetic link and associated soil criteria alive. It was recommendation that Classification and mapping of eroded Mollisols issue be presented

to the NCR-3 committee and this committee draft a proposal for criteria of classifying eroded Mollisols.

Ken Olson agreed to present our concern and our request to the NCR-3 Committee on Taxonomy for further action.

## **2. Pachic vs Cumulic**

In taxonomy the criteria for Typic Hapludolls used to be 10 to 24 inches of mollic epipedon before Cumulic Hapludolls kicked in. The 4 inches of mollic difference causes many existing series to be misclassified or has caused them to be taxadjuncts.

Since this was an issue mainly in states in MO-10 (MN, IA, WS, MI) it was felt that this issue should be given to one of these states for follow up.

## **3. L horizon and limnic materials**

### **Problem**

Marl and sedimentary peat are limnic materials as defined in Soil Taxonomy. Currently taxonomy does not allow the use of limnic soil horizon designations for soils with less than 16 inches of organics. In northern Indiana we have soils that have partly depleted the organic horizon through oxidation or wind erosion. In some areas there is limnic material left on the soil surface less than 16 inches thick.

Shane McBurnett, MLRA Project Leader, northern Indiana agreed to develop a proposal defining these materials and other properties and submit to this committee.

## **4. Typic Fragiudalfs vs Oxyaquic Fragiudalfs**

There was some discussion on the issue of Typic vs Oxyaquic Fragiudalfs.

### **Problem**

The Typic Fragiudalfs definition include Oxyaquic, but the Alfisol order has Oxyaquic Fragiudalfs separated from the Typic Fragiudalfs. All these soils have Oxyaquic moisture regimes. Need to define the Typic subgroup as having Oxyaquic properties or get rid of the Typic subgroup.

Richard Tummons agreed to write a draft proposal for submission to Taxonomy Committee developing criteria to resolve this issue.

Submitted by

Bennie Clark, Jr., SDQS/BEPM  
Committee Chair

## Research Needs Committee Report

**Committee Chair:** Henry Ferguson, NRCS  
**Committee Co-Chair:** Mickey Ransom, Kansas State University

### Committee Members

Robert Engel, NRCS  
Gerald Miller, Iowa State University  
Rex Brock, NRCS  
Cynthia Stiles, University of Wisconsin  
Dennis Meinert, Missouri DNR  
Thomas Reinsch, NRCS  
Maxine Levin, NRCS  
Micheal Golden, NRCS  
Reed Cripps, NRCS  
Ryan McAninich, NRCS  
Russell Kelsea, NRCS

### Committee Report

It was agreed that we were a small group and that our discussion points needed more peer review before becoming recommendations.

#### Discussion Point #1

- All water table data must be entered into NASIS.
- Additional investigation is needed to ensure that the NASIS structure is adequate to record water table monitoring data in a meaningful way.

#### Discussion Point #2

- Landscape Interpretation Model needs some work.
- We know that some states like Missouri have researched the movement of water over and through landforms/landscapes. How do we capture these spatial models in NASIS? How can interpretations be developed that are spatially dependent?

#### Discussion Point #3

- Limnic/coprogenous earth
- We discussed the need for the data of the 1996 limnic study to be evaluated and entered into NASIS. Existing data needs to be more thoroughly analyzed/reviewed and then entered into NASIS where it can be referred to and queried

#### Discussion Point #4

- Support the idea of data population to prepare for data mining.
- Bedrock/ Em study is similar to the Liminic/coprogenous earth study.
- Many others

Discussion Point #5

- Support existing water table studies.
- Encourage the individuals that have installed water loggers to evaluate the design of each site and enhance the existing sites with additional instrumentation where applicable. An example would be the addition of IRIS tubes for measuring reduction or gypsum blocks for measuring soil moisture.

Discussion Point # 6

- Encourage literature reviews and the linking of Bench Mark Soils to the appropriate laboratory data.
- Currently in NASIS a map unit may be linked to a pedon by way of the correlation and component pedon fields. The laboratory number from the NSSL is the link between the pedon and the laboratory data.
- It would be desirable to link the laboratory data directly to the pedon.

## **New Technology Committee Report**

**Committee Chair:** Jon Hemple, NRCS  
**Committee Co-Chair:** Mike Wigginton, NRCS

### **Committee Members**

Travis Neely, NRCS  
Cleveland Watts, NRCS  
Dennis Potter, NRCS  
Norman Stephens, NRCS  
Shane McBurnett, NRCS  
David Gehring, NRCS  
Jerry Schaar, NRCS  
Carl Wacker, NRCS  
Timothy Gerber, Ohio DNR  
Joe McCloskey, NRCS  
Henry Ferguson, NRCS  
Tommie Parham, NRCS  
Nathan McCaleb, NRCS  
Gary Muckel, NRCS

### **Committee Report**

- GIS/Spatial Information
- Data Mining
- Other technology items
- Dissemination of technology information (communication)

### Basic Premises

Will be proactive-make sure there is follow-up after this meeting

- Board of Directors
- MO Leaders Meeting
- National Meetings
- Coordinate efforts with the other regions
- Assign tasks to positions/offices (insure tasks continue with retirement/transfers)
- Cross-over with research committee
- Adoption of new technologies will be tracked thru time

### GIS/Spatial

- Need reliable demo site for web soil survey (Nathan McCaleb)
- Digital soil survey course-plan to train all soil scientists (State Soil Scientists)
- Distribution of new technology information at a host web site (NGDC)
- Provide most up to date GIS hardware/software and technology to field soil scientists (Mike Golden)
  - High end desktop computers
  - Ruggedized computers-PDA, Tablet PC
  - Keeping IT informed at a national level about issues of software

- Timely delivery of GIS software products to field staffs (CCE compliance)

#### Data Mining

- mine existing soils information (state soil scientist)
  - Universities
  - BLM
  - Forest Service
  - Advanced degree dissertations
  - USGS (national and state level)
  - Centralized clearinghouse of all soils information
  - Consultants
  - State and local agencies
- Data Mining NEDS course (Mike Golden)

#### Other technology items

- Soil temperature regimes
- Water tables
- Inference modeling

#### Dissemination of Technology Information

- Educate our soils staffs (and others) on how technology is being applied
- Approaches to update and maintenance effort (MO offices)
- Educate our field staffs
- Insure that research is brought to a conclusion and communicated (state, university, research leaders-NSSC)
- NSSC distribute CDs of posters (SSSA) to state soil scientists
- Federal Laboratory consortiums

## Interpretations Committee Report

**Committee Chair:** Mike Sucik, NRCS

**Committee Co-Chair:**

### Committee Members

Bill Frederick, NRCS  
Chad Remley, NRCS  
Tonie Endres, NRCS  
Jon Gerken, NRCS  
Carl Wacker, NRCS  
Douglas Olemann, NRCS  
Gary Steinhardt, Purdue University  
Ray Sinclair, NRCS  
Gary Struben, NRCS  
Byron Nagel, NRCS  
Reed Cripps, NRCS  
Ryan McAninich, NRCS  
Terry Cooper, University of Minnesota

### Committee Report

#### CHARGE # 1

**How do we get things done?** This includes the development of new interpretations, the development of reports, and the refinement of existing interpretations. Too much reliance has been placed on SBAAG and NSIAG in the past with results forth coming at a very slow pace.

#### Recommendations:

- **Each state in NCR identify an interpretations specialist. Sucik will draft letter to each State Soil Scientist in region asking for a state point of contact for interpretations.**
- **States are responsible for development/refinement of interpretations they are needing.**
- **New/refined interpretations should be routed to all states in the region for comment before they are used.**

#### CHARGE # 2

**Ensure consistency of Interpretations from state to state where possible.** There are currently in excess of 30 primary interpretations in NASIS developed by states that deal with septic systems. There are in excess of 50 local interpretations on sand and gravel. There are many other examples of multiple variations of soil survey interpretations.

**Recommendations:**

- **Sucik will contact each state in region and ask them to list the reports they are using and the reason for their decisions to use local reports in lieu of existing national reports (state laws, local research, user needs, etc.).**
- **State point of contacts will meet/teleconference periodically to discuss differences and opportunities to use same report.**
- **If most states in region agree to use the same report that differs from the national report, we will contact NSIAG to consider adopting ‘our’ report to replace the existing national report.**

**CHARGE # 3**

**Review interpretive criteria to see if still valid.** Most interpretations were developed over 25 years ago. Is there newer science or performance data that warrants changes? Where is the science/logic for existing interpretations both national and locally developed.

- **Sucik will draft a letter to Karl Hipple and the chair of NSIAG asking for the science behind the national reports. States are responsible for documentation where local reports are used.**
- **NCR state interpretation specialists will discuss linking interpretive report to science that supports interpretation. They should also discuss whether we want to cite the supportive research or regulation in the report itself as a footnote.**

**CHARGE # 4**

**Evaluate recommendations for revising the population of flooding and ponding information in NASIS.** A National Flooding/Ponding Frequency Class Team developed recommendations for states to review.

- **Group decided there is merit in redesigning flooding and ponding tables as per committee’s recommendation because of hydric soil definition, etc.**
- **Sucik to draft letter to Craig Ditzler suggesting North Central Region would adopt redesigned flooding and ponding table.**
- **Recommend to Ditzler that definitions for flooding and ponding frequency and duration be changed to reflect monthly conditions.**
- **Recommend to Ditzler that depth not be included in flooding table, however retain depth for ponding.**

**BY- LAWS OF THE  
NORTH CENTRAL REGIONAL SOIL SURVEY CONFERENCE  
OF THE NATIONAL COOPERATIVE SOIL SURVEY**

2002 (REVISED)

Article I. Name.

The name of the Conference shall be the North Central Regional Soil Survey Conference. The letters NCRSSC may be used as the official acronym of the conference.

Article II. Purpose.

The purpose of the conference is to bring together North Central States representatives of the National Cooperative Soil Survey (NCSS) for discussion of technical questions. Through the actions of committees and conference discussions, experience is summarized and clarified for the benefit of all; new areas are explored; procedures are proposed; and ideas are exchanged and disseminated. The conference also functions as a clearinghouse for recommendations and proposals received from individual members and state conferences for transmittal to the National Cooperative Soil Survey Conference (NCRSSC). It also acts on recommendations from the national conference and other Regional conferences.

Article III. Membership.

Participants of the conference are the National Cooperative Soil Survey soil scientists of Federal, State, University, local units of government and private organizations of the North Central Region (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin). A National Leader of the Natural Resources Conservation Service (NRCS) Soil Survey Division will be a Liaison to the NCRSSC and will maintain a membership list for the Conference and distribute it to the incoming chair. All cooperating agencies and organizations will be responsible to provide update membership information to a Liaison National Leader of Soil Survey Division. All soil scientists or other technical specialists of any cooperating agency or organization whose participation would be helpful for particular objectives or projects of the Conference may be sent including those from the host state.

Article IV. Meetings.

Section 1. **Time.**

The conference will ordinarily convene every 2 years in even-numbered years. **The conference chair determines time of year for next meeting.** Additional meetings may be called by request of the steering committee or the conference with the administrative approval of the participating agencies and organizations.

#### Section 2. Host State.

The host state is determined two meetings in advance: (e.g., the **2002** conference selects the host state for **2006**, the **2004** conference selects the host state for **2008**, etc.). During the conference business meeting invitations from the various states are considered and voted upon. A simple majority vote decides the host state.

The conference may be held at any suitable location within the host state. The state rotation for the NCRSSC is as follows: Michigan, Wisconsin, Indiana, North Dakota, Kansas, Ohio, Nebraska, Iowa, Minnesota, Illinois, South Dakota, and Missouri.

#### Section 3. Separate Meetings.

University Agricultural Experiment Station representatives to the North Central Regional Committee No. 3 (NCR-3) on soil surveys will meet during the conference. Concurrently, soil scientists of the other cooperating agencies may meet to discuss their issues.

#### Section 4. Basic Structure of Regional Conference

Although the agenda for each conference will vary depending upon current issues and items of interest, the following is a basic recommended list of items that would be included in a North Central Regional Soil Survey Conference. This list can be used as an aid for states planning future conference meetings:

1. Welcome by cooperating host state agencies.
2. Reports by cooperating agencies such as NRCS, NCR-3, Forest Service (FS), Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), and **other agencies and groups as needed.**
3. Reports from Major Land Resource Area (MLRA) Regional Offices (MO's) within the North Central Region. These would include: Indianapolis, IN; St. Paul, MN; Salina, KS; **Bismarck, ND**; Amherst, MA; Morgantown, WV, Little Rock, AR and **Lexington, KY.**
4. Time allotted for breakout session. These typically are NRCS and NCR-3.
5. Time allotted for committees to meet and discuss charges presented to

- them by the steering committee as well as time allotted for conference attendees to make input to each committee's activities.
6. Time allotted for committee reports to the conference.
  7. Time allotted for a business meeting toward the end of the conference.
  8. A half or full day field trip to look at soil related problems or landscapes **of some special areas that might be of interest to the group.**

Article V. Steering Committee, Officers and Committee Chairs.

Section 1. The Conference shall have a Steering Committee.

The steering committee shall consist of:

1. NRCS State Soil Scientist of host state
2. The University representative for host state
3. NRCS and University representative from the next host state
4. Past NCRSSC chair and co-chair
5. Liaison National Leader of Soil Survey Division
6. MO leader for the host site

Officers rotate among agencies. That is, the chair must be of a different agency than the past chair. Similarly, the secretary must be of a different agency than the past secretary. At each biennial conference a secretary is elected for the succeeding conference. The secretary (whoever will be the next NCRSSC chair - either the NRCS State Soil scientist or University Representative) becomes chair when his/her successor is elected. When an officer is unable to complete his/her term of office, the steering committee shall appoint a successor.

Responsibilities of the Steering Committee include the following:

1. The committee will meet once after the business meeting of each conference and may meet at other times if necessary.
2. The steering committee may **select individuals that will represent the NCRSSC** in conferences of other regions.
3. The steering committee assists in the formulation of charges to committees.
4. The steering committee will be responsible for compiling, editing and distributing the NCRSSC Proceedings to all conference attendees within the 120 days after the conference.
5. Steering committee will forward action items, recommendations and resolutions to appropriate Liaison National Leader of Soil Survey Division and Director of Soil Survey Division.

## Section 2. Conference Officers

### A. Chair.

The chair is from the host state. Responsibilities include the following (specific tasks may be delegated to the secretary):

1. Functions as head of the Steering Committee.
2. Plans and manages the biennial conference.
3. Determines, in consultation with the steering committee, the kinds of committees, selects the committee chairs and assistant chairs, formulate, and transmits charges to committees, and appoints committee members.
4. Issue announcements of and invitations to the conference.
5. Writes the program and has copies prepared and distributed to the membership.
6. Makes necessary arrangements for: food and lodging accommodations; special food functions; meeting rooms (including committee rooms); and local transport for official functions.
7. Provides for appropriate publicity for the conference.
8. Presides at the business meeting of the conference.
9. Make arrangements for a half or full day field trip.

### B. Secretary.

The secretary is from the state that will host the next biennial conference. The secretary for the succeeding conference (in 2 years) is elected by simple majority vote at NCRSSC business meeting.

Responsibilities of the Secretary include the following:

1. Assists in the planning and management of the conference.
2. Assists in the selection of committee chairs and assistant chairs and in the selection of committee members.

3. Responsible for taking of all business meeting minutes, collecting final reports from committees, and collecting any papers or presentations given during the conference.
4. Responsible for forwarding all conference minutes, reports and papers to the Liaison National Leader of Soil Survey Division for the final preparation and distribution of the NCRSSC Proceedings.
5. Updates the conference membership list (given to him/her by the Chair upon conclusion of each conference) and provides the list to the Liaison National Leader of Soil Survey Division.

Section 3. Committee Chairs.

The conference chair in consultation with the steering committee selects the chair and co-chair for each committee.

Article VI. Committees.

Section 1. The constituted committees accomplish most of the technical work of the conference. The committees of the Conference shall be determined by the Steering Committee. Some committees will continue from the previous conference. Permanent or standing committees, ad hoc committees, and task force groups are considered to be committees of the Conference.

Section 2. The Committee Chair will select a secretary, or recorder. Committee members shall be selected after considering Steering Committee recommendations, National Conference recommendations, individual interests, technical proficiency, and continuity of the work. They are not limited to members of the National Cooperative Soil Survey.

Section 3. Each committee commonly conducts its work by correspondence among committee members. Most of the committee's communications will be by correspondence. Copies of all correspondence between members of the steering committee shall be sent to each member of the committee.

Committee chairs shall provide their committee members with the charges as assigned by the Steering Committee and procedure for committee operation. Committee chairs are charged with responsibility for initiating and carrying forward this work. Chairs should initiate committee work at the earliest possible date. Each committee shall meet during the conference to permit other conference attendees to make input to each committee's activities.

Section 4. Each committee chair shall send copies of a final committee report to the Secretary within the 30 days after the Conference.

Section 5. A standing committee will address proposed changes in soil taxonomy. Three members to be determined by NCR-3 and three members to be appointed the conference chair.

Article VII. **Representation.**

Delegates to the National Cooperative Soil Survey Conference will include the Liaison National Leader of Soil Survey Division, and a NCR-3 (state) delegate from the current host state for NCRSSC. These two delegates will also serve on the steering committee for the NCSSC. Two additional delegates to the NCSSC will include one NCRS soil scientist and one NCR-3 (state) representative (with appropriate administrative approval). The NCRS soil scientist will be chosen by simple majority vote during the separate federal session. The second NCR-3 delegate will come from the next NCRSSC host state and be assigned the task of presenting the NCRSSC report at the NCSSC. Both NCR-3 delegates will be chosen by simple majority vote during the separate NCR-3 session at the NCRSSC.

Article VIII. Historical Record.

A cumulative file of conference programs shall be turned over to each incoming conference chairman. A cumulative file should be kept at office of a Liaison National Leader of Soil Survey Division.

Article IX. Amendments.

The by-laws may be amended at any time by a simple majority vote of the participants attending the biennial business meeting. An amendment shall, unless otherwise provided therein, be effective immediately upon adoption and shall remain in effect until changed.

## Minutes of the Business Meeting

July 16, 2004

Travis Neely called the meeting to order at 9:30 a.m. Paul Benedict served as Secretary as David Hopkins was unable to attend the meeting.

Travis passed out a proposal he had received from Jim Culver on behalf of the United States Consortium of Soil Science Associations (USCSSA). The proposal asked the North Central Regional Soil Survey Conference to recommend to the National Cooperative Soil Survey Conference that the United States Consortium of Soil Science Associations and Soil Science Society of America organizations be invited to participate as members of the National Cooperative Soil Survey Steering Committee.

Ken Olson stated that representatives of these organizations are currently welcome to attend meetings but they are not part of the steering committee. To participate on the steering committee they should have a signed MOU with NRCS. Russ Kelsea then read the National Cooperative Soil Survey Steering Committee By-Laws for membership.

Gary Steinhardt moved that the North Central Regional Soil Survey Conference recommend to the National Cooperative Soil Survey Conference that USCSSA and SSSA be invited to become members of the national conference's steering committee. Mike Sucik seconded the motion. The motion failed in a tie with 10 voting in favor and 10 opposed.

After several minutes of continued discussion on the issue Jon Gerken moved that the members reconsider the issue. Russ Kelsea seconded the motion. The motion passed with 21 in favor and 5 opposed.

After several more minutes of discussion Bob Engel called for question and Travis Neely had the members vote on the motion again. This time the motion carried with 15 in favor and 9 opposed.

Travis Neely showed the members changes made to the North Central Regional Soil Survey Conference By-Laws at the 2002 conference. Ken Olson moved that the changes to the By-Laws be accepted. Mike Sucik seconded. The motion carried with 25 in favor and none opposed.

Ken Olson recommended Cleveland Watts be named the Secretary for the 2006 North Central Regional Soil Survey Conference and Chair for the 2008 North Central Regional Soil Survey Conference. The recommendation was unanimously approved.

Dennis Potter recommended that the steering committee make an effort to ensure that the 2006 conference does not conflict with any other meetings.

As described in the By-Laws it was agreed that Paul Benedict would forward the proceedings of the meeting and the business meeting minutes to Russ Kelsea within 30 days.

Gary Steinhardt motioned that the meeting be adjourned and Dennis Potter seconded. Travis Neely adjourned the meeting at 10:40 a.m.

Respectfully submitted,

Paul Benedict  
(for David Hopkins)