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Minnesota Water Resources Conference

October 18-19, 2011

RiverCentre

Saint Paul, Minnesota

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CPE-0415-01/8.11

Water Resources Center

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Minnesota Water Resources Conference

October 18-19, 2011

Saint Paul RiverCentre

175 West Kellogg Boulevard

Saint Paul, Minnesota

COLLEGE OF CONTINUING EDUCATION
UNIVERSITY OF MINNESOTA

www.wrc.umn.edu/waterconf

Minnesota Water Resources Conference

October 18-19, 2011

The Minnesota Water Resources Conference presents **innovative, practical, and applied water resource engineering solutions, management techniques, and current research about Minnesota's water resources.** The conference provides an opportunity to address: 1) lessons learned from the implementation of engineering projects, 2) best practices discovered in the design and application of water resource management techniques, 3) implications of water policy decisions, and 4) research into current and emerging issues. The conference facilitates interaction among engineers; water resources managers; researchers; and local, state, and federal agency staff.

Registration and Fees

Early registration

(postmarked on or before October 4)

Two-day - \$230

One-day - \$155

Student - \$50

Late registration

(postmarked after October 4 or on site)

Two-day - \$250

One-day - \$175

Student - \$70

The registration fee for the Minnesota Water Resources Conference includes instructional materials, lunch, and refreshment breaks each day, and the Tuesday evening reception. Participants may register by mail, fax, or online for either both days or one day only.

Cancellations

Refunds, minus a \$30 fee, will be issued to participants who provide a written cancellation notice by October 10. If you cancel after this date, you will not be eligible for a refund. The University reserves the right to cancel the

conference, if necessary, in which case a full refund would be made.

Continuing Education Units (CEUs); Professional Development Hours (PDHs)

Conference attendees will receive .675 CEUs/PDHs for **each** day of the Minnesota Water Resources Conference. Participants who wish to receive full credit must attend all scheduled hours of the event.

Location and Parking

The Water Conference will be held at the Saint Paul RiverCentre, 175 Kellogg Boulevard, Saint Paul, Minnesota. Parking is available in the RiverCentre parking ramp, which is located on Kellogg Boulevard across the street from the RiverCentre. Please see the map for the location of the RiverCentre. Convenient bus service to the RiverCentre is available. Call Metropolitan Transit, 612-373-3333, for specific route information.

Accommodations

Hotel rooms are available at the Holiday Inn RiverCentre, 175 West 7th Street, Saint Paul, Minnesota. Call the hotel directly at 651-225-1515, or toll free at 888-465-4329, and ask for the University of Minnesota rate. Make your reservation early in order to ensure a room at the hotel.

For Registration Questions

Contact: 612-625-2900
cceinfo@umn.edu

For Program Questions

Nicole Freese
University of Minnesota
612-624-3708
cceconf5@umn.edu

2011 Water Resources Planning Committee

| | | | |
|---------------------------|---|-----------------------------|---|
| <i>John Baker</i> | United States Department of Agriculture and Department of Soil, Water, and Climate, University of Minnesota | <i>Bruce Holdhusen</i> | ASCE Representative and Minnesota Department of Transportation Metropolitan Council |
| <i>Ann Banitt</i> | U.S. Army Corps of Engineers | <i>Karen Jensen</i> | Minnesota Department of Agriculture |
| <i>John Bilotta</i> | Minnesota Sea Grant and University of Minnesota Extension | <i>Heather Johnson</i> | Houston Engineering, Inc. |
| <i>Judy Boudreau</i> | Department of Natural Resources, Division of Waters | <i>Ron Leaf</i> | Short Elliott Hendrickson, Inc. |
| <i>Dan Breneman</i> | Natural Resources Research Institute, University of Minnesota, Duluth | <i>Randy Neprash</i> | Minnesota Cities Stormwater Coalition and Bonestroo, Inc. |
| <i>Tina Carstens</i> | Ramsey-Washington Metro Watershed District | <i>Shawn Schottler</i> | St. Croix Watershed Research Station |
| <i>Heather Dorr</i> | College of Continuing Education, University of Minnesota | <i>Wayne Sicora</i> | EVS, Inc. |
| <i>Bill Douglass</i> | Bolton & Menk, Inc. | <i>Faye Sleeper</i> | Water Resources Center, University of Minnesota |
| * <i>Lisa Goddard</i> | SRF Consulting Group, Inc. | <i>Gene Soderbeck</i> | Minnesota Pollution Control Agency |
| <i>Lori Graven</i> | College of Continuing Education, University of Minnesota | <i>James Stark</i> | U.S. Geological Survey |
| <i>Lorin K. Hatch</i> | HDR Engineering, Inc. | * <i>Deborah Swackhamer</i> | Water Resources Center, University of Minnesota |
| <i>Andrea Hendrickson</i> | Minnesota Department of Transportation | <i>Stew Thornley</i> | Minnesota Department of Health |
| <i>Kimberly Hill</i> | St. Anthony Falls Laboratory, University of Minnesota | <i>Rick Voigt</i> | Voigt Consultants, LLC |
| | | <i>Greg Wilson</i> | Barr Engineering Company |
| | | <i>Brad Wozney</i> | Minnesota Board of Soil and Water Resources |

* Committee Co-Chairs

Program Schedule – Tuesday, October 18, 2011

| | |
|--------------|--|
| 8:00 – 8:10 | Welcome <i>Deborah Swackhamer, Water Resources Center, University of Minnesota</i> |
| 8:10 – 8:20 | Dave Ford Water Resources Award |
| 8:20 – 9:30 | Plenary Session: U Extension and Water Resources: New Opportunities for Education and Sustainable Management in Minnesota <i>Beverly R. Durgan, Dean, Extension, University of Minnesota</i> |
| 9:30 – 10:00 | Break |

| 10:00 – 11:30 Concurrent Sessions I | | | |
|--|---|--|---|
| TRACK A | TRACK B | TRACK C | TRACK D |
| <p>Lakes-Assessing and Managing Change Moderator: <i>James Stark</i>, U.S. Geological Survey and Department of Soil, Water, and Climate, University of Minnesota Co-Moderator: <i>Judy Boudreau</i>, Department of Natural Resources, Division of Waters</p> <p>Protecting Cisco Thermal Habitat From Climate Change: Building Resilience in Deep Lakes Using a Landscape Approach <i>Peter Jacobson</i>, Minnesota Department of Natural Resources</p> <p>Impacts of Climate and Land Use Change on Nutrient Loading to Coldwater Lakes in Minnesota, Wisconsin, and Michigan <i>William Herb</i>, University of Minnesota</p> <p>Assessment of Water Quality Habitat and Conservation Implications for Managed Fish Lakes in Minnesota <i>Michael Duval</i>, Minnesota Department of Natural Resources</p> | <p>Effectiveness of Stormwater Retrofit Strategies Moderator: <i>John Bilotta</i>, Minnesota SeaGrant, University of Minnesota Extension Co-Moderator: <i>Greg Wilson</i>, Barr Engineering Company</p> <p>Lakeside Stormwater Reduction Project <i>Chris Kleist</i>, City of Duluth Utility Operations</p> <p>Punching Holes in a Targeted Neighborhood: Reducing Phosphorus Load to Schwanz Lake, Eagan, Minnesota <i>Eric Macbeth</i>, City of Eagan, Gun Club Lake Watershed Management</p> <p>Stormwater Controls on a Golf Course to Restore Impaired Trout Stream <i>Rusty Schmidt</i>, Washington Conservation District</p> | <p>Lock and Dam #3: The Corps of Engineers First Design-Build in the Saint Paul District Moderator: <i>Lorin Hatch</i>, HDR Engineering, Inc. Co-Moderator: <i>Lisa Goddard</i>, SRF Consulting Group, Inc.</p> <p>Project Design in a Challenging Environment <i>Walter Eshenaur</i>, SRF Consulting Group, Inc.</p> <p>Two-Dimensional Modeling of Mississippi River Flow Patterns <i>Rick Voigt</i>, Voigt Consultants, LLC</p> <p>Permitting, Water Quality Sampling, and Construction Challenges <i>Walter Eshenaur</i>, SRF Consulting Group, Inc.</p> | <p>Drainage Considerations and Design Moderator: <i>Heather Johnson</i>, Minnesota Department of Agriculture Co-Moderator: <i>Andrea Hendrickson</i>, Minnesota Department of Transportation</p> <p>Assessment of Culverts Designed to Meet Stream Simulation Requirements <i>Bradley Hansen</i>, University of Minnesota</p> <p>Multipurpose Drainage: Design Concepts and Practices for Multiple Benefits <i>Al Kean</i>, Minnesota Board of Water and Soil Resources</p> <p>Minnesota Drainage Laws Study <i>Louis Smith</i>, Smith Partners, PLLP</p> |

Program Schedule – Tuesday, October 18, 2011 (continued)

11:30 – 12:15 p.m. **Lunch**

12:15 – 1:00 **Luncheon Presentation: Assessing Risks of Endocrine–Disrupting Chemicals: A Scientific Odyssey**
Gerald (Gary) Ankley, United States Environmental Protection Agency, Office of Research and Development,
 Mid Continent Ecology Division

1:15 – 2:45 **Concurrent Sessions II**

| TRACK A | TRACK B | TRACK C | TRACK D |
|---|--|---|---|
| <p>Minnesota Aquatic Systems Moderator: <i>Judy Boudreau</i>, Department of Natural Resources, Division of Waters Co-Moderator: <i>Lorin Hatch</i>, HDR Engineering, Inc.</p> <p>Air-Water Temperature Relationships in the Trout Streams of Southeastern Minnesota's Carbonate Landscape: Implications for Climate Change and Land Management <i>Lori Krider</i>, University of Minnesota</p> <p>Natural Short-Term Declines in Curly-Leaf Pondweed Across a Network of Sentinel Lakes: Potential Impacts of Snowy Winters <i>Ray Valley</i>, Minnesota Department of Natural Resources Fisheries</p> <p>Winter Invertebrate Dynamics in Trout Streams of Southeastern Minnesota <i>Jane Louwsma</i>, University of Minnesota</p> | <p>Creative Approaches to Stormwater Best Management Practices (BMPs) Moderator: <i>Wayne Sicora</i>, EVS, Inc. Co-Moderator: <i>Bruce Holdhusen</i>, Minnesota Department of Transportation</p> <p>The Minnesota Filter: A Tool for Capturing Stormwater Dissolved Phosphorus <i>Ross Bintner</i>, City of Prior Lake</p> <p>Filtration Observations in the Carver County WMO <i>Jen Irving</i>, Carver County</p> <p>Green Infrastructure Practices for the Central Corridor Light Rail Transit Project <i>Anna Eleria</i>, Capitol Region Watershed District</p> | <p>Engineering Solutions in Modeling Moderator: <i>Ann Banitt</i>, U.S. Army Corps of Engineers Co-Moderator: <i>Rick Voigt</i>, Voigt Consultants, LLC</p> <p>Development and Application of Ground-Truthed NEXRAD Rainfall Data in HEC-HMS Model Calibration of Red River Basins <i>Tim Anderson</i>, Barr Engineering Company</p> <p>Geometric Representation of Flow through the Floodplain and Selection of Hydraulic Coefficients <i>Brandon Barnes</i>, Barr Engineering Company</p> <p>Evaluating Best Management Practice Effectiveness and Economics Using a Field Scale Approach <i>Brian Williams</i>, Minnesota Department of Agriculture</p> | <p>Planning for Effective and Economical Stormwater Practices and Policies Moderator: <i>Tina Carstens</i>, Ramsey-Washington Metro Watershed District Co-Moderator: <i>John Bilotta</i>, Minnesota SeaGrant, University of Minnesota Extension</p> <p>Make Better Decisions for Stormwater BMPs <i>Lisa Goddard</i>, SRF Consulting Group, Inc.</p> <p>Urban Subwatershed Stormwater Retrofit Analysis <i>Shawn Tracy</i>, Metro Conservation Districts</p> <p>Environmental and Economic Impacts of Volume Control Policies <i>Richard Hibbard</i>, WSB & Associates, Inc.</p> |

2:45 – 3:15 **Break**

Program Schedule – Tuesday, October 18, 2011 (continued)

| 3:15 – 4:45 Concurrent Sessions III | | | |
|---|---|---|--|
| TRACK A | TRACK B | TRACK C | TRACK D |
| <p>Minnesota Groundwater Systems: The Challenge of Ammonia and Nitrate Moderator: <i>Faye Sleeper</i>, Water Resources Center, University of Minnesota Co-Moderator: <i>Stew Thornley</i>, Minnesota Department of Health</p> <p>Minnesota Groundwater Ammonia Study: Problem Assessment and Data Collection <i>Lih-in Rezania</i>, Minnesota Department of Health</p> <p>Minnesota Groundwater Ammonia Case Studies: Impacts and Management Strategies <i>David Schultz</i>, Minnesota Department of Health</p> <p>Nitrate Contamination of Water Resources in Southeastern Minnesota <i>Paul Wotzka</i></p> | <p>Retrofitting: Improving Runoff Quality in Urbanized Areas Moderator: <i>Lisa Goddard</i>, SRF Consulting Group, Inc. Co-Moderator: <i>Wayne Sicora</i>, EVS, Inc.</p> <p>Retrofitting Maplewood Mall for Stormwater Volume Reduction <i>Cliff Aichinger</i>, Ramsey-Washington Metro Watershed District</p> <p>Mimicking Native Hydrology on a Corporate Campus: Retrofitting Infiltration Practices and Impervious Surface Reduction at Lockheed Martin, Eagan <i>Nathan Campeau</i>, Barr Engineering Company</p> <p>Retrofitting of Low Impact Development Improvements in Residential Neighborhoods—Owatonna, MN <i>Daniel Edgerton</i>, Bonestroo, Inc.</p> | <p>Red River Moderator: <i>Gene Soderbeck</i>, Minnesota Pollution Control Agency Co-Moderator: <i>James Stark</i>, U.S. Geological Survey</p> <p>Analyzing Impacts Associated With the Proposed Fargo-Moorhead Diversion Project Using Unsteady HEC-RAS <i>Greg Thompson</i>, Houston Engineering, Inc.</p> <p>Sediment Transport and Potential Geomorphic Impacts, Fargo-Moorhead Metro Flood Risk Management Project, Feasibility Study <i>Peter Hinck</i>, Barr Engineering Company</p> <p>Sediment Concentrations, Loads, and Particle Size Distributions in the Red River of the North and Selected Tributaries Near Fargo, ND During the 2010 Spring High-Flow Event <i>Joel Galloway</i>, U.S. Geological Survey – North Dakota</p> | <p>Targeting and Tracking Conservation Moderator: <i>Brad Wozney</i>, Minnesota Board of Soil and Water Resources Co-Moderator: <i>Bill Douglass</i>, Bolton & Menk, Inc.</p> <p>Conservation Targeting Tools <i>Jennifer Maleitzke</i>, Minnesota Pollution Control Agency</p> <p>Tracking Minnesota’s Clean Water Legacy Effectiveness <i>Jennifer Maleitzke</i>, Minnesota Pollution Control Agency</p> <p>Minnesota Wetland Conservation Act Reporting Data: What It Says and What It Doesn’t Say <i>Ken Powell</i>, Minnesota Board of Water and Soil Resources</p> |
| 4:45 – 5:45 Reception and Poster Session | | | |

Program Schedule – Wednesday, October 19, 2011

- 8:00 – 8:10 **Welcome**
Lisa Goddard, SRF Consulting Group
- 8:10 – 9:30 **Plenary Session: Legislative Update: Agricultural and Water Issues**
Representative Paul Torkelson, Minnesota House of Representatives from the 21B District
- 9:30 – 10:00 **Break**

10:00 – 11:30 **Concurrent Sessions IV**

| TRACK A | TRACK B | TRACK C | TRACK D |
|--|---|---|--|
| <p>Monitoring Sources Moderator: <i>Ann Lewandowski</i>, Water Resources Center, University of Minnesota Co-Moderator: <i>Faye Sleeper</i>, Water Resources Center, University of Minnesota</p> <p>Using Remote Sensing to Monitor and Assess Geospatial and Temporal Trends of Water Quality in Minnesota <i>Leif Olmanson</i>, University of Minnesota</p> <p>Where's the P: Assessing Sources of Phosphorus in a Lake Watershed <i>Jessica Wittwer</i>, University of Minnesota</p> <p>Alternative Methods for Monitoring Surface-Water Runoff from Agricultural Fields <i>Dennis Busch</i>, University of Wisconsin – Platteville</p> | <p>Low Impact Design Practices: Monitoring, Evaluation, and Repair Moderator: <i>Karen Jensen</i>, Metropolitan Council Co-Moderator: <i>Tina Carstens</i>, Ramsey-Washington Metro Watershed District</p> <p>Burnsville Rainwater Garden Efficacy Monitoring and Cost Evaluation: Can We Still Do 90? <i>Greg Wilson</i>, Barr Engineering Company</p> <p>A Rain Garden Rehabilitation Case Study <i>Jeff Schwarz</i>, Metropolitan Council Environmental Services</p> <p>Porous Pavement Paired Intersection Study Year Two <i>Ed Matthiesen</i>, Wenck Associates, Inc.</p> | <p>Runoff and Flow in Agricultural Watersheds Moderator: <i>Shawn Schottler</i>, St. Croix Watershed Research Station Co-Moderator: <i>Bill Douglass</i>, Bolton & Menk, Inc.</p> <p>Soil Moisture and Rainfall Intensity Thresholds for Runoff Generation in Southwestern Wisconsin Agricultural Basins <i>Timothy Radatz</i>, Discovery Farms Minnesota</p> <p>Evaluation of Factors Contributing to Changes in Runoff Ratio in 21 Tributaries to Lake Pepin <i>Jason Ulrich</i>, University of Minnesota</p> <p>Channel Erosion and Floodplain Deposition Investigations in the Minnesota River Basin <i>Christian Lenhart</i>, Department of Bioproducts and Biosystems Engineering, University of Minnesota</p> | <p>Lakes/Shores Moderator: <i>Stephanie Johnson</i>, Houston Engineering, Inc. Co-Moderator: <i>Brad Wozney</i>, Minnesota Board of Soil and Water Resources</p> <p>Restoration of Lake Rebecca–Hennepin County, Minnesota <i>Rich Brasch</i>, Three Rivers Park District</p> <p>Shoreline Restoration: Big Island, Lake Minnetonka <i>Jeff Lee</i>, Barr Engineering Company</p> <p>Adapting Minnesota Shoreland BMPs for Climate Change <i>Barbara Liukkonen</i>, University of Minnesota</p> |

- 11:30 – 12:15 p.m. **Lunch**
- 12:15 – 1:00 **Luncheon Presentation: Agricultural Water Management: What Can Farmers Do to Maintain Good Water Quality, and Still Do Agricultural Water Management?**
Don Baloun, Minnesota State Conservationist, Natural Resources Conservation Service, United States Department of Agriculture

Program Schedule – Wednesday, October 19, 2011 (continued)

1:15 – 2:45

Concurrent Sessions V

TRACK A

Contaminants of Concern

Moderator: *Stew Thornley*, Minnesota Department of Health
Co-Moderator: *Ron Leaf*, Short Elliott Hendrickson, Inc.

Evaluating Exposure and Toxicity Potential for Contaminants of Emerging Concern

Michele Ross, Minnesota Department of Health

Polycyclic Aromatic Hydrocarbon Concentrations and Sources in Five Minneapolis, Minnesota Lakes

Sarah Elliott, U.S. Geological Survey

Characterizing the Relationship Between Sulfate Reduction and Mercury Methylation in St. Louis River Sediment

Nathan Johnson, University of Minnesota Duluth

TRACK B

Managing Highway Stormwater

Moderator: *Andrea Hendrickson*, Minnesota Department of Transportation
Co-Moderator: *Bruce Holdhusen*, Minnesota Department of Transportation

Stormwater Management for a MegaProject: The Reconstruction of the I-35W/TH 62 Crosstown Commons

David Filipiak, SRF Consulting Group, Inc.

Automated Turbidity Monitoring of Minnehaha Creek During I-35W Reconstruction and BMP Assessment

Dwayne Stenlund, Minnesota Department of Transportation

Performance of Swale in Infiltrating Stormwater Runoff

Farazana Ahmed, University of Minnesota

TRACK C

Evolution and Changes to Sediment Production

Moderator: *Gene Soderbeck*, Minnesota Pollution Control Agency
Co-Moderator: *Shawn Schottler*, St. Croix Watershed Research Station

An Integrated Sediment Budget for the Le Sueur Watershed

Patrick Belmont, Utah State University

Sediment Loading in the Le Sueur River Watershed, from Post-glacial Times to Modern

Karen Gran, University of Minnesota Duluth

Minnesota River Basin Sediment Research: Implications for TMDL Implementation Strategies

Peter Wilcock, Johns Hopkins University

TRACK D

Groundwater

Moderator: *James Stark*, U.S. Geological Survey
Co-Moderator: *Heather Johnson*, Minnesota Department of Agriculture

Hydrologic Trends in Groundwater-Surface Water Interaction

Andrew Streit, Minnesota Pollution Control Agency

Investigating the Effects of Operating a Pumped Hydro-Electrical Energy Storage Plant on Local Hydrological Change and Water Quality

Xianben Zhu, University of Minnesota Duluth

Energy and Water Quality Benefits of Managing Marginally Productive Land for Prairie Biomass Production

Jared Trost, U.S. Geological Survey

2:45 – 3:00

Break

Program Schedule – Wednesday, October 19, 2011 (continued)

3:00 – 4:30

Concurrent Sessions VI

TRACK A

Case Studies for Water Quality Standards, Categorization, and Total Maximum Daily Load (TMDL) Development

Moderator: *Greg Wilson*, Barr Engineering Company
Co-Moderator: *Randy Neprash*, Minnesota Cities Stormwater Coalition;
Bonestroo, Inc.

River, Pool and Lake Pepin Eutrophication Standards
Steven Heiskary, Minnesota Pollution Control Agency

Colby Lake: A Case for a TMDL Alternative
Stephanie Johnson, Houston Engineering, Inc.

Using Flow Regime and Imperviousness to Establish a Biotic TMDL and Protection Strategies
Jennifer Olson, Tetra Tech

TRACK B

Best Management Practice Effectiveness and Pollutant Tracking

Moderator: *Karen Jensen*, Metropolitan Council
Co-Moderator: *Kimberly Hill*, St. Anthony Falls Laboratory

Fate of Petroleum Hydrocarbons in Stormwater Bioretention Areas
Gregory LeFevre, University of Minnesota

BMP Effectiveness Monitoring in the Whitewater River Watershed
Greg Johnson, Minnesota Pollution Control Agency

The Nutrient Tracking Tool (NTT): Evaluation of Agricultural Environmental Management
Jim Klang, Kieser & Associates, LLC

TRACK C

Flood Mapping

Moderator: *Rick Voigt*, Voigt Consultants, LLC
Co-Moderator: *Judy Boudreau*, Department of Natural Resources, Division of Waters

Accuracy May Be Lost in DFIRMs Developed With Limited Funding: A Lake Crystal, Minnesota, Case Study
Bill Douglass and *Tim Olson*, Bolton & Menk, Inc.

Floods of September 2010 in Southern Minnesota
Christopher Ellison, U.S. Geological Survey

Flood Response Mapping: Incorporating Flood Forecasts and LiDAR Data
Mike Lawrence, Houston Engineering, Inc.

TRACK D

Invasive Fish

Moderator: *Gene Soderbeck*, Minnesota Pollution Control Agency
Co-Moderator: *Shawn Schottler*, St. Croix Watershed Research Station

Effects of Common Carp on Wild Rice Survival and Growth
James Johnson, Freshwater Scientific Services, LLC

Coon Rapids Dam vs. Asian Carp
Martin Weber, Stanley Consultants, Inc.

Peter Sorensen – Asian Carp

4:30

Adjourn



Poster Display

The following posters will be displayed during the breaks and Tuesday reception.

Twin Cities Metropolitan-Area Chloride Monitoring

Brooke Asleson, Minnesota Pollution Control Agency; *Racheal Crabb*, Minneapolis Park & Recreation Board; *Kent Johnson*, Metropolitan Council Environmental Services; *Matt Loyas*, Capitol Region Watershed District

Image Analysis Techniques to Evaluate Effects of Nearshore Lake Development on Aquatic Macrophytes

Marcus Beck, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota; *Lorin Hatch*, HDR Engineering, Inc.; *Bruce Vondracek*, U.S. Geological Survey

Restoring an "Oasis" in the City: The Challenges of Pond Dredging

Greg Bowles, Houston Engineering, Inc.

Restoration of a Drained Lake for Wetland Banking: A Model for Future County Ditch System Repairs

Chuck Brandel, I&S Group, Inc.

Coming to a Farm Near You: Part I

Jeffrey S. Broberg, McGhie & Betts Environmental Services, Inc.

Upstream-Downstream Friendship Tours Serve as a New Model of Civic Engagement

Susan Carlin, Minnesota River Board; *Warren Formo*, Minnesota Agricultural Water Resources Coalition; *Patrick Moore*, Clean Up the River Environment; *Bruce Tiffany*, farmer

Getting the Most Out of Water Quality Modeling: A Case Study of Training and the Use of a Web-Based Modeling User Group

John Chapman, Department of Bioproducts and Biosystems Engineering, University of Minnesota

A Case Study of Local Governance and Watershed Management in Minnesota: Opportunities and Constraints

Mae Davenport, *Paula Guetter*, *Amit Pradhananga*, and *Amanda Sames*, Department of Forest Resources, University of Minnesota

A Framework for Ensuring Selection of the Proper Model: Avoiding the Conundrum of Inappropriate Model Selection

Mark Deutschman, Houston Engineering, Inc.

Lake Christina Water Level Management Project

Mark Deutschman and *Brent Johnson*, Houston Engineering, Inc.

MnDOT Bridge Tales of the 2011 Flood

Petra DeWall, Minnesota Department of Transportation

Automation Innovations in Stormwater Modeling: Hydraulic Design Case Studies

William Douglass, Bolton & Menk, Inc.

Memory Lane Pond Floodplain Re-Evaluation

Phillip Elkin, Bonestroo

Accuracy and Precision of Agricultural Laboratory Tests for Nutrients in Manure: Lessons Learned From the Manure Analysis Proficiency (MAP) Program

Jerry Floren, Minnesota Department of Agriculture; *Robert Miller*, Colorado State University

Winter Diets and Dynamics of Brown Trout in Groundwater Dominated Streams

William French, Department of Entomology, University of Minnesota; *Jennifer Biederman*, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota; *Leonard Ferrington*, Department of Entomology, University of Minnesota; *Lori Krider*, Department of Bioproducts and Biosystems Engineering, University of Minnesota; *Jane Louwsma*, Department of Entomology, University of Minnesota; *Jim Perry*, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota; *Patrick Sherman*, University of Minnesota; *Bruce Vondracek*, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota

Can River Bank Sediment Be a Carrier and Then Source of Available P in Lake Pepin?

Ashley Grundtner and *Satish Gupta*, Department of Soil, Water, and Climate, University of Minnesota

Water-Based Infiltration for Middle Spunk Lake

Stan Hanson, Bonestroo, Inc.; *Greg Berg*, Stearns County Soil and Water Conservation District

Effectiveness of Buffers Installed at Targeted Critical Drainage Areas in Minnesota

John Hanzas, Stone Environmental, Inc.

Infiltration BMPs Beyond Project Close-Out: An Overview of the Rice Creek Watershed District's BMP Maintenance Inspection Program

Elizabeth Hosch, Rice Creek Watershed District

Mississippi Makeover: A Localized, Ecosystem Approach to Implementing TMDLs

Laura Jester, Dakota County Soil and Water Conservation District; *Jeff Luehrs*, Dakota County; *Tim Schlagenhaft*, Minnesota Department of Natural Resources; *Norman Senjem*, Minnesota Pollution Control Agency

Iron-Enhanced Sand Filter Pond Retrofit

Forrest Kelley, Capitol Region Watershed District

Using Education to Eliminate Sediment Runoff from Construction Sites

Shannon Kelley, McGough Construction

Water Quality in the Southern Basin of Lake of the Woods: 2010

Richard Kiesling and *Sarah Elliott*, U.S. Geological Survey

Connecting the Public to the Minnesota River Through Ideas

Scott Kudelka, *Richard Moore*, and *Kimberly Musser*, Water Resources Center, Minnesota State University, Mankato

Root River Field to Stream Partnership: An Overview

Kevin Kuehner, *Adam Birr*, and *David Tollefson*, Minnesota Department of Agriculture

2D Modeling: Flooding and Frustration

Jonathon Kusa, HR Green, Inc.

Cumulative Impacts of Residential Lakeshore Development on Littoral Habitat

Jessie Lepore, Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota

Red River Watershed Recovery Potential Indicators Project

Molly MacGregor, Minnesota Pollution Control Agency

Developing Watershed Protection and Restoration Strategies

Jennifer Maleitzke, Minnesota Pollution Control Agency

Lambert Creek Stream Restoration Using Only Hand Labor

Ed Matthiesen, Wenck Associates, Inc.

Collaborative BMP Retrofit Subwatershed Assessment Study and Implementation

Ed Matthiesen, Wenck Associates, Inc.

Effects of Trash and Vegetation on Sumps Equipped With a SAFL Baffle

Kurtis McIntire, *John Gulliver*, and *Omid Mohseni*, St. Anthony Falls Laboratory, University of Minnesota

Partially Grouted Riprap for Bridge Abutment Scour Protection

Patrick McLarnon, TKDA; *David Berkowitz* and *Jason Law*, City of Andover

Minnesota Water Resources Modeling Group: Advancing the Management of Minnesota Water Resources Through Science of Modeling

Shahram Missaghi, University of Minnesota Extension

Working Together for the Minnesota River

Kimberly Musser, Water Resources Center, Minnesota State University, Mankato; *Jon Carlson* and *John Hickman*, Epic Media; *Scott Kudelka* and *Rick Moore*, Water Resources Center, Minnesota State University, Mankato

Impact of Hydrologic Alteration on Riverine Turtle Nesting in Eastern Minnesota Rivers

Jason Naber, Emmons & Olivier Resources, Inc.; *Christian Lenhart* and *John Nieber*, Department of Bioproducts and Biosystems Engineering, University of Minnesota

Hydrologic Watershed Response to Land-Cover and Climate Changes Across the Upper Midwest

Kenneth Brooks, Department of Forest Resources, University of Minnesota; *Christian Lenhart*, *John Neiber*, and *Mikhail Titov*, Department of Bioproducts and Biosystems Engineering, University of Minnesota; *Lucas Vold*, University of Minnesota

Rain Gauge Network Data Online

Nancy Read, *Sandy Brogren*, and *Janet Jarnefeld*, Metropolitan Mosquito Control District

Measurement of Nutrient Movement in Continuous No-Till Production Landscapes

George Rehm, *Warren Formo*, and *Tim Radatz*, Minnesota Agricultural Resources Coalition

We Have a Plan, Now What? Ongoing Water Supply Planning in the Twin Cities Metropolitan Area

Lanya Ross, Metropolitan Council

Flood Risk Reduction for Breckenridge, Minnesota, and Wahpeton, North Dakota

Andrew Sander, U.S. Army Corps of Engineers

Summary of Groundwater Nitrate-Nitrogen Data From the Minnesota Department of Agriculture Groundwater Quality Monitoring Program

Brennon Schaefer, Minnesota Department of Agriculture

City of Mounds View Stormwater Infiltration Program (SIP)

Brad Schleeter, Bonestroo, Inc.

Minnesota River Integrated Watershed Management Interagency Studies

Rebecca Seal-Soileau and *Ann Banitt*, U.S. Army Corps of Engineers

Watershed Partnerships

Louis Smith, Smith Partners, PLLP; *Kevin Bigalke*, Nine Mile Creek Watershed District; *Eric Evenson*, Minnehaha Creek Watershed District

Salt Reduction Through Education

Doug Snyder, Mississippi Watershed Management Organization

Habitat Enhancement Projects in an Urban Setting: Pheasant Branch Creek

Aaron Steber, Cardno JFNew

Cedar River Basin TMDL Development Project

Bill Thompson, Minnesota Pollution Control Agency

Modifying Bioretention Cell Design to Achieve Regulatory Water Quality Benefits

Joel Thrash and *Mark Pranckus*, Cardno JFNew

Cleary Lake Drawdown: Shifting from an Algal-Dominated to a Plant-Dominated Ecosystem

Brian Vlach, Three Rivers Park District

New London Dam Reconstruction

Martin Weber, Stanley Consultants, Inc.

205th Street Channel Stabilization

Jeff Weiss, Barr Engineering Company; *Mac Cafferty*, City of Lakeville; *Jim Davidson*, Dakota County Soil and Water Conservation District

Effectively Managing Shoreline and Creek Bank Erosion

Peter Willenbring, WSB & Associates, Inc.

The Benefits of Implementing Stormwater BMPs Over a 12-Year Period in the City of Hugo: A Case Study

Peter Willenbring, WSB & Associates, Inc.; *Bryan Bear*, City of Hugo; *Phil Belfiori*, Rice Creek Watershed District

Evaluating Watershed Outreach Interventions: Informing Future Outreach Through an Integrative Model

Christine Yaeger, University of Minnesota; *Mae A. Davenport* and *Karlyn Eckman*, Department of Forest Resources, University of Minnesota; *Erin Seekamp*, Southern Illinois University

Dinner Program: Sponsored by American Society of Civil Engineers (ASCE) Minnesota Section

Tuesday, October 18, 2011

5:30 p.m. Social Hour, 6:30 p.m. Dinner, 7:30 p.m. Program

Location: Joseph's Grill, 140 South Wabasha Street, Saint Paul

(located just across the bridge from downtown Saint Paul, about 1 mile from the River Centre; free off-street parking is provided.)

Cost: \$30 ASCE members, \$35 non-members, \$15 students (not included in conference registration fee)

Register online at www.ascemn.org by October 16.

This dinner program is open to all who are interested.

St. Croix River Crossing Project Stakeholder Involvement Process and Water Resources Issues: A Panel Discussion

MnDOT Perspective: Project Need, Environment, Stakeholder Process, and Preferred Alternative

Todd Clarkowski, MnDOT Metro District, team leader, St. Croix River Crossing Project

National Park Service: The St. Croix Wild and Scenic Riverway

Christopher Stein, National Park Service, superintendent, St. Croix National Scenic Riverway

Wisconsin DOT Perspective

Paul Conlin, project development supervisor, WisDOT NW Region

The St. Croix River Crossing Project concerns the replacement of the Stillwater Lift Bridge. Constructed in 1931, the Stillwater Lift Bridge crosses the St. Croix River between Minnesota and Wisconsin. The project's current proposal would construct a new four-lane bridge at a nearby location, connecting four-lane expressways existing on both sides of the St. Croix River. The proposal would preserve the historic Stillwater Lift Bridge as a portion of a bicycle and pedestrian trail. Following an executive order by President Bush in 2002, a stakeholder driven, public involvement process addressed the transportation needs while balancing any environmental, social, and economic impacts, leading to the current St. Croix River Crossing proposal.

In 1972, the United States Congress designated the St. Croix River, over which the Stillwater Lift Bridge crosses, as a National Wild and Scenic River for its unique scenic, recreational, and geologic values. The project area also includes a number of protected natural resources, such as threatened or endangered plant and animal species (osprey, bald eagle, peregrine falcon, mussels) and wetlands. The importance of maintaining water quality of the St. Croix River is of great significance for this project. A preliminary drainage design has been developed to address the concerns of the St. Croix River Basin Team and a number of other water quality management organizations to ensure water quality and quantity standards are being met.

For questions or additional information contact John F. Blackstone, PE, chair, ASCE EE/WR Technical Committee, jblackstone@comcast.net, 651-263-4357; or Bruce Holdhusen, PE, holdhusen@infionline.net, 651-261-2325.

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This publication is available in alternative formats upon request. Please call 612-624-3708.

Registration

Minnesota Water Resources Conference
October 18-19, 2011

ENGR 0009
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| _____ | _____ | _____ |
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- I do NOT wish to be listed on the conference registrant list for distribution to participants.
 I would like to select a vegetarian meal option.

Registration Fees:

Early registration (postmarked on or before October 4)

- Two-day - \$230
 One-day - \$155
 Student - \$50

Late registration (postmarked after October 4 or on site)

- Two-day - \$250
 One-day - \$175
 Student - \$70

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Please circle which concurrent sessions you plan to attend.

Tuesday, October 18, 2011

Concurrent Sessions I

10:00-11:30 a.m. A B C D

Concurrent Sessions II

1:15-2:45 p.m. A B C D

Concurrent Sessions III

3:15-4:45 p.m. A B C D

Wednesday, October 19, 2011

Concurrent Sessions IV

10:00-11:30 a.m. A B C D

Concurrent Sessions V

1:15-2:45 p.m. A B C D

Concurrent Sessions VI

3:00-4:30 p.m. A B C D

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