

IAFSM NEWSLETTER

Illinois Association for
Floodplain and Stormwater Management

Fall 2007

Why the Concern with Levees? They're Safe, Right?

-Bryan Martindale, Hoelscher Engineering and
Paul Osman, IDNR Office of Water Resources

There are two kinds of levees in Illinois: Those that have failed and those that will fail.

WHOA! That's a bold statement! But, engineers know this. Floodplain managers know this. The citizens of New Orleans certainly should know this. Unfortunately, the citizens of Illinois still haven't completely caught on. We are a population at risk. Most don't even realize it.

Less than 3% of the people living behind levees in Illinois carry flood insurance. Many residents of the state have no idea that they live in "levee failure zones." Since the flood in New Orleans, more and more attention has been focused on "residual risk." Areas that are protected by a flood control structure, yet are at risk of flooding, are called areas of "residual risk". In Illinois, some residual risk areas can extend up to 15 miles back from the river. At risk are entire communities, huge industrial complexes, refineries, chemical plants, and nearly half a million people across the state! In Illinois, residual risk needs to be taken seriously.

The 1993 Flood and the Galloway Report

Many of our levees along the Illinois and Mississippi Rivers were originally built over 100 years ago. In 1993, over 1,500 of these



levees failed, many with disastrous

consequences. Following the 1993 flood, a Presidential Commission was established to determine the cause of the flooding and make recommendations to reduce the chances of future flooding. The resulting Galloway Report is still considered among one of the best floodplain documents ever produced. Among the findings: critical infrastructure should be protected, many levees are poorly sited and will fail again, there is a need for better outreach to notify residents behind levees, the purchase of Flood Insurance should be required behind levees, flood fighting and sandbagging of levees often worsens flooding for others, existing levees should be reconstructed at a set back distance from the river, and there should be no new levees to encourage development.

Unfortunately, many of the findings from this 1993 report were ignored. In 2005, we saw the same concerns repeated after the flooding in New Orleans.

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The 2005 Flood and the National Levee Challenge

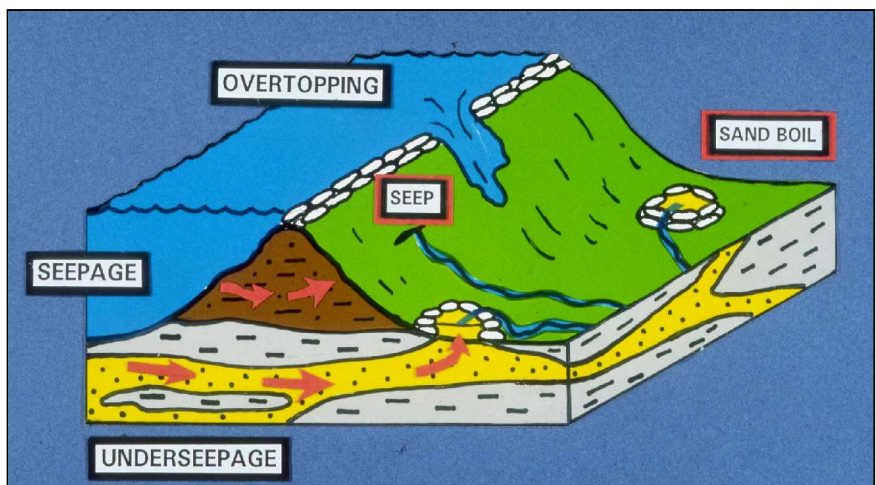
Following Hurricane Katrina and the flooding of 2005, a national committee was again formed to seek answers on the levee issue. Their report, entitled “The National Levee Challenge” can be found on the FEMA website. Among the committee findings and recommendations are:

- We don’t know what a levee is. We need a clear definition of “levee;”
- We don’t know where levees are, or how much population is at risk. We need to develop an inventory of all levees and identify location, ownership, age, and level of protection;
- We need to develop better levee design standards, including a method to assess the subsurface foundation of a levee;
- We need better operation and maintenance of levees, including scheduled inspections and renewed certification or decertification criteria; and
- We need to manage residual risk, including: identification of levee failure and dam failure zones, preparation of emergency action plans, and outreach efforts to encourage residents to purchase flood insurance.

Certified and Non-Certified Levees

In Illinois, some levees are considered “certified” by FEMA. In the past, floodplain areas behind a “certified” levee were not shown on a Flood Insurance Rate Map, allowing new developments to be built below the flood protection elevation and without mandatory flood insurance. (Levees are certified through engineering analyses showing that a levee meets FEMA’s levee certification criteria, or by a Federal agency with responsibility for levee design.) Levees that do not meet FEMA’s certification criteria are considered “non-certified levees”. Floodplain areas behind these levees are shown as if the levee simply does not exist. Flood Insurance and floodplain regulations are required.

As part of the Map Modernization effort, FEMA is no longer assuming that a previously certified levee still meets current criteria. New levee certification must take place to gain a better understanding of the actual flood risks for citizens living behind levees. This process is called the Provisionally Accredited Levees (PAL) procedure.



Levees can fail in a variety of ways, including overtopping, piping, seepage and saturation, erosion, and structural failure.

Levee Decertification in Illinois

Dozens of certified levees exist in Illinois, mostly located in urbanized areas. As part of the recent floodplain remapping and re-assessment, many previously certified levees in Illinois have been found unacceptable. Once a certified levee no longer meets FEMA’s certification criteria, it MUST become de-certified.

- The small town of Brookport, Illinois sits entirely within the floodplain of the Ohio River. Much of the town is up to 15 feet below the flood protection elevation, but the floodplain maps don’t show that risk. Only one person in Brookport has a flood insurance policy. New maps have been prepared for Brookport showing the true flood risk and will soon become the official floodplain map for Brookport.
- The metro East St. Louis area in Illinois has a series of levee systems that protect nearly 200,000 people in 22 communities and one of the state’s largest industrial areas. Without these levees, flood depths would be a staggering 24 feet deep in places. Despite the residual risks, only 2.8% of people in the Metro East area

have flood insurance. In August, the Corps of Engineers reported that these levees were unacceptable. At the time of this article, remapping of this region is being debated. The results will be watched nationally.

The questions are complicated: Do we accurately portray the true residual risk, or do we ignore the risk and place the population at risk?

What Should You Do as a Local Floodplain Manager?

As a local floodplain manager with a risk of levee failure in your community, you should take immediate steps to protect your citizens. Placing the responsibility or blame on state and federal agencies will only continue to put your citizens at risk. Local officials can and should take these few simple steps:

- Identify the dams and levees in your community;
- Map the levee failure or dam breach zones in your community;
- Notify citizens who live in these areas of the potential risk;
- Encourage the purchase of flood insurance. There is an excellent flyer on IAFSM’s website: illinoisfloods.org. Give this flyer to citizens or insurance agents in your community;
- Prepare Emergency Action Plans to protect your citizens in the event of levee or dam failure; and
- Lastly: NO NEW LEVEES TO ENCOURAGE DEVELOPMENT. The short term benefit of economic development is not worth the long term risk to property and lives.

Additional Information and Training

This is an abbreviated version of a longer article. Visit www.illinoisfloods.org/publications.html for the full unedited article. For more information on levee certification and the mapping process, visit http://www.fema.gov/plan/prevent/fhm/lv_intro.shtm, or attend IAFSM’s October 24, 2007 seminar on Floodplain Management. To register, visit www.illinoisfloods.org/conferences.html.

Map Modernization Project Update

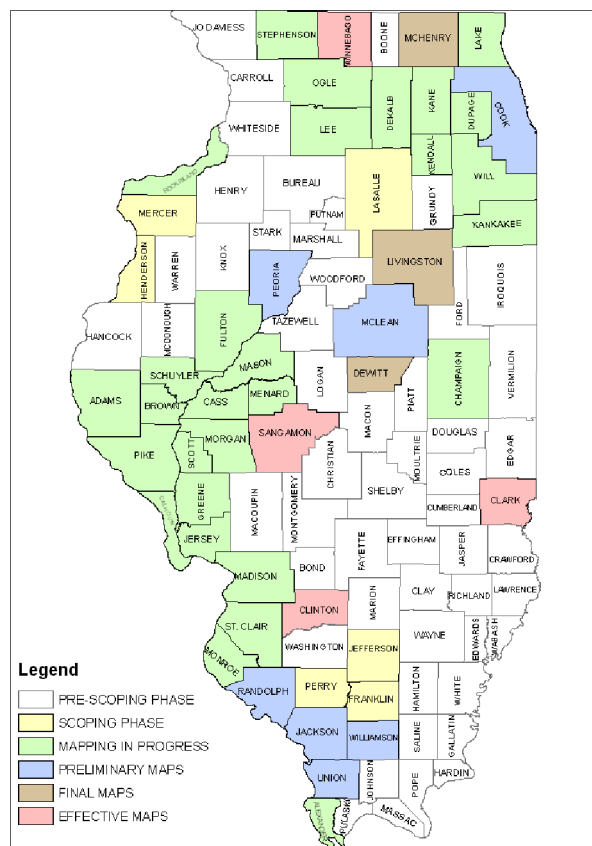
-Jane Li, Illinois State Water Survey

The state graphic depicts the progression of the Illinois State Water Survey's Map Modernization Project for each county. From start to finish, the process of modernizing flood maps for each county takes approximately 24 months.

Scoping Meetings are one of the first steps in the process, which have been scheduled for the following counties over the next several months: Hancock, Mercer, Henderson, Jo Davies, Vermilion, Carroll, Whiteside, Edgar, Crawford, Macon, and Douglas.

For more information or to check the status of your County, visit www.illinoisfloodmaps.org.

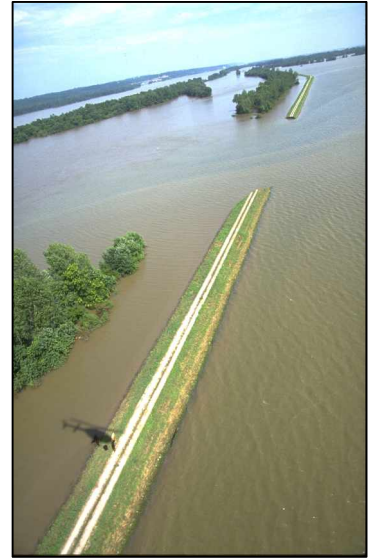
- Pre-Scoping: County awaiting scoping
- Scoping: Scoping meeting complete
- In Progress: Maps being recreated
- Preliminary: Maps finished, open for public comment
- Final: Map awaiting County adoption
- Effective: Map effective and regulatory



Mitigation Plans Required to Obtain Funding. Does your Community Have a Mitigation Plan?

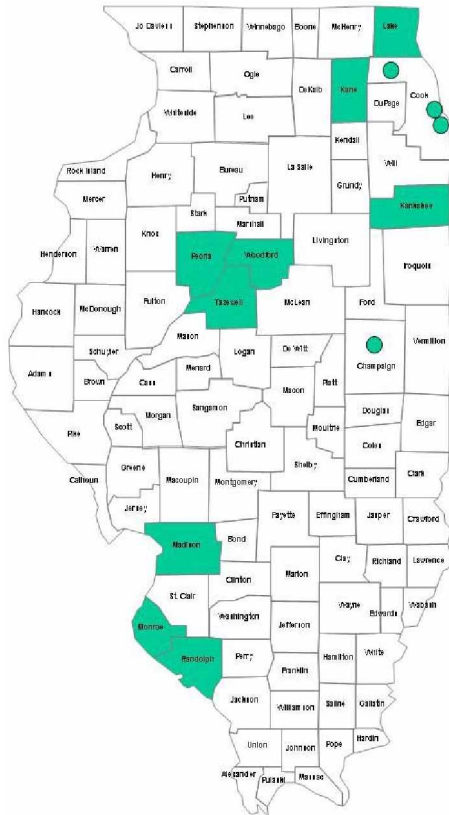
-Jared Owen, Illinois Emergency Management Agency

Every year, fires, floods, tornadoes, and other natural disasters randomly strike thousands of families, sometimes near your home. Lives are changed forever. Many people lose homes, businesses, and more. In the last 50 years, Illinois has experienced over 1,600 floods totaling over 1.3 billion dollars in property damage. Population increases and demographic changes have shifted our state's residential growth to areas with high vulnerability to natural hazards and climate extremes. Growing wealth has also placed more value on personal property, thus resulting in higher loss claims once a disaster strikes. While we can't prevent natural disasters from occurring, we can mitigate the effects that they have on our communities. As a mitigation planner, it is my role to assess vulnerabilities to natural disasters, and then work to reduce or eliminate the long-term impacts to life and property from such an event.



Considering the damages described above, mitigation planning is more important than ever. The Illinois Emergency Management Agency website has guidance for local governments who would like to prepare a Multi-Jurisdictional Hazard Mitigation Plan.

A multi-jurisdictional plan means several jurisdictions can adopt the plan as their own while sharing costs and, most importantly, networking with their neighboring communities. Multi-jurisdictional plans tend to be the most sought after as well as encouraged. We even have the ability to provide funding for jurisdictions to use during the planning process for hiring contractors or for taking care of administrative fees associated with the design of the document.



Federal laws, such as the Disaster Mitigation Act of 2000 (DMA2K), have specified that in order to receive funds to complete a mitigation project within your jurisdiction, it is necessary for you to have a FEMA/IEMA approved Mitigation Plan.

As of Sept. 1, 2007, the following jurisdictions have approved plans; Kane Co., Kankakee Co., Lake Co., Madison Co., Monroe Co., Peoria Co., Randolph Co., Woodford Co., Tazewell Co., Calumet City, City of Chicago, Urbana, and Des Plaines.

In addition to the jurisdictions mentioned above, many more have submitted applications for grants to begin the process. However, Illinois is behind many other states in Mitigation Planning, and the majority of Illinois communities still do not have a plan. We've often heard that the only thing harder than preparing for a disaster is explaining why you didn't. My job is to assist Illinois communities so that they never have to owe explanations.

Green shading shows counties and municipalities with approved Mitigation Plans as of September 1.

If you would like to learn more about how you can develop a mitigation plan, please visit our website at <http://www.state.il.us/iema/>, contact Jared.Owen@illinois.gov, or attend the IAFSM's Mitigation Planning Seminar on October 23, 2007. To register, visit www.illinoisfloods.org/conferences.html.

LiDAR over Illinois

-Shelly Silch, United States Geological Survey, and Arlan Juhl, IDNR Office of Water Resources

The U.S. Geological Survey (USGS) and the Illinois Department of Natural Resources, Office of Water Resources (OWR) recently partnered to fund a Light Detection and Ranging (LiDAR) project. LiDAR is a remote sensing system used to collect topographic (elevation) data. The USGS provided \$475,725 to Illinois as 50/50 matching funds for this project. OWR sent out letters of inquiry across the state looking for commitments from individual counties. Five counties (Champaign, Grundy, Kane, McHenry and Will) offered letters of commitment to participate in this opportunity. The data collected will cover over 3,377 square miles.

The elevation data collected as a part of this project will have an accuracy sufficient to produce two-foot contour intervals. This essential geospatial data layer will support floodplain management; FEMA's Map Modernization Program; statewide flood control and flood response planning; better assessments of impacts to environmental resources and agricultural, commercial, industrial and residential structures; USGS gauge height modernization; stormwater management programs of counties and municipalities; and county planning and zoning.

The resulting data from this project will be archived in the USGS Center for LIDAR Information Coordination and Knowledge (CLICK) and integrated into the USGS National Elevation Dataset (NED). The goal of CLICK is to facilitate data access, user coordination and education of lidar remote sensing for scientific needs. The NED was developed by merging the highest-resolution, best quality elevation data available across the United States into a seamless raster format. For more information, visit <http://lidar.cr.usgs.gov/> and <http://ned.usgs.gov/>

Rain Day debuts at the 2007 Illinois State Fair

-Mark Hoskins, P.E., CFM, Manhard Consulting

The purpose of inaugurating Rain Day this year at the Illinois State Fair was to interactively educate Illinois residents about the programs of the local, state and federal stormwater related agencies. Rain Day was created by Manhard Consulting and organized as a public service outreach event. By inviting and show casing about 12 different governmental agencies, fair-goers learned about many ongoing Illinois stormwater programs.

IAFSM helped sponsored Rain Day by providing a donation to fund the delivery of a USACE floodplain display model built 7 years ago by the USACE Tulsa District. By using real flowing water, the elegant USACE model demonstrates the need to preserve wetlands and shows the effect of culvert debris causing a rise in flood elevations.

Joseph Remondini, P.E., a senior engineer at the Tulsa District, showed how buildings near the river need to be elevated using this small riverside village diorama. This village experiences a flood-wave every 60 seconds complete with howling wind sound, thunder and strobe lightening. The model shows how previously dry homes are flooded after a new subdivision fills an existing wetland area, resulting in loss of recharge and floodplain storage.



Joe Remondini from the USACE Tulsa District demonstrates the floodplain display, funded in part by IAFSM

From the Chair

- E. Stuart Richter, CFM, Chair, IAFSM

It is now six months since lift-off. Fortunately I was strapped in and survived the "G's". As this article is for the Fall Newsletter, I now wish to welcome our new Newsletter Editor, Jennifer Maercklein to the job. I have every confidence that she will carry on the tradition left to her by French Wetmore. She will have the help and support of the entire organization so I know she will do well. She has some great ideas to re-vamp the newsletter over time.

I also want to welcome our new Executive Secretary, Sarah Harbaugh. Sarah came on board the first of August, and is probably inundated (flood term) with papers, notebooks and forms left to her by her predecessor, Mary Lu Wetmore. She is slowly getting her feet wet (another flood term) and will do a good job for us, again with our help and cooperation. Welcome to IAFSM, Sarah.

And now for the other news that's fit to print. We have had a change in Chairs with Amanda Flegel taking over Education Outreach for Andy Wells. We were sorry to lose Andy. He has done a good job for the Association, but knowing Amanda, from the job she has done at the last two conferences, we won't miss a beat when it comes to providing educational opportunities for our members and others. Welcome to Amanda.

By the way, are you picking up a pattern since I became Chair?

The Board of Directors met on September 12, 2007, and one item that we discussed was a budget. We have always had a budget for the annual conference, but not for the association itself. Since we are now filed as a not-for-profit organization, it was time to adopt a complete budget. After a good discussion, the Board set our Fiscal Year as May 1 to April 30. Officers elected at the March Conference would assume their positions on May 1 that year. The budget itself will be adopted at the annual meeting at the conference. Each Committee Chair is charged with providing a request for funds for the coming year by the January meeting. The Treasurer, with assistance from the Executive Committee, will prepare the budget for approval in March.

The "Call for Papers" has gone out, and we are hoping for a good response. We have, at times, ended up a few papers short. It would be a great help to the Conference Chair, Jeff Wickenkamp, to have many to choose from.

Special "Kudos" to Mark Hoskins, for his efforts at the "Rain Day" tent at the State Fair in Springfield this past August. We spent a lunch at the ASFPM Conference in Norfolk, discussing IAFSM's involvement in his venture. Unfortunately, we were not as involved as we could have been, so Mark deserves a lot of credit. If he still wants to do this again next year, we may get more involved.

I've gone on long enough. IAFSM is alive and growing stronger. If the Conference Chair works out an idea of his at the 2008 Conference, we may be giving each of you an opportunity to become more involved. Wait and watch. Again, from Larry the Cable Guy, and especially for you hydrology types, "How much deeper would the ocean be without sponges?"



Chris Burke, Bill Powers, French Wetmore, Mary Lu Wetmore, Gerry Robinson and Molly O'Toole at a Goodbye Reception for French and Mary Lu hosted by Chris Burke.

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IAFSM Committee Reports

Annual Conference Committee: The Annual Conference Committee needs volunteers to help with conference planning and to help during the annual conference itself (March 11-13, 2008, in Tinley Park). For more information or to volunteer to help, email Jeff Wickenkamp at jwickenkamp@heyassoc.com.

Education Committee: The Education Committee has been busy planning two IAFSM workshops scheduled for October: Floodplain Mitigation Seminar on October 23 and Floodplain Management Seminar on October 24. To volunteer to help with these or future workshops, email Amanda Flegel at aflegel@uiuc.edu.

Inter-Organizational Committee: The Inter-Organizational Committee was formed in May, 2007 to coordinate efforts between IAFSM and closely-related professional organizations. The Inter-Organizational Committee is responsible for maintaining contacts with other organizations and sharing information through conferences and publications. You can view the organizations we are partnering with on the IAFSM website at www.illinoisfloods.org/links.html. For more information email Rebecca Bicksler at becca@uiuc.edu.

Newsletter Committee: The Newsletter Committee has been busy reviewing articles and tweaking the format of the IAFSM newsletter. To help with future newsletters, to provide comments and opinions on the newsletter, or to provide an article for publication email Jennifer Maercklein at jmaercklein@v3co.com

Nominations Committee: A Nomination and Election Policy has been prepared and adopted by the Board. The policy establishes a Nominations Committee to secure and evaluate nominations and sets minimum qualifications for candidates. A vitae for each candidate will now be included on the ballot. For more information email Paul Osman: Paul.Osman@illinois.gov.


Stormwater Committee: In September, the Stormwater Committee held a successful one-day workshop on "Stormwater and MS4s - Strategies for Permit Compliance", with over 120 attendees. The workshop provided MS4 communities with information and alternatives for implementing several of the more difficult and/or confusing minimum control measures required for NPDES Phase II compliance. In the coming months, the committee will explore needs for other workshops or evening seminars in the areas of stormwater management, modeling, and Best Management Practice design. Email Bob Murdock to help: RMurdock@mbakercorp.com.

IAFSM Members: Get Involved!

To participate in IAFSM contact a committee chair as shown here and on our website, or attend a Board Meeting.

Board Meetings are open to all, and members are very welcome and encouraged to attend.

The next Board Meeting will be Wednesday, November 14, 2007 at 9:30 a.m. in the Board Room at the Oak Brook Village Hall.



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IAFSM Introduces Sarah Harbaugh as Executive Secretary

IAFSM is pleased to announce that Sarah Harbaugh will serve the organization as the new Executive Secretary. Correspondence should be sent to:

Illinois Association for Floodplain and Stormwater Management

35W749 Bluff Drive
St. Charles, IL 60175
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Fax: 630-443-8198
Illinoisfloods.org

Check Out Our New Logo!

During the 2007 Annual Conference, IAFSM members voted for a new logo for our organization, based on submissions from our membership. The two top vote-getters were both submitted by Minal Hahn of M Squared Engineering and combined to form the association's new logo. Thanks and congratulations to Minal Hahn for the winning logo, and thanks to all members who participated!



IAFSM

*Illinois Association for
Floodplain and Stormwater Management*

Training and CEC Opportunities for CFMs

IAFSM Floodplain Mitigation Planning Seminar

October 23, 2007 – Elk Grove Village

Topics include:

- Why complete a Mitigation Plan? Is there funding?
- FEMA Mitigation Planning Requirements
- What Next: Plan Implementation, Grants, etc.
- Updating Mitigation Plans
- HAZUS in Mitigation Planning
- Panel Discussion on Mitigation Planning

To register, visit our website at

www.illinoisfloods.org/conferences.html

IAFSM Floodplain Management Seminar

October 24, 2007 – Elk Grove Village

Topics include:

- Floodplain 101
- FEMA Letters of Map Change
- Map Modernization
- Levee Accreditation

To register, visit our website at

www.illinoisfloods.org/conferences.html

IAFSM Annual Conference

March 11-13, 2008 – Tinley Park

Save the Date! Watch your inbox and our website for details. Don't forget the October 26 deadline for speakers and exhibitors!

DCEO Environmental Regulatory Workshops

8 Locations Statewide, January – March 2008

Topics include:

- Energy Conservation and Energy Codes
- Endangered Species, Consultation & Development
- Erosion Controls & Stormwater
- Floodplain 101
- Disposal of Hazardous/Non-Hazardous Wastes
- Meth Messes, Moldy Moldings & CCA Lumber
- Lead Hazards, Asbestos, and Radon
- Safety and Health

For more information, www.iencconnect.com/enviro

or www.illinoisfloods.org/conferences.html

Other Training & CEC Opportunities

For other training and CEC opportunities, including Flood Insurance Training for Insurance Agents, floodplain management courses through the Emergency Management Institute, and graduate level courses in Water Resources through the U of I, visit www.illinoisfloods.org/conferences.html.

Job Mart

Job postings can be found on our website at www.illinoisfloods.org/jobmart.html. Jobmart is a free service to members of IAFSM. To advertise a position, contact IAFSM@sbcglobal.net.

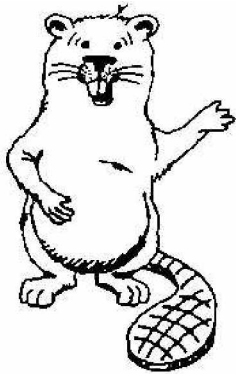


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The IAFSM Newsletter is published quarterly for members of the Illinois Association for Floodplain and Stormwater Management. Information and opinions contained herein do not necessarily reflect the views of all members. Items for publication and other editorial matters should be directed to the editor at jmaercklein@v3co.com. To advertise in this newsletter (\$100-\$200 per year depending on ad size) contact the association at IAFSM@sbcglobal.net.



IAFSM Officers

Chair – Stuart Richter, Whiteside County, srichter@whiteside.org

Vice Chair – Jeff Wickenkamp, Hey & Associates, Inc., jwickenkamp@heyassoc.com

Treasurer – Mike Cothard, Christopher B. Burke Engineering, mcothard@cbbel.com

Secretary – Loren Wobig, IDNR/OWR, loren.wobig@illinois.gov

Special thanks to J&J Enterprises for our beaver, the mascot of surface water managers.

IAFSM is pleased to announce Sarah Harbaugh as new Executive Secretary.

IAFSM Correspondence should be sent to 35W749 Bluff Drive, St. Charles, IL 60175 IAFSM@sbcglobal.net

Ph: 630-443-8145 Fax: 630-443-8198

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Please notify us of address corrections or changes

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