

Dear 2009 Conference Participants:

On behalf of the Planning Committee, we want to welcome you to the 2009 Governor's Conference on the Management of the Illinois River System! This twelfth biennial conference continues a tradition begun in 1987, when then Governor James R. Thompson joined with a group of concerned citizens to focus attention on the growing problems of sedimentation and erosion along the Illinois River and its tributaries. They believed bringing various state and federal organizations together in a common forum would help begin the process of discovering solutions to these problems. This biennial conference held in Peoria, continues to grow, benefiting from the strong support of Governor Pat Quinn. This year's conference theme is "Looking Back, Moving Forward".

The 2009 Planning Committee has developed an agenda designed to continue the tradition of bringing the latest in developments and management techniques to those working towards protecting the Illinois River System for future generations. For the past two years, we have been meeting and making plans to make this year's conference even bigger and better than ever. What can you expect?

- Comments on the Illinois River System by Governor Pat Quinn and U.S. Secretary of Transportation Ray LaHood (invited) to be presented at the quarterly meeting of the Illinois River Coordinating Council (IRCC) held on Tuesday evening October 20th. The IRCC meeting includes a Public Forum for Discussion, Comments, and Questions
- Illinois River watershed conservation tour on Tuesday, October 20th
- Plenary Session I to start the conference – 12 Years Implementing the Integrated Management Plan; Moderated by Senator Dave Koehler with keynote speaker previous Lt. Governor Dr. Bob Kustra (accepted)
- Plenary Session 2 – Water Law and Court Interpretations
- Twelve concurrent sessions that allow you to select from a wide array of contemporary topics of greatest interest to you
- High-profile keynote speakers including past Lt. Governor Dr. Bob Kustra, Congressman Aaron Schock (invited), and other invited keynote speakers
- Integrated Digital Technology Open House where participants can receive personalized technical assistance
- Informative & educational exhibits
- Delicious riverfront meal and get-together with SPECIAL treats and entertainment on the evening of Wednesday, October 21st
- Great opportunity for networking with other water resource colleagues!

On behalf of our Planning Committee, we hope that you will find this conference to be exciting, informative, stimulating and enjoyable!

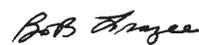
Sincerely,



Kimberly St John  
Conference Co-Chair



William P. White  
Conference Co-Chair



Bob Frazee  
Conference Co-Chair

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# Introduction and History of Conference

In 1985, a group of concerned scientists, citizens and river activists began to focus new attention on the growing problems of sedimentation and erosion along the Illinois River and its tributaries. Collectively, this group of individuals formed the nucleus for the planning committee for the First Governor's Conference on the Management of the Illinois River System, which was held at the Hotel Pere Marquette, Peoria, IL on April 1 - 3, 1987. Governor James R. Thompson believed bringing various state and federal agencies and organizations together in a common forum would help begin the process of discovering solutions to these problems

Since 1987, this conference has continued to be held on a biennial basis in Peoria - midway on the Illinois River between Chicago and Grafton. Governors Jim Edgar, George Ryan, Rod Blagojevich, and Pat Quinn have continued this strong tradition by providing a Governor's designation to this conference, thus demonstrating the high priority being placed upon our natural resources.

Over the past twenty-four years, the Governor's Conferences on the Management of the Illinois River System have served as an important forum to bring together local, state, and federal leaders to create awareness of the issues of soil erosion and sedimentation, identify important river research initiatives, develop working coalitions, apply conservation practices to the watershed, prepare new river and watershed legislation, and provide for state and federal funding to address the issues of the Illinois River System.

The foundations for the following programs can be directly attributed to successful interagency and multi-disciplinary cooperation, fostered at the Governor's Illinois River Conferences and subsequently implemented at the local, state and federal level:

- Development of low-cost Streambank Stabilization Methods with state and federal funding
- Formation and development of numerous watershed treatment programs for landowners, funded through U.S. Department of Agriculture, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Illinois Department of Agriculture, Illinois Department of Natural Resources, Illinois Environmental Protection Agency and local Soil and Water Conservation Districts; (Examples include: USFWS Partners for Wildlife and Fish Program has assisted landowners in restoring over 6,000 acres of habitat along the Illinois River; U.S. Army Corps of Engineers Habitat Restoration and Enhancement Projects completed at Swan Lake, Banner Marsh, Lake Chautauqua, Stump Lake, and Peoria Lake Islands; USFWS established the 11,122 acre Emiquon National Wildlife Refuge of which the Service now owns 2,114 acres and The Nature Conservancy owns 7,063 acres; IDNR completed land acquisition efforts at the Double T Fish and Wildlife Area, the Duck Ranch at Henry, IL; The Wetland Initiative's 2,500 acre Hennepin Hopper restoration effort; The Audubon Society's purchase of Plum Island; and Ducks Unlimited Spring Lake acquisition and restoration.)
- Formation and operation of the Illinois River Coordinating Council
- Development of the Integrated Management Plan for the Illinois River System
- Illinois Conservation 2000 Programs and Funding
- Illinois River Conservation Reserve Enhancement Program“ led by efforts of U.S. Congressman Ray LaHood - 123,000 acres presently enrolled
- Illinois Rivers 2020 Initiative
- Development of the Stream and Watershed Assessment and Restoration Program (SWARP).
- “Mud to Parks” Dredging & Re-Use of Sediment from the Illinois River
- Island construction on the Illinois River utilizing dredging sediment.

The conference attendance has grown from 150 to over 400 participants who represent a diversity of backgrounds, agencies, organizations, and communities. Each conference planning committee presented an agenda designed to continue the tradition of bringing the latest in developments and management techniques to those working towards protecting the Illinois River System for future generations. Over sixty local, state, and federal agencies and organizations currently serve as Conference Co-Sponsors and a number are now providing financial support of the conference. The following four individuals have faithfully served on all twelve of the State Conference Planning Committees by sharing their knowledge and expertise: Bob Frazee, University of Illinois Extension; Steve Havera, Illinois Natural History Survey; Gary Clark Illinois Dept. of Natural Resources; and Rick Mollahan, Illinois Dept. of Natural Resources and Illinois Environmental Protection

# Introduction and History of Conference

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Agency. Glenn Stout, University of Illinois Water Resources Center, provided leadership for organizing the First Governor's Conference on the Management of the Illinois River System by serving as the first Conference Chair. Subsequent conference leadership has been provided by:

1989 Bob Frazee, University of Illinois Extension, Chair

1991 - 1995 Bob Frazee, University of Illinois Extension and Roberta Parks, Peoria Area Chamber of Commerce, Co-Chairs

1997 - 2003 Bob Frazee, University of Illinois Extension and Steve Havera, Illinois Natural History Survey, Co-Chairs

2005 - 2007 Bob Frazee, University of Illinois Extension and Kim St. John, Natural Resources Conservation Service-Prairie Rivers Resource, Conservation and Development, Co-Chairs

2009 Kim St John, USDA-Natural Resources Conservation Service, William P. White, University of Illinois, Institute of Natural Resource Sustainability, Illinois State Water Survey, and Bob Frazee, University of Illinois Extension, Co-Chairs

Compiled by: Bob Frazee, University of Illinois Natural Resources Educator, 727 Sabrina Drive, East Peoria, IL 61611; Ph. (309) 694-7501, Ext. 226; E-mail: rfrazee@uiuc.edu, April 2007. Modified by: William White, University of Illinois, Institute of Natural Resource Sustainability, Illinois State Water Survey, P.O. Box 697, Peoria, IL 61652; Ph. (309) 671-

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# Conference Proceedings

3196, Ext. 207; E-mail: [bwhite1@illinois.edu](mailto:bwhite1@illinois.edu), May 2009.

Conference Proceedings have been compiled by the University of Illinois Water Resources Center for each of the biennial Illinois River Conferences. The Illinois Rivers Decision Support System, affiliated with the Illinois State Water Survey at Champaign, Illinois has a section of their webpage devoted to providing the Conference Proceedings for each of the past ten conferences at <http://ilrdss.sws.uiuc.edu/> Included for each conference is the conference agenda, topics, speakers, printed presentations, conservation tours, exhibits, public forums, and related activities. Listed below are the files for the first ten Governor's Conferences on the Management of the Illinois River System.

- File 1 1987 Governor's Conference on the Management of the Illinois River System, April 1 - 3, 1987, Hotel Père Marquette, Peoria, IL
- File 2 1989 Governor's Conference on the Management of the Illinois River System, October 3 - 4, 1989, Hotel Père Marquette, Peoria, IL
- File 3 1991 Governor's Conference on the Management of the Illinois River System, October 22 - 23, 1991, Hotel Père Marquette, Peoria, IL
- File 4 1993 Governor's Conference on the Management of the Illinois River System, September 21 - 22, 1993, Hotel Père Marquette, Peoria, IL
- File 5 1995 Governor's Conference on the Management of the Illinois River System, October 10 - 11, 1995, Hotel Père Marquette, Peoria, IL
- File 6 1997 Governor's Conference on the Management of the Illinois River System, October 7 - 9, 1997, Holiday Inn City Centre, Peoria, IL
- File 7 1999 Governor's Conference on the Management of the Illinois River System, October 5 - 7, 1999, Holiday Inn City Centre, Peoria, IL
- File 8 2001 Governor's Conference on the Management of the Illinois River System, October 2 - 4, 2001, Holiday Inn City Centre, Peoria, IL
- File 9 2003 Governor's Conference on the Management of the Illinois River System, October 7 - 9, 2003, Holiday Inn City Centre, Peoria, IL
- File 10 2005 Governor's Conference on the Management of the Illinois River System, October 4 - 6, 2005, Holiday Inn City Centre, Peoria, IL
- File 12 2007 Governor's Conference on the Management of the Illinois River System, October 2 - 4, 2007, Holiday Inn City Center, Peoria, IL

Proceedings from the 2009 Governor's Conference on the Management of the Illinois River System will be available to download from the Illinois Rivers Decision Support System website <http://ilrdss.sws.uiuc.edu/> as a PDF file by the end of February.

STATE OF ILLINOIS  
EXECUTIVE DEPARTMENT  
Proclamation

WHEREAS, the Illinois River is a critical component of our state's geography, history, economy, and ecology, and  
WHEREAS, many attributes are threatened as a result of the cumulative effects of human activities that have significantly altered the Illinois River system; and  
WHEREAS, our state is embracing an integrated approach to large river management and is working in a coordinated and continuous manner for this river; and  
WHEREAS, the implementation of the Illinois River Coordinating Council, the Conservation Reserve Enhancement Program, the Partners for Conservation Program, Illinois Rivers 2020, the Open Lands Trust fund, the Mud to Parks Program, the Landowner Incentive Program, the Illinois Fish and Wildlife Action Plan, the Illinois Conservation Stewardship Program, the Illinois Conservation Climate Initiative, the Stream and Watershed Assessment and Restoration Program, and the Farm Bill Conservation Title are important milestones in efforts to protect the resources of the Illinois River; and  
WHEREAS, the theme of the 2009 Conference on the management of the Illinois River System is "Looking Back, Moving Forward"; and  
WHEREAS, the conference will be taking place October 20-22, 2009 at the Hotel Pere Marquette in Peoria, Illinois;

THEREFORE, I, Pat Quinn, Governor of the State of Illinois, do hereby proclaim October 2009 as **ILLINOIS RIVER MANAGEMENT MONTH**, and encourage citizens to recognize the economic, recreational, social, and environmental benefits of conserving to properly utilize the resources of the Illinois River basin.

In Witness Whereof, I have hereunto set my hand and caused the Great Seal of the State of Illinois to be affixed.



Done at the Capitol, in the City of Springfield,  
this FIFTH day of MARCH, in  
the Year of Our Lord two thousand and  
NINE, and of the State of Illinois  
the one hundred and NINETY-FIRST

Osse White  
SECRETARY OF STATE

Pat Quinn  
GOVERNOR

# Conference Overview

Tuesday, October 20, 2009		Wednesday, October 21, 2009		Thursday, October 23, 2009	
Morning Sessions	<p>8:15 am - 9:00 am Conservation Tour/Sign-in/ (Upper Lobby)</p> <p>Conservation Tour 9 am - 4:15 pm</p>	<p>7:45 am - 8:45 am Registration/Check-in Exhibits/Breakfast (Marquette Ballroom North)</p> <p>8:45 am - 9:00 am Opening Comments (Marquette Ballroom South)</p> <p>9:00 am - 9:45 am Plenary Session I (Marquette Ballroom South)</p> <p>9:45 am - 10:15 am Break/Exhibits (Marquette Ballroom North)</p> <p>10:15 am - 11:15 am Plenary Session II (Marquette Ballroom South)</p> <p>11:30 am - 12:50 pm Lunch and Speaker (Cotillion Ballroom)</p> <p>1:15 pm - 2:30 pm Concurrent Sessions</p>	<p>7:45 am - 8:30 am Registration/Check-in Exhibits/Breakfast (Marquette Ballroom North)</p> <p>8:30 am - 9:45 am Concurrent Sessions</p> <p>A-3 In the Corridor (Marquette Ballroom South)</p> <p>B-3 Economic Development (Cheminée)</p> <p>C-3 Soil and Water Movement I (LaSalle)</p> <p>9:45 am - 10:15 am Break/Exhibits (Marquette Ballroom North)</p> <p>10:15 am - 11:30 am Concurrent Sessions</p> <p>A-4 In the Corridor (Marquette Ballroom South)</p> <p>B-4 Economic Development (Cheminée)</p> <p>C-4 Soil and Water Movement II (LaSalle)</p> <p>11:45 am - 1:15 pm Lunch and Speaker Closing Comments (Cotillion Ballroom)</p>		
	<p>1:00 pm - 6:15 pm Registration and Check-in (Upper Lobby)</p> <p>1:00 pm - 6:15 pm Exhibit Set-up</p>	<p>A-1 Agricultural Practices (Marquette Ballroom South)</p> <p>B-1 Introduction to Ecosystem Services (Cheminée)</p> <p>C-1 Local Community Actions (LaSalle)</p> <p>2:30 pm - 3:00 pm Break/Exhibits (Marquette Ballroom North)</p> <p>3:00 pm - 4:15 pm Concurrent Sessions</p> <p>Illinois Room 1:15 pm - 4:15 pm Interactive Digital Technology Open House</p> <p>A-2 Agricultural Practices (Marquette Ballroom South)</p> <p>B-2 Ecosystem Services (Cheminée)</p> <p>C-2 Local Community Actions (LaSalle)</p> <p>5:30 pm - 8:00 pm Dinner Gateway Building Plaza <i>Life Along the Illinois River</i> Photo Presentation Musical Entertainment Redhorse</p>			
Evening Sessions	<p>5:00 pm - 6:15 pm Illinois River Coordinating Council Reception (Cotillion Ballroom)</p> <p>6:30 pm - 8:30 pm Illinois River Coordinating Council Quarterly Meeting and Public Forum (Cotillion Ballroom)</p>				

# Agenda

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## 2009 Governor's Conference on the Management of the Illinois River System "Looking Back, Moving Forward"

### Tuesday, October 20, 2009

- 8:15 am - 9:00 am Conservation Tour Check-In (Upper Lobby)
- 9:00 am - 4:15 pm Illinois River Watershed Conservation Tour
- 1:00 pm - 6:15 pm Set-up for Conference – Registration, Exhibit Set-up
- 5:00 pm - 6:15 pm Illinois River Coordinating Council Reception (Cotillion Ballroom)  
Registered Conference Participants Only  
Special Recognition of Governor Pat Quinn and  
U.S. Secretary of Transportation Ray LaHood
- 6:30 pm - 8:30 pm Quarterly Meeting and Public Forum (Cotillion Ballroom)  
Illinois River Coordinating Council

### Wednesday, October 21, 2009

- 7:45 am - 8:45 am Registration (Upper Lobby)  
Continental Breakfast/Exhibits (Marquette Ballroom South)
- 8:45 am - 9:00 am Call to Order – Opening Comments (Marquette Ballroom North)  
Kim St John, USDA-Natural Resources Conservation Service, Conference Co-Chair  
Welcome, Mayor Jim Ardis, City of Peoria
- 9:00 am - 9:45 am Plenary Session One - *Twelve Years Implementing the Integrated Management Plan*  
(Marquette Ballroom South)  
Moderator: David Koehler, State Senator, 46th District  
Bob Kustra, Former Lieutenant Governor of Illinois
- 9:45 am - 10:15 am Break/Exhibits (Marquette Ballroom North)
- 10:15 am - 11:15 am Plenary Session Two: *Water Law and Court Interpretation*  
(Marquette Ballroom South)  
Moderator: Kate Tomford, Office of Governor Pat Quinn  
Robert Beck, Southern Illinois University  
Donald Uchtmann, University of Illinois  
Albert Ettinger, Environmental Law and Policy Center
- 11:30 pm - 12:50 pm Lunch and Featured Speaker (Cotillion Ballroom)  
Aaron Schock, US Representative of the 18th District (invited)
- 1:15 pm - 4:15 pm Interactive Digital Technologies Open House (Illinois Room)

1:15 pm - 2:30 pm

Concurrent Sessions

## **Session A-1. Agricultural Practices: Status and Progress** (Marquette Ballroom South)

Moderator: Nancy Erickson, Illinois Farm Bureau

*A Decade of Progress Associated with Agricultural Practices*

Jon Hubbert, USDA-Natural Resources Conservation Service

*Success with Controlling Erosion*

Alan Gulso, Illinois Department of Agriculture

*Water Quality in Illinois*

Paul Terrio, US Geological Survey

## **Session B-1. Ecosystem Services: Introduction to Ecosystem Services**

(Cheminee)

Moderator: Marc Miller, Illinois Department of Natural Resources

*An Introduction to Ecosystem Services*

Steven Kraft, Southern Illinois University

*An Introduction to Ecosystem Services*

Sabina Shaikh, University of Chicago

*An Introduction to Ecosystem Services*

Randy Vogel, Applied Ecological Services

## **Session C-1. Local Community Actions: Success Stories** (LaSalle)

Moderator: Lisa Merrifield, Illinois Water Resources Center

*Local Actions Deliver National Results*

Brad McMillan, Institute for Principled Leadership in Public Service

*Pharmaceutical Take Back Program: Lessons Learned*

Beth Hinchey-Malloy, Illinois-Indiana Sea Grant

*Community Stormwater Education by a Nonprofit*

Michael Brown, Ecology Action Center

2:30 pm - 3:00 pm

Break/Exhibits (Marquette Ballroom North)

3:00 pm - 4:15 pm

Concurrent Sessions

## **Session A-2. Agricultural Practices: Advancements in Technology** (Marquette Ballroom South)

Moderator: William J. Gradle, USDA-Natural Resources Conservation Service

*Illinois Rural Stream Restoration*

Don Roseboom, US Geological Survey

*Agricultural Nutrient-Reduction Alternatives and Costs*

Dennis McKenna, Illinois Department of Agriculture

*Advancements in Agricultural Technology Associated with Precision Farming*

Doug Thompson, Lincoln Land Community College and Farmer

## **Session B-2. Ecosystem Services-The Economic and Societal Benefits Provided by Healthy Ecosystems** (Cheminee)

Moderator: Marc Miller, Illinois Department of Natural Resources

*Alternative Land Uses: Emerging Ecosystem Service Markets*

Keith Oswald, V3 Consultants

*Large River Ecosystem Restoration and Monitoring: How the Past Paves a Way for the Future on the Upper Mississippi River System*

Marvin Hubbel, US Army Corps of Engineers

*Farming for Ecosystem Services: Research and Policy to Make It Happen*

Scott Swinton, Michigan State University

## **Session C-2. Local Community Actions: You Can Do It Too!** (LaSalle)

Moderator: Janel Veile, Illinois Department of Transportation

*Using Social Information to Guide Outreach Activities in the LaMoine River Watershed*

Linda Prokopy, Purdue University

*Stormwater Utilities: A Source of Funding for Stormwater Management Issues*

Mike Hall, Town of Normal, Illinois

*How to Protect Shorelines on \$25 or Less a Day*

Tom Ryan, Lake Sara Foundation

5:30 pm - 8:00 pm

Wednesday Evening Gathering

(Gateway Building Plaza on Illinois Riverfront)

Registered Conference Participants Only

Dinner

*Life Along the Illinois River - A Photo Presentation*

David Zalaznik

Musical Entertainment by Redhorse and The Stoneflys

(Gateway Building Ballroom)

## Thursday, October 22, 2009

7:45 am - 8:30 am            Registration/Exhibits/Continental Breakfast (Upper Lobby)  
Continental Breakfast/Exhibits (Marquette Ballroom North)

8:30 am - 9:45 am            Concurrent Sessions

### **Session A-3. In the Corridor: Sediment Management**

(Marquette Ballroom South)

Moderator: Meg Jonas, Engineer Research & Development Center Coastal & Hydraulics Laboratory

*Channel Maintenance and Sediment Management on the Illinois Waterway*  
Nicole Manasco, US Army Corps of Engineers

*Sediment Management of the Waterway as an Ecological Resource*  
Mike Demissie, Illinois State Water Survey

*Sediment Quality and Beneficial Use Options*  
John Marlin, Illinois Sustainability Technology Center

### **Session B-3. Economic Development: Developing and Showcasing Community Assets to Impact Quality of Life** (Cheminee)

Moderator: Russ Crawford, Heartland Water Resources Council

*Community and Environmental Benefits of Parks & Recreation*  
Laura Payne, University of Illinois Extension

*Greenways and Trails Planning: People, Pathways and Profits*  
George Bellovics, Illinois Department of Natural Resource

*Lake Decatur Sustainability - Economics, Environment and Quality of Life*  
Keith Alexander, City of Decatur, Illinois

### **Session C-3. Soil and Water Movement I: Water**

(LaSalle)

Moderator: Gary Clark, Illinois Department of Natural Resources

*Water Level Fluctuations in the Illinois River and Effects in Floodplain Management and Wetlands*

Rip Sparks, National Great Rivers Research and Education Center  
*Illinois' Lake Michigan Diversion Management: Have We Fulfilled Our Great Lakes Memorandum of Understanding Commitments?*

Dan Injerd, Illinois Department of Natural Resources  
*Trends in Illinois River Streamflow and Flooding*  
Vern Knapp, Illinois State Water Survey

9:45 am - 10:15 am            Break/Exhibits (Marquette Ballroom North)

10:15 am - 11:30 pm

Concurrent Sessions

## **Session A-4. In the Corridor**

(Marquette Ballroom South)

Moderator: Michael Reuter, The Nature Conservancy

*Emiquon: A Fish Biologist Input*

Rob Hilsabeck, Illinois Department of Natural Resources

*Habitat Restoration: NRCS Perspective*

David Hiatt, Natural Resource Conservation Service

*Waterbird and Wetland Monitoring at Emiquon Preserve*

Josh Stafford, Illinois Natural History Survey

*Habitat Restoration at Emiquon: A Partners Perspective*

Troy Hythecker, US Army Corps of Engineers

*Middle Mississippi River, Regional Corridor Study: Lessons Learned from a Collaborative Watershed Planning Effort*

Brian Johnson, US Army Corps of Engineers

## **Session B-4. Economic Development: Ottawa's Path to Pursuing Economic Success** (Cheminee)

Moderator: Anaise Berry, Economic Development Council for Central Illinois

*Implementing Community Development Strategies*

Mayor Robert Eschbach, Ottawa, Illinois

*Implementing a Vision for Economic Growth in Challenging Times*

Reed Wilson, City of Ottawa

## **Session C-4. Soil & Water Movement II: Sediment**

(LaSalle)

Moderator: Debbie Bruce, Illinois Department of Natural Resources

*Water and Sediment Monitoring in the Illinois River Basin*

Timothy Straub, US Geological Survey

*Sediment Movement in the Illinois River Basin*

Mike Demissie, Illinois State Water Survey

*Channel Stability and Ecosystem Restoration and Assessments*

Laura Keefer, Illinois State Water Survey

11:45 am - 1:00 pm

Lunch and Featured Speaker (Cotillion Ballroom)

1:00 pm - 1:15 pm

Closing Comments and Adjourn (Cotillion Ballroom)

Bill White, Illinois State Water Survey, Conference Co-Chair

## Illinois River Watershed Conservation Tour

Make plans to attend the Conservation Bus tour this year as we merge the old with the new by visiting several sites in Central Illinois.

Tour stops will include:

- A visit to see the Emiquon wetland complex – one of the largest riparian floodplain wetland restorations in the country and an example of many partners working together to achieve a common goal.
- A tour of Dickson Mounds Museum to learn about the local history through exhibits that detail the 12,000 year history of human habitation of this area.
- A stop to see the region's newest wind farm that is providing "green" energy.
- A demonstration of how stage and streamflow data are collected at an actual USGS streamgage.

Along the way we will see various conservation practices on working lands, interesting geologic formations, industry, commerce, and scenic vistas.

The tour will be by charter bus. Lunch and refreshments will be provided. Wear comfortable clothing and shoes for walking on uneven or rough terrain. Remember your camera and/or binoculars.

Check-in: Tuesday, October 20, 2009, 8:15 AM to 9:00 AM (Upper Lobby)

Departure: 9:00 AM

Return: 4:00 PM.

Parking is available in the hotel parking lot.

## Illinois River Coordinating Council Meeting, Presentations and Public Comment

6:30 pm - 8:30 pm  
(Cotillion Ballroom)

The rivers and streams of Illinois have long been instrumental in shaping the culture, communities and commerce of our state. Since our beginnings, the Illinois River and its tributaries have become increasingly more important to the economic development, recreation, and quality of life for our citizens. Governor Pat Quinn is Chairman of the Illinois River Coordinating Council (IRCC), which was established by the Illinois General Assembly on July 16, 1997. It is comprised of a diverse group of citizens, river enthusiasts, and state and federal agencies, which meet on a quarterly basis each year at different locations throughout the Illinois River Watershed.

Among the Council's responsibilities are the coordination of policy and initiatives within the Illinois River watershed for the preservation and restoration of the watershed. Included with these responsibilities are inter-related issues of economics, flooding, recreation, and tourism. After conducting the official business of the IRCC, Governor Pat Quinn will provide the general public the opportunity to discuss issues and concerns related to the management of the Illinois River Watershed as part of a Public Forum.

## Pat Quinn

Governor Quinn was born on December 16th, 1948 in Chicago, Illinois. He was first elected as Governor of the State of Illinois on January 29, 2009 and assumed office following the removal of Governor Rod Blagojevich. Governor Quinn has two official residences splitting his time between his home in Chicago and the Governor's Mansion in Springfield.

Governor Quinn received his B.A. degree in 1971 from Georgetown University School of Foreign Service. He received a J.D. law degree in 1980 from Northwestern University School of Law. He has two sons.

Governor Quinn previously served as Lt. Governor of the State of Illinois from 2003 to 2009 and as Illinois State Treasurer from 1991 to 1995. He also served as Commissioner of the Cook County Board of Tax Appeals from 1982 to 1986 and was Chicago Revenue Director from 1986 to 1987.

Governor Quinn is author of "How to Appeal Your Property Taxes...Without a Lawyer", 1988 and Working in Private Practice ("The Law Office of Pat Quinn"), 1994 to 2002.

### *Illinois River Coordinating Council*

The IRCC is a broad stakeholder organization, created by legislation in 1997, and chaired by the Governor. Members include citizen representatives from a wide range of interests including agriculture, business, conservation, and the environment, and representatives of state and federal agencies involved in watershed resources. This body coordinates policy within the Illinois River watershed, and, to the greatest extent practical, follows an Integrated Management Plan (IMP) developed by broad stakeholder participation. The IMP is focused on restoration of the watershed, while balancing societal and economic needs, and is based on the assumptions that the Illinois River is a national treasure, that its natural resources are intrinsically valuable, and that its long-term economic health and ecological health are interdependent.

Additional duties of the IRCC include periodic review of activities and programs that impact the watershed, working with local communities and organizations to encourage partnerships to address concerns, encourage communities to develop watershed management plans, encourage strategies that protect, restore, and expand critical habitats, encourage strategies that realize soil conservation and water quality improvements, optimize the investment of funds in the watershed, and identify funding and prioritize projects for recommendations to the Governor.

## Jim Ardis

Education: Spalding Institute/AOL; Illinois State University: BS,  
Industrial Technology 1982

Family: Married, 19 years; 3 children

Current Employment: ELM Locating, 60 State Street, Peoria, IL  
61602

**Community Involvement:**

Mayor (2005 - Present)

Councilman At Large (1999 - 2005)

St. Vincent de Paul Parish

St. Jude Memphis to Peoria Runners (11 years)

Haitian Hearts Sponsor Family

Board President of the Tim Ardis Foundation for Hope

**Committee Membership:**

Riverfront Business Commission

Mayor's Advisory Commission for the Disabled Council Liaison

Council Liaison to CityLink/Mass Transit District

City/County Landfill Committee

Mayor City of Peoria 419 Fulton, Suite 207 Peoria, IL 61602 Phone: 309-494-8519 Fax: 309-494-8559 E-mail: <a href="mailto:jardis@ci.peoria.il.us">jardis@ci.peoria.il.us</a>
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# Featured Speakers

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## Aaron Schock

100 N.E. Monroe, Room 100  
Peoria, IL 61602  
Phone: 309-671-7027  
Fax: 309-671-7309

Congressman Aaron Schock (R-IL), 28, is the youngest member of Congress and represents the 18th District of Illinois.

Immediately upon taking office, his colleagues expressed their faith in his abilities by appointing him to the coveted Committee on Transportation and Infrastructure. He was also the only Republican freshman selected to serve on the influential Highways and Transit Subcommittee which is charged with drafting the five-year highway bill due for reauthorization this year.

Schock also received a seat on the Small Business Committee along with designation as the Ranking Member of the Contracting and Technology Subcommittee.

House Republican Leadership also issued Schock a waiver to serve on a third committee and he was appointed to the Oversight and Government Reform Committee.

Finally, Schock was chosen by Leadership to serve as a Deputy Republican Whip.

Prior to being elected to Congress, Schock served in the Illinois Legislature. As a State Representative, Schock succeeded in passing 18 substantive bills he sponsored, several of which were hailed as "landmark reforms" when they were signed into law.

Schock also developed a reputation for outstanding constituent service, having helped thousands of constituents solve problems beyond their ability to cope.

Aaron Schock began his public service by running against the president of the Peoria School board when he was 19 years old. His opponent succeeded in knocking him off the ballot for technicalities on his petitions. So Schock ran as a write-in candidate and knocked on 13,000 doors. Upsetting conventional wisdom, Schock won with 6,406 correct write-in votes giving him 60% of the vote.

At 22, his school board colleagues voted to make Schock vice president of the board and a year later they voted unanimously to make him board president of one of the largest school districts in Illinois.

## Ray LaHood

Ray LaHood became the 16th Secretary of Transportation on January 23, 2009.

Secretary LaHood's primary goals in implementing President Obama's priorities for transportation include safety across all modes, restoring economic health and creating jobs, sustainability – shaping the economy of the coming decades by building new transportation infrastructure, and assuring that transportation policies focus on people who use the transportation system and their communities.

As Secretary of Transportation, LaHood leads an agency with more than 55,000 employees and a \$70 billion budget that oversees air, maritime and surface transportation missions.

Secretary LaHood said he would bring President-elect Obama's priorities to the Department and see them effectively implemented with a commitment to fairness across regional and party lines and between people who come to the issues with different perspectives.

Before becoming Secretary of Transportation, LaHood served for 14 years in the U.S. House of Representatives from the 18th District of Illinois (from 1995-2009). During that time he served on the House Transportation and Infrastructure Committee and, after that, on the House Appropriations Committee. Prior to his election to the House, he served as Chief of Staff to U.S. Congressman Robert Michel, whom he succeeded in representing the 18th District, and as District Administrative Assistant to Congressman Thomas Railsback. He also served in the Illinois State Legislature.

Before his career in government, Secretary LaHood was a high school teacher, having received his degree from Bradley University in Peoria, Illinois. He was also director of the Rock Island County Youth Services Bureau and Chief planner for the Bi-States Metropolitan Planning Commission in Illinois.

David Zalaznik is a native of northeast Iowa. He is a graduate of the University of Iowa with a degree in journalism. Mr. Zalaznik is a member of the National Press Photographers Association and the Illinois Press Photographers Association. He has been a photographer for 23 years.

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## *Twelve Years Implementing the Integrated Management Plan*

### **Moderator: David Koehler**

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- Born and raised in South Dakota.
- Received Bachelor of Arts degree in 1971 from Yankton College - Yankton, South Dakota. Masters of Divinity; United Theological Seminary - Dayton, Ohio.
- Former Staff member; National Farm Worker Ministry (NFWM).
- Former Community organizer and program manager for Peoria Friendship House.
- Former Executive Director - Peoria Area Labor Management Council (PALM).
- Former President for Labor Management Cooperative Health Programs, Inc.
- Peoria City Council 1989-1997
- Peoria County Board 1982-1988
- Current co-owner of the Peoria Bread Company.
- Married to Nora Sullivan. Has three daughters one son in law and one granddaughter.

### **Bob Kustra**

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Dr. Robert Kustra had a long and distinguished career in public service in Illinois. He served two terms as lieutenant governor of Illinois, following ten-years in the Illinois Legislature. He also chaired the Illinois Board of Higher Education, responsible for funding and oversight of Illinois' nine public universities. Dr Kustra is currently the president of Boise State University, the largest public university in Idaho, with an enrollment of nearly 20,000 students, and 2400 faculty and staff. Prior to joining Boise State, Dr. Kustra also served as president of Eastern Kentucky University and the Midwestern Higher Education Commission. He has held faculty positions at the University of Illinois at Springfield and Loyola University of Chicago. During elective office, he taught at the University of Illinois-Chicago and Northwestern University.

Dr. Kustra holds degrees from Benedictine College and Southern Illinois University, and a Ph.D. in Political Science from the University of Illinois, Urbana-Champaign. He and his wife Kathy have three grown children and three grandsons.

## Water Law and Court Interpretation

### **Moderator: Kate Tomford**

Director of Sustainability in the Office of Governor Pat Quinn. Ms. Tomford oversees environmental initiatives for the Governor, including the Green Governments Coordinating Council and other green projects.

Ms. Tomford was previously a Senior Policy Advisor in the Office of the Lt. Governor, and has a Bachelors Degree from Harvard University and Masters Degree in Environmental Science and Policy from the University of Chicago Harris School of Public Policy.

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## Robert Beck

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Robert E. Beck is Professor of Law Emeritus at the Southern Illinois University School of Law. He has taught and written about water law for over 45 years and is the author of Illinois Natural Resources Law (1985) which includes a chapter on Illinois water law. From 1991 to 2007, he edited and was a contributor to Waters and Water Rights, a 6-volume national treatise.

### Law and the Management of the Illinois River Basin

Illinois, unlike many other eastern states, has chosen not to enact a comprehensive water allocation and management statute. Thus Illinois law as it pertains to allocation and management of the water resource consists of a combination of judge made common law and statutes relating to particular water-related topics. However, Illinois, being part of a federal system, is not fully free to do as it pleases with the water resource found within its boundaries. Federal law is supreme, so to the extent that there is relevant federal water allocation and management law, it must be considered in anything Illinois does. Also, to the extent that a body of water is or contributes to an interstate water resource, that relationship must be considered in allocation and management decisions. While interstate obligations are a matter of federal law, they are particularly important in the context of water resource allocation and management and therefore deserve to be singled out.

This presentation will highlight and comment on those aspects of Illinois law, both common law and statutory law, that particularly pertain to the allocation and management of the water resource within the Illinois River watershed. However, significant aspects of federal law, including interstate obligations, will be noted. To the extent that historical events explain why Illinois or federal law is as it is, they will be noted.

## Donald Uchtmann

**Agriculture and Water Use Law – Groundwater:** In Illinois, rules for the use of ground water and stream water differ. Under the Water Use Act of 1983, Illinois follows the doctrine of reasonable use for groundwater withdrawals. One may withdraw groundwater to meet natural needs (e.g., household uses) and a fair share for artificial needs (e.g., irrigation of commercial crops), but not for malicious or wasteful uses. Disputes regarding whether a particular withdrawal of groundwater is reasonable must generally be resolved in the courts.

The Act does require persons planning to develop new wells expected to withdraw more than 100,000 gallons on any day to notify the local Soil and Water Conservation District before construction of the well begins. The Soil and Water Conservation District has responsibility to share this information but virtually no authority to limit the water use.

If a Water Authority has been established, the Water Authority can require a permit from a new or expanded well within its boundaries, and can require that pre-existing wells be registered. A Water Authority also has authority “to reasonably regulate the use of water during any period of actual or threatened shortage to establish limits upon or priorities as to the use of water.”

**Agriculture and Water Use Law – Stream water:** For stream water, Illinois follows the Riparian Doctrine – Reasonable Use Rule: Each person owning land next to a stream is entitled to use all the stream water necessary to satisfy natural needs (e.g., to meet household needs), but is limited to reasonable use of the water to meet artificial needs (e.g., irrigation). Disputes about what is a reasonable share of the available stream water are resolved in the courts if they cannot be resolved informally.

Illinois rules regarding stream water use may seem fair but they don’t provide much certainty about a riparian owner’s rights to use water. Fortunately, Illinois has historically been a water surplus state, there has generally been enough water to go around, and private disputes over stream water use have been relatively rare. In all probability, Illinois water law will someday need to evolve further by providing clearer guidance regarding the competing rights of different riparian landowners, and the potential competition between private and public uses of water.

**Regulation of Agricultural Pollution:** Much of the water pollution potential from agricultural lands would be classified as Non-point sources of pollution. Non-point sources of pollution are generally controlled by programs intended to encourage changes in land management practices.

**Agricultural Drainage Law:** Illinois Drainage law involves state law, federal law, and local ordinances. Under state law, an owner of higher land has a right to have water drain as it would naturally and owners of lower land have a legal duty not to obstruct the natural flow. Also owners of higher land can improve natural drainage so long as no water is diverted from another watershed, the discharge is at the natural point of discharge, and the agricultural drainage improvements do not “unreasonably” increase flows.

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Donald L. Uchtmann is Professor Emeritus of Agricultural Law at the University of Illinois. He has authored numerous legal articles and is co-author of an agricultural law textbook, has served as President of the American Agricultural Law Association and chaired the Agricultural Law Section Council of the ISBA. Professor Uchtmann served as interim head of his department, Associate Dean of the College, and Director of what is now University of Illinois Extension. He has presented legal papers, conducted research, or served as a consultant in many countries, including Brazil, Great Britain, France, Italy, Germany, The Netherlands, Poland, Russia, Kazakhstan, China, and Japan. Among his recognitions are the College Young Faculty Award for Excellence in Teaching (1986); the American Agricultural Economics Associations Distinguished Extension Program Award-Group (2002); the C-FAR Holt Achievement Award (2004); and the College Team Award for Excellence (2004). Professor Uchtmann obtained his B.S. (honors) in agricultural science from the U. of Illinois. A Rotary Foundation Fellowship for International Understanding enabled him to study economic development at the U. of Leeds, England, where he received his Master of Arts. His Juris Doctor, cum laude, was awarded in 1974 from The Cleveland State University.

## Albert Ettinger

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Albert Ettinger holds the position of Senior Staff Attorney at the Environmental Law & Policy Center of the Midwest ("ELPC"). ELPC is an environmental organization, headquartered in Chicago, Illinois, that works on energy, transportation, natural resource and pollution issues in numerous states in the Midwest. Mr. Ettinger has been at ELPC since 1997 where his work has focused on protecting water quality and implementation of the Clean Water Act. In doing this, Mr. Ettinger has represented numerous environmental organizations in legal and regulatory matters, including the Sierra Club, Prairie Rivers Network, Iowa Environmental Council and Kentucky Waterways Alliance. This work has involved development of TMDLs and water quality standards, lawsuits against U.S. EPA, citizen suits against dischargers alleged to have violated their NPDES permits and suits against the U.S. Army Corps of Engineers relating to Corps' activities under Section 404 of the Clean Water Act.

Prior to coming to ELPC, Mr. Ettinger was a partner at a private law firm in Chicago. He is a graduate of the University of Michigan Law School.

### *Laws regarding water quality and quantity and the Illinois River Watershed*

Federal statutes (the Clean Water Act and the Farm Bill) and state statutes (the Inter-Agency Wetland Coordination Act, the Environmental Protection Act and the River Lakes and Streams Act), as well as state case law should be better implemented and enforced to reduce nutrient, pesticide and sediment pollution that is damaging the Illinois River and its tributaries. These laws could also be used better to prevent, and in some case reverse, wetland and stream channel loss that has badly damaged the Illinois River watershed. New laws and programs are needed, however, to better address pollution from row crops and water quantity issues.

# Agricultural Practices: Status and Progress

**Moderator: Nancy Erickson**

Nancy Erickson serves as Director of Natural & Environmental Resources for the Governmental Affairs and Commodities Division of the Illinois Farm Bureau.

In that capacity, she is responsible for programs and activities involving environmental issues. Erickson works with county Farm Bureaus in the area of soil conservation, water quality and quantity related issues, agricultural chemicals, recycling, air quality, and other agricultural-related issues.

Erickson also maintains liaison with various state agencies including the Department of Agriculture, Department of Natural Resources, Environmental Protection Agency, University of Illinois, and various local organizations involved with natural resource issues.

Erickson received a bachelors degree from the University of Illinois. Before joining Illinois Farm Bureau in 1984, Erickson was a school instructor for ten years.

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**Alan Gulso**

## *Success with Controlling Erosion*

This session will provide participants with an overview of the status of soil erosion on agriculture fields in the Illinois River Watershed over the past 25 years. The sources of data used for this assessment are the Illinois Department of Agriculture's Soil Erosion Transect Survey and the Natural Resources Conservation Service's National Resource Inventory. The Universal Soil Loss Equation and the equation's revised version were used to generate soil erosion estimates for both of these sources.

The Transect Survey summary will include data from 11 surveys conducted over the 15 year time-frame from 1994-2009 while the NRI data provides an assessment for the years of 1982, 1987, 1992 and 1997. Each of the transect surveys were conducted by Soil and Water Conservation Districts and assessed factors used to estimate sheet, rill and ephemeral erosion on over 15,000 agriculture fields within the watershed. Although the NRI process does not collect data from as many fields as the transect survey, the points assessed are randomly selected to provide statistically accurate data.

Future needs estimates for erosion control practice adoption will be presented and is based upon the reduction of erosion achieved through historical practice adoption within the watershed.

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Alan Gulso is a Land and Water Resources Specialist with the Illinois Dept. of Agriculture. His present duties include providing program support for the Conservation Practices and Streambank Stabilization Cost-share Programs, as well as the Transect Survey. Prior to working for the Department for the past 25 years, Alan was employed in farm management and production agriculture for 10 years. He received a Bachelors of Science Degree in Agriculture Education from Illinois State University.

## Jon Hubbert

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Jon was raised on a grain and livestock farm in Scott County, Illinois where his family still farms. He attended Western Illinois University in Macomb, graduating with a Bachelor of Science degree in Agricultural Engineering Mechanization. Jon has served as a conservationist in many parts of Western Illinois, starting in 1985. Since 2005, he has served as the NRCS - Assistant State Conservationist for a 19-County area in Northeastern Illinois.

Jon has spent most of his life within a few miles of the Illinois River, and his career has been closely connected with the river. With the Natural Resources Conservation Service, and with Soil and Water Conservation Districts, he has contributed major efforts to reduce sedimentation and improve water quality through the planning, design, and construction oversight of more than a thousand conservation projects installed on private and public lands. In the mid 1990s, Jon had the privilege of working with several dedicated professionals on the Agricultural Practices Action Team, contributing to the Integrated Management Plan for the Illinois River Watershed. In his current position, he provides leadership to NRCS staff and program direction in Northeastern Illinois.

### *A Decade of Progress Associated with Agricultural Practices*

The Agricultural Practices Action Team presented seven action items to the Planning Committee of the Illinois River Strategy Team in late 1996. These seven actions called for research and information distribution, conservation cost-share program expansions, and funding increases to stimulate the rapid adoption of conservation practices on private lands within the Illinois River Watershed.

Proposals of the Agricultural Practices Action Team reflected a healthy view of the need to continue agricultural production, thereby providing needed food, fiber, and fuel, while simultaneously protecting precious natural resources we also depend on. During the past 12 years, several of the proposed suggestions have been implemented and many conservation gains have been realized. New programs have been developed and delivered at the Federal, State, and local level. Through collective efforts of individual landowners, special interest groups, local units of government, State Agencies and Federal Agencies, a tremendous number of new conservation projects have been planned and completed within the watershed. These projects protect soil productivity, increase wildlife habitat, improve water quality and reduce sediment delivery within the Illinois River system.

At the same time, gaps still exist in addressing conservation needs and objectives. Ongoing funding limitations at Federal, State, and local levels have decreased availability of technical support needed for quality conservation practice implementation. The technical and financial resources needed to fully address resource concerns in the non-agricultural sector have not yet been developed to the level needed (i.e. ravine erosion within the river bluffs). While actions to reduce sediment delivery have been numerous, little has been accomplished in removing sediment previously deposited in areas, such as the Peoria Lakes.

Additional work is needed to achieve the long term objectives of the Integrated Management

## Paul Terrio

### *Water Quality in Illinois*

This presentation will discuss some of the current water-quality issues in Illinois and the Illinois River basin. Some of these issues are long-standing concerns and are being addressed through established programs based upon long-term information and experience. Other concerns have developed more recently and there is not yet sufficient understanding upon which to design programs to address the concerns. These problems are not unique to Illinois and we will examine how Illinois compares to other states and parts of the nation with regards to some of these issues. Finally, we will look at how these water-quality concerns are perceived by various local, State, and Federal agencies and advocacy and interest groups and what programs or efforts they have implemented to address these concerns..

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Paul Terrio holds a B.S. degree in Hydrology from the University of Arizona.

Paul has been with the U.S. Geological Survey for 25 years, working primarily in IL. He also spent a couple of years with a civil engineering consulting firm in southern California, but found that he preferred scientific research and monitoring over commercial design and construction.

During his more than 20 years in Illinois, Paul has worked on numerous types of water-quality projects including large national efforts, such as the National Water Quality Assessment Program, as well as small locally-focused projects. These projects have covered a wide variety of goals and objectives including agricultural tile drainage, sedimentation, nutrient issues, agricultural and urban pesticides, human health issues, wastewaters, mercury, and new and emerging contaminants such as pharmaceuticals. Through these efforts, Paul has had the opportunity to work with many outstanding individuals and organizations ranging from individual land owners and watershed groups to local, State, and Federal agencies.

# Ecosystem Services: Introduction to Ecosystem Services

## Moderator: Marc Miller

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Marc Miller is the Director of the Illinois Department of Natural Resources. He is dedicated to making a positive change in Illinois' natural resources and conservation. He has advanced ecosystem, habitat, and watershed-based restoration and promoted Illinois' potential for recreation opportunities. Marc holds an advanced degree in Environmental Administration and was previously the Senior Policy Advisor and Liaison to the Illinois River Coordinating Council for the Office of Lieutenant Governor Pat Quinn.

In addition to his work with the Illinois River Coordinating Council, Marc was instrumental in establishing funding for the "Mud to Parks" and Illinois River Conservation Reserve Enhancement Programs. He also created and promoted the Illinois Dam Safety Initiative and worked for passage of two bills to create a Mississippi River Coordinating Council and Wabash and Ohio Rivers Coordinating Councils.

## Steven Kraft

### *An Introduction to Ecosystem Services*

While we are all familiar with the traditional agricultural commodities produced from working rural landscapes, fewer of us recognize the diversity and significance of the ecosystem services produced from the same areas across rural America. Ecosystem services are the goods and services derived from natural and managed ecosystems upon which human welfare depends. They include among others pollution control and detoxification, pollination, flood mitigation and prevention, carbon sequestration, water filtration and retention, and biodiversity; their value has been estimated in the trillions of dollars. However, they present significant public policy challenges; challenges explored in this presentation.

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Dr. Kraft is Chair of the Department of Agribusiness Economics at Southern Illinois University – Carbondale.. Dr. Kraft's research interests are in the areas of soil and water conservation policy, watershed planning, the provisioning of ecosystem services from working agricultural and rural landscapes, natural resources economics and policy, and the role of mediation in the delivery of USDA programs to producers.

He teaches farm management, natural and environmental economics and policy, and social perspectives on environmental issues. He also provides mediation services to USDA cooperators in Illinois through the Illinois Agricultural Mediation Project. He holds a B.S. degree from American University, M.S. and Ph.D. degrees from Cornell University.

## Sabina Shaikh

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Dr. Sabina Shaikh is an Economics Lecturer at the University of Chicago in the Program on Global Environment, where she teaches courses in environmental economics, ecosystem valuation and public policy. Her research includes the theoretical and empirical development of economic valuation techniques and the implementation of market-based mechanisms for environmental and natural resource management. She is currently working on a field study of ecosystem services in the Calumet Region of Chicago with a team of researchers from Universities, non-governmental organizations and municipal agencies. She has worked throughout North America on economic valuation including applications to California gray whale protection, Pacific Northwest fisheries management, Florida beach mouse dune habitat provision and carbon-trading mechanisms for agricultural land conversion in Canada. She is also currently working on the development of economic incentive programs within the built environment for energy efficiency, renewable energy, waste management and congestion reduction. She recently organized and led an interdisciplinary conference on the Economic Valuation for Ecosystems at the University of Chicago. She has published in journals including *Ecological Economics*, the *American Journal of Agricultural Economics*, the *Canadian Journal of Agricultural Economics*, *Economic Inquiry*, and *Land Economics* and has contributed to a forthcoming chapter in the book entitled *The Theory & Practice of Ecosystem Service Valuation in Conservation*. Dr. Shaikh has a Ph.D. from the University of California at Davis and a BA from the University of Wisconsin at Madison.

### *An Introduction to Ecosystem Services*

The protection and maintenance of healthy ecosystems can provide significant economic benefits for both current and future generations. Ecosystems provide goods for direct consumption such as fish or raw materials, resources for the production of crops for food and fuel, and natural services including storm water management, flood protection, erosion control, and climate regulation. Healthy ecosystems also provide cultural services including views, outdoor recreation and enjoyment for future generations. This presentation will explore the linkages between ecosystems and human welfare by identifying sources of economic value and the behavioral responses to market-based management of ecosystem service provision.

## Randy Vogel

The watershed of the Illinois River encompasses both urban and rural settings. The river has been dammed, leveed, and subjected to a multitude of pollutants. Enormous acreages of the watershed are being farmed and a significant portion of the upper watershed is covered with impervious surfaces. The natural hydrologic cycle has been drastically altered and flooding is almost routine. The influence of urban areas is often overlooked in landscape scale programs such as CREP that are designed primarily to address agricultural impacts. While these programs are valuable there is also an entire suite of Best Management Practices that if implemented in urban settings can provide tremendous ecosystem services and have an enormous positive impact in addressing many of the problems plaguing the river. This presentation will discuss in detail a variety of these practices and the ecosystem services that could subsequently have a major positive effect on the Illinois River. The presentation will also provide a call for action for state and local governments to begin planning for and implementation of programs to institute these practices and manage water and pollutants locally.

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Randy Vogel is a Senior Ecologist with Applied Ecological Services, Inc. (AES) and manages the Illinois office of AES. He has over 20 years of professional experience in natural resource planning, impact analysis and habitat restoration. His educational training was as a plant taxonomist and ecologist and his experience includes mine reclamation, natural resource inventories, urban forestry, stream restoration, stormwater treatment, wetland development and restoration, and mitigation banking. Previously Vogel has served in a State regulatory capacity where he supervised review of surface mining permits and development of environmentally and ecologically sound reclamation methodologies. He was also employed in the not-for profit sector where he was actively involved in issues related to urban forestry, invasive plants (including development of protocols for quarantine and testing of new ornamental plant introductions) and accidental exotic insect introductions. In the private sector Vogel has supervised numerous natural resource and planning projects encompassing stream restoration, wetland, prairie and forest restoration, planning and implementation of Best Management Practices, conservation development, and work on threatened and endangered species, including relocation efforts. He also has been involved in various biological inventories and studies. Vogel is currently managing AES's involvement in the update of the Illinois Natural Areas Inventory including field operations and GIS data management. Vogel is also experienced in wetland and stream mitigation banking including both preparation of banking instruments and bank construction. He is directly involved in bank maintenance and monitoring activities including development of monitoring protocols for vegetation, fish and wildlife, and hydrology and coordinates AES's mitigation banking efforts nationwide. Additionally, Vogel is actively engaged in the restoration and maintenance of a private waterfowl management area adjacent to the Illinois River.

## Local Community Actions: Success Stories

### Moderator: Lisa Merrifield

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Lisa Merrifield is the assistant director for the Illinois Water Resources Center and Illinois-Indiana Sea Grant at the University of Illinois. She holds a bachelors degree in environmental science from Washington State University and a masters degree in environmental planning from the University of Illinois at Urbana-Champaign.

### Michael Brown

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Michael Brown is the Executive Director of the Ecology Action Center in Normal. Michael has a BA in Biology from Southern Illinois University at Carbondale and a Certificate in Geospatial Technologies from Illinois Central College. He has a diverse background in environmental work including management of a 320-acre interpretive park for the Peoria Park District, service as a Peace Corps volunteer at Pirin National Park in Bulgaria, work in environmental health with the Peoria City/County Health Department, restoration of a tallgrass oak savanna for Peoria Wilds, and recruitment and training of volunteers in ecological monitoring for the Illinois EcoWatch.

### *Community Stormwater Education by a Nonprofit*

Phase II National Pollutant Discharge Elimination System stormwater permits for small municipal separate storm sewer systems require Public Education and Outreach as part of stormwater management programs. In Bloomington-Normal, these education and outreach activities are performed by the Ecology Action Center, a nonprofit environmental education organization that works very closely with the municipalities.

The Ecology Action Center's stormwater education program utilizes a multifaceted approach that includes school programs, storm drain stenciling, a very popular rain barrel workshop series, and a yard care program called Yard Smart that promotes practices that reduce stormwater runoff contamination.

## Brad McMillan

### *Local Actions Deliver National Results*

In January 1997, the Integrated Management Plan (Plan) for the Illinois River Watershed was published. Nearly 150 Illinoisans participated in a year-long effort to develop and reach agreement on specific actions that now constitute the plan. Of the 34 recommendations outlined in the Plan, seven were specific to Local Action. These recommendations included topics such as:

- Education and technical assistance
- Development and implementation of watershed plans
- Development and implementation of storm water management ordinances
- Development and implementation of wastewater management plans
- Reduce runoff rates throughout the watershed.
- Implement regional strategies for critical habitats through public/private partnerships.

With the Plan in hand, many organizations started, or continued, to implement programs and projects to improve and protect the Illinois River and its watershed through local actions. This presentation will convey a sense of the level of effort and success in managing the ecological, commercial and recreational needs within the Illinois River watershed that has occurred since the Integrated Report was published. It is only a snapshot of the local and non-governmental organizations efforts to be better stewards of the Illinois River watershed. At the heart of most of these projects is a firm commitment by individual landowners to be good stewards of their land and water resources in partnership with federal, state, and local agencies and organizations.

The highlighted programs and projects are intended to offer a representation of efforts completed and underway within the watershed. The presentation will also highlight some of the "leaders" in the watershed, including their most effective efforts.

The people of the Illinois have risen to the challenge presented by the Plan. As excellent examples of local actions are highlighted, be prepared to take notes, there will be some great ideas for you to take home and implement!

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Development Experience  
Peoria Riverfront Museum: Served as co-chair of Museum Collaboration Group. Helped secure \$4,965,000 in federal funds and \$4.4 million in state funds for this landmark project

Heartland Community Health Care Clinic: Served on steering committee to launch new federally qualified health care facility and helped to secure federal, state and private support

Technology Innovation Center: Worked closely with Peoria NEXT to secure millions of dollars in federal and state support for this vital project

Education:  
1988: J.D. Degree, Southern Illinois University School of Law; 1984: B.A. Degree, Illinois Wesleyan University

Work Experience:  
January 2008 - Present:  
Executive Director, Institute for Principled Leadership in Public Service at Bradley University, Peoria, Illinois  
December 1997 - December 2006:  
District Chief of Staff, U.S. Representative Ray LaHood, IL 18th District  
May 1994 - December 1997:  
Partner, Law Firm of Heiple and McMillan, Peoria, Illinois  
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Associate, Law Firm of Heyl, Royster, Voelker & Allen, Peoria, Illinois  
December 1990 - August 1991:  
Senior Law Clerk, Illinois Supreme Court  
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## Beth Hinchey-Malloy

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Elizabeth Hinchey Malloy is an ecosystem extension specialist with Illinois-Indiana Sea Grant (IISG) and a liaison to the U.S. EPA Great Lakes National Program Office (GLNPO). She transfers Great Lakes ecosystem research conducted by U.S. EPA and IISG partners to coastal communities and resource managers. Elizabeth has an M.S. and Ph.D. in Marine Science from the Virginia Institute of Marine Science and a B.S. in Biological Sciences from the University of Notre Dame.

### *Pharmaceutical Take Back Program: Lessons Learned*

Co-Authors: Susan E. Boehme and Robin G. Goettel, Illinois-Indiana Sea Grant

Medicines are produced in increasing volumes every year. With this growth comes concern regarding environmental fate of unwanted medicines. Recent studies identified pharmaceutical compounds in fresh and marine waters nationwide, and several of these bioactive compounds are potentially harmful to aquatic organisms, even in small quantities. Additionally, improper medicine disposal poses poisoning risks to children, the elderly and pets and can lead to drug/identity theft. Unused medicines may accumulate in homes or be flushed, placed in the trash, or given to others, all of which have significant disadvantages. One approach for decreasing amounts of unwanted medicines reaching the environment is the organization of collection programs that ensure safer methods of disposal. This presentation highlights the Illinois-Indiana Sea Grant toolkit "Disposal of Unwanted Medicines: A Resource for Action in Your Community." We focus on collection events for the public as a partial solution to the problem. Our new educational initiative, which provides information to youth and their families about the importance of properly disposing of unwanted medicines and best practices for disposal, will also be highlighted. Information about safe unwanted medicine disposal is being disseminated through the creation of programming and activities for 4-H youth, scouts, and after school youth clubs. Youth in these non-formal education programs will serve as an important agent for change to help protect and improve the quality of our waters.

# Agricultural Practices: Advancements in Agricultural Technology

**Moderator: William Gradle**

Bill Gradle has been Illinois' State Conservationist for USDA's Natural Resources Conservation Service (NRCS) since January 1997, working to protect and restore natural resources. Bill received a Bachelor of Science degree in Forest Management from the University of Illinois in Champaign, Illinois. His NRCS career has taken him to New Mexico and California, but returned him home to Illinois.

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Gradle provides leadership and guidance to a network of 93 Illinois field offices. He works cooperatively to achieve conservation goals with established and new state and federal partners. Gradle helped implement conservation programs and policies of previous Farm Bills and is eager to support the new 2008 policy. At state and national levels, NRCS will focus more on market-based avenues that establish conservation solutions. Under Bill's leadership, Illinois NRCS maintains a strong soil survey program and provides state-of-the-art soil survey data clients need.

NRCS' mission "Helping People Help the Land" is well aligned with Gradle's priorities and conservation values. With successful programs and practices, NRCS continues to assist private landowners with natural resource solutions. Over the years NRCS has worked with many partners including IDNR, IDOA, IEPA, thousands of private landowners and other conservation partners to ensure success with these efforts.

## Don Roseboom

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Don Roseboom is a Stream Restoration Specialist for the United States Geological Survey in the Illinois District, Champaign, IL. Don is a member of recently formed USGS team to develop watershed criteria for stream restoration in variable geologic regions of Illinois and the Midwest. Don also has a joint appointment with the River Center at CSU in Fort Collins, Co.

Between 1975 and 2001, Don directed watershed studies for the Illinois State Water Survey (ISWS), which assessed nonpoint pollution sources of sediment, nutrients, and pesticides at a watershed scale. By 1985, work assignments included gathering interagency support for the ISWS monitoring efforts. These efforts became more successful when implementation and assessment of stream BMPs were included in the watershed monitoring programs.

This success was partially based upon the assessment that channel erosion can be a major source of sediment in sections of Illinois with the highest sediment yields. The development of instream Best Management Practices (BMPs) to increase stability and enhance instream habitat began with the Illinois Department of Natural Resources, the Illinois EPA, and the Illinois Department of Agriculture. The resulting studies and publications have led to numerous stream restoration workshops for the Natural Resources Conservation Service, the U.S. Army Corps of Engineers, and the US EPA. The USEPA published a Field Manual on Urban Stream Restoration created and co-authored by Don, which was published by the Conservation Technology Information Center.

### *Illinois Rural Stream Restoration*

The Illinois River receives more sediment from channel erosion of rural streams than from urban streams. However, only within the last 15 years, have state and federal agencies provided substantial funding for rural stream stabilization with environmentally sensitive approaches.

Illinois rural streams are now considered an important conservation area for the application of watershed best management practices - just as rowcrop fields and forestry are. With major funding from the IEPA, USEPA, IDOA, USDA, IDNR, USCOE, and USF&W Service, rural stream restoration is more feasible than was possible in the 1980s.

In the 1990s, implementation of stream practices was often a fiscal response of federal agencies to the marketing success of Dave Rosgen's stream restoration approaches in the US and Canada. The increased financial aid has led to intense academic and agency analysis of existing and proposed stream/river restoration approaches.

Measurement of success is based on many factors but protection of public or private property is usually the most popular and common rationale. To their credit, both state and federal agencies have viewed such property protection with an environmental bias. This presentation will be a short history of Illinois's stream restoration efforts in rural streams by IEPA, IDOA, and IDNR programs.

## Dennis McKenna

### *Agricultural Nutrient-Reduction Alternatives and Costs*

The USEPA Science Advisory Board Advisory Panel on Gulf Hypoxia concluded that a 45% reduction in both nitrogen and phosphorus loads to the Gulf of Mexico was needed to reduce the hypoxic zone to less than 5,000 square kilometers. In Illinois, TMDLs to address phosphorus impairments of reservoirs have called for reductions of nearly 90%. The costs to achieve these levels of reduction in nutrient loadings from agricultural non-point sources are likely to be billions of dollars.

The costs, whether in incentive payments for changes to management practices or for constructed management practices, are relatively constant for an acre of land treated. However, loadings of sediment and nutrients vary greatly across Illinois, within counties or small watersheds, and even from differing areas of fields. The most cost-effective strategies to achieve pollutant reduction will require targeting of the delivery and implementation of improved management practices.

Educational and incentive programs to encourage changes in nitrogen management practices will be most fruitful if they are targeted to tile-drained areas and erosion control practices are likely to be most efficient if they are targeted to fields contributing high sediment loads. Variable payment rates in financial incentive programs may also play a part in an effective strategy for nutrient reduction.

Because phosphorus is typically the limiting nutrient in freshwater systems and nitrogen is the primary limit on algal growth in the Gulf, state and local agencies face a difficult choice in designing programs to meet multiple, if not conflicting, goals. There are about 22 million acres of cultivated cropland in Illinois and with limited state and federal resources for technical assistance and cost-sharing, accurate targeting will be critical to achieving water quality improvements.

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Mr. McKenna is Manager of the Pesticide Laboratory and Technical Services Section in the Bureau of Environmental Programs, Illinois Department of Agriculture. In addition to the Pesticide Laboratory, he manages the Department's groundwater monitoring network and implementation of the "Illinois Generic Management Plan for Pesticides in Groundwater."

He also provides scientific analysis and policy recommendations to the Director and the Division Administrator on complex water quality and quantity issues of national and statewide significance, including development of TMDLs, hypoxia in the Gulf of Mexico, pesticides and nutrients in surface water and groundwater, and groundwater withdrawals. He represents the State of Illinois as a member of the Coordinating Committee of the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, the Upper Mississippi River Sub-Basin Hypoxia Nutrient Committee, and the Steering Committee of the Ohio River Sub-Basin Committee.

## Doug Thompson

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Doug Thompson is a farmer from Atlanta, IL. He operates the 1,500 acre family grain farm and manages a cooperative grain elevator serving area farms. Winter months find him teaching financial and crop recordkeeping classes to farmers at Lincoln Land Community College in Springfield.

After earning a BS degree in Ag Economics from the University of Illinois in 1975, Doug worked 10 years as a professional farm manager in Jacksonville, IL. He holds professional designations as Accredited Farm Manager from the American Society of Farm Managers and Rural Appraisers and as Certified Crop Advisor from the American Society of Agronomy.

Technology plays an important role in the Thompson farming operation. GPS and auto-steer enhance their strip-till farming practice - resulting in conservation of soil and water resources and fuel savings. Fertilizer use has also been held in check through variable rate application that applies nutrients only where needed.

Doug's community activities include being on the board of his church, a commissioner of the local Park District, and a member of the Logan County Zoning Board of Appeals. He also serves on the Logan County Soil and Water Conservation District board, as chairman. Doug and his wife have two grown children.

### *Advancements in Agricultural Technology Associated with Precision Farming (GPS, RTK, Autosteer)*

The introduction of GPS into agriculture in the early 1990s created the ability to associate accurate locations with all sorts of data. As a result, farmers no longer managed just 40 or 80 acre fields. They could now make informed decisions on areas of less than an acre. Yield monitors became popular - measuring yield on-the-go, but also recording that yield spatially every second! Uses of this spatial data seemed unlimited and opened up the world of Precision Farming.

Today, it is becoming more common to apply fertilizer based upon either the soil analysis results or upon the actual nutrients removed by the previous crop, at specific locations in a field. The precise application places fertilizer only where it's needed and in the appropriate amounts. This saves the farmer money and benefits the environment.

GPS technology continues to improve, such that it is now possible to have tractors steer themselves - with an accuracy of less than 1" and repeatable from one year to the next! Besides the obvious convenience factor for the tractor operator, this makes seed, chemical and fertilizer placement more accurate and enhances the strip-till farming method. This reduced tillage method results in less soil and contaminants flowing into our lakes and rivers.

The future of Precision Farming is bright. Already GPS enhanced controllers make it possible to automatically shut off planters and sprayers row by row at the edge of a previously-applied area. Savings of seed and chemical use are significant. Soon it may be possible to sense nutrient levels in the soil during a field operation and to immediately adjust the application rates accordingly. Or, we may send out a fleet of robots to remove weeds - all with little or no chemical use. Who knows the possibilities!

# Ecosystem Services: The Economic and Societal Benefits Provided by Healthy Ecosystems

**Moderator: Marc Miller**

Marc Miller is the Director of the Illinois Department of Natural Resources. He is dedicated to making a positive change in Illinois' natural resources and conservation. He has advanced ecosystem, habitat, and watershed-based restoration and promoted Illinois' potential for recreation opportunities. Marc holds an advanced degree in Environmental in Environmental Administration and was previously the Senior Policy Advisor and Liaison to the Illinois River Coordinating Council for the Office of Lieutenant Governor Pat Quinn.

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In addition to his work with the Illinois River Coordinating Council, Marc was instrumental in establishing funding for the "Mud to Parks" and Illinois River Conservation Reserve Enhancement Programs. He also created and promoted the Illinois Dam Safety Initiative and worked for passage of two bills to create a Mississippi River Coordinating Council and Wabash and Ohio Rivers Coordinating Councils.

**Scott Swinton**

## *Farming for Ecosystem Services: Research and Policy to Make it Happen*

Crop and range lands cover over half of the contiguous United States, and they are expanding. Agricultural ecosystems provide food, fiber and fuel, but they also produce a range nonmarketed ecosystem services (ES). Ecosystem services from agriculture include regulation of water and climate systems, aesthetic and cultural services, as well as enhanced supporting services (such as soil fertility).

Agricultural ecosystems offer newly recognized potential to deliver more diverse ecosystem services and mitigate the level of past ecosystem disservices. Understanding how ecological functions generate ES is fundamental to learning how to manage agricultural ecosystems for new services. Equally fundamental is understanding how people perceive and value those services.

Many ES lack markets, so farmers lack strong incentives to produce them. Research is required both to design cost-effective incentives to provide ES and to measure which kinds of ES could provide the greatest overall welfare benefits to society. Some incentives already exist through both private markets and public policy. But others need to be designed. A key challenge is now to estimate the economic value to consumers and the costs to producers of ES that do not have prices. Nonmarket valuation studies can develop value estimate for policy purposes. This talk will convey both the potential of farming for ecosystem services and the challenges to science and public policy design of turning that potential into reality.

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Scott M. Swinton is a professor of agricultural, food and resource economics at Michigan State University. With biologists at the Long-term Ecological Research project on agro-ecosystems, he studies ways to enhance the provision of ecosystem services from agriculture. His research focuses on economic decisions by farmers about technologies and policies designed for sustainability. He teaches ecological and agricultural production economics. Dr. Swinton recently served on the National Academy of Sciences panel on pollinators and edited a special issue of the journal *Ecological Economics* entitled "Ecosystem Services and Agriculture."

## Marvin Hubbel

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Marvin serves as the Regional Manager of the Upper Mississippi River Restoration - Environmental Management Program (EMP). EMP was the first large river ecosystem restoration programs in the nation and the world to combine scientific monitoring and research in a way that is directly linked to large river ecosystem restoration efforts. The scientific research and monitoring component is supported through a network of six biological field stations located in five states. The ecosystem restoration component is coordinated through three offices located in three states. Annual funding for EMP has ranged from \$17,000,000 to \$30,000,000 in recent years.

The program has been recognized nationally as a one of three to six nationally significant ecosystem restoration programs within the Corps of Engineers for each of the past eight years.

Marvin has served in several other capacities within the Corps including the Special Assistant to the Commanding General of the US Army Corps of Engineers and, serving as the regional manager of the Long Term Resource Monitoring Program (LTRMP) – the science component of the EMP.

Prior going to work for the Corps, Marvin worked for the State of Illinois in varying capacities. Those included serving as the Manager of the Ecosystem Division and Conservation 2000 program and the Administrator for Wetlands and Watershed programs within the Illinois Department of Natural Resources.

### *Large River Ecosystem Restoration and Monitoring: How the Past Paves a Way for the Future on the Upper Mississippi River System*

The Upper Mississippi River Restoration - Environmental Management Program (EMP) was authorized in 1986 and is recognized as the first major effort to restore the vitality of the Upper Mississippi River System's (UMRS) diverse and significant fish and wildlife resources. In filling this role, it became the first major effort in both the nation and the world to integrate large river restoration and scientific monitoring efforts.

To date, the program has completed 50 projects that have improved 83,000 acres of aquatic and floodplain habitat. There are currently 26 additional projects under design or construction, which will result in an additional 45,000 acres of restored habitat. In addition to restoration projects, the EMP has a rigorous research and Long Term Resource Monitoring Program, where data on water quality, fish, vegetation and invertebrates are collected and analyzed, and system-wide data acquisition for land use land cover, bathymetry, and floodplain elevation are analyzed and provided. However, possibly the most important contribution of the EMP has been to pioneer the development of an effective regional partnership comprised of five states, five federal agencies, numerous NGO's, and the public.

In spite of these successes, the amount of restoration accomplished to date represents only approximately 3 percent of the UMRS floodplain and aquatic area. In addition, there are still opportunities to expand upon these efforts and to integrate ecosystem restoration with the economic needs of the region – primarily inland navigation. Two significant Corps programs have utilized the experience of EMP as a basis for new congressional authorizations. These include the Illinois River 519 Program and the Upper Mississippi River and Illinois Water Way - Navigation and Ecosystem Sustainability Program (NESP).

The 519 Program greatly expanded upon the geographic area covered by EMP by including not only the main channel and associated floodplain but also the entire watershed of the Illinois River Basin.

The NESP authorization is focused on the navigatable portions of the UMRS channel and associated floodplain but it expands the capacity for ecosystem restoration and related scientific efforts of EMP and specifically seeks to facilitate more direct integration between ecosystem restoration with navigation efforts.

While, all these programs are being managed so that each complements the other in order to maximize the overall ecosystem restoration capabilities, coordination of ecosystem restoration efforts with inland navigation, and the partnership opportunities of the UMRS they will need to continue to evolve to meet the changing needs of the river and its stakeholders. Key issues related to this evolution will be identified.

## Keith Oswald

### *Alternative Land Use: Emerging Ecosystem Service Markets*

Trading carbon credits has become big business, wetlands mitigation banking is well established through out the U.S., and threatened & endangered species banking is common in a number of states. But encouraging developments within recent years are further driving demand, momentum and the continued emergence of market-based ecosystem services. Government policy, increased business pressure from consumers, investors and advocacy groups, and pending climate change regulations have all helped create an environment where there is an increasing recognition of the economic and societal value of ecosystems. More and more corporations are recognizing the liabilities and business risks associated with ecosystem degradation, as well as the competitive advantage that can be gained by "greening" their operations.

The economic value now being placed upon the services provided by ecosystems ? nutrient & sediment reduction, treatment of toxins in water, flood storage and mitigation, carbon sequestration, biofuels, recreation & eco-tourism ? are offering public and private landowners the opportunity to financially benefit from land holdings once considered marginal and of little traditional value. The potential for land owners to financially benefit from natural area restoration and conservation provides a powerful incentive and platform for transforming degraded environments. Whether marginal cropland to be reclaimed by the floodplain, or degraded corporate surplus property destined for ecological reuse, ecosystem service markets are providing the financial rewards often needed to motivate these reuse and restoration scenarios. Ecosystem credit trading offers growing opportunities for the reuse of degraded properties and the expansion of regional restoration efforts within the Illinois River Watershed.

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Keith Oswald is the Environment & Geosciences Director for V3 Companies. He is a licensed Professional Engineer, received his Bachelor's degree in Civil and Environmental Engineering from the University of Wisconsin, and completed graduate studies in the geosciences from Northeastern Illinois University and in business from the Keller Graduate School of Management. Throughout his career, Keith has focused his efforts on resolving issues related to the environmental impairment of land and water. His primary role at V3 is developing strategies and solutions for managing environmental issues and the challenges they present to clients - whether risk mitigation, sustainable resource use, Brownfield redevelopment, ecological reuse or natural area restoration.

Working with public and private sector organizations, as well as private/public partnerships, he has a track record of creative solutions and practical strategies that achieve land reuse and restoration goals. Experiences gained from Brownfield redevelopment, ecological reuse and the cleanup of legacy issues at corporate surplus properties have furthered his interest in market-based solutions to environmental challenges. Through the emergence of ecosystem markets, Keith is increasingly applying his passion and experience to the restoration of natural systems and the sustainable use of natural resources.

# Local Community Actions: You Can Do It Too!

### **Moderator: Janel Veile**

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Janel Veile is a Natural Resources Survey Coordinator with the Illinois Department of Transportation, Bureau of Design and Environment. She started with IDOT over 8 years ago as an Environmental Resources Coordinator. Prior to her work at IDOT, she was a Grants Assistant with the Illinois Department of Agriculture, Bureau of Land and Water Resources. Janel holds a B.S. in Natural Resources and Environmental Science from the University of Illinois at Urbana-Champaign (1999) and an M.A. in Environmental Studies from the University of Illinois at Springfield (2001).

## Mike Hall

### *Stormwater Utilities: A Source of Funding for Stormwater Management Issues*

Without funding, comprehensive stormwater management programs and projects are difficult at best to implement. Larger communities in Illinois are required by federal and state law to control stormwater runoff within their municipal boundaries. Many counties and communities also have ordinances on the books that require control of stormwater runoff. Communities continue to face the dilemma of how to implement both voluntary and regulatory stormwater programs without a stable funding source.

In 2005, the City of Normal Public Works Department started the process to get decision makers on board to support development and implementation of a Stormwater Utility Program. Local citizen, town staff and town council buy-in was imperative to get this program up and running.

This presentation will speak to the steps taken to develop a Stormwater Utility Program in Normal, Illinois. It will include topics such as; the utility feasibility study, advisory committee process, program budget development, public feedback process, establishment and implementation of the funding mechanism, and enactment of the stormwater program objectives.

The Public Works Department's efforts paid off, the City of Normal has adopted and implemented a Stormwater Utility program. Hear why this program is the "SAFE" way to support programs and projects that help cover the expense of 1) expanding local government roles, 2) ever changing stormwater programs, and 3) other prevailing priorities competing for the city's general fund dollars - police, schools, etc.

Stormwater utilities can be a local financial solution to a local community problem.

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Mike Hall, Director of Public Works for the Town of Normal, earned his bachelors degree in civil engineering from the University of Illinois at Urbana-Champaign in 1978. He is a licensed professional engineer. After working in private consulting, he joined the Town staff in August 1988, as its first city engineer and was promoted to Director of Public Works in 1997. As director, Mike is in charge of a six-division department with 80 employees (annual operation budget of \$10 million), which is responsible for street maintenance, sewer maintenance, storm water program management, waste management (including the recycling program), fleet management, engineering and administration of all public works capital projects. Professionally, Mike has been active serving on the Board of Directors for the Illinois Chapter of the American Public Works Association and served as President of the Illinois Society of Professional Engineers in 1993. He serves on several local boards and commissions in the Normal-Bloomington community and he is a Rotarian. Mike is married to Kris and has two sons, Benjamin (23) and David (15). Mike and his family enjoy traveling. Mike also is a history buff and amateur genealogist and loves living in and maintaining a 92-year old historic home.

## Linda Prokopy

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Linda Prokopy is an Assistant Professor of Natural Resources Planning in the Department of Forestry and Natural Resources at Purdue University. She is the co-lead of a regional effort (including six Great Lakes states) to develop a social indicator framework for non point source projects. She is the Principal Investigator of a USDA-CSREES grant that is examining how these social indicators can be used to improve outreach efforts in four Midwestern watersheds.

### *Using Social Information to Guide Outreach Activities in the LaMoine River Watershed*

The La Moine River Watershed is one of four watersheds in the Midwest that is being studied to understand how well using social information from surveys can inform and improve outreach activities. Within the La Moine River Watershed, agricultural producers in nine subwatersheds responded to a baseline social indicators survey in 2008. This survey was based upon a social indicators framework that includes measures for awareness, attitudes, constraints and behaviors. Using a cluster analysis, these subwatersheds were divided into three types: control, business as usual, and treatment. In the control subwatersheds, no interventions are being done to try to change producer behaviors. In the business as usual subwatersheds, agencies are doing typical tasks to try to change producer behaviors. In the treatment subwatersheds, an outreach specialist has been hired to try to change producer behaviors using messages and needs that have been derived from the survey data. Surveys will be conducted again in early 2010 to assess if outreach based on social information has led to more changes in behavior than the other types of outreach.

This presentation will overview factors that fostered or impeded adoption of practices in the La Moine River Watershed and how a team of researchers from across the Great Lakes region developed tools that can be used to promote adoption of recommended BMPs in environmentally critical areas. Results of this project will enhance our understanding of the complex social dynamics that lead to adoption and rejection of conservation practices by farmers and farm managers. It will also provide new knowledge and tools for designing more effective education, outreach, and incentive programs by paying attention to the target audience and the context in which farm management decisions are made.

## Tom Ryan

### *How to Protect Shorelines on \$25 or Less a Day*

No you really can't procure barges and tons of rip rap for \$25 dollars a day. You can, however, organize your team, develop plans and manage project operations with minimal expenditures of funds, which are rarely available at the initiation of a new venture.

This session will review the Effingham Water Authority's Erosion Control Committee's experience and "lessons learned" during its first two years in working to protect Lake Sara's miles of eroding bluffs. In two years this team of novices went from scratching their heads on how to start, to constructing over 3,000 feet of Transitional Wetland Breakwaters.

Expenditures have focused on procurement of construction materials and services. To date, less than \$1,000 has been spent for administrative or design development. Through outreach programs the committee also established the Lake Sara Forever Foundation, which has ensured sizeable community financial support for the next five years.

Topics to be discussed will include team formation, recruitment, benchmarking BMP's, enlisting agencies support, getting community and press backing, how to design at minimal expense, grant writing, & project management. Included will be examples of inexpensive, or hand made tools, which have been utilized to satisfactorily create engineering designs.

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Prior to two years ago Tom knew nothing about Shoreline Stabilization. His 40 plus years of lake experience were on glacially carved lakes in Michigan. His post-retirement move to Lake Sara, near Effingham, was his first exposure to impoundment reservoir bluff erosion.

Tom is a charter member of the Effingham Water Authority's volunteer Erosion Control Committee, founded in 2008. He also helped found and is a Trustee of the Lake Sara Forever Foundation, created to garner community support for the Committee's initiatives.

Before retirement Tom worked 30 years for Ford Motor Company in Service Parts Logistics. His last position was U.S. Supply Operations Manager. Following retirement from Ford he worked as a consultant on Supplier Management with Carlisle & Company, Inc., a private firm devoted to the motor vehicle industry.

He has business degrees from Ball State and Indiana Universities. Subsequent to joining the Erosion Control Committee he is becoming conversant in multiple foreign languages: IEPA, ACOE, and DOA speak.

# In the Corridor: Sediment Management

## Moderator: Meg Jonas

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Meg Jonas is a Research Hydraulic Engineer for the U.S. Army Research and Development Center (ERDC), Coastal & Hydraulics Laboratory. She has over 25 years of professional experience in water resources, with primary focus on stream and watershed restoration, flood damage reduction, sedimentation, fluvial geomorphology, and river mechanics. She is a member of the Corps expert Committee on River Engineering and Restoration, and was one of the authors of ERDC-CHL Technical Report 01-28, "Hydraulic Design of Stream Restoration Projects." She was a member of the federal interagency steering team that produced, "Stream Corridor Restoration: Principles, Processes, and Practices." She holds a Bachelor of Science in Civil Engineering from the University of Virginia, and a Master of Science in Engineering Geology from George Washington University.

## Nicole Manasco

### *Channel Maintenance and Sediment Management on the Illinois Waterway*

The Upper Mississippi River System (including the Illinois Waterway) is the only water body in the nation that has been recognized by Congress as a “nationally significant ecosystem and a nationally significant commercial navigation system.” (Section 1103 of the Water Resources Development Act of 1986, P.L. 99-662). In order to maintain that navigation system the Corps of Engineers must manage the sediment that moves through the system.

Working in partnership with the navigation industry, Illinois Department of Natural Resources, Illinois Environmental Protection Agency, Illinois Department of Agriculture, U.S. Coast Guard, U.S. Fish and Wildlife Service and the U.S. Environmental Protection Agency the Corps identifies areas of concern and management strategies to address them. Strategies include channel regulating structures (wingdams, closing dams, bankline protection, etc.), channel dredging, dredged material placement, and beneficial use of dredged materials.

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#### Professional Experience:

13 years with Rock Island District Corps of Engineers: 5 years as a hydrologist for the Water Quality and Sedimentation Section, measuring water quality parameters and running GIS and sedimentation models for the UMR and ILWW; 5 years as a biologist for the Environmental Analysis Branch completing Environmental Assessments and serving on the Navigation Study and NESP teams; 3 years as Channel Maintenance Coordinator for the Technical Support Branch coordinating District dredging and channel maintenance activities with state and federal agencies in the 5 state area.

Ms. Manasco is currently responsible for the coordination of all channel maintenance activities within the Rock Island District. These activities include channel maintenance dredging, small boat harbor dredging, dredged material management plans (DMMPs), the upcoming channel maintenance management plans (ChaMMPs), and construction and maintenance of regulating structures (wingdams, closing dams, shoreline protection, etc.). Ms. Manasco chairs the UMR On-Site Inspection Team (OSIT) and is a member of the ILWW OSIT.

## Mike Demissie

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Dr. Demissie is Director of the Illinois State Water Survey, a division of the Institute of Natural Resource Sustainability at the University of Illinois at Urbana-Champaign, IL. He is responsible for leading and managing over 200 professional and support staff that are engaged in data collection, research and public service in the field of water and atmospheric resources. His long-term research at the Water Survey has focused on problem solving in the general area of watershed science with emphasis on watershed processes and restoration. He has conducted research addressing issues such as ecology of large rivers; stream flow hydraulics; erosion and sediment transport; lake sedimentation; hydrology and hydraulics of floods; and hydrology of wetlands. He has published over 150 journal articles, reports, and conference proceedings.

Dr. Demissie received his B.S. degree in Civil Engineering from the University of Iowa, and M.S. and Ph.D. in Civil Engineering from the University of Illinois at Urbana-Champaign. Dr. Demissie is a registered Professional Engineer in Illinois. He is a Fellow of the American Society of Civil Engineers and a Diplomate of the American Academy of Water Resources Engineers. He is also a member of the International Water Resources Association, and the International Association of Hydrological Sciences.

### *Sediment Management of the Waterway as an Ecological Resource*

The major issues related to sediment management in the Illinois River valley can be grouped into three main problem areas: sedimentation in backwater lakes, sediment in the navigation channel, and sediment quality. The areas most significantly affected by sedimentation in the Illinois River valley are the backwater lakes. Their physical characteristics and ecological and habitat values are continuously changing due to continuous sedimentation.

Bottomland lakes along the Illinois River are important ecological, recreational, and economical resources of the state and the region. Because of a combination of natural geologic conditions and manmade hydraulic controls, there are numerous bottomland lakes along the Illinois River valley.

Sedimentation has long been identified as the major problem for bottomland lakes in the Illinois River. It was estimated that on the average the bottomland lakes in the Illinois River valley had lost over 70 percent of their water storage capacity to sedimentation by 1990. Some lakes have completely filled with sediment. The impact of sedimentation on the bottomland lakes is dramatically illustrated by what has happened to Peoria Lake, the largest, deepest lake in the Illinois River valley. Sedimentation surveys conducted at different times show the sedimentation pattern in Peoria Lake where the deeper parts of the lake are shrinking. Eventually, the only deep part of the lake will be a narrow navigation channel in the middle of the lake. As sedimentation continues and the shallow flat areas start supporting vegetation, much of the lake could be transformed into seasonally flooded wetland area. Similar processes are taking place in all of the other bottomland lakes.

Unless appropriate sediment management strategies are implemented to restore these important ecological resources, most of them could be lost in the near future. It is important at least some of these lakes are maintained to provide the proper habitat diversity in the Illinois River valley.

**John Marlin**

## *Sediment Quality and Beneficial Use Options*

Various state agencies have participated in a study of Illinois River sediment in an attempt to find uses for this abundant out of place resource. This presentation includes an overview of data collected from sediment cores taken along the Illinois River backwaters from Beardstown to Lake Senachwine. Fertility, physical properties and chemical quality of sediment from various locations will be discussed.

A review of soil development and plant growth at several sites where sediment was placed as topsoil including the Pekin Landfill, US Steel South Works Site in Chicago, and the Banner Marsh Fish and Wildlife Area will be provided. The current status of beneficial use options will be mentioned.

Publications, videos and photos related to the WMRC sediment project are located at [http://www.istc.illinois.edu/special\\_projects/il\\_river/](http://www.istc.illinois.edu/special_projects/il_river/)

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John C. Marlin joined the Illinois Sustainable Technology Center (formerly the Waste Management and Research Center) of the University of Illinois in May of 1993. He is currently acting director. Most recently he has been involved in the federal-state Illinois River Ecosystem Restoration Study and coordinates efforts to evaluate sediment quality and find beneficial uses for it. He manages the "Mud to Parks" projects, which involve the long distance transport of sediment from the Illinois River for use as topsoil.

Prior to joining WMRC, Marlin served 9.5 years on the Illinois Pollution Control Board, five of them as chairman. Board members are appointed by the governor and confirmed by the senate and exercise quasi-legislative and quasi-judicial powers. While at the Board, Marlin initiated the Illinois legislative and regulatory programs for managing scrap tires and associated mosquitoes.

From 1972 to 1983 Marlin was Executive Director of the Central States Resource Center, a conservation advocacy organization for a variety of issues primarily focused on water and transportation.

Dr. Marlin received a MS and PhD in Entomology from the University of Illinois at Urbana-Champaign.

# Economic Development: Developing and Showcasing Community Assets to Impact Quality of Life

## Moderator: Russ Crawford

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Russ Crawford graduated from Knox College with a Bachelor of Arts degree and completed graduate level work at both Illinois State University and the University of Virginia. He is a Certified 6 Sigma Project Manager and Global Customer Acceptance Validation & Contamination Control Manager at Caterpillar Logistics Services located in Morton, Illinois.

Mr. Crawford has been an Instructor of Government, History, Political & Social Problems and Environmental Studies at East Peoria and Pekin High Schools; Instructor of Traffic Law Administration at Illinois Central College; Chairman of the Tri-County (Peoria, Tazewell & Woodford) Regional Planning Commission; ten-term member of the Illinois Republican Party Platform Committee; five-term elected member of the Tazewell County Board of Supervisors; Chairman of the Tazewell County Economic Development Council; Chairman of the Tazewell County Park & Forest Preserve District; Chairman of the Public Health Committee; four-year term elected Tazewell County Chief Fiscal Officer & Auditor and Jim Edgar's Assistant for Courts & Law Enforcement in Northern Illinois for the IL Secretary of State's Office. Russ was elected as a Delegate to the first 3 Illinois Conservation Congresses and subsequently to the Congresses' Executive Committee where he helped write the bylaws, created the current IDNR from the former Department of Conservation and formulated a volunteer network to assist with IDNR and Park activities.

Mr. Crawford currently serves as President of the Heartland Water Resources Council of Central Illinois, a voluntary network of concerned private and public sector interests whose primary mission is the preservation and restoration of the Peoria Lakes and the Illinois River basin. He serves on the Scenic Byways board and is Vice-Chairman of the Tazewell County Land Use & Zoning Committee. He was instrumental in the creation and immediate Past Chairman of the Peoria Lakes Basin Alliance (PLBA), which includes the Heartland Water Resources, the Nature Conservancy and the Tri-County Regional Planning Commission. This coalition speaks with one voice to the public sector (including federal, state, and local government) and to the private sector on the issue of preserving and protecting the Peoria Lakes and the Illinois River basin. Russ represented the local initiative in the May, 2009 Governor Quinn press conference to celebrate awarding the contract for the federal-state-local partnership for island construction in the Peoria Lakes Basin.

Russ is married to Cindy Crawford and resides in East Peoria, IL. They have one son, Kristopher Russell Crawford from Rockford, Illinois.

## George Bellovics

### *Greenways and Trails Planning: People, Pathways and Profits*

Economic development in any locale is about people accessing business. Many times, this access is hampered by a single-minded pursuit of vehicular access to businesses and within communities, ignoring the importance and potential of pedestrian and bicycle access.

The presentation will introduce trail development concepts, discussing how trails can play an important role in, and share common goals toward, community development, community health and recreation, transportation planning and overall quality of life, all of which affect a community's economic development and vitality.

#### Objectives:

- Describe and discuss how “movement” within and between communities is critical to sustainable economic development.
- Describe and discuss various models, methods and concepts of trail development which can transform communities toward greater mobility and transportation alternatives.
- Outline specific trail development challenges typically faced by communities in a case study format, and describe how results were achieved in each case.

Benefits to conference attendees will include a greater knowledge of regional trails and greenways planning concepts; how to address divergent public opinions and how to create local jurisdiction and grass roots advocacy; and how to improve cooperation among agencies and organizations in the planning and building of trails and greenways.

Communities that participate in building, operating and maintaining segments of regional trails do so for various reasons, but all extol the benefits trails and greenways have contributed toward their quality of life and the more varied outdoor choices they now enjoy as a result of these linear resources.

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George S. Bellovics: Registered Landscape Architect, serves the Illinois Department of Natural Resources as Coordinator for its 500+ mile Grand Illinois Trail initiative. Statewide Bikeways Coordinator in the Office of Realty and Environmental Planning, he provides technical assistance to local jurisdictions and facilitates various trail initiatives. Additionally, George is the acting Region 1 Landscape Architect for IDNR responsible for Site Planning decisions for 32 State Parks, Conservation and Fish and Wildlife Areas in northwestern Illinois and provides Interpretive Planning services for the Department, as assigned.

He is the Department's representative on the National Mississippi River Parkway Commission, (MRPC) which administers the Great River Road as well as heritage tourism along the 18 Illinois Mississippi River counties, and serves on the National Board for the Mississippi River Trail (MRT). He earned a Bachelors Degree in Landscape Architecture from University of Illinois; has worked in both private sector and public practice as a consulting Landscape Architect and is a published poet, cartoonist and musician.

George is married (Patti) and has a daughter, Mae, age 12 and a 28 year old son Levi, who is serving in the United State Army as a Staff Sergeant, now stationed in Kansas City, Missouri, after completing two tours of service in Iraq.

## Keith Alexander

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Keith Alexander has been the Director of Water Management for the City of Decatur, Illinois for 9 years, and was the Lake Manager for the previous 11 years. He oversees all aspects of Decatur's drinking water system and is honored to work with the 54 highly talented employees of his department. Keith is a graduate of Michigan State University (B.S.), Arizona State University (M.S.) and the University of Illinois at Springfield (M.P.A.).

### ***Lake Decatur Sustainability - Economics, Environment and Quality of Life***

Lake Decatur has a 925 square mile watershed, 85% of which is cultivated for crop production. Drinking water treatment plants owned by the City of Decatur and the Archer Daniels Midland Co. withdraw water from the lake. 75% of Decatur's water, and 100% of ADM's water, is used for commercial and industrial purposes. Since 1922 sediment has reduced the lake's volume by 28%.

**Economic Sustainability** - The lake is a key component of Macon County's economy. The City of Decatur has been focusing on two economic sustainability components - watershed protection and dredging. For watershed protection, Decatur employed two soil conservationists in the early 1940s and helped establish the Macon Co. Soil & Water Conservation District (MCSWCD). Since 1987 Decatur has had an annual watershed improvement agreement with the MCSWCD and since 2006 has also had an agreement with the Agricultural Watershed Institute. Several grants and awards have been received. Why dredge Lake Decatur? To reclaim large areas of the lake that have filled up with sediment and reclaim water storage for drought response. Dredging will provide an 18% increase in water volume, create sediment traps, improve recreational opportunities and enhance property values. The estimated cost is \$31M to \$37M.

**Environmental Sustainability** - Watershed protection and dredging are also environmentally sustainable activities. 3,839 acre feet of sediment will be dredged and provide an identical amount of additional water supply. What can sustainably be done with 3,839 AF of sediment? There are numerous options.

**Quality of Life Sustainability** - The dredging project will not remove all accumulated (and still accumulating) sediment from the lake. It is anticipated that long term commercial and industrial water use will increase. 10,000 acre feet of additional water supply is still critically needed for drought protection.

## Laura Payne

### *Community and Environmental Benefits of Parks and Recreation*

The value of community parks and recreation to communities and economies is far reaching and contributes to individual and community quality of life. In this session, numerous documented benefits of community parks and recreation will be presented and discussed. Attendees will learn important facts they can use in grant applications, promotion and public relations programs, referendum campaigns and other practical applications. Attendees will also work in small groups to identify ways they can access data locally and they will brainstorm and share ways using this information will be beneficial to their organizations. Also, resources for grants and evidence-based programs will be presented.

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Laura has a Bachelor of Science degree in Communications, a Master of Science degree in Recreation Administration from Illinois State University, and a doctorate in leisure studies from The Pennsylvania State University. She has worked in community recreation, non-profit association management, resort recreation, and public relations. In terms of research, she examines the effects of leisure behavior on measures of health and well-being (e.g., psychosocial, physiological) among older adults. She also examines the role of recreation and leisure services in community development. More specifically, she examines the relationship between leisure lifestyle and health of older adults with chronic conditions; the role of local parks and recreation agencies in the promotion and maintenance of health; and the relationship between nature-based leisure experiences and health. She recently completed a study with colleagues at Penn State on partnerships between community parks and recreation agencies and health organizations.

# Soil and Water Movement I: Water

## Moderator: Gary Clark

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Mr. Clark started his career as a civil engineer with the State of Illinois Department of Natural Resources, Office of Water Resources in 1974. On July 1, 2003, Mr. Clark was appointed as the Director of the Office of Water Resources. During his career, his areas of professional responsibilities included the administration and conduct of research and planning in the areas of instream flow protection, statewide water supply management, groundwater modeling, drought management, groundwater and surface water law and state water planning. Mr. Clark is a graduate of the University of Wisconsin, with a B.S. Civil Engineering in 1972, and a M.S. in Civil and Environmental Engineering in 1974. He is a licensed Professional Engineer in the State of Illinois and Wisconsin.

Mr. Clark has authored publications and papers on groundwater law, water supply management, groundwater modeling and instream flow protection. He has participated actively in the drafting of Illinois statutes for groundwater quality and quantity management. Mr. Clark serves as the State of Illinois representative to the Upper Mississippi River Basin Association, the Ohio River Basin Commission and the Great Lakes Compact Council. He also serves as the agencies representative to the Governor's State Water Plan Task Force and has served as president of the Illinois Groundwater Association and the Illinois Section of the American Water Resources Association.

## Rip Sparks

### *Water Level Fluctuations in the Illinois River and Effects on Floodplain Management and Wetlands*

Nani Bhowmik, Misganaw Demissie, Illinois State Water Survey, Institute of Natural Resource Sustainability, University of Illinois at Urbana-Champaign, Champaign, IL

Henry DeHaan, Rock Island District, U.S. Army Corps of Engineers, Rock Island, IL

**WHERE WERE WE?** In 1997, members of the Hydrology and Hydraulics Action Team (HHAT) contributed seven of the 34 recommendations approved by the Illinois River Strategy Team for the Integrated Management Plan (IMP). This presentation focuses on the causes of unnatural and natural water level fluctuations. Apart from concerns about an increase in major, damaging floods, the HHAT was concerned that unnatural, little floods during the summer growing season were drowning plant communities that were important for fish, wildlife, water quality, and erosion protection of the beds and banks of the river and its floodplain lakes.

**WHERE ARE WE NOW?** The goals and objectives from the 1997 IMP were largely incorporated in the 2007 Comprehensive Plan for the Restoration of the Illinois River Basin prepared by the U.S. Army Corps of Engineers with input from the very agencies that had contributed to the 1997 IMP. Hydraulic simulations undertaken by the Illinois State Water Survey and the Rock Island District of the U.S. Army Corps of Engineers since 1997 have advanced our understanding of the causes of damaging water level fluctuations and indicated what management actions might reduce the undesirable fluctuations.

**WHERE TO WE GO FROM HERE?** The 2007 Comprehensive Plan recommends further evaluations using improved monitoring data and models; an adaptive, learn-by-doing approach where the science is still uncertain; and implementation of several programs to reduce unnatural, harmful fluctuations in flows and water levels. Programs include additional stormwater storage and infiltration within tributary basins; alterations to navigation dams and new operating procedures that would respond to improved, real-time data on upstream flows; and scheduled drawdowns of navigation pools to dry and compact sediments and improve plant communities that provide many ecosystem services. Other actions recommended for other purposes, including selective reconnection of the river to its floodplain, are also likely to help naturalize water regimes in the river and its floodplain.

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Dr. Richard Sparks is Director of Research, National Great Rivers Research and Education Center, Alton, Illinois, which was founded in 2002 by the University of Illinois at Urbana-Champaign, Lewis and Clark Community College, and the Illinois State Natural History Survey. He and his colleagues research options for restoring or naturalizing large floodplain rivers. Their working hypothesis is that naturalization will reduce flood damages, increase aquatic and wetland habitat, and diversify economies of river communities by increasing opportunities for outdoor recreation, tourism, and marketing of ecosystem services. He continues to be affiliated with the University of Illinois, where he formerly directed the Illinois Water Resources Center, and with the Illinois Natural History Survey, where he directed the Large River Research Program on the Upper Mississippi River system for 26 years. He has authored or co-authored 142 articles, book chapters, reviews and reports, including *The Flood Pulse Concept in River-Floodplain Systems*, a much-cited paper which describes the role of seasonal flood cycles in maintaining the ecological structure and function of large floodplain-river ecosystems. From 1995 to 1997 he served on the Illinois River Strategy Team and the Hydrology and Hydraulics Action Team for the Integrated Management Plan for the Illinois River Watershed.

## Dan Injerd

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Daniel Injerd is Chief of Lake Michigan Management for the Office of Water Resources, Illinois Department of Natural Resources. In this position, Mr. Injerd is responsible for the management of Illinois Lake Michigan diversion as allowed under a U.S. Supreme Court Decree and the allocation of Lake Michigan water to 200 public water supplies serving over 6.8 million people in N.E. Illinois. The Section also reviews and issues permits for construction activities in Lake Michigan. Mr. Injerd represents Illinois on Great Lakes issues, and was a member of the Illinois team that successfully resolved the interstate dispute concerning Illinois diversion. He also serves as an Alternate Commissioner on the Great Lakes Commission and was appointed to represent Illinois on the Council of Great Lakes Governors= Great Lakes-St. Lawrence River Basin Water Resources Compact Council and the Great Lakes-St. Lawrence River Basin Sustainable Water Resources Regional Body.

Mr. Injerd has been involved with the Great Lakes for 32 years. His educational background includes a Master of Science in Resource Management from Michigan State University, with a minor in Sanitary Engineering.

### ***Illinois' Lake Michigan Diversion Management: Have We Fulfilled Our Great Lakes Memorandum of Understanding Commitments?***

In 1994, Illinois was notified that it had violated the United States Supreme Court Decree that limits our diversion of water from Lake Michigan. As an alternative to litigation, Illinois entered into a Memorandum of Understanding (MOU) with the other Great Lakes states and the U.S. Department of Justice, committing to undertake a number of initiatives to return to compliance with the Decree. This presentation will review the circumstances that led to this historic document, review the activities that have been completed to comply with the MOU, discuss the current status of Illinois' compliance with the Decree, and describe some of the long range issues that are central to Illinois' long term compliance with the Decree. Finally, this presentation will briefly discuss the potential for reduced diversion flows from Lake Michigan into the Illinois River system and the concern over invasive species transfer generating calls for future separation of the Lake Michigan and Illinois River watersheds.

## Vern Knapp

### *Trends in Illinois River Streamflow and Flooding*

Precipitation variability is the dominant driving force in determining the amount of flow in streams and rivers, and most identified trends in Illinois River flows over the past 120 years are strongly correlated to coincident trends in precipitation. Human activities also exert direct and indirect influences on flow conditions; however, the extent of their impacts and our ability to detect the related changes in streamflows vary considerably by the type of influence. This presentation describes: 1) observed long-term and short-term trends in flow quantity for the Illinois River and its tributaries; 2) results of statistical and modeling studies that have identified causes of observed trends; and 3) the limitations, both in data and modeling uncertainties, of being able to identify the effect of various human-induced factors that are believed to affect streamflow trends.

Flow magnitudes and the frequency of major flood events have been noticeably elevated in the Illinois River since about 1970. The amount of increase is noticeably greater in the northern part of the Illinois River basin and lesser in the southern part of the basin - all part of a regional hydrologic response in the Upper Midwest driven by changes in average and heavy precipitation. Ten years ago, there was considerable concern that precipitation and streamflow amounts would continue to escalate in the future. Although some concerns remain, over the past 10-15 years there has instead been a smaller but observable decrease in precipitation and flow amounts across the Illinois River basin. These flow decreases have also influenced loadings of stream nutrients and sediments, which affect our ability to detect impacts associated with ongoing watershed management practices. We expect continued fluctuation and uncertainty in climate conditions as a result of both natural variability and human-induced changes, leaving the future uncertain regarding streamflow and flooding trends. It is also clear that setting and meeting water yield and pollutant loading targets may be problematic under such uncertain climate conditions.

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Mr. Knapp has been working at the Illinois State Water Survey for over 30 years. He has authored over 50 publications on the State's surface water resources, and is a recognized expert on Illinois' stream hydrology, surface water supplies, droughts, and low flow conditions. Earlier this year he served as the Acting Director of the Center for Watershed Science at the Water Survey. He received an M.S. in Water Resources Science from the University of Kansas, and is a past President of the Illinois Section of the American Water Resources Association.

## In the Corridor

### Moderator: Michael Reuter

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Michael Reuter is the Director of Conservation Programs for The Nature Conservancy's Central U.S. Region. In this role, Michael provides leadership in the areas of conservation strategy and program development, public policy, and external affairs across the twelve states which comprise the region. Michael is particularly focused on leading advancement of the Mississippi River program extending from its headwaters and tributaries to coastal Louisiana. In this role, Michael works to influence land use and water management issues that will most significantly impact natural ecosystems in the Central United States during the next ten years, including agriculture and energy development.

Michael also plays a leadership role in the Conservancy's expanding freshwater conservation program which includes directing the Great Rivers Partnership. The GRP was launched in January 2005 to better understand and preserve the Mississippi River system and share this information with other institutions to encourage the sustainable development and integrated management of great rivers around the world. Michael and GRP staff and colleagues have supported conservation efforts on the Yangtze River (China), the Paraguay-Parana River (Brazil), the Zambezi River (Africa), and the Magdalena River (Colombia). As part of this effort, Michael is working with partners to develop an international Center for Great Rivers and Sustainability to engage partners in the creation of sustainable human and natural communities within the Mississippi River system and other great rivers of the world by aggregating information, influencing policies, and developing projects that support integrated management. The Center is designed to play a facilitative leadership role in the development of a long-range vision and ongoing adaptive management strategy for the Mississippi River, and connect that experience to river managers and stakeholders around the world for mutual benefit.

Michael has focused on the conservation of great rivers throughout his career, starting in the late 1980s to develop programs to preserve and enhance the Illinois River Valley, and later spearheading the development of a coordinated effort to protect the Mississippi River system. He joined The Nature Conservancy in 1990. Because of the intensive agricultural nature of the landscape where Michael was raised and in which he works today, he has been dedicated to developing ways to conserve biodiversity in these working landscapes at larger scales. Michael negotiated the purchase of 7,527 acres at Emiquon from Wilder Corporation in 2000, the largest such acquisition in the history of Illinois and now the setting for one of the largest floodplain restoration projects in the United States. Michael currently serves on a variety of boards and committees, including the governor-appointed Illinois River Coordinating Council, the steering committee for the Field-to-Market Alliance for Sustainable Agriculture, the organizing board for the International Society for River Science, the advisory board of the Institute for Principled Leadership in Public Service at Bradley University, and the Illinois Valley Central Foundation board of trustees. He has received the Silver Eagle Award from the US Fish and Wildlife Service and the One Conservancy Award from The Nature Conservancy. Michael holds a B.S. degree in agricultural economics from Iowa State University and a Master of Liberal Studies from Bradley University. He lives in Peoria, is married and has three children.

## Rob Hilsabeck

### *Emiquon: A Fish Biologists Input*

The Emiquon Preserve started as a blank slate with many stakeholders and opinions on how to start and manage the restoration. This presentation will give a short overview on the restoration techniques and management proposed and applied by a joint effort between the Illinois Department of Natural Resources and The Nature Conservancy.

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Rob Hilsabeck has been a District Fisheries Biologist with the Illinois Department of Natural Resources since 1994. Rob has had the joy of completing fish management projects on the State Fish and Wildlife Areas at Banner Marsh, Rice Lake, Anderson Lake and Double T. Working with veteran fish biologists Ken Russell and Wayne Herndon on fish restoration projects has been a dream come true.

### *Habitat Restoration at Emiquon: A Partners Perspective*

The U.S. Army Corps of Engineers is partnering with The Nature Conservancy to develop a feasibility study for the restoration of the Emiquon Preserve. This unique landscape scale restoration project has the opportunity to construct features that would result in a more naturally functioning floodplain and wetland habitat with benefits to nearly 5000 acres of former agricultural land. This session will discuss the process of partnering with The Nature Conservancy and other government agencies, institutions, and organizations to develop a plan for the restoration of the Emiquon Preserve.

## Troy Hythecker

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Troy Hythecker is a Civil Engineer in the Environmental Engineering section of the U.S. Army Corps of Engineers, Rock Island District. Troy graduated with a Civil Engineering degree from the Missouri Institute of Science and Technology in 2003, and is a registered professional engineer in the state of Iowa. He has had significant experience working on projects in the Illinois River basin, including contributions to the Illinois River Basin Comprehensive Plan, the Upper Peoria Island restoration project, and various other projects in the Section 519, Section 206, and NESP programs.

## David Hiatt

### NRCS

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Ecologist for the U.S. Army Corps of Engineers from 1994 to 1996

in the Detroit District working in Detroit, Grand Haven and Saginaw, Michigan as well as South Bend, Indiana. Performed wetlands determinations/delineations, wetlands violation inspections, permit processing and mitigation design.

Wetlands Biologist for the United States Department of Agriculture - Natural Resources Conservation Service in the Martinsville Field Office. Responsible for coordinating the Wetlands Reserve Program and the Floodplain Easement Program in the state of Illinois.

### *Habitat Restoraton: NRCS Perspective*

The United States Department of Agriculture - Natural Resources Conservation Services administers the Wetlands Reserve Program (WRP). The objective of the WRP is to purchase conservation easement to help eligible landowners, protect, restore and enhance the original hydrology, native vegetation, and natural topography to the extent practicable.

Determining what conditions occurred originally at Emiquon is easy to determine. Historical maps and accounts provide detailed descriptions of the site. What is difficult to determine is how to restore the site back to these original conditions considering the vast hydrological impacts that have occurred not only at Emiquon, but within the Illinois watershed. It is impractical to think that Emiquon will be restored to its original pre-settlement condition given the impact of these alterations and the current management of the river. What we can hope to do is mimic the functions and values of historic Emiquon. Concerns with invasive species, water quality/water quantity, and sedimentation have limited hydrology restoration. Vegetation restoration consisting of upland and bottomland hardwood tree planting and native prairie planting has been accomplished.

### *Waterbird and Wetland Monitoring at the Emiquon Preserve*

Backwater wetlands of the Illinois River provide critical habitats for breeding and migrating waterbirds and the restoration of The Nature Conservancy's Emiquon Preserve (hereafter, Emiquon) has added extensive area of quality wetland habitat in this region. Waterbirds are ecologically, economically, and culturally important and may be used as bio-indicators to assess wetland quality. Therefore, the staff of the Illinois Natural History Survey's Forbes Biological Station began monitoring wetland avifauna and their habitats at Emiquon in 2007. Monitoring activities included: spring and fall inventories of waterfowl, behavioral observations, brood monitoring, estimation of food resources for breeding and migrating waterbirds, and mapping of wetland habitats. Waterfowl have responded rapidly to the restoration of Emiquon; for example, in 2008 we documented 22 species of waterfowl at the site during ground observations, and peak abundance estimates from aerial inventories were 69,020 during spring and 50,260 during fall. Waterbirds have also started breeding at the site, and we observed 111 broods of eight species during six one-hour monitoring sessions in 2008. We also estimated abundance of moist-soil plant seeds that are important waterfowl foods and found production during 2007-2008 exceeded regional conservation objectives set by the Upper Mississippi River and Great Lakes Region Joint Venture of the North American Waterfowl Management Plan. Results of our wetland mapping revealed a diversity of waterbird habitats at the site, including important vegetation types that are rare in wetlands of the Illinois River today (e.g., beds of submersed aquatic plants). Our results indicate that Emiquon is providing important resources to breeding and migrating waterbirds and is rapidly becoming a wetland of regional importance in the Upper Midwest.

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Josh Stafford received a B.S. in Wildlife Science from Oregon State University, an M.S. in Wildlife Science from South Dakota State University, and a Ph.D. in Wildlife Ecology from Mississippi State University. His M.S. research focused on breeding ecology of mallards in South Dakota, and his Ph.D. involved estimating food abundance for wintering waterfowl in rice fields of the Mississippi Alluvial Valley. Josh is currently a Waterfowl Ecologist with the Illinois Natural History Survey and Director of the Forbes Biological Station in Havana, Illinois. Their recent research efforts have focused on ecology of migrating waterfowl and shorebirds, estimation of food resources for waterfowl on lands managed by the Illinois Department of Natural Resources, and waterbird monitoring at The Nature Conservancy's Emiquon Preserve. Josh also serves on the Mississippi Flyway Council Technical Section and the Upper Mississippi River and Great Lakes Region Joint Venture Science Team and is an associate editor for the scientific journal *Wetlands*.

## Brian Johnson

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Brian is a Natural Resource Planner with the U.S. Army Corps of Engineers, St. Louis District. He has been with the St. Louis District since 1994 and serves as the District's Ecosystem Restoration Business Line Manager. As such, he spends most of his time working with the District's natural resource partners to develop and implement environmental restoration projects within the region. He served as the Project Manager on the Middle Mississippi River Regional Corridor Study, a two year effort to improve interagency collaborative planning within the Mississippi River floodplain in Illinois and Missouri, south of St. Louis. He is also heavily involved in the Corps' Navigation Ecosystem Sustainability Program (NESP), which is charged with balancing the needs of the Mississippi River region through navigation improvement projects, like lock expansion, and ecosystem restoration projects, such as improved fish passage through Corps dams, island creation, and side channel restoration. Brian is a graduate of the University of Missouri-Columbia with both a B.S. and M.S in Fisheries and Wildlife.

### *The Middle Mississippi River Regional Corridor Study - Lessons Learned from a Collaborative Watershed Planning Effort*

In 2008, the Corps of Engineers completed a two-year collaborative planning study in the Middle Mississippi River. The objectives of the Middle Mississippi River Regional Corridor (MMRRC) study were to improve regional collaboration and provide the tools and products necessary to improve interagency planning. The framework of the MMRRC study focused on ecosystem restoration, natural resources management, and the interaction between the natural resources community and other communities of practice which impact, or are impacted by, natural resources planning and decision-making.

Based on stakeholder input, the MMRRC study had three major focus areas: 1) development of a science-based tool that would aid agencies in conducting natural resource and ecosystem restoration planning; 2) development and refinement of regional interagency natural resources based goals, objectives, strategies, and targets; and 3) completion of collectively developed "on-the-ground" natural resource needs and opportunities within the region.

Major accomplishments of the study included completion of a science-based ecosystem restoration planning report, development of new Geographic Information Systems (GIS) data layers, completion of a collaboratively developed plan focused on addressing regional issues, and ongoing development of five reach level assessments, designed to identify local natural resource needs and opportunities. All of the reports and tools are intended to guide future regional planning efforts.

The study had a very high level of collaboration, with over 40 agencies and organizations actively participating. Many of the study products are already being put to use within the region. In addition to the products of the study, a number of lessons learned came out of the planning effort, which can be applied to other regional planning efforts.

# Economic Development: Ottawa's Path to Pursuing Economic Success

**Moderator: Anaise Berry**

An avid nature and outdoor enthusiast and marketing professional, Anaise leads the development efforts and serves as director of the Illinois River Road National Scenic Byway, a program of the Economic Development Council for Central Illinois. The Illinois River Road, between Ottawa and Havana, is one of 126 roadways across the United States that have been designated by the U.S. Department of Transportation Federal Highway Administration as one of America's Byways - the FHWA's National Scenic Byway Program.

As director, Anaise manages the Byway's infrastructure development, managing projects such as brand development, highway and interpretive signage placement, interpretive planning, website, community kiosks and marketing, as well as other projects and programs designed to bring awareness to the region and grow the byway region's visitor-based economy. In addition, she does the grant writing and fundraising for the byway to ensure continued funding for byway-related projects and organizational sustainability.

Prior to joining the EDC to lead the Byway efforts in 2007, Anaise worked as director of membership and tourism for the Peoria Area Convention and Visitors Bureau, where she also coordinated events and advertising programs aimed at generating revenue, along with increasing community and visitor awareness.

Anaise serves on the Heartland Water Resources Council board and the planning committee for the Governor's Conference on the Management of the Illinois River System, and lives in Dunlap with her husband and two children.

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## Robert Eschbach

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Bob Eschbach is a lifelong resident of Ottawa. He is a graduate of Illinois Valley Community College, Illinois State University and the University of Illinois College of Law. Bob has been engaged in the private practice of law in Ottawa since 1978. He has served the citizens of Ottawa as Mayor since 1999, being re-elected to second and third terms.

Prior to being elected Mayor, Bob Eschbach served for many years on the Ottawa Plan Commission, Historic Preservation Commission, Zoning Board of Appeals and various other City committees.

Eschbach believes in open and inclusive government and as Mayor has involved hundreds of citizens in advising the Council and making improvements across the City. He has been instrumental in shaping a shared vision for the future of Ottawa understands the importance of the Illinois River as a resource and economic development tool.

## Reed Wilson

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Reed has twenty-two years of senior congressional staff service as District Director for two Members of Congress. There, Reed managed all aspects of Illinois based congressional operations while working with a wide variety of community and economic development projects. In addition, Reed was also affiliated with a Michigan-based firm for eight years, providing full-service guidance to public school districts seeking to build their own private sector educational foundations.

### *Implementing Community Development Strategies*

Ottawa's Mayor, Bob Eschbach, will discuss economic development in the City of Ottawa, particularly as it relates to the Illinois River. He will discuss how tax increment financing districts have made downtown revitalization possible, as well as the development of a \$750 million master planned marina resort community currently under construction on the Illinois River.

### *Implementing a Vision for Economic Growth in Challenging Times*

Ottawa's Economic Development Director, Reed Wilson, will discuss the City of Ottawa's efforts to engage local business toward economic growth for the community, as well as programs being developed and actions being taken now to prepare for an economic recovery.

## Soil & Water Movement II: Sediment

**Moderator: Debbie Bruce**

Debbie is currently the Program Support Administrator in the IDNR Office of Resource Conservation. She has held several positions with the Department over her 16 year tenure. Her primary responsibilities have been the development and implementation of ecosystem and watershed programs that address both environmental and economic issues. She currently oversees the state side of the Illinois Conservation Reserve Program (CREP), the Illinois River Basin Restoration, the Landowner Incentive Program and the Conservation Stewardship Program. Debbie holds a Bachelor of Science Degree in Biology and a Master of Arts Degree in Environmental Science from the University of Illinois.

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## Timothy Straub

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Tim has earned Civil and Environmental Engineering degrees from the University of Illinois (BS and MS) and Colorado State University (PhD). He has worked for the USGS for over 14 years on various projects including hydraulic and hydrologic modeling, bridge scour prediction, stream restoration and dam removal analysis, sediment transport modeling, and river mechanics. Tim is also the current sediment specialist for the USGS in Illinois and oversees the sediment program.

### *Water and Sediment Monitoring in the Illinois River Basin*

Gary Johnson (co-author)

Streamflow and sediment load data are needed to establish baseline information for water-resource managers to evaluate historical and current conditions, and plan management alternatives. Many agencies in Illinois monitor streamflow and sediment conditions in Illinois streams. The U.S. Geological Survey Illinois Water Science Center (USGS) monitors streamflow at 180 stations in Illinois, and collects sediment data at 18 of those sites. Some sites have over 100 years of continuous USGS streamflow data and one site has 29 years of continuous USGS sediment data.

Systematic data collection is in a constant state of flux because of budgetary constraints of several agencies. Long-term streamflow- and sediment-monitoring stations are crucial for providing the requisite data to evaluate trends and to make science-based management decisions. Hence, thoughtful and effective management of water and sediments is predicated on the continuous operation of a well-designed streamgaging network with a subset of sediment-monitoring sites in Illinois. This presentation will look at the historical, current, and future status of streamflow and sediment monitoring in Illinois, and relate that to the Integrated Management Plan.

## Mike Demissie

### *Sediment Movement in the Illinois River Basin*

As pointed out in “The Integrated Management Plan for the Illinois River,” most of the environmental and ecological issues of the Illinois River are related to the variability of the quantity and quality of water and sediment in the Illinois River over time and space. The amount of water and sediment that is delivered to the Illinois River Valley depends on many natural and human induced factors in the watershed and along the thousands of miles of stream channels. Monitoring stations located at different parts of the watershed provide us information on how the different regions, either in terms of topography, soils, vegetation, or climate, behave under different land use practices. Long-term monitoring stations provide us with the data to evaluate the impacts of natural climatic variations and man-made changes on the hydrology of different watersheds. The data generated through monitoring is the most trustworthy information in evaluating trends and impacts.

In the case of the Illinois River valley, it is important to determine how much sediment is delivered into the valley from different tributary streams in order to identify and prioritize areas for restoration. The Illinois State Water Survey has been collecting and analyzing sediment data from the Illinois River basin over the last 30 years to quantify the sediment budget for the whole river basin and to identify areas of high sediment delivery to the Illinois River valley. The U.S. Geological Survey and the U.S. Army Corps of Engineers have also collected extensive sediment data along the main stem of the river and for selected tributaries over the years. All the data sets will be evaluated to assess the trend in sediment delivery from the different tributary streams and along the main stem of the Illinois River.

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Dr. Demissie is Director of the Illinois State Water Survey, a division of the Institute of Natural Resource Sustainability at the University of Illinois at Urbana-Champaign, IL. He is responsible for leading and managing over 200 professional and support staff that are engaged in data collection, research and public service in the field of water and atmospheric resources. His long-term research at the Water Survey has focused on problem solving in the general area of watershed science with emphasis on watershed processes and restoration. He has conducted research addressing issues such as ecology of large rivers; stream flow hydraulics; erosion and sediment transport; lake sedimentation; hydrology and hydraulics of floods; and hydrology of wetlands. He has published over 150 journal articles, reports, and conference proceedings.

Dr. Demissie received his B.S. degree in Civil Engineering from the University of Iowa, and M.S. and Ph.D. in Civil Engineering from the University of Illinois at Urbana-Champaign. Dr. Demissie is a registered Professional Engineer in Illinois. He is a Fellow of the American Society of Civil Engineers and a Diplomate of the American Academy of Water Resources Engineers. He is also a member of the International Water Resources Association, and the International Association of Hydrological Sciences.

## Laura Keefer

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Laura's field of expertise is in fluvial geomorphology. Her research focuses on erosion and sedimentation processes by conducting field-based projects, which involve the measurement and study of the hydrology, hydraulics, and channel erosion processes. Her current research focuses on documenting and evaluating stream channel adjustment responses to watershed and channel disturbances in the various physiographic regions of Illinois that has application for the selection of stream restoration practices. Laura has also developed a multi-scale geomorphic assessment protocol to evaluate stream channel stability for use in Illinois watersheds. The protocol establishes the systematic collection and evaluation of data needed for effective pre- and post-project appraisals of stream restoration projects. She also has extensive experience in watershed monitoring of hydrology, sediment, and nutrients for many Illinois watersheds including Lake Springfield, Upper Sangamon River, both Vermilion Rivers, Upper Embarras River tributaries, and Cache River Basin.

Laura Keefer has been with the Illinois State Water Survey for nearly 24 years and has authored or co-authored over 60 reports, articles, proceedings and posters, as well as served as technical advisor on many local watershed planning groups and state/federal task forces. She served on the Agricultural Practices Action Team for the 1997 Integrated Management Plan for the Illinois River Watershed.

### *Channel Stability and Ecosystem Restoration and Assessments*

In the 1990s, stream channel instability was increasingly recognized as a considerable source of sediment delivered to the Illinois River. There was a perspective among the Hydrology and Hydraulics Action Team that all streambank erosion was inherently bad and must be controlled. A geomorphological perspective of unstable streams offered an opportunity to understand the role of balance in water and sediment delivery and how human-induced changes in watersheds and streams create imbalances, hence accelerated erosion and sedimentation. The team recommended in the 1997 Integrated Management Plan (IMP) the establishment of assessment criteria based on scientific information about geomorphic response processes. The assessments would involve watershed scale and site-level geomorphological investigations to generate information on causes of instability and lead to remediation projects toward reducing, not eliminating, sediment delivery.

The 2007 Comprehensive Plan for the Restoration of the Illinois River Basin monitoring plan incorporated aspects of the 1997 IMP Recommendation #10. The monitoring plan reviewed and established watershed and geomorphic assessment criteria that have been utilized in the selection of target watersheds and initiation of several detailed site-level investigations for determining likely causes of stream channel instability. These assessments are currently underway and being conducted by the Illinois State Water Survey, Illinois State Geological Survey, and Illinois Natural History Survey.

There is still a need for long-term monitoring of stream channel geomorphology, as well as hydrology and sediment, not only throughout the basin but in remediation project areas to measure the effectiveness of these programs. To accomplish this, the monitoring plan in the 2007 Comprehensive Plan for the Restoration of the Illinois River Basin already outlines the steps and rationale. This presentation will also argue the need for geomorphological, ecological, and water quality investigations to coincide in space and time to understand complex linkages among various watershed processes as part of a comprehensive approach to future stream management.

# — Interactive Digital Technologies Open House

Rich data resources and powerful mapping and measurement tools to help you accomplish your resource management goals are increasingly available on the Internet. At this Open House you will be able to get one-on-one expert advice to help you identify, acquire, and understand available data, turn that data into useful illustrations or maps, and combined various data to answer your questions. Both novice and advanced users are welcome. Come with questions, leave with results!

## Moderator: Andrew Phillips

Drew Phillips is a sedimentologist with the Illinois State Geological Survey of the Institute of Natural Resource Sustainability at the University of Illinois. He studies the geomorphic response of watersheds to land use and climate change, and researches the glacial and post-glacial history of southern Illinois. His interests include applying remote sensing and GIS tools to geologic analysis. Drew received a B.A. from Colgate University, and M.S. and Ph.D. degrees from the University of Illinois-Chicago.

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## Moderator: Gary Johnson

Gary Johnson serves as the Chief of the Hydrologic Data Section of the USGS, Illinois Water Science Center in Urbana, IL. As Data Chief, his current duties include oversight and administration of the entire streamflow gaging station network throughout the State of Illinois, with an annual budget of over \$3.1 million dollars. He has been with USGS since 1988. Before becoming Data Chief in 2004, Gary was involved in a variety of surface-water quantity, bathymetric, and surface-water quality projects. During his 21-year career, Gary has authored or co-authored 25 USGS scientific reports. Gary holds a BS degree in General Engineering from the University of Illinois, and is currently in Grad School at U of I seeking a Masters in Public Administration.

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## Wade Boring

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Wade has been an employee of Illinois EPA since 1985 and Manager of the Geographic Analysis Unit in the Groundwater Section of the Division of Public Water Supplies since 2000. Prior to Illinois EPA he spent 3 years working in the oilfields of Texas and off-shore Louisiana. He is a graduate of Illinois State University with a degree in Geology and is a Licensed Professional Geologist in the state of Illinois. Wade has been working with GIS (Geographic Information Systems) since 1989 and has watched it evolve from a simple single user technology to the advanced multi user and web based technologies of today. The Geographic Analysis Unit is responsible for maintaining the GIS data on the Agency's internet mapserver as well as providing maps and data in support of numerous other programs. In addition, the Geographic Analysis Unit conducts groundwater monitoring for the Section's Ambient Sampling Network

### *Illinois EPA Source Water Assessment Program Internet Mapserver*

Illinois EPA completed Source Water Assessments for all sources of public drinking water, both groundwater and surface water, in 2001. These assessments consist of the delineation of a Source Water Protection Area for each source of drinking water, an inventory of potential sources of contamination within the area, and a determination of the source's susceptibility to contamination. In addition, Illinois EPA developed a web-based interactive GIS mapserver to supply this information to the public. This site will allow the user to access all the databases and data layers used in the Source Water Assessments, as well as additional information such as pumpage data, land use data, watershed data and aerial photos.

# — Interactive Digital Technologies Open House

## Dee Lund

The Illinois Clearinghouse serves the earliest statewide collection of historical aerial imagery (1936-1941). This clearinghouse is an established node of the National Spatial Data Infrastructure Clearinghouse Network and is hosted by the Illinois State Geological Survey (ISGS).

Historical aerial photographs are intensively used for diverse purposes by government agencies, surveyors, consulting scientists, engineers, historians and other individuals. These purposes include determination of past land uses, restoration of natural areas, assessing historical changes in stream dynamics, and a variety of other applications.

The interactive display will demonstrate some of the many uses of these historic aerial photographs. In addition, you can learn how to view and download these captivating 1930s and 1940s photographs for your own research or private interest.

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Dee Lund is a GIS specialist for the Illinois State Geological Survey (ISGS). Her primary project is to provide online access to Illinois historical aerial photographs from Illinois first statewide aerial acquisition (1936-1941). She also provides GIS support to many other projects within the ISGS. Prior to joining the ISGS in 2001 Ms. Lund was an archaeologist and map illustrator for the Wisconsin State Historical Society - Museum Archaeology Program for seven years. She received a B.A. in geology and anthropology from the University of Minnesota - Duluth.

## Tom D'Avello

### *Digital Soils Data From NRCS Using SoilDataViewer*

Soil spatial data for detailed soil surveys (SSURGO) have been available statewide for the state of Illinois since 2007. This data is similar in scale to the traditional hardbound soil survey reports many are familiar with. The dataset is complicated and requires more work to understand than many users have time for. This presentation will demonstrate the use of Soil Data Viewer, an ArcGIS Extension designed specifically for using SSURGO data. Any questions related to SSURGO will be explored and discussed at this demonstration.

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Tom is a soil scientist with the USDA Natural Resources Conservation Service, located in Champaign, Illinois. He mapped soils in Ohio, Florida and Montana earlier in his career. He has been serving as GIS Specialist in Illinois since 1990.

## Amy Russell

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Amy Russell is a Hydrologist in the Center for Watershed Science at the Illinois State Water Survey. She manages the Surface Water and Floodplain Information Program and coordinates the dissemination of data and information from CWS programs through the web, primarily via the Illinois Rivers Decision Support System (ILRDSS). She has been with the Water Survey since 1998 working in various areas of data collection, research, and public service. Her research experience includes developing rating curves, computing streamflow records, calculating sediment and nutrient loads, estimating the impacts of water withdrawals and effluent discharges on flow conditions at streamgages, conducting frequency analysis of flow records, developing regional regression equations for estimating streamflows at ungaged sites, and designing data management systems to facilitate archival and access of environmental datasets.

Ms. Russell is a registered Professional Engineer in Illinois. She holds a Bachelor of Science in Agricultural Engineering from the University of Illinois at Urbana-Champaign and is currently a Master of Science candidate in the Agricultural and Biological Engineering department. She is also president of the East Branch of the American Society of Civil Engineers.

### *Illinois Rivers Decision Support System*

The Illinois River has become a focus of state and federal agencies interested in integrated watershed management. As a result, issues related to habitat restoration, floodplain management, navigation, erosion and sedimentation, and water quality of the Illinois River are being discussed at the watershed scale.

In support of this effort, the Illinois Scientific Surveys initiated development of the Illinois Rivers Decision Support System (ILRDSS), a portal to information related to Illinois rivers. Information is organized and fully searchable by keyword, product type, and geographic area. Future plans include the integration and expansion of existing databases and numerical models of segments of the Illinois River into an integrated decision support system (DSS) for the entire Illinois River watershed. Specific areas of content currently include the Illinois Streamflow Assessment Model and the Fox River Watershed Investigation site. Recent additions to the ILRDSS site include improved search capabilities and an interactive water quality database. This interactive display will show users how to find available data and information for their watershed.

# — Interactive Digital Technologies Open House

## Matthew Williams

The Map Modernization Project's primary purpose is to convert FEMA FIRMs (Flood Insurance Rate Map) from paper based maps into a digital database. Once preliminary DFIRMs (Digital FIRM) are completed and approved, digital formats, like map documents or geodatabases, can be made available through the internet. Some FEMA affiliated websites provide web-based applications that allow the public to display flood hazard information for viewing and / or interactive display. The presentation will focus on demonstrating the features of two of these websites, FEMA's Map Service Center, which offers the "National Flood Hazard Layer (NFHL)," and Illinois Floodplain Maps. Both websites provide the public with a digital display of flood hazard zones, but in different ways depending on their purpose. Those using the NFHL can download a kmz file, which is a Google Earth based data file, use an online flood map viewer, or download a geodatabase to use in a personal GIS application. Since Google Earth is a client-side based application, users need to download both the kmz file of the NFHL and Google Earth software to begin interacting with the data. The Illinois Flood Maps website provide users the ability to view or download a jpeg or use a Google Map interface to view special flood hazard areas, find an address, or find a specific DFIRM panel. The demonstration will show the audience how to best navigate both of these websites, where to download data, and the variety of features that can be utilized when visiting each webpage or interacting with the application.

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Matt Williams is a GIS Specialist with the Illinois State Water Survey at the University of Illinois in Urbana-Champaign working on FEMA's Map Modernization Project. He earned a Master of Arts degree in Geography from Western Michigan University focusing on GIS and Urban Planning. Matt has 4 years of professional experience with GIS software, geographic concepts and technology, geoprocessing, floodplain delineation, and cartography.

## Eric Miller

Eric Miller is a Program Manager at Tri-County Regional Planning Commission, located in Peoria IL. Eric has over 18 years experience in planning and implementing public sector GIS projects of various sizes. Eric also spent two years in the private sector with similar responsibilities. Eric holds a B.S Degree in Geography from Illinois State University.

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Kim St John is a Resource Conservation & Development (RC&D) Coordinator with the USDA-Natural Resources Conservation Service (NRCS) in Henry, Illinois. As a RC&D Coordinator, she works on a wide variety of projects that focus on natural resource conservation and community development. Her favorite part of being a RC&D Coordinator is helping local people make better places to live, work, and play! As Margaret Mead so eloquently said “Never doubt that a small group of thoughtful committed citizens can change the world. Indeed, it’s the only thing that ever has.”

Kim started her career with NRCS as a Student Trainee thirty years ago. She was a Student Trainee in the St. Charles and Shelbyville Field Offices, a Soil Conservationist in the Mt. Carroll and Shelbyville Field Offices, and a District Conservationist in the Toulon and Henry Field Offices. For the past seventeen years, she has been the RC&D Coordinator for Prairie Rivers Resource Conservation & Development Council serving nine counties in north central Illinois. She holds a Bachelor of Science degree in Plant & Soil Science from Southern Illinois University - Carbondale.

## Robert Frazee

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Bob Frazee works with farmers, elected officials, organizations, and other agencies in addressing issues impacting soil and water conservation, no-till farming systems, streambank erosion, and management of the Illinois River System. He is the recipient of several national conservation awards including the USDA “Superior Service Award”, the American Rivers “Going the Extra Mile on the Illinois River”, the Izaak Walton League of America’s “National Conservation Award” and the International Soil and Water Conservation Society’s “Merit Award for Advocating the Conservation of Soil, Water and Natural Resources”. Mr. Frazee has served as Chair/Co-Chair for the past eleven Governor’s Conferences on the Management of the Illinois River System. He holds a B.S. degree in Agronomy from Western Illinois University and a M.S. degree in Agronomy from University of Illinois.

## Bill White

William P. White (Bill) is a Geomorphologist for the Center for Watershed Science; a Center within the Illinois State Water Survey's (ISWS) Division of the University of Illinois' new Institute of Natural Resource Sustainability (INRS). Bill currently manages science-based office and field operations, planning, and funding for Programs administered in the Peoria Office. Bill spends much of his time directing the acclaimed field-based Stream and Watershed Assessment & Restoration Program (SWARP). Bill facilitates the integration of multi-disciplinary expertise including, but not limited to, hydrologic/hydraulic modelers, erosion and sediment transport specialists, water quality geochemical modelers, and analytical laboratory staff. Bill also coordinates with biologists from other Divisions in INRS, the Illinois Department of Natural Resources (IDNR), non-governmental organizations such as The Nature Conservancy, and the U. S. Army Corps of Engineers (USACE). Bill previously served as a Professional Scientist for the ISWS and IDNR's Science Advisor where he reported directly to the Director of the Office of Realty & Environmental Planning. Bill also served as IDNR's Director of the Science & Planning Section in the Ecosystems Division. Recent organization membership and public service include:

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- Nominated and Appointed Full Member of Sigma Xi (The National Scientific Research Society),
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- State Senate Advisory Committee on Geological and Surficial Glacial Mapping,
- Adjunct Appointment with the University of Illinois; Illinois Natural History Survey,
- Faculty of the Environment with The Environmental Council--University of Illinois,
- Past Chair of the USACE Ecosystems Restoration Committee for the Upper Des Plaines River & Tributaries Multi-Objective Feasibility Study,
- Executive Committee for USACE and State of Illinois's Illinois River Ecosystem Restoration Program,
- Team Member for the State of Illinois and USACE Navigation and Ecosystem Sustainability (NESP) Team,
- Board Member and Officer of the Heartland Water Resources Council,
- Commissioner on the City of Peoria Sustainability and Green Technology Group; Appointed by the Mayor of the City of Peoria (Additionally, Appointed Member of the Environment Sub-Committee),
- IDNR Dams Evaluation Task Force,
- Technical Advisor to IDNR's Coastal Zone Management Program,
- Past Board Director and Treasurer of the Illinois Lake Management Association.

# Acknowledgements

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## 2009 Financial Supporting Sponsors

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- Illinois Environmental Protection Agency
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