Conference Highlights

- **A full-day workshop on Urban Stream Restoration.** Dave Derrick, US Army Corps of Engineers and River Research and Design will present on environmentally compatible, cost-effective approaches and methodologies for design of river and streambank stabilization and riparian corridor restoration projects; stream investigation and analysis using principles of fluvial geomorphology; sediment transport analysis; navigation channel improvement effects of river training structures; innovative construction methodologies for stream stabilization works.

- Learn more about USGS StreamStats web-based GIS tool application through a live internet demonstration. StreamStats allows users to click on any ungauged site on a river and compute estimates of selected peak-flow statistics or to click on any streamgage in Iowa to obtain the selected statistics for the streamgage.

- A majority of floodplain mapping is based on results of one-dimensional (1D) models. Learn more about the advantages of coupled 1D/2D modeling including more accurate inundation extents with less uncertainty. Case studies presented for Kalona, IA and hydrologic design for channel routing.

- The Iowa Watersheds Project seeks to evaluate the potential for implementing basin-scale mitigation strategies to reduce flood risks. A blend of numerical simulation and pilot projects is used to identify areas where practices will provide the greatest benefit, quantify the performance of individual measures, and upscale results to predict the cumulative benefit of numerous measures throughout the watershed.

- Increase your understanding of current design protocols and technology for agriculture drainage systems including field tile methodologies, end-of-tile discharge structures, and tile effluent bioreactors for nitrogen removal.

- The Red River has exceeded the National Weather Service flood stage of 18 feet at Fargo, ND in 50 of the past 112 years - every year from 1993 through 2013, except 2012. Five of the top ten floods have occurred since 2000 with the flood of record in 2009. Learn more about the hydraulic design for a 30 mile long diversion channel around the west side of the metropolitan area and retention of an additional 150,000 acre-feet of water upstream of the metropolitan area to minimize downstream impacts due to the project.

- Learn more about the implementation protocols for Iowa Nutrient Management program for both point and on-point sources.

- Learn more about the Watershed Management Authority program established for Four-Mile Creek.
About ASCE
Founded in 1852, the American Society of Civil Engineers (ASCE) is committed to the advancement of the civil engineering profession and the individual engineer. ASCE acts as a forum for communication among individuals and groups involved in the practice of civil engineering. ASCE also offers a variety of professional development opportunities to members of the profession. The Iowa Section of ASCE, founded in 1920, exists so that Iowa civil engineers and associates may group together locally for their mutual benefit and professional advancement. Gary Reed, P.E. is the current president of the Iowa Section.

Purpose and Scope
The quality of life we enjoy in Iowa, both now and in the future is directly related to the quantity and quality of our water resources. Point and non-point sources of pollution continue to endanger the groundwater and surface water resources in Iowa. After the flooding in Iowa in 2008, 2010, and the historic flooding in 2011 on the Missouri River in western Iowa, major policy changes are under development for floodplain and watershed management across the state. The challenges of managing a rapid increase in suburban growth, aging stormwater system infrastructure in our older urban areas, in addition to other land use issues, creates increased opportunities for flooding problems. This conference and workshop will focus on examining the management and engineering challenges that lie ahead in addressing the important water resources issues in the years ahead. The health and welfare of the people of Iowa, and the continued development of the state economy, will depend on sound and timely engineering practice and management skills to ensure protection of our vital water resources.

Who Should Attend
Civil engineers, scientists, geologists, managers, stormwater managers, developers and urban planners, and administrators from both the private and public sectors. Participants will find the conference to be timely and relevant to the water resource challenges facing Iowa’s in the new century. Individuals from public interest groups and the legislative arena will benefit from many of conference presentations.

Post-conference Workshop
A full-day seminar on Urban Stream Restoration will be held the day after the conference on Friday, April 4th. Mr. Dave Derrick, with River Research and Design, Inc. will teach the workshop. A true innovator, he specializes in environmentally compatible, cost-effective approaches and methodologies for design of river and streambank stabilization and riparian corridor restoration projects; stream investigation and analysis using principles of fluvial geomorphology; sediment transport analysis; navigation channel improvement effects of river training structures; innovative construction methodologies for stream stabilization works; river and stream training structure inspection, monitoring, and performance analysis; and physical movable-bed modeling. Participants will receive additional materials on urban stream restoration techniques as well.

Professional Development
This conference has been planned in accordance with the criteria established by the ISBE for professional development hours (PDHs). A total of 7.0 PDHs and 6.00 PDHs are available for the workshop and conference programs, respectively.

Conference Planning Committee
Mike Ryan, P.E., Howard R. Green Company, Cedar Rapids; Chairman
Roger Schletzbaum, P.E., Marion County Engineer, Knoxville
Jack Reissen, P.E. (retired), Iowa DNR
Kevin Landwehr, P.E., Rock Island District, Corps of Engineers, Rock Island, IL
Roger Kay, P.E., U.S. Army Corps of Engineers, Omaha District, NE
Andrew McCoy, P.E., HDR Engineering, Des Moines
Dave Claman, P.E., Iowa DOT, Ames
Mark Land, P.E., Snyder & Associates, Ankeny
Stephen Jones, P.E., SEJ Consulting & IA-ASCE Conference Manager

Registration
The registration fee for the 2014 ASCE Environmental & Water Resources Conference is $190 for ASCE members and $215 for non-members who register on or before March 28, 2014. Registration is $210 for ASCE members and $225 for non-members after March 28. The registration fee for the full-day workshop on Urban Stream Restoration is $300 for ASCE members and $325 for non-members. The joint rate for attending both the conference and workshop is $450 for ACSE members and $475 for non-members. (Note: Retired Active members of ASCE 65-years of age and above and ASCE Life members can attend at 50% of the regular rate.)

You may register on-line at www.cpm.iastate.edu/event and clicking on “ASCE Environmental & Water Resources Conference” in the calendar or mail a completed registration with payment to the address indicated on the form. You may also register by fax at 515/294-6223. Your registration fee includes all program materials, lunch, and all refreshment breaks.

Location
The conference will be held at the Scheman Building at Iowa State Center, Iowa State University, Ames, IA. The Iowa State Center is located on the southeast edge of the campus. To get to the center, take the University Boulevard exit off of U.S. Hwy 30 and go north to Center Drive. Parking is available on the north side of the Scheman building.

Lodging
Lodging will be the responsibility of the individual participant. A listing and location map of available hotels is provided at the conference website www.visitames.com.

Change in Plans?
If you cannot attend the conference, you may send a substitute. Your registration fee will be refunded less a $25 cancellation fee if you cancel your registration on or before March 28, 2014. No refunds after March 28. Call Registration Services (515) 294-6222 or email registrations@iastate.edu.

Tax Deduction
The expense of continuing education, when taken to maintain and improve professional skills is tax deductible. Contact your accountant for details.

For More Information
For questions about program content, contact Stephen Jones at 515-450-0311, or e-mail at sejones@iastate.edu. For registration questions, call Registration Services (515) 294-6222 or e-mail registrations@iastate.edu.
Thursday, April 3, 2014
7:30 - 8:30  Registration:

**Morning Joint Session**

Presiding: Mike Ryan, P.E., Howard R. Green Company, Chairman, Environmental and Water Resources Committee, IA-section ASCE

8:25 - 8:30 AM  Welcome and Introductory Remarks

8:30 - 9:15  *Fargo-Moorhead Metropolitan Flood Risk Management Project*  
Aaron Buesing, P.E., Senior Hydraulic Engineer, USACE, St. Paul District

9:15 – 10:15  *Iowa Nutrient Management Program*  
Adam Schnieders, Iowa DNR; Shawn Richmond, Iowa Department of Land Stewardship

10:15 - 10:30  Refreshment Break

10:30 – 11:15  *Evaluation of Levee Breech Scenarios*  
Greg Karlovits, USACE, Rock Island District

11:15 – 12:00  *StreamStats Implementation for Design – Peak Flow determination*  
Dave Eash, Hydrologist, U.S. Geological Survey, Iowa City

12:00 - 1:15 PM  *Luncheon Program: Value of Water*  
Dave Dechant, P.E., HDR

**Afternoon Program: Concurrent Session - Water Quantity**  
Moderator: Andy McCoy, P.E.

1:15 – 2:00  *1D vs 2D Modeling for Hydrologic Design (Channel Routing)*  
Dave Claman, P.E., Preliminary Bridge Design, Iowa DOT, Ames

2:00 - 2:30  *Comparison of Kalona, Iowa Flood Inundation Mapping Derives from One- and Two-dimensional Hydraulic Models.*  
Dan Gilles, W, Water Resources Engineer, IIHR-Hydroscience & Engineering Iowa City

2:30 – 3:00  *Iowa Studies: Basin-Scale Strategies to Reduce Flood Risks*  
Larry Weber, Ph.D., P.E., Director, IIHR-Hydroscience and Engineering, University of Iowa, Iowa City

**Concurrent Session - Water Quality**  
Moderator: Roger Schletzbaum, P.E.

1:15 – 2:00  *Indian Creek Watershed Study*  
Toby Hunemuller, USACE, Rock Island District

2:00 – 2:30  *Watershed Management Authority / Four Mile Creek*  
Mark Land, P.E., Snyder & Associates, Inc., Ankeny

2:30 – 3:00  *Carter Lake Restoration Project*  
Chris Larsen, Iowa DNR SW Regional Fisheries Supervisor, Lewis

3:00 – 3:15  Refreshment Break

**Afternoon Joint Session**  
Moderator: Jack Riessen, P.E.

3:15 – 3:45  *Ag Drainage Design Protocols and Current Technology*  
Matt Helmers, PH.D., P.E., Ag & Biosystems Engineering, Iowa State University, Ames

3:45 – 4:15  *Drainage Tile Treatment Systems for Water Quality (Bioreactors)*  
Matt Helmers, Ph.D., P.E., Ag & Biosystems Engineering, Iowa State University, Ames

4:15 – 5:00  *Water Supply Engineering in Tanzania, East Africa*  
Stephen E. Jones, P.E., SEJ Consulting LLC, Huxley

4:45  Adjourn

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**Friday, April 4, 2014: Urban Stream Restoration Workshop (7:30am registration; workshop 8:00am – 4:30pm)**

Instructor: **David Derrick** - U.S. Army Corps of Engineers’ Engineering Research and Development Center since June of 1978. He currently holds the position of Research Hydraulic Engineer in the Coastal and Hydraulics Lab (CHL). Since 1997 Mr. Derrick has held the position of vice president with River Research and Design, Inc.

**Workshop Topics:** environmentally compatible, cost-effective approaches and methodologies for design of river and streambank stabilization and riparian corridor restoration projects; stream investigation and analysis using principles of fluvial geomorphology; sediment transport analysis; navigation channel improvement effects of river training structures; innovative construction methodologies for stream stabilization works; river and stream training structure inspection, monitoring, and performance analysis; and physical movable-bed modeling.

David is a very hands-on practitioner and has been actively involved in the development of innovative workshops (assessment, design, construction, and bioengineering), innovative construction methodologies, construction layout techniques, and inspection and monitoring master plans and guidelines for stream and river restoration projects.
# Registration Information:

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- **Ms.**
- **Mrs.**
- **Dr.**
- **Female**
- **Male**

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**Conference Registration:**

Conference registration fee includes all program materials, lunch, and refreshment breaks. Cancel on or before March 28 to receive a refund less a $25 processing fee. No refunds after March 28.

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(Only one registration per form – Duplicate for additional registrations)

**It’s easy to register!**

**On-line:**

[www.cpm.iastate.edu/event](http://www.cpm.iastate.edu/event)  
(Click on ASCE Environmental & water Resources Conference)

**Mail:**

Registration Services  
Iowa State University  
1601 Golden Aspen Dr, Ste 110  
Ames, IA 50010  
Fax: (515) 294-6223  
Phone: (515) 294-6222

**Questions? Email**

registrations@iastate.edu

**Office Use Only**

* Iowa State University requests this information to pre-register you for a conference. No one outside the university, with the exception of participants in this conference, is routinely provided this information. If you fail to provide the required information, we cannot promise accurate registration.

(Reference: Iowa Code, Chapter 22.11; Iowa Fair Information Practices Act)