

# Discovery Report

*Upper Fox Watershed, HUC 07120006*

*Village of Bloomfield, Village of Big Bend, City of Brookfield, City of Burlington, City of Delafield, Village of Eagle, Village of East Troy, City of Elkhorn, Village of Fontana, City of Franklin, Village of Genoa City, Village of Hartland, City of Lake Geneva, Village of Lannon, Village of Menomonee Falls, Village of Merton, Village of Mukwonago, City of Muskego, City of New Berlin, Village of North Prairie, Village of Paddock Lake, City of Pewaukee, Village of Pewaukee, Village of Richfield, Village of Rochester, Village of Silver Lake, Village of Sussex, Village of Twin Lakes, Village of Wales, Village of Walworth, Village of Waterford, City of Waukesha, Village of Williams Bay, Kenosha County, Racine County, Walworth County, Waukesha County, WI*

*03/26/2013*

*11/05/2014 Updated with Action Discovery Addendum*



**FEMA**



## Project Area Community List

County	Name
Kenosha	Kenosha County
	Paddock Lake (Village)
	Silver Lake (Village)
	Twin Lakes (Village)
Kenosha/Walworth	Genoa City (Village)
Racine	Racine County
	Rochester (Village)
	Waterford (Village)
Racine/Walworth	Burlington (City)
Walworth	Bloomfield (Village)
	East Troy (Village)
	Elkhorn (City)
	Fontana (Village)
	Lake Geneva (City)
	Walworth (Village)
	Walworth County
	Williams Bay (Village)
Walworth/Waukesha	Mukwonago (Village)
Waukesha	Big Bend (Village)
	Brookfield (City)
	Delafield (City)
	Eagle (Village)
	Hartland (Village)
	Lannon (Village)
	Menomonee Falls (Village)
	Merton (Village)
	Muskego (City)
	New Berlin (City)
	North Prairie (Village)
	Pewaukee (City)
	Pewaukee (Village)
	Sussex (Village)
	Wales (Village)
	Waukesha (City)
Waukesha County	

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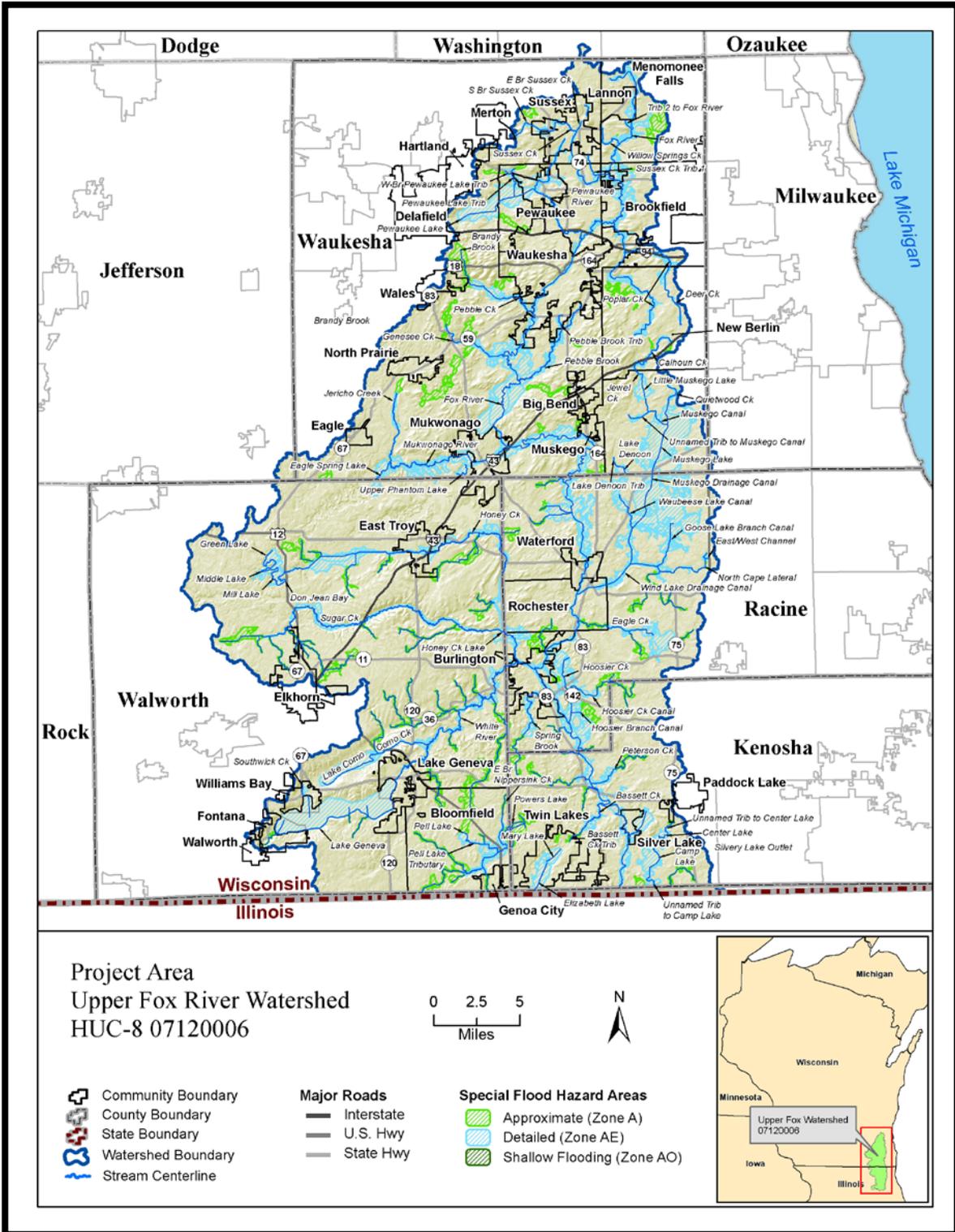
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## I. General Information

The Upper Fox Watershed, HUC 07120006, is located in the southeastern part of Wisconsin and in the far northeastern section of Illinois. The Fox River Basin drains over 938 sq. mi. in southeastern Wisconsin and 1,720 sq. mi. in northeastern Illinois (Bekele and Knapp, 2009). With a total watershed area of 2,658 square miles, the Fox River originates in southeastern Wisconsin just west of Milwaukee and flows southward before entering Illinois in the northwest corner of Lake County. The Fox River then flows in a general southerly direction until it joins the Illinois River at Ottawa, Illinois (IEPA, 1996). The Upper Fox River watershed includes parts of Kenosha, Racine, Walworth, and Waukesha Counties in Wisconsin and Cook, Kane, Lake and McHenry Counties in Illinois. Major streams which comprise the Upper Fox River Watershed within the portion in Wisconsin include the Fox River, Brandy Brook, Deer Creek, Honey Creek, Pebble Creek, Pewaukee River, Poplar Creek, Sussex Creek, Sugar Creek, and the White River. Land use along the river consists of residential, commercial and light industrial development, agriculture, and open space.

Figure 1. Upper Fox Watershed



**Table 1. NFIP Participation Status**

County	Name	Population (2010)	NFIP Participation
Kenosha	Kenosha County	166,426	Y
	Paddock Lake (Village)	2,992	Y
	Silver Lake (Village)	2,411	Y
	Twin Lakes (Village)	5,989	Y
Kenosha/Walworth	Genoa City (Village)	3,042	Y
Racine	Racine County	195,408	Y
	Rochester (Village)	3,682	Y
	Waterford (Village)	5,368	Y
Racine/Walworth	Burlington (City)	10,464	Y
Walworth	Bloomfield (Village)	5,095	Y
	East Troy (Village)	4,281	Y
	Elkhorn (City)	10,084	N
	Fontana on Geneva Lake (Village)	1,672	Y
	Lake Geneva (City)	7,651	Y
	Walworth (Village)	2,816	Y
	Walworth County	102,228	Y
	Williams Bay (Village)	2,564	N
Walworth/Waukesha	Mukwonago (Village)	7,355	Y
Waukesha	Big Bend (Village)	1,290	Y
	Brookfield (City)	37,920	Y
	Delafield (City)	7,085	Y
	Eagle (Village)	1,950	N
	Hartland (Village)	9,110	Y
	Lannon (Village)	1,107	Y
	Menomonee Falls (Village)	35,626	Y
	Merton (Village)	3,346	Y
	Muskego (City)	24,135	Y
	New Berlin (City)	39,584	Y
	North Prairie (Village)	2,141	N
	Pewaukee (City)	13,195	Applied
	Pewaukee (Village)	8,166	Y
	Sussex (Village)	10,518	Y

<b>County</b>	<b>Name</b>	<b>Population (2010)</b>	<b>NFIP Participation</b>
	Wales (Village)	2,549	N
	Waukesha (City)	70,718	Y
	Waukesha County	389,891	Y

## II. Watershed Stakeholder Coordination

The Discovery phase included an investigation of existing terrain, flood hazard data, and flood risk data; broad data mining for development of an initial Discovery map, and detailed data collection to refine the Discovery map which was prepared by the Wisconsin Department of Natural Resources (WDNR). Watershed coordination meetings with community, state, and federal officials were held November 13, 2012, to share information concerning the watershed and its stakeholders.

Prior to the Discovery Meeting, a contacts database was created using available websites, the Wisconsin League of Municipalities Directory and making phone calls to the communities. This contact database became the basis for the Discovery meeting invitation list. Approximately four weeks prior to the meetings, WDNR mailed letters to all invited stakeholders providing a background of the Risk MAP program and an invitation to attend; a brief follow-up email was sent to all invitees (where email was available). The invitations are available in Appendix A

The Discovery Meetings were hosted by the WDNR and were held at the following places, dates, and times.

Tuesday, November 13, 2012, 9:00 – 11:00 AM  
Southeastern Wisconsin Regional Planning Commission (SEWRPC)  
W239 N1812 Rockwood Drive  
Waukesha, WI 53188

Tuesday, November 13, 2012, 2:30 – 4:30 PM  
Village of Burlington Public Works Building  
2200 S. Pine Street  
Burlington, WI 53105

Each Discovery meeting lasted approximately two hours in length and consisted of introductory presentations followed by a break-out session in which stakeholders reviewed the Discovery map, asked questions, and provided comments and revisions. A list of meeting attendees and handouts are available in Appendix B.

The goals of the meeting were to:

- Provide an overview of the project;
- Discuss the project scope, including which individual streams will be studied;
- Collect community feedback on the project and finalize the scope of work:
  - The areas of growth for which more detailed flood study data are needed;
  - Areas of growth;

- Areas where mitigation projects would benefit from updated/upgraded flood study data; and
- Streams for which the effective study/mapping does not reflect existing conditions.
- Discuss ways in which flood risk could be reduced in the watershed;
- Gather available technical data to support hydrologic and hydraulic studies; and
- Discuss the project timeline.

The meeting followed this agenda:

- Map Mod to Risk Map transition
- Risk MAP goals and products
- Hazard Mitigation update from State Hazard Mitigation Officer (SHMO)
- Project scope of work details and break out session goals
- Discovery map explanation
- Break-out sessions by county

Presentations were given describing Risk MAP program goals and objectives, the Discovery meeting goals and objectives, the timeline moving forward, Flood Risk Assessment Products, and hazard mitigation projects, plans, grants and opportunities.

For the break-out session, Discovery maps were available for review with WDNR personnel at hand to answer questions. After reviewing the maps and clarifying any questions, stakeholders were invited to complete comment forms that included their contact information and any recommended revisions or general feedback. The comment forms submitted by meeting attendees can be found in Appendix C.

After the meetings stakeholder comments were digitized and reviewed by DNR staff. All comments and maps were provided via DNR website and all attendees and original invitees were notified. An additional comment period was made available for stakeholders unable to attend the meetings and those comments were accepted until January 11, 2013. Maps visualizing the stakeholder comments as well as copies of the presentations can be found on the WDNR website at <http://dnr.wi.gov/topic/floodplains/riskmap.html>.

### III. Data Analysis

A list of the data collected, the deliverable or product in which the data are included, the source of the data, and any pertinent comments are provided in Table 2. Following Table 2, the information received is categorized by data that can be used for flood risk products and additional data that benefited the project.

**Table 2. Data Collection for the Upper Fox Watershed**

Data Types	Description	Source	Deliverable
Average Annualized Loss	FEMA's Level 1 HAZUS Average Annualized Loss Analysis	FEMA	Discovery Map; Geodatabase
Community Boundaries	Location of municipal boundaries	Wisconsin Department of Transportation	Discovery Map; Geodatabase
Coordinated Needs Management Strategy (CNMS)	Engineering study needs as defined by Phase 3 CNMS data	Region V CNMS inventory	Discovery Map; Geodatabase
County Boundaries	Location of county boundaries	USGS Topographic Maps	Discovery Map; Geodatabase
Dams	Location of dams	WDNR Inventory	Discovery Map; Geodatabase
Streams and Rivers	Stream centerlines based on USGS topo quads	USGS Topographic Maps	Discovery Map; Geodatabase
HUC 8 Watershed	Watershed boundary	USGS Watershed Boundary Dataset	Discovery Map; Geodatabase
Ice Jams	Location of ice jams	U.S. Army Corps of Engineers - Ice Jam Database	Discovery Map; Geodatabase
Letters of Map Change	Locations of letters of map change	FEMA National Flood Hazard Layer	Discovery Map; Geodatabase
Major Roads	Location of interstates and major highways	Wisconsin Department of Transportation	Discovery Map; Geodatabase
Special Flood Hazard Areas	Location of FEMA flood hazard areas	FEMA Digital Flood Insurance Rate Maps	Discovery Map; Geodatabase
Stream Gages	Location of stream gages operated by multiple agencies	USGS National Hydrography Dataset	Discovery Map; Geodatabase
Watershed Boundaries	Hydrologic Unit Code-8, watershed boundaries	USGS National Hydrography Dataset	Discovery Map; Geodatabase
Wetland	Wetland delineations digitized from 1:24,000-scale ratio and rectified photographic base maps	Wisconsin DNR	Discovery Map; Geodatabase

i. **Data that can be used for Flood Risk Products**

**Topographic Data**

Kenosha, Racine and Waukesha counties have acquired countywide LiDAR through a Community Development Block Grant that became available as a result of the extensive flooding in 2008 across southern Wisconsin. Racine County’s LiDAR has only been processed for a limited area and a request for funds to complete the processing has been submitted to FEMA. At this time it is unknown whether or not the data will be processed for the remainder of the county or just for the area affected by the Upper Fox River watershed.

Walworth County currently has no plans to acquire LiDAR. The topographic data that will be used for this project consists of photogrammetric data developed between 1999-2005.

**Table 3. LiDAR Status for Counties within the Upper Fox Watershed**

<b>County</b>	<b>Date Acquired</b>
Kenosha	2011
Racine	2011, final process 2014
Walworth	No LIDAR
Waukesha	2012

**USGS Gages**

The project team identified USGS stream gages in the watershed. The locations of the gages are shown on the Discovery maps and listed in Table 3.

**Table 4. USGS Stream Gages**

<b>Gage Number</b>	<b>Station Name and Location</b>
5543830	Fox River at Waukesha, Wis.
5544200	Mukwonago River at Mukwonago, WI
5544300	Mukwonago River tributary near Mukwonago, Wis.
5545100	Sugar Creek at Elkhorn, Wis.
5545200	White River tributary near Burlington, Wis.
5545300	White River near Burlington, Wis.
5548150	North Branch Nippersink Creek near Genoa City, Wis.
5545750	Fox River near New Munster, WI

## ii. Other Data and Information

### Mitigation Plans/Status, Mitigation Projects

Hazard Mitigation Plans (HMPs) are prepared for unincorporated and incorporated communities to help communities reduce long-term risk to life and property from natural hazards. The plans include comprehensive mitigation strategies intended to promote flood-resilient communities. The project team reviewed the mitigation strategies in available HMPs to determine which, if any, were relevant for the Discovery process. Table 4 lists the HMPs, their status, and their availability for review. Walworth's HMP is expired but they currently have an updated draft plan for 2014-2018 and hope to adopt it by December 2014.

**Table 5. HMPs: Status and Availability**

County	HMP	Hazus	Issue Date	Expiration Date	Available for Review
Kenosha	Y	Y	06/30/2011	06/30/2016	Y
Racine	Y	Y	12/06/2010	12/06/2015	Y
Walworth	Y	Y	07/07/2009	07/07/2014	Y
Waukesha	Y	Y	03/15/2011	03/15/2016	Y

### CNMS and NFIP Mapping Study Needs

There are 220 stream miles with Special Flood Hazard Areas (SFHA) shown on FEMA DFIRMs in the Upper Fox Watershed. The number of stream miles with mapped SFHAs was tallied from the Coordinated Needs Management System (CNMS) database. The CNMS Phase III data are a geospatial database of stream reaches attributed with an assessment of the engineering analyses as valid, unverified or unknown.



### Community Rating System (CRS)

The communities of New Berlin (City) and Kenosha County participate in the CRS program. At the Discovery meeting communities will be informed of the CRS program and its benefits to the community as well as its citizens.

### Levees

No levees exist in the study area.

### Floodplain Management/Community Assistance Visits (CAVs)

As the state coordinating agency for the National Flood Insurance Program, the Wisconsin Department of Natural Resources conducts Community Assistance Visits (CAVs) as part of their floodplain management programs. A CAV typically consists of a tour of the floodplain to assess any recent construction activities, a review of the local permitting process, and evaluation of the local floodplain ordinance. A meeting with the local floodplain official is held to discuss the NFIP, the local permitting process, any recent flood events, training opportunities, and any program deficiencies. Table 6 lists the communities in the watershed and the date of their latest CAV or Community Assistance Contact (CAC).

**Table 3. Recent CAV/CACs**

Community	CAV	CAC
<b>Wisconsin</b>		
BIG BEND, VILLAGE OF	N/A	09/11/95
BROOKFIELD, CITY OF	05/24/11	N/A
BURLINGTON, CITY OF	10/24/13	09/29/06
DELAFIELD, CITY OF	N/A	08/19/94
EAST TROY, VILLAGE OF	N/A	09/12/95
GENOA CITY, VILLAGE OF	04/08/10	N/A
HARTLAND, VILLAGE OF	N/A	09/11/95
KENOSHA COUNTY	09/30/09	09/20/05
LAKE GENEVA, CITY OF	06/26/91	N/A
LANNON, VILLAGE OF	N/A	06/23/09
MENOMONEE FALLS, VILLAGE OF	03/11/98	12/27/93
MERTON, VILLAGE OF	04/18/12	N/A
MUKWONAGO, VILLAGE OF	N/A	12/27/93
MUSKEGO, CITY OF	09/09/09	N/A
NEW BERLIN, CITY OF	09/29/04	N/A
PEWAUKEE, VILLAGE OF	06/28/90	12/27/93
RACINE COUNTY	07/10/90	09/23/93
ROCHESTER, VILLAGE OF	02/02/95	N/A
SILVER LAKE, VILLAGE OF	09/13/06	08/03/10
TWIN LAKES, VILLAGE OF	N/A	09/28/93
WALWORTH COUNTY	11/30/99	07/09/93
WATERFORD, VILLAGE OF	N/A	05/15/12
WAUKESHA, CITY OF	09/12/06	

### Regulatory Mapping

As part of FEMA’s Map Modernization program, WDNR has recently updated many of the countywide FIRMs throughout the state of Wisconsin. Many of these maps are effective or in the final stages of map adoption. While these maps are in a digital format, they do not necessarily reflect newer hydrologic or hydraulic study information and therefore may not be the most accurate representation of flood risk within the watershed. Table 10 lists the Map Modernization activity in the Upper Fox watershed

**Table 4. Digital Flood Insurance Rate Map Status**

<b>County</b>	<b>Status</b>	<b>Effective Date</b>
Kenosha	Effective	06/19/2012
Racine	Effective	05/02/2012
Walworth	Effective	Revised 09/03/2014
Waukesha	Effective	Revised 11/04/2014

## IV. Risk MAP Needs and Recommendations

The project team presented the Discovery map and discussed the results of the data collection and analysis with the watershed stakeholders in detail during the Discovery meetings. With the conclusion of Discovery, this section reflects the results and final conclusions addresses the currently identified areas of concern and interest within the Upper Fox watershed that could be addressed with Risk MAP projects.

### i. Floodplain Studies

While DFIRMs have been produced for many of the counties in the watershed, there are still study and mapping needs. Using CNMS, the WDNR had identified prior to the Discovery meetings several areas where new or updated studies rank highest in terms of need and risk relative to other locations in the Upper Fox HUC8 watershed. Other information collected through community officials during Discovery was considered in conjunction with the level of concern in preparing the final scope of work.

An outcome of the Discovery process is to identify those streams where the communities' flood risk management efforts will most benefit from updated engineering analyses. The final list of streams for study includes both local community identified areas of known flooding issues and WDNR determined areas of concern. The WDNR developed a 5-level ranking method to prioritize streams of concern for inclusion in the final list:

1. Streams currently mapped as Zone AE where the study has been deemed "Invalid" (CNMS).
2. Gaps between detailed studies that are either currently mapped as Zone A or not mapped at all.
3. Streams currently mapped as Zone A where a community request was made to study the reach in detail.
4. Streams currently mapped as Zone A that will be engineered, but remain mapped as Zone A.
5. Streams that are not currently mapped where a community request was made to study the reach in detail.

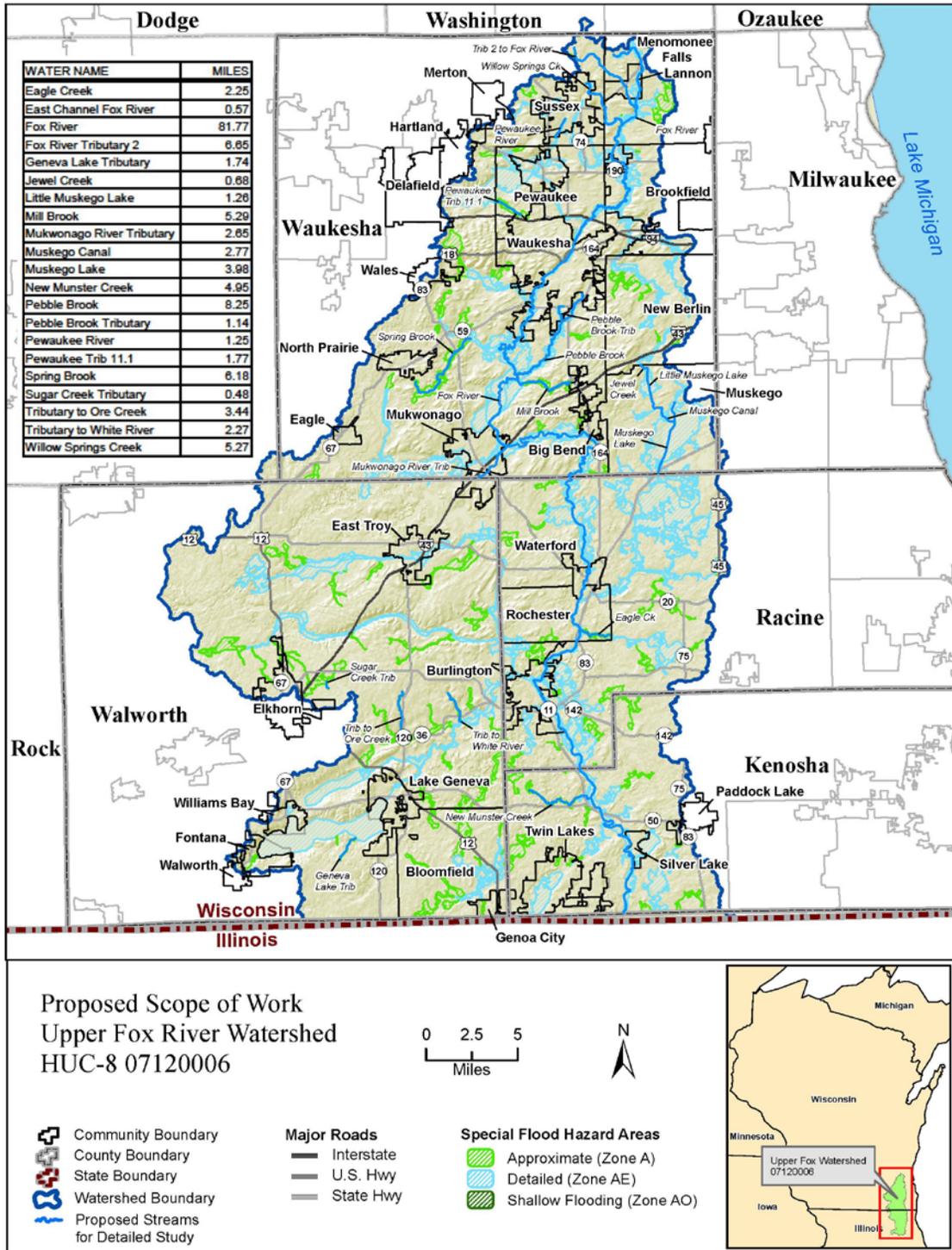
The finalized list of streams and their current study type (detailed or approximate) that will be studied in detail (assuming funding levels are sufficient) are listed in Table 5 and located on a map in Figure 3.

**Table 5. Original Mapping Needs, Wisconsin**

<b>Flooding Source</b>	<b>Study Length (Miles)</b>	<b>Study Type (Current)</b>
Eagle Creek	2.25	A
East Channel Fox River	0.57	AE
Fox River	81.77	AE

<b>Flooding Source</b>	<b>Study Length (Miles)</b>	<b>Study Type (Current)</b>
Fox River Tributary 2	6.65	None
Geneva Lake Tributary	1.74	A
Jewel Creek	0.68	AE
Little Muskego Lake	1.26	AE
Mill Brook	5.29	A
Mukwonago River Tributary	2.65	None
Muskego Canal	2.77	AE
Muskego Lake	3.98	AE
New Munster Creek	4.95	A
Pebble Brook	8.25	AE
Pebble Brook Tributary	1.14	AE
Pewaukee River	1.25	AE
Pewaukee Trib 11.1	1.77	A
Spring Brook	6.18	A
Sugar Creek Tributary	0.48	A
Tributary to Ore Creek	3.44	A
Tributary to White River	2.27	A
Willow Springs Creek	5.27	AE

Figure 3. Wisconsin Proposed Scope of Work



## ii. Mitigation Projects

In the Discovery meetings, community stakeholders were asked to identify locations in which mitigation projects could reduce the impacts of flooding. Topics of mitigation interest included levees, roads that frequently flood, significant riverine erosion, at-risk essential facilities, streamflow constriction, and recent and/or future development. Table 6 reflects the comments provided by the stakeholders during Discovery.

**Table 6. Mitigation Projects**

Community	Subject(s)	Project	Status	Comment Number
Lannon, WI	Overtopped Road	Areas of flooding overtopping street mitigated by floodplain widening by removing retaining wall	Complete	50F&W
Lannon, WI	Overtopped Road	Lannon Creek drains a major part of the village	Incomplete	50-1
Lannon, WI	Overtopped Road	Flooding at Good Hope Road	Incomplete	50-2
Waukesha, WI	Stream Flow Constriction	Replace/repair culverts	Incomplete	48-6
Waukesha, WI	Overtopped Road	Saratoga Dam - overstreet - Corrina Blvd and Barstow Buckley - Near Madison/Broadway/Clinton intersection	Incomplete	31-A
Waukesha, WI	Overtopped Road	Marshall at Prairie Ave and Bethesda Park at Dunbar	Incomplete	31-B
Waukesha, WI	Overtopped Road	Fox River Pkwy South of Sunset	Incomplete	31-C
Waukesha, WI	Significant Riverine Erosion	Stream bank stabilization along Fox River from Moreland to West Ave.	Incomplete	32-G
Waukesha, WI	Stream Flow Constriction	RR bridge (not used) behind 300 Sentry Drive collects logs and river debris	Incomplete	34-G
East Troy, WI	Buyout	DNR is purchasing a residence on the Turtle Flowage as it is in danger of flooding as a result of the restoration project.	In Progress	54-K

## V. Bibliography

Illinois Environmental Protection Agency, Factsheets. *Watershed of Illinois*, 1996.

<http://www.epa.state.il.us/water/water-quality/report-1996/fact-sheets/fact-sheet-03.html>

Bekele, Elias G. and Knapp, H. Vernon, *Hydrologic Modeling of the Fox River Watershed Using SWAT2000: Model Development, Calibration and Validation*, 2009. Illinois State Water Survey Contract Report 2009-09.

<http://www.isws.illinois.edu/pubdoc/CR/ISWSCR2009-09.pdf>

U.S. Census Bureau, *U.S. Census Bureau American FactFinder*

[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?\\_afpt=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?_afpt=table)

Wisconsin Department of Natural Resources, Fox Illinois (SE) River Basin, 2012.

<http://dnr.wi.gov/water/basin/foxil/>

# VI. Appendix A: Discovery Meeting Invitations

## Example 1:

State of Wisconsin  
DEPARTMENT OF NATURAL RESOURCES  
101 S. Webster Street  
Box 7921  
Madison WI 53707-7921



October 29, 2012

Name  
Street  
City, State ZIP

Dear Local Official:

On behalf of FEMA and the Wisconsin Department of Natural Resources (WDNR), we would like to invite you to attend a Discovery meeting on November 13 at 9:00 a.m. to discuss a new project in the Upper Fox River watershed. As part of FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) program, the WDNR will be working with communities across the Upper Fox River watershed to enhance understanding of flood risk and mitigation efforts.

The Discovery process is the first step in determining whether a Risk MAP project is needed within your watershed. The information exchanged between FEMA and the communities within your watershed during Discovery will improve our understanding of your flood hazard mapping, flood risk, mitigation planning, and communication needs. The purpose of this meeting is to:

- Provide an overview of the project,
- Discuss the project scope, including which individual streams may be studied,
- Collect your feedback on the project in order to finalize the scope of work,
- Gather data and study information and
- Discuss the project timeline.

At the meeting, we will review the flood risk data we have gathered to date, discuss your community's flooding history, development plan, flood risk concerns, storm water and floodplain management activities and other daily operations that impact your flood risk (e.g., cleaning of drainage ditches, culverts).

The meeting will cover areas of Waukesha county within the Upper Fox River watershed and will be held as follows:

November 13, 2012 at 9:00 a.m.  
Southeast Wisconsin Regional Planning Commission (SEWRPC)  
W239 N1812 Rockwood Drive  
Waukesha, WI

(Parking for the facility is somewhat limited, please park behind the building or in the surface lot across Rockwood Drive)

[dnr.wi.gov](http://dnr.wi.gov)  
[wisconsin.gov](http://wisconsin.gov)

Naturally **WISCONSIN**



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We thank you for supporting this effort and encourage you to attend this important meeting. Elected officials, as well as floodplain managers, planners, engineers, building department staff, GIS staff and any other representatives you deem appropriate are all invited, and we ask that you pass along a copy of this invitation to whoever you feel should attend the meeting. The partnership between FEMA and your community is vital to our success in identifying flood risks and needs that may exist. To learn more, please contact me at (608) 264-9204 or [katie.mcmahan@wisconsin.gov](mailto:katie.mcmahan@wisconsin.gov). We look forward to seeing you at the meeting.

Sincerely,

Katie McMahan  
Floodplain Management Program  
Wisconsin DNR

## Example 2:

State of Wisconsin  
DEPARTMENT OF NATURAL RESOURCES  
101 S. Webster Street  
Box 7921  
Madison WI 53707-7921

Scott Walker, Governor  
Cathy Stepp, Secretary  
Telephone 608-266-2621  
Toll Free 1-888-936-7463  
TTY Access via relay - 711



October 26, 2012

Mr. Patrick Scherrer  
Zoning Administrator  
300 N. Pine St.  
Burlington, WI 53105

Dear Mr. Scherrer:

On behalf of FEMA and the Wisconsin Department of Natural Resources (WDNR), we would like to invite you to attend a Discovery meeting on November 13 at 2:30 p.m. to discuss a new project in the Upper Fox River watershed. As part of FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) program, the WDNR will be working with communities across the Upper Fox River watershed to enhance understanding of flood risk and mitigation efforts.

The Discovery process is the first step in determining whether a Risk MAP project is needed within your watershed. The information exchanged between FEMA and the communities within your watershed during Discovery will improve our understanding of your flood hazard mapping, flood risk, mitigation planning, and communication needs. The purpose of this meeting is to:

- Provide an overview of the project;
- Discuss the project scope, including which individual streams may be studied;
- Collect your feedback on the project in order to finalize the scope of work;
- Gather data and study information and
- Discuss the project timeline.

At the meeting, we will review the flood risk data we have gathered to date, discuss your community's flooding history, development plan, flood risk concerns, storm water and floodplain management activities and other daily operations that impact your flood risk (e.g., cleaning of drainage ditches, culverts).

The meeting will cover areas of Kenosha, Racine, and Walworth counties within the Upper Fox River watershed and will be held as follows:

November 13, 2012 at 2:30 p.m.  
Village of Burlington Public Works Building  
2200 South Pine Street  
Burlington, WI

We thank you for supporting this effort and encourage you to attend this important meeting. Elected officials, as well as floodplain managers, planners, engineers, building department staff, GIS staff and any other representatives you deem appropriate are all invited, and we ask that you pass along a copy of this invitation to whoever you feel should attend the meeting. The partnership between FEMA and your community is vital to our success in

[dnr.wi.gov](http://dnr.wi.gov)  
[wisconsin.gov](http://wisconsin.gov)

Naturally WISCONSIN



Page 2

identifying flood risks and needs that may exist. To learn more, please contact me at (608) 264-9204 or [katie.mcmahan@wisconsin.gov](mailto:katie.mcmahan@wisconsin.gov). We look forward to seeing you at the meeting.

Sincerely,

Katie McMahan  
Floodplain Management Program  
Wisconsin DNR

## VII. Appendix B: Discovery Meeting Attendance & Handouts

### Risk MAP Meeting Sign In

①

Date: 11/13/2012 Time: AM

Watershed: Upper Fox County: Waukesha State: Wisconsin

**Please provide us with the following information**

Name: Larry Gandy  
 Title: Zoning + Building Administrator  
 Community: City of Brookfield Organization / Office: \_\_\_\_\_  
 Telephone: 262-796-6646 Email: GANDY@CI.BROOKFIELD.WI.US

Name: Michael Theis  
 Title: Planning Administrator  
 Community: City of Brookfield Organization / Office: Comm. Dev  
 Telephone: 262-787-3510 Email: Theis.e.ci.brookfield.wi.us

Name: Kate Jelacic  
 Title: Project Engineer  
 Community: Waukesha Organization / Office: City of Waukesha  
 Telephone: 262-524-3587 Email: Kjelacic.ci.waukesha.wi.us

Name: Fred Abadi  
 Title: Director of Public Works  
 Community: City of Waukesha Organization / Office: \_\_\_\_\_  
 Telephone: (262)524-3600 Email: f.abadi@ci.waukesha.wi.us

Name: Mike Einweck  
 Title: Dir of Public Works  
 Community: Hartland Organization / Office: DPW  
 Telephone: 262-367-4880 Email: mikee@villageofhartland.com

Name: David Simpson  
 Title: Dir of Public Works  
 Community: Mishigo Organization / Office: DPW  
 Telephone: 262-679-2696 Email: dsimpson@villageofmishigo.org

# Risk MAP Meeting Sign In

2

Date: 11/13/2012 Time: AM

Watershed: Upper Fox County: Waukesha State: \_\_\_\_\_

**Please provide us with the following information**

Name: Theresa Caven  
Title: Project Engineer  
Community: City of Brookfield Organization / Office: \_\_\_\_\_  
Telephone: 262 787-3547 Email: Caven@ci.brookfield.wi.us

Name: Jennifer Andrews  
Title: City Planner  
Community: Waukesha Organization / Office: \_\_\_\_\_  
Telephone: 262 524 3753 Email: jmandrew@ci.waukesha.wi.us

Name: Paul Day  
Title: CITY ENGINEER  
Community: CITY OF WAUKESHA Organization / Office: \_\_\_\_\_  
Telephone: 262 524-3585 Email: pday@ci.waukesha.wi.us

Name: Joel Morra  
Title: \_\_\_\_\_  
Community: SEWRPC Organization / Office: \_\_\_\_\_  
Telephone: 262-547-6722 Email: joel.morra@sewrpc.org

Name: Jerry Newman  
Title: President  
Community: Lannon Organization / Office: \_\_\_\_\_  
Telephone: 262-408-8169 Email: LannonLand@yahoo.com

Name: Adam Trzebiatowski  
Title: Planner  
Community: City of Muskego Organization / Office: Planning  
Telephone: 262-679-4136 Email: adamt@cityofmuskego.org

# Risk MAP Meeting Sign In

3

Date: 11/13/2012 Time: AM

Watershed: Upper Fox County: Waukesha State: \_\_\_\_\_

**Please provide us with the following information**

Name: Megan Bender  
Title: Water Resources Engineer  
Community: SEWRPC Organization / Office: SEWRPC  
Telephone: \_\_\_\_\_ Email: mbender@sewrpc.org

Name: STEVE WURSTEN  
Title: Water Resources Engineer  
Community: Village of Morton / Organization / Office: RUEKON MIELKE  
Telephone: 262-542-5733 Email: SWURSTEN@RUEKON-MIELKE.COM

Name: Sandy Scherer  
Title: Sr. Planner  
Community: Waukesha Co. Organization / Office: PLU-PZD  
Telephone: 548-7790 Email: sscherer@waukesha-county.gov

Name: Amy Barrons  
Title: Sr. Land Use Specialist  
Community: Waukesha Co. Organization / Office: \_\_\_\_\_  
Telephone: 548-7790 Email: \_\_\_\_\_

Name: Jason Fruth  
Title: Planning & Zoning Manager  
Community: Waukesha County Organization / Office: \_\_\_\_\_  
Telephone: 262-548-7790 Email: jfruth@waukesha-county.gov

Name: Aaron Owens  
Title: Planner  
Community: SEWRPC Organization / Office: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: awowens@sewrpc.org

# Risk MAP Meeting Sign In

4

Date: 11/13/2012 Time: AM

Watershed: Upper Fox County: Waaukesha State: \_\_\_\_\_

## Please provide us with the following information

Name: LAURA KLETTI  
Title: Principal Engineer  
Community: \_\_\_\_\_ Organization / Office: SEWRPC  
Telephone: \_\_\_\_\_ Email: lkletti@sewrpc.org

Name: Ronald Printz  
Title: Principal Engineer  
Community: \_\_\_\_\_ Organization / Office: SEWRPC  
Telephone: \_\_\_\_\_ Email: rprintz@sewrpc.org

Name: Sean Von Bergen  
Title: Village Engineer  
Community: Sussex Organization / Office: Village of Sussex  
Telephone: \_\_\_\_\_ Email: SVonBergen@village.sussex.org

Name: Rich Witz  
Title: Civil Engineer  
Community: City of Pewaukee Organization / Office: \_\_\_\_\_  
Telephone: 962-691-0804 Email: witz@pewaukee.wi.us

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Community: \_\_\_\_\_ Organization / Office: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Community: \_\_\_\_\_ Organization / Office: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

# Risk MAP Meeting Sign In

①

Date: 11/13/2012 Time: PM

Watershed: Upper Fox County: Racine State: Burlington

**Please provide us with the following information**

Name: SKIP TWARDOSZ  
Title: DIRECTOR OF EMERGENCY MANAGEMENT  
Community: TOWN OF BURLINGTON Organization / Office: \_\_\_\_\_  
Telephone: 763 3070 Email: TWO DOORS 42 @ GMAIL . COM

Name: KRISTAL FREIMARK  
Title: PLANNING TECHNICIAN  
Community: RACINE COUNTY Organization / Office: RACINE COUNTY  
Telephone: 262-886-8466 Email: KRISTAL.FREIMARK@GPRACINE.ORG

Name: TODD SCHILLER  
Title: AIR PUBLIC WORKS  
Community: VILLAGE OF GROUND CITY Organization / Office: \_\_\_\_\_  
Telephone: 262-206-0360 Email: GCPWE SRC GLOBAL.NET

Name: ED VAN TINE  
Title: LT  
Community: KENOSHA CO. Organization / Office: SUBMIT'S DIST / LEWA  
Telephone: 262-605-7900 Email: ED.VANTINE@KENOSHACOUNTY.ORG

Name: ANDY M. BUEHLER  
Title: PLANNING OPERATIONS DIRECTOR  
Community: KENOSHA CO. Organization / Office: \_\_\_\_\_  
Telephone: 857-1895 Email: ANDY.BUEHLER@KENOSHACOUNTY.ORG

Name: RAN TRELOAR  
Title: COUNTY CONSERVATIONIST  
Community: KENOSHA CO Organization / Office: PT-D  
Telephone: 262-857-1895 Email: RAN.TRELOAR@KENOSHACOUNTY.ORG

# Risk MAP Meeting Sign In

(2)

Date: 11/13/2012 Time: PM

Watershed: Upper Fox County: Racine State: Burlington

**Please provide us with the following information**

Name: DAVID MAACK  
Title: EM COORDINATOR  
Community: RACINE County Organization / Office: Emergency Management  
Telephone: 262-636-3515 Email: david.maack@golacounty.org

Name: JOHN ENNIS  
Title: Lt EMERGENCY MGMT  
Community: \_\_\_\_\_ Organization / Office: 262-741-4616  
Telephone: \_\_\_\_\_ Email: Jennis@co.walworth.wi.us

Name: KRISTEN BELAN  
Title: SR. PROJ. ENGR  
Community: \_\_\_\_\_ Organization / Office: CRISPELL-SNYDER  
Telephone: 2-348-5600 Email: belank@crispell-snyder.com

Name: Nancy Russell  
Title: Walworth County Board Chair  
Community: \_\_\_\_\_ Organization / Office: Walworth County  
Telephone: 248-4810 Email: NRussell5@wi.vr.com

Name: Barney Brugger  
Title: ZONING ADM  
Community: CITY OF LAKE GENEVA Organization / Office: \_\_\_\_\_  
Telephone: 262-248-3911 Email: bbrugger@cityoflakegeneva.com

Name: John Tierney  
Title: Municipal Services Engineer  
Community: Rochester Organization / Office: Baxter Woodman  
Telephone: 262-492-4043 Email: jtierney@baxwood.com

# Risk MAP Meeting Sign In

3

Date: 11/13/2012 Time: PM

Watershed: Upper Fox County: Racine State: Burlington

**Please provide us with the following information**

Name: Dan Jensen  
Title: DPW Supervisor  
Community: Burlington Organization / Office: City of Burlington  
Telephone: 262.210.0635 Email: djensen@burlington-wi.gov

Name: Rebecca Ewald  
Title: Adm  
Community: V of Waterford Organization / Office: \_\_\_\_\_  
Telephone: 262-534-7912 Email: rewald@tds.net

Name: Tom Ryan Hulse  
Title: President JAMES AS Hulse  
Community: WATER Organization / Office: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Name: Dennis Jordan  
Title: City Admin  
Community: Lake Geneva Organization / Office: \_\_\_\_\_  
Telephone: 262-249-4098 Email: djordan@cityoflakegenewa.com

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Community: \_\_\_\_\_ Organization / Office: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Community: \_\_\_\_\_ Organization / Office: \_\_\_\_\_  
Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

# VIII. Appendix C: Discovery Meeting Comments

## Upper Fox River Watershed Comment Form #39

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: Waukesha	COMMUNITY NAME: Waukesha Co	
NAME: Jason Fruth	TITLE: Planning + Zoning Manager	
ADDRESS: 515 W. Moreland Blvd		
DAYTIME PHONE: 202 548 7790	E-MAIL: jfruth@waukeshacounty.gov	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter E DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

- ① Study Spring Lake - flooding occurs on south shore of lake
- ② trib. to Eagle Spring Lake - floodplain <sup>not mapped</sup> possibly under mapped
- ③ Upper + Lower Phantom lakes may have floodplain elevations too high
- ④ Mill Brook - lots of development adjacent to "A" zone and in "A" zone, but appears to be over-mapped.
- ⑤ Mill Creek - gap in "A" zone + "A-E" zone, + look at completing detailed study for "A" zone.
- ⑥ Brandy Brook + Pebble Creek - SEWRPC currently studying streams

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov.

## Upper Fox River Watershed Comment Form #40

Please provide the following information:		DATE: <u>11-13-12</u>
COUNTY NAME: <u>Wason Fruth</u>	COMMUNITY NAME: <u>Waukesha Co</u>	
NAME:	TITLE:	
ADDRESS:		
DAYTIME PHONE:	E-MAIL:	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter E DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

⑦ Willow Springs Creek - areas unmapped<sup>ed</sup> that have flash flooding / gap. <sub>in study</sub> SEWRPC has mapping data in S.24 + more

⑧ Pebble Brook - flooding in area of commercial/light industrial <sub>may</sub> be more extensive than mapped

⑨ Sussex Creek - Village had previous concerns, see 2008 appeal

⑩ Pewaukee Lake - mapping error, "A" zone goes into lake, should be studied.

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to [colleen.hermans@wisconsin.gov](mailto:colleen.hermans@wisconsin.gov).

# Upper Fox River Watershed Comment Form #41

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: Jason Fretz	COMMUNITY NAME: Waukesha	
NAME:	TITLE:	
ADDRESS:		
DAYTIME PHONE:	E-MAIL:	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter E DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

- (11) Sussey Creek - pending LOMR for creek location, Hulquist property
- (12) trib. to Artesian Brook - study completed in 10' approved - sect. 14, T. Lisbon
- (13) trib. to Sussey Creek - stream should be studied or part of "A" zone approx study
- (14) Wauk. Co. has study from 2005 for Sect. 7 T. Lisbon unnamed trib.
- (15) trib to Fox : Wauk. Co has study from 2003, Sect. T. Lisbon 36,
- (16) Poplar Creek: new infrastructure check study for accuracy
- (17) Pewaukee lake dam + river updates 29

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov.

## Upper Fox River Watershed Comment Form #43

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: Waukesha	COMMUNITY NAME: Muskego	
NAME: Adam Trzebiatowski	TITLE: Planner	
ADDRESS: W182 58200 Racine Ave, Muskego, WI 53150		
DAYTIME PHONE: 262-679-4136	E-MAIL: adam@cityofmuskego.org	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input checked="" type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter C DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Area with proposed + existing development with no mapped floodplain.

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## Upper Fox River Watershed Comment Form #44

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: <u>Waukesha</u>	COMMUNITY NAME: <u>Muskego</u>	
NAME: <u>Adam Trzebiatewski</u>	TITLE: <u>Planner</u>	
ADDRESS: <u>W182 58200 Racine Ave, <del>near</del> Muskego, WI 53150</u>		
DAYTIME PHONE: <u>262-679-4136</u>	E-MAIL: <u>adamt@cityofmuskego.org</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input checked="" type="checkbox"/> Approximate Study or No Study on a <u>Stream Where Development is Occurring or Likely To Be</u>
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input checked="" type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input checked="" type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter C DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Quietwood Creek floodplain appears incorrect. we know some culverts/bridges were mapped in error. Mapped floodplain appears to be larger than what exists. Development likely to occur at stream head. This concern has been brought up to SEWRPC to have restudied in the past.

## Upper Fox River Watershed Comment Form # 27

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: WAUKESHA	COMMUNITY NAME:	
NAME: MIKE HAHN	TITLE: CHIEF ENVIRONMENTAL ENGINEER	
ADDRESS: SEWRPC P.O. BOX 1607 WAUKESHA, WI 53187-1607		
DAYTIME PHONE: (262) 547-6722, ext. 243	E-MAIL: mhahn@sewrpc.org	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:
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Discovery Map Letter H DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Poplar Creek in the City of New Berlin is designated as "Unverified." The source of the H+H is a 2004 SEWRPC study that was used to also map Poplar Cr. in the City of Brookfield + is designated as valid. Poplar Cr. in New Berlin was redelineated on newer topos by WDNR under Map Mod. With the combination of that redelin., consistency with the downstream "valid" Poplar Creek reach, and the relatively recent base study date, we suggest that Poplar Cr. in New Berlin be redesignated

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov. as valid.

## Upper Fox River Watershed Comment Form #128

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: <i>Waukesha</i>	COMMUNITY NAME: <i>SEWRPC</i>	
NAME: <i>Josh Murray</i>	TITLE:	
ADDRESS:		
DAYTIME PHONE: <i>262-547-6722 ext. 207</i>	E-MAIL: <i>jmurray@sewrpc.org</i>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:
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Discovery Map Letter H DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

*New detailed hydrology and hydraulics floodplain study for Pebble Creek and Brandy Brook.*

*Will be ready for submittal in 1st quarter of 2013.*

*About 12 miles of studied stream system.*

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Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to [colleen.hermans@wisconsin.gov](mailto:colleen.hermans@wisconsin.gov).

## Upper Fox River Watershed Comment Form #29

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: <i>Waukesha County</i>	COMMUNITY NAME: <i>SEWRPC</i>	
NAME: <i>Ron Printz</i>	TITLE: <i>Principal Engineer</i>	
ADDRESS:		
DAYTIME PHONE: <i>(262) 547-6721</i>	E-MAIL: <i>rprintz@sewrpc.org</i>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam <input type="checkbox"/> At-Risk Essential Facilities <input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC) <input type="checkbox"/> Significant Riverine Erosion <input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain <input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be <input type="checkbox"/> Stream Flow Constriction (including ice jams) <input type="checkbox"/> Overtopped Road During Flood Events <input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding <input type="checkbox"/> Areas of Mitigation Success
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Comment Marked On:

Discovery Map Letter   H   DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

*Willow Springs Creek - SEWRPC has hydraulic model and bridge survey data for the reach within Town of Lisbon*

*-There is a gap in mapped floodplain in current FEMA study. Also there are different sources of the two mapped area. Recommend a new study for entire stream.*

## Upper Fox River Watershed Comment Form #30

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: <i>Waukesha</i>	COMMUNITY NAME: <i>SEWRPC</i>	
NAME: <i>Ron Printz</i>	TITLE: <i>Principal Engineer</i>	
ADDRESS:		
DAYTIME PHONE: <i>(262) 547-6721</i>	E-MAIL: <i>rprintz@sewrpc.org</i>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam <input type="checkbox"/> At-Risk Essential Facilities <input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC) <input type="checkbox"/> Significant Riverine Erosion <input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain <input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be <input type="checkbox"/> Stream Flow Constriction (including ice jams) <input type="checkbox"/> Overtopped Road During Flood Events <input type="checkbox"/> Area In Need of Mitigation Action To Reduce Flooding <input type="checkbox"/> Areas of Mitigation Success
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Comment Marked On:

Discovery Map Letter   *H*   DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

*Sussex Creek - portion of stream was relocated in 2006-2007. A LOMR for this work was submitted by Waukesha County on Nov 2, 2012.*

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## Upper Fox River Watershed Comment Form #10

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: <i>Waukesha</i>	COMMUNITY NAME: <i>SEWRPC</i>	
NAME: <i>Ron Printz</i>	TITLE: <i>Principal Engineer</i>	
ADDRESS:		
DAYTIME PHONE: <i>(262) 547-6721</i>	E-MAIL: <i>rprintz@sewrpc.org</i>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter *H* DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

*Sussex Creek ~~in~~ east of STH 74 - FEMA floodplain/elevations overtop basin divide. Hydraulic model should be re-evaluated for possible flow divides.*

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## Upper Fox River Watershed Comment Form #48

Please provide the following information:		DATE: 11/13/2012
COUNTY NAME: <u>Waukesha</u>	COMMUNITY NAME: <u>Village of Sussex</u>	
NAME: <u>Sean Van Bergen</u>	TITLE: <u>Village Engineer</u>	
ADDRESS: <u>N64 W 23760 Main St., Sussex, WI 53089</u>		
DAYTIME PHONE: <u>(262) 246-5229</u>	E-MAIL: <u>SVanBergen@VillageSussex.org</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input checked="" type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input checked="" type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input checked="" type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:
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Discovery Map Letter B DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

538 - the Village completed in-depth flood plain topo for these wetland areas as part of the Appeals process in 2008. The Village still believes the study does not accurately reflect the storage capacity in these areas.

6 - The headwaters of the Pewaukee River has sig. flooding to nearby apartment complexes and mitigation needs to be done there is a pinch point at a road culvert.

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to [colleen.hermans@wisconsin.gov](mailto:colleen.hermans@wisconsin.gov).

7. - the Village has a boundary change currently ~~in~~ in process to bring this area into the Village from the Town of Lisbon

9. Also known as Spring Cr.  
(C. Br. Sussex Cr.)

⊕ The Village of Sussex would be more than willing to provide all of the above mentioned information/reports in detail if needed.

Thank you,

Sean Van Bergen

## Upper Fox River Watershed Comment Form #50

Please provide the following information:		DATE: <u>13. Nov. 12</u>
COUNTY NAME: <u>Waupesa</u>	COMMUNITY NAME: <u>Lannon</u>	
NAME: <u>Jerry Newman</u>	TITLE: <u>Village President</u>	
ADDRESS: <u>20399 W. Main St. Box 456 Lannon WI. 53046</u>		
DAYTIME PHONE: <u>262-408-8169</u>	E-MAIL: <u>Lannonland@yahoo.com</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input checked="" type="checkbox"/> Overtopped Road During Flood Events <u>#1, #2</u>
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter A DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

#1. "Lannon Creek" drains a major part of the village.

#2. Un Named - Flooding at Good Hope Rd. during a 7" rain event.

"F" AREAS OF FLOODING, OVERTOPPING STREET - MITIGATED BY)  
"W" FLOODPLAIN WIDENING BY REMOVING RETAINING WALL ↙

# Upper Fox River Watershed Comment Form #33

G

Please provide the following information:		DATE:
COUNTY NAME:	COMMUNITY NAME: <u>City of Waukesha</u>	
NAME: <u>Paul Day</u>	TITLE: <u>City Engineer</u>	
ADDRESS:		
DAYTIME PHONE:	E-MAIL: <u>Pday@ci.waukesha.wi.us</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input checked="" type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter G DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

City will supply the Flood Mitigation mapping for the City of Waukesha to Kate M.

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# Upper Fox River Watershed Comment Form #32

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Please provide the following information:		DATE:
COUNTY NAME:	COMMUNITY NAME: <u>City of Waukesha</u>	
NAME: <u>Paul Day</u>	TITLE: <u>City Engineer</u>	
ADDRESS:		
DAYTIME PHONE:	E-MAIL: <u>Pday@ci.waukesha.wi.us</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input checked="" type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter G DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

River erosion of banks fox River from <sup>Moreland</sup> Barstow  
to West Ave with small gap

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# Upper Fox River Watershed Comment Form #31

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Please provide the following information:		DATE:
COUNTY NAME:	COMMUNITY NAME: <u>City of Waukesha</u>	
NAME: <u>Paul Day</u>	TITLE: <u>City Engineer</u>	
ADDRESS:		
DAYTIME PHONE:	E-MAIL: <u>Pday@ci.waukesha.wi.us</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input checked="" type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter G DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

31A @ Sankoga Dam - overstreet - Cornua Blvd + Bersto  
Buckley - Near Madison / Broadway / Clinton Int.

31B - Marshall @ Prairie Ave ~~Dunbar Park area~~  
Bethesda Park @ Dunbar

31C - Fox River Pkwy South of Sensesl

# Upper Fox River Watershed Comment Form #34

G

Please provide the following information:		DATE:
COUNTY NAME:	COMMUNITY NAME:	
NAME: <i>Paul Day</i>	TITLE: <i>City Engineer</i>	
ADDRESS:		
DAYTIME PHONE:	E-MAIL: <i>Pday@ci.waukesha.wi.us</i>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input checked="" type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter *G* DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

*RR bridge (not used) south of  
behind 300 Seamy Drive - collects  
logs and River Debris*

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## Upper Fox River Watershed Comment Form #36

Please provide the following information:		DATE: <b>11/13/12</b>
COUNTY NAME: <b>Waukesha</b>	COMMUNITY NAME: <b>City of Brookfield</b>	
NAME: <b>Michael Theis</b>	TITLE: <b>Planning Administrator</b>	
ADDRESS: <b>2000 N. Calhoun Rd.</b>		
DAYTIME PHONE: <b>262-787-3510</b>	E-MAIL: <b>theis@ci.brookfield.wi.us</b>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter **D** DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Check for city of Brookfield City-wide  
 LOMR prepared by SEWRPC March 31, 2004

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# Upper Fox River Watershed Comment Form #47

Please provide the following information:		DATE: 11/13/2012
COUNTY NAME: WAUKESHA	COMMUNITY NAME: VILLAGE OF MUKWAGO	
NAME: STEVE WURSTER	TITLE: PROJECT MANAGER / WATER RESOURCES ENGINEER	
ADDRESS: W233 N2080 Ribberview Parkway ; WAUKESHA		
DAYTIME PHONE: 262-542-5733	E-MAIL: SWURSTER@RVERGNT-MZELKE.COM	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input checked="" type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter B      DFIRM Panel # \_\_\_\_\_      Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

① Mukwago River tributary south of Highway 45 is not mapped. This stream bisects an industrial park (existing) + is also home to future development. The Village completed a preliminary H/H study + can provide to DNR if needed.

② Dam improvements are currently under design  
↳ Flood flows in Mukwago River are drastically higher than observed during storm events. Gauge data is available + can be provided.

## Upper Fox River Watershed Comment Form #45

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: <u>Waukesha</u>	COMMUNITY NAME: <u>Muskego</u>	
NAME: <u>Adam Trzebiatowski</u>	TITLE: <u>Planner</u>	
ADDRESS: <u>W182 58200 Racine Ave, Muskego, WI 53150</u>		
DAYTIME PHONE: <u>262-679-4136</u>	E-MAIL: <u>adam@cityofmuskego.org</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input checked="" type="checkbox"/> Stream Flow Constriction (including ice jams)
<input checked="" type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input checked="" type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input checked="" type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input checked="" type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input checked="" type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter C - 2 separate areas (see map) DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

FEMA maps do not match actual flood conditions,  
Flooding is much worse. City has an independant  
study that appears much more accurate. Some  
homes in this area had repetitive flooding damage,  
outside of the mapped FEMA floodplain.

## Upper Fox River Watershed Comment Form #54

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: WAJWORTH	COMMUNITY NAME: town of Sugar Creek	
NAME: JOHN R. ENNIS	TITLE: Lt EM	
ADDRESS: 177014 RD NW		
DAYTIME PHONE: 262-741-4616	E-MAIL:	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam <input type="checkbox"/> At-Risk Essential Facilities <input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC) <input type="checkbox"/> Significant Riverine Erosion <input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain <input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be <input type="checkbox"/> Stream Flow Constriction (including ice jams) <input type="checkbox"/> Overtopped Road During Flood Events <input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding <input type="checkbox"/> Areas of Mitigation Success
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Comment Marked On:

Discovery Map Letter   K   DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

DNR is purchasing a Residence on the turtle Flowage as it is in danger of flooding as a result of the Restoration Project.

## Upper Fox River Watershed Comment Form #26

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: <u>WAJWORTH</u>	COMMUNITY NAME: <u>EAST TRCU</u>	
NAME: <u>JOHN ENNIS</u>	TITLE: <u>LOF EM</u>	
ADDRESS: <u>1770 CHRD NW</u>		
DAYTIME PHONE: <u>262-741-4616</u>	E-MAIL: <u>JENNIS@CO.WAJWORTH.WI.US</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input checked="" type="checkbox"/> Levee or Dam <u>Replacement</u> <input type="checkbox"/> At-Risk Essential Facilities <input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC) <input type="checkbox"/> Significant Riverine Erosion <input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain <input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be <input type="checkbox"/> Stream Flow Constriction (including ice jams) <input type="checkbox"/> Overtopped Road During Flood Events <input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding <input type="checkbox"/> Areas of Mitigation Success
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Comment Marked On:

Discovery Map Letter K DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Advised that Wajworth City is in the process of replacing the Lake Beulah Dam.

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## Upper Fox River Watershed Comment Form #16

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: RACINE	COMMUNITY NAME: ROCHESTER	
NAME: JOHN TIERNEY	TITLE: VILLAGE ENGINEER / BAXTER & WOODMAN	
ADDRESS: 256 S. PINE ST., BURLINGTON, WI <del>53108</del> 53105		
DAYTIME PHONE: 262-763-7834	E-MAIL: jtierney@baxwood.com	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input checked="" type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input type="checkbox"/> Areas of Mitigation Success

Comment Marked On:

Discovery Map Letter N DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Eagle Creek between the confluence with the Fox River and CTH "J" is unstudied, but upstream of CTH "J" it is studied, all the way to Eagle Lake. Development is planned in the region, and the ability to determine a BFE is important.

# Upper Fox River Watershed Comment Form #19

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: Racine County	COMMUNITY NAME: Village of Watertford	
NAME: Rebecca Erwald	TITLE:	
ADDRESS: 123 N. River Street		
DAYTIME PHONE: 262-534-7912	E-MAIL: rewald@tds.net	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input checked="" type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input checked="" type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input checked="" type="checkbox"/> Effective Study No Longer Reflects Existing Conditions <i>New maps don't reflect current topography from LiDAR data or newer subdivision maps</i>	

Comment Marked On:

Discovery Map Letter \_\_\_\_\_ DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

- a) 223 N. Milwaukee Street LOMC - E Issued November 2012
- b) LiDAR data needs to be incorporated with the FIRM; the existing map does not accurately reflect the topography; newer subdivision information exists that is more accurate than the current map adopted 5.2.12
- c) Racine County is currently working on a dam analysis

## Upper Fox River Watershed Comment Form #24

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: KENDOSHAW	COMMUNITY NAME: TWIN LAKES	
NAME: JOHN TIERNEY	TITLE: ASST. VILLAGE ENG. / BAXTER & WOODMAN	
ADDRESS: 256 S. PINE ST. BURLINGTON, WI 53105		
DAYTIME PHONE: 262-763-7834	E-MAIL: j.tierney@baxterwoodman.com	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input checked="" type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter R DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

The dam that controls the level of Lake Elizabeth and Lake Mary is south of the state line.

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Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to [colleen.hermans@wisconsin.gov](mailto:colleen.hermans@wisconsin.gov).

## Upper Fox River Watershed Comment Form #1

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: <u>KENOSHA</u>	COMMUNITY NAME:	
NAME: <u>ANDY M. BUEHLER</u>	TITLE: <u>DIRECTOR PLANNING OPERATIONS</u>	
ADDRESS: <u>19600 75TH STREET</u>		
DAYTIME PHONE: <u>262-857-1895</u>	E-MAIL: <u>ANDY.BUEHLER@KENOSHACOUNTY.ORG</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:
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Discovery Map Letter R DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

- PRIORITY**
- 2 | A POWERS LAKE
  - 3 | B CROSS LAKE + ROCK LAKE w/ TREVOR CREEK
  - 1 | C OLD STUDY FOX NEEDS TO BE REDONE w/ NEW LIDAR
  - 4 | D CAMP + CENTER LAKE REPETITIVE LOSS AREA USE LIDAR FOR LAKES FLOODPLAIN
  - 5 | E NEW MUNSTER CREEK

## Upper Fox River Watershed Comment Form #22

Please provide the following information:		DATE: 11/12/12
COUNTY NAME: Waukesha	COMMUNITY NAME: Crispell-Snyder, Inc.	
NAME: KRISTEN BELAN	TITLE:	
ADDRESS: 700 Geneva Pkwy, Lake Geneva, WI		
DAYTIME PHONE: 262-348-5600	E-MAIL: belank@crispell-snyder.com	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter NOT DFIRM Panel #          Other           
~~AVAIL~~ AT MTG (was in Katie's vehicle)

Please provide any additional information that might be helpful such as names of water bodies or addresses:

• Upper Fox near Christman Rd (west end) - the HEC-RAS model cross-section data US & DS do not match the topo mapping.

## Upper Fox River Watershed Comment Form # 2

Please provide the following information:		DATE: <u>11-13-12</u>
COUNTY NAME: <u>Racine</u>	COMMUNITY NAME:	
NAME: <u>MIKE HAHN</u>	TITLE: <u>SEWRPC CHIEF ENVIRONMENTAL ENGINEER</u>	
ADDRESS: <u>P.O. Box 1607 WALKESHA, WI 53187-1607</u>		
DAYTIME PHONE: <u>(262) 547-6722, ext. 243</u>	E-MAIL: <u>mhahn@sewrpc.org</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter P      DFIRM Panel # \_\_\_\_\_      Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

SEWRPC did a 2002 study <sup>of the North Cape Lateral</sup> that was incorporated under Map Mod. That stream is designated as invalid and is listed in Table 5 of the "Risk Map Needs" section. SEWRPC can provide available survey information.

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to [colleen.hermans@wisconsin.gov](mailto:colleen.hermans@wisconsin.gov).

## Upper Fox River Watershed Comment Form #125

Please provide the following information:		DATE: 11-13-12
COUNTY NAME: Kenosha + Walworth	COMMUNITY NAME:	
NAME: MIKE HAHN	TITLE: SEWRPC CHIEF ENVIRONMENTAL ENGINEER	
ADDRESS: P.O. Box 1607 WALKESHA, WI 53187-1607		
DAYTIME PHONE: (262) 547-6722, ext. 243	E-MAIL: mhaan@sewrpc.org	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam  <input type="checkbox"/> At-Risk Essential Facilities  <input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)  <input type="checkbox"/> Significant Riverine Erosion  <input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain  <input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be  <input type="checkbox"/> Stream Flow Constriction (including ice jams)  <input type="checkbox"/> Overtopped Road During Flood Events  <input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding  <input type="checkbox"/> Areas of Mitigation Success
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Comment Marked On:
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Discovery Map Letter S DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

The East Branch of Nippersink Cr study is designated as valid and Powers Lake and the tributary to Powers Lake are designated as "unknown". The effective Kenosha Cty. FIS list a 1% elevation of 833.2 ft above NAVD 88 for Powers Lake, but the E Br NC 1% elev. at the confluence with the Powers Lake outlet channel is 836.3. That discrepancy should be resolved, so we suggest restudying the E Br of Nippersink Cr, Powers Lake, and the trib. to Powers Lake.

Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov.

## Upper Fox River Watershed Comment Form #17

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: WALWORTH	COMMUNITY NAME: TOWN OF LYONS	
NAME: JOHN TIERNEY	TITLE: ASST TOWN ENGINEER / BAXTER & WOODMAN	
ADDRESS: 256 S. PINE ST., BURLINGTON, WI <del>53108</del> 53105		
DAYTIME PHONE: 262-763-7834	E-MAIL: jtierney@baxwood.com	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input checked="" type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter K      DFIRM Panel # \_\_\_\_\_      Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

There is a tributary to the White River that passes under the Bike Path and STH 36 that is unstudied. This stream segment has a dense, suburban residential subdivision. During the previous map update this entire development was mistakenly placed in Zone A. A study up to at least the DOT culvert would aid in floodplain BFE determinations.

## Upper Fox River Watershed Comment Form #15

Please provide the following information:		DATE: 11/13/12
COUNTY NAME: WALWORTH	COMMUNITY NAME: TOWN OF LYONS	
NAME: JOHN TIERNEY	TITLE: ASST. TOWN ENG. / BAXTER & WOODMAN	
ADDRESS: 256 S. PINE ST, BURLINGTON, WI <del>53108</del> 53105		
DAYTIME PHONE: 262-763-7834	E-MAIL: jtierney@baxterwoodman.com	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input checked="" type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter   K        DFIRM Panel # \_\_\_\_\_      Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

The mill dam in Lyons, WI was removed  
some time before 2007. This may affect  
the White River studies.

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Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to [colleen.hermans@wisconsin.gov](mailto:colleen.hermans@wisconsin.gov).

# Upper Fox River Watershed Comment Form #21

Please provide the following information:		DATE: 11/12/12
COUNTY NAME: WALWORTH	COMMUNITY NAME: CRISPELL-SNYDER, INC	
NAME: KRISTEN BELAN	TITLE: S	
ADDRESS: 700 Geneva Pkwy, Lake Geneva, WI 53147		
DAYTIME PHONE: 262-348-5600	E-MAIL: belank@crispell-snyder.com	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter J DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Genoa City - Map shows a dam symbol; however, there is no dam w/in Vg. limits. LOMR just approved <sup>way</sup> # new map will be effective in March 2013.

Town of Bloomfield - Confluence of N. Branch / E. Branch Nippersink Creek. These <sup>HEC-2</sup> models have length (reach) inaccuracies and ~~do not~~ misplaced cross-sections.

Town of Bloomfield - N. Branch Nippersink has inaccurate bridge opening data in the <sup>HEC-2</sup> model.

\* \* MORE ON BACK

Lake Geneva

Genoa City cont'd ... FROM FRONT

Per a conversation with Chris and Tanya Lourigan from WDNR at this meeting, we were told that the new LOMR done by Crispelt Snyder for the Village will not change when the ~~new~~ RiskMAP is completed. ~~This~~ This LOMR, pending the appeals period, will become effective on March 13, 2013. Chris ~~was~~ confirmed that the new ~~map~~ RiskMAP will tie into the Genoa City LOMR.

City of Lake Geneva -

Downstream of Lake Geneva - a LOMR was recently completed and approved (June 2012) <sup>effective</sup>. There are several bridges and culverts that need to be updated in HEC-RAS.

## Upper Fox River Watershed Comment Form #14

Please provide the following information:		DATE: <u>12/13/12</u>
COUNTY NAME: <u>RACINE</u>	COMMUNITY NAME: <u>CITY OF BURLINGTON</u>	
NAME: <u>DAN JENSEN</u>	TITLE: <u>DPW SUPERVISOR</u>	
ADDRESS: <u>2200 S PINE Burlington WI 53105</u>		
DAYTIME PHONE: <u>262.342.1183</u>	E-MAIL: <u>djensen@burlington-wi.gov</u>	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

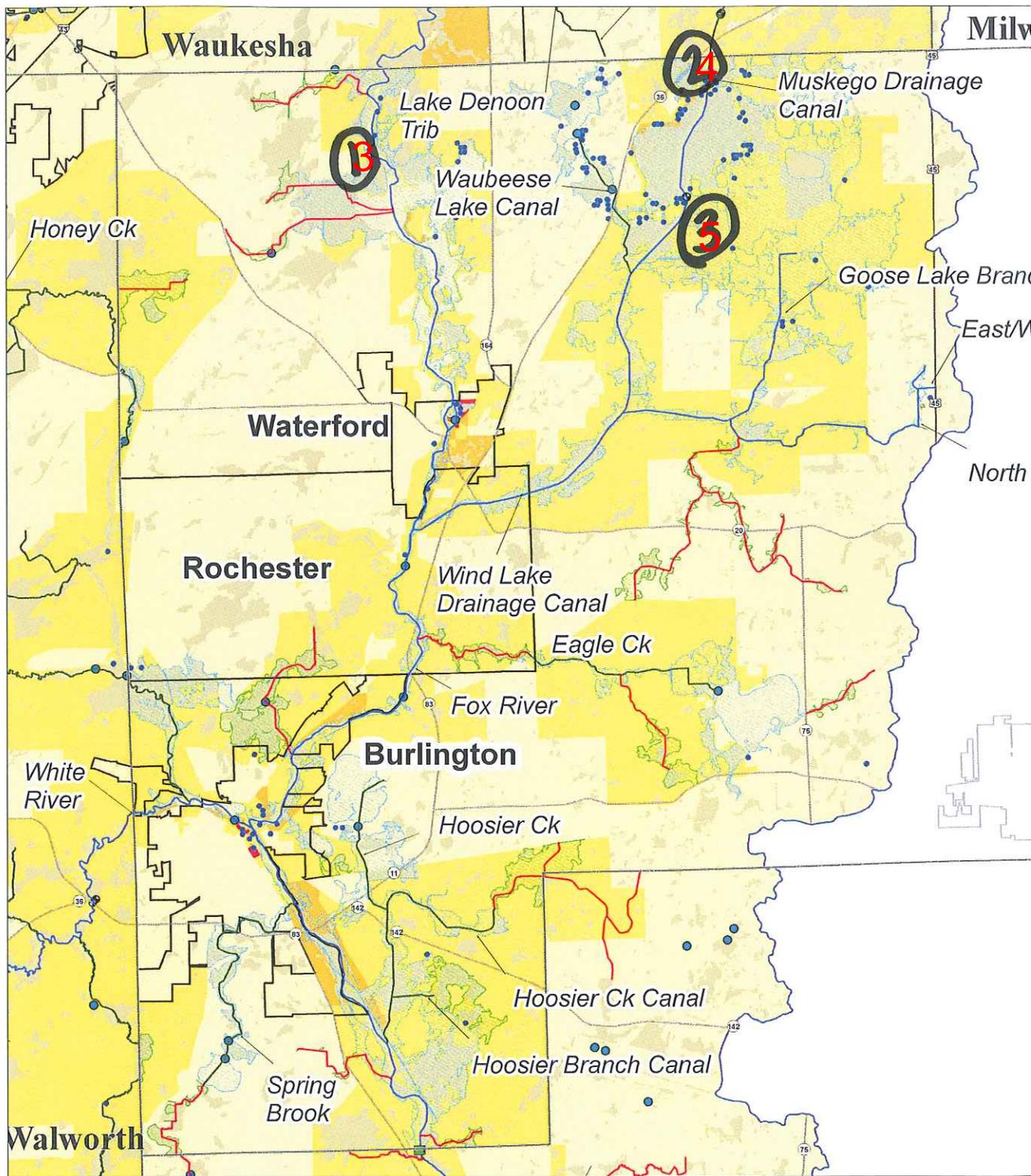
<input checked="" type="checkbox"/> Levee or Dam <input type="checkbox"/> At-Risk Essential Facilities <input checked="" type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC) <input type="checkbox"/> Significant Riverine Erosion <input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain <input checked="" type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	<input checked="" type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be <input type="checkbox"/> Stream Flow Constriction (including ice jams) <input type="checkbox"/> Overtopped Road During Flood Events <input type="checkbox"/> Area In Need of Mitigation Action To Reduce Flooding <input type="checkbox"/> Areas of Mitigation Success
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Comment Marked On:
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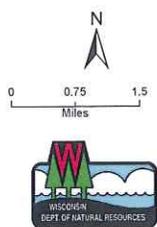
Discovery Map Letter N DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

THE AREA CIRCLED HAS 11 LOMC'S; IS AT THE CONVERGANCE OF TWO INVALID (CNMS STREAM VALIDITY) MARKED RIVERS FOX/WHITE; CONTAINS A SPILLWAY AND HAS RECENTLY HAD A LOT OF REDEVELOPMENT.



**Project Area:  
Upper Fox  
River Watershed  
HUC-8 07120006**



**Miscellaneous Features**

- Stream Gage
- Letter of Map Change (LOMC)
- Community Boundary
- County Boundary
- State Boundary
- Watershed Boundary
- WDR Wetland Inventory

**Special Flood Hazard Areas**

- Approximate (Zone A)
- Detailed (Zone AE)
- Ponding (Zone AH)
- Shallow Flooding (Zone AO)

- Roads**
- Interstate
  - U.S. Hwy
  - State Hwy

**CNMS Stream Validity**

- Valid
- Unverified
- Unknown
- Invalid

**Areas of Mitigation Interest**

- Dams
- Individual Assistance or Public Assistance
- Stream Flow Constrictions

**Average Annualized Loss  
(Losses by Census Blocks)**

- Very High
- High
- Medium
- Very Low

## Upper Fox River Watershed Comment Form #3

Please provide the following information:		DATE: 11/27/12
COUNTY NAME: Racine County	COMMUNITY NAME: Racine County	
NAME: Julie Anderson	TITLE: Public Works + Dev. Services Dir.	
ADDRESS: 14200 Washington Av - Shustevant WI 53177		
DAYTIME PHONE: 202-886-8440	E-MAIL: julie.anderson@goracine.org	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input checked="" type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input checked="" type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain (historical flooding)	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter \_\_\_\_\_ DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

- Fox River Road / Bridge Drive

- Floodplain may not be mapped correctly

- 2008 flooding (10-15 homes)

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Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov.

## Upper Fox River Watershed Comment Form # 4

Please provide the following information:		DATE: 11/27/12
COUNTY NAME: Racine County	COMMUNITY NAME: Racine County	
NAME: Julie Anderson	TITLE: Public Works + Dev. Serv. Dir	
ADDRESS: 14200 Washington Av - Shurtleff WI 53177		
DAYTIME PHONE: 262-886-8440	E-MAIL: julie.anderson@goracine.org	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input checked="" type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter \_\_\_\_\_ DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Sadler + Thompson drive - Canal north of  
Wind lake → previous flooding site

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Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov.

## Upper Fox River Watershed Comment Form # 5

Please provide the following information:		DATE: 11/27/12
COUNTY NAME: Racine County	COMMUNITY NAME: Racine County	
NAME: Julie Anderson	TITLE: Public Works + Dev. Serv. Dir.	
ADDRESS: 14200 Washington Ave - Shurtlevnt WI 53177		
DAYTIME PHONE: 262-886-8440	E-MAIL: julie.anderson@goracine.org	

Use the space below to explain your comment and attach any necessary supporting documents/materials. Mark the location of your comment on the map by circling the area and writing the comment form number near the circle. If you have more than one comment, please use multiple forms. If necessary, please ask staff for assistance with formulating your comment.

<input checked="" type="checkbox"/> Levee or Dam	<input type="checkbox"/> Approximate Study or No Study on a Stream Where Development is Occurring or Likely To Be
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Stream Flow Constriction (including ice jams)
<input type="checkbox"/> Areas with Clusters of Letters Of Map Change (LOMC)	<input type="checkbox"/> Overtopped Road During Flood Events
<input type="checkbox"/> Significant Riverine Erosion	<input checked="" type="checkbox"/> Area in Need of Mitigation Action To Reduce Flooding
<input type="checkbox"/> Areas of Reoccurring Flooding Outside of Mapped Floodplain	<input type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> Effective Study No Longer Reflects Existing Conditions	

Comment Marked On:

Discovery Map Letter \_\_\_\_\_ DFIRM Panel # \_\_\_\_\_ Other \_\_\_\_\_

Please provide any additional information that might be helpful such as names of water bodies or addresses:

Wind Lake Dam - Flooding Concern (historical)

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Continue on back side if necessary. Please return form to: Colleen Hermans, Wisconsin DNR, P. O. Box 7921, 101 S. Webster St., WT/3, Madison, WI 53707-7921. Form may be faxed to 608-267-2800 or e-mailed to colleen.hermans@wisconsin.gov.

# IX. Appendix D: Discovery Meeting Presentations

## WDNR Presentation



# Discovery Meeting: Upper Fox Watershed

November 13, 2012




## Introductions

- Risk MAP Project Team
- Local partners and officials
- State partners and officials
- Other Federal Agency partner representatives
- Private-sector entity representatives




## Agenda

- Risk MAP Program Overview
- Why We're Here
- Communities in the Upper Fox Watershed
- Discovery Overview & Discussion
- Next Steps
- Flood Risk Assessment Products Overview
- Mitigation Planning and Communication
- Questions to Consider






# Risk MAP Program and Project Overview




## Program Overview

- Risk MAP
  - Mapping – Flood hazard and risk identification
  - Assessment – HAZUS and other risk assessment tools
  - Planning – Hazard mitigation planning and HMA grants
- Risk MAP Vision
  - Deliver quality data
  - Increase public awareness of flood risk
  - Encourage local/regional actions that reduce risk

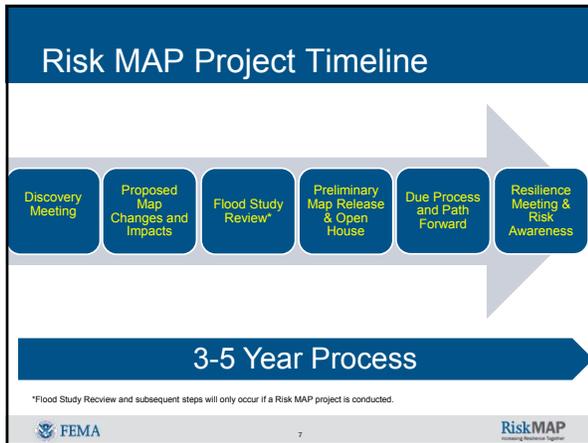





## Risk MAP Project Benefits

- Flood risk products and flood hazard maps that are:
  - Developed by FEMA in accordance with communities
  - Based on the best available data from the community and latest technologies
  - Conducted by watershed
  - Strengthened by partnerships
- Risk MAP tools and data can be used to:
  - Create or improve your Hazard Mitigation Plans
  - Make informed decisions about development, ordinances, and flood mitigation projects
  - Communicate with citizens about flood risk



## Local Activities That Affect Flood Risk

- **Upcoming activities that may affect flood risk**
  - Development plans
  - Planned mitigation activities
- **Local activities taken to address flood risk**
  - Stormwater management activities
  - Floodplain management activities
  - Daily operations
  - Outreach activities

FEMA RiskMAP

## Why We're Here

- Start a dialogue about your flood risk
- Understand your needs and priorities
- Communicate available resources
- Offer partnerships and answer questions
- Give you a complete, current picture of your flood hazards and risks to help you better:
  - Plan for the risk
  - Take action to protect your communities
  - Communicate the risk to your citizens

FEMA RiskMAP

## Why We're Here

County	FIRM Status	Effective Date
Kenosha	Effective	June 19, 2012
Racine	Effective	May 2, 2012
Walworth	Effective	October 2, 2009
Waukesha	Effective	November 19, 2008

FEMA RiskMAP

## Communities in Watershed

**Upper Fox Watershed**

- Counties: Kenosha, Racine, Walworth, Waukesha
- 660 miles of mapped streams/rivers

**Focus Area:**

- Studied streams with outdated methodologies
- Unstudied streams with development pressure or other issues

FEMA RiskMAP

## Discovery Process

- **Data Collection**
  - Collect information about the communities in the watershed
  - Develop draft Discovery Report and Map
- **Discovery Meeting**
  - Present potential flood risk products and get feedback
  - Discuss and prioritize areas needing flood risk study
  - Discuss local planning and communication assistance
- **Outcome**
  - Finalize Discovery Report and Map
  - Develop a scope of work and budget for Risk MAP project

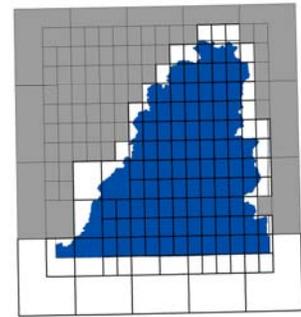
FEMA RiskMAP

## Floodplain Mapping

- **Field Survey**
  - Summer/Fall 2013
- **Hydrologic & Hydraulic Engineering**
  - Fall/Winter 2013-2014
- **FIRM Mapping & Non-Regulatory Products**
  - Based upon availability of grants

## Floodplain Mapping

- **Physical Map Revision (PMR)**
  - Revised Panels only for new studies
- **Revised Map Panels & FIS Report**
  - Adopted by affected communities



## Next Steps

- **Based on today's discussion and WDNR 5-level ranking system, project scope is developed (areas to be studied)**
  1. Streams currently mapped as Zone AE where the study has been deemed "Invalid" (CNMS).
  2. Gaps between detailed studies that are either currently mapped as Zone A or not mapped at all.
  3. Streams currently mapped as Zone A where a community request was made to study the reach in detail.
  4. Streams currently mapped as Zone A that will be engineered, but remain mapped as Zone A.
  5. Streams that are not currently mapped where a community request was made to study the reach in detail.

## Next Steps

- **After Discovery Meeting:**
  - Compile comments, update Discovery Map with community concerns
  - Results posted on WDNR Floodplain Mapping website
  - 2-week comment period for additional/missed issues
  - Update Discovery Report and map with results of the meeting and finalized scope of work

## Flood Risk Products

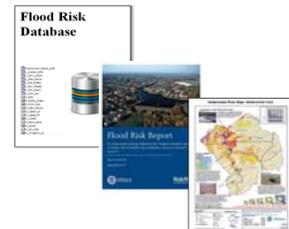
## Program Product Comparisons

### Traditional Regulatory Products



Subject to statutory due-process requirements

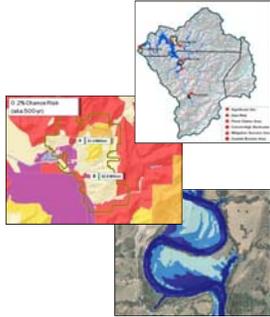
### Non-Regulatory Products



Not subject to statutory due-process requirements

## Flood Risk Products

- Changes Since Last FIRM
- Depth and Analysis Maps
- Flood Risk Assessment (HAZUS)
- Areas of Mitigation Interest (if available)



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RiskMAP

## Changes Since Last FIRM

FEMA



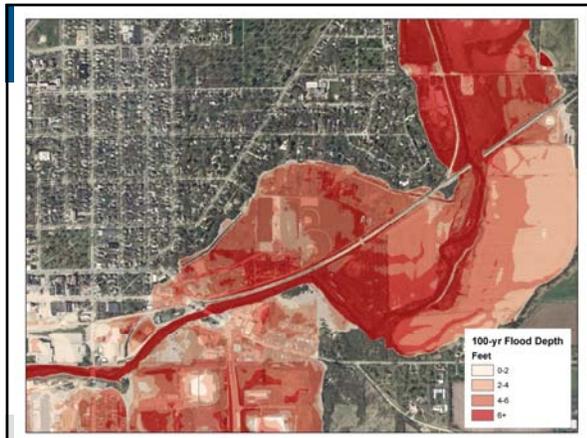
FEMA

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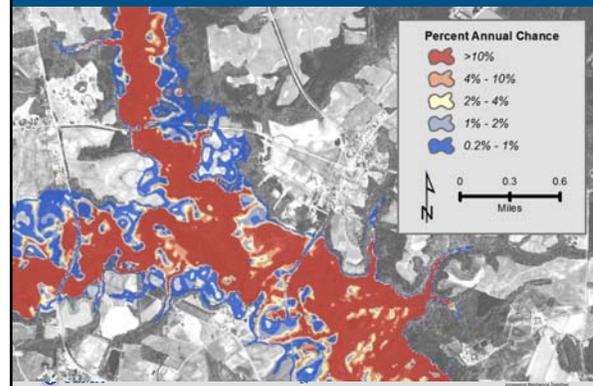
RiskMAP

## Flood Depth & Analysis Grids

FEMA

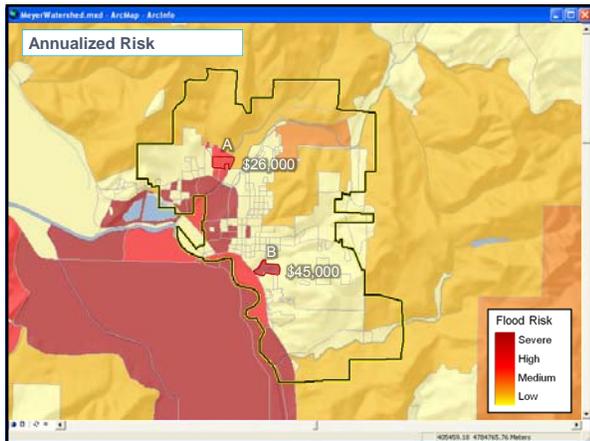
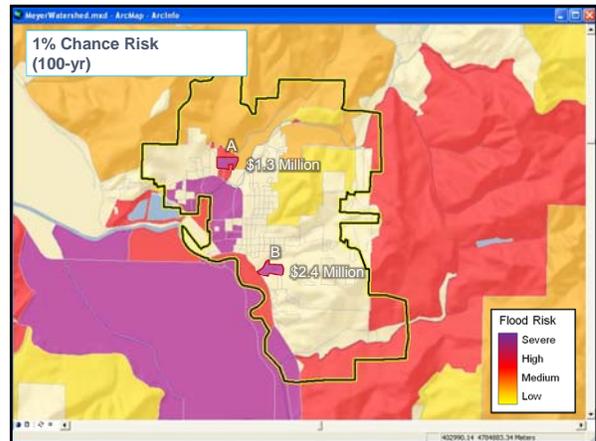


## Percent Annual Chance Grid



## Flood Risk Assessment

- **HAZUS = GIS-based hazard loss estimation software**
- **Quantifies flood risk in dollars:**
  - Potential damage severity for different flood frequencies
  - Identify locations with possible cost effective mitigation options
- **Identifies areas of relative flood risk:**
  - Floodprone areas (census block)
  - Vulnerable people and property
- **Helps estimate potential losses due to flood risk:**
  - Losses from Average Annualized Loss (AAL) Study
  - Refined losses from new flood study depth grids, local building data

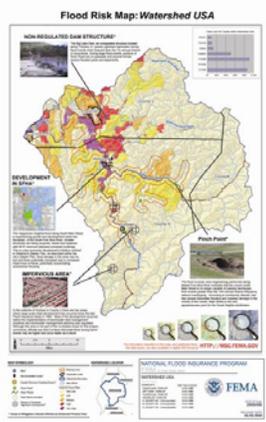


## Areas of Mitigation Interest (AOMI)

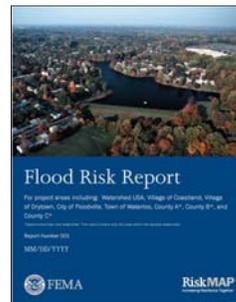
- **Opportunity for flood risk reduction:**
  - Community identified hot spots
  - Previous clusters of claims
  - Riverine and coastal flood control structures (dams, levees, berms)
  - Floodplain "pinch points" (undersized culverts and bridge openings)
  - Significant proposed and recent floodplain development
  - Locations of successful mitigation projects

## Flood Risk Map

- **Visually Promotes Risk Awareness**
  - Contains results of Risk MAP project non-regulatory datasets
  - Promotes additional flood risk data not shown but located within the Flood Risk Database



## Flood Risk Report

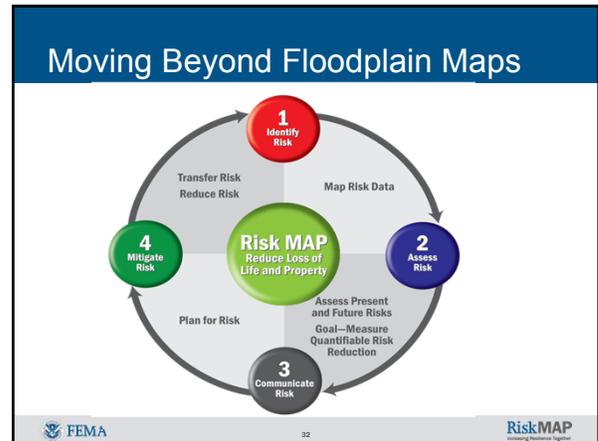


- **Background**
  - Purpose, Methods
  - Risk Reduction Practices
- **Project Results**
  - Changes Since Last FIRM
  - Depth & Analysis Grids
  - Flood Risk Assessment
  - Enhanced Analyses
- **Summarized by Locations**
  - Communities and Watersheds

FEMA

# Mitigation Planning and Communication

**RiskMAP**  
Increasing Resilience Together

## Mitigation Happens at Local Level

**Risk MAP Products in Local Plans and Programs**

<b>Emergency Management</b>	Emergency Operations Plan, Evacuation Plans
<b>Planning/Development</b>	Comprehensive Plans, Growth Management, Subdivision Regulations, Building Code, Zoning
<b>Police/Fire</b>	Public Safety Education
<b>GIS and Mapping</b>	Online Map Layers, Local Vulnerability Analysis
<b>Floodplain Management</b>	Ordinance Enforcement, Flood Insurance Outreach to Citizens and Businesses, CRS
<b>Public Works/Finance</b>	Stormwater Management, Capital Improvements Plan
<b>Local Officials</b>	Economic Development Plan, Sustainability Plans

FEMA RiskMAP

- ## What is Hazard Mitigation?
- Sustained action taken to reduce or eliminate long-term risk to people and property from hazards
  - **Types of Mitigation**
    - Prevention
    - Structural Projects
    - Property Protection
    - Natural Resource Protection
    - Education and Awareness
- FEMA RiskMAP

## Prevention



- **Actions to address future development**
  - Planning and zoning regulations
  - Land use regulations
  - Storm water management
  - Capital Improvements Plan
  - Updating and enforcing building codes

FEMA RiskMAP

## Structural Projects

- **Actions to construct manmade structures to control hazards**
  - Detention/retention structures
  - Sediment basins/low-head weirs
  - Culvert resizing/ replacement
  - Channel modifications
  - Flood walls
  - Safe rooms



FEMA RiskMAP

## Property Protection

- **Actions to modify existing buildings to reduce risk**
  - Acquisition, relocation, retrofitting, flood-proofing,
  - Historic and cultural sites



## Natural Resource Protection

- **Actions to reduce intensity of hazard impacts and improve quality of environment**
  - Erosion and sediment control
  - Wetlands protection
  - Expand public open space
  - Environmental restoration



## Public Education and Awareness

- **Actions to inform public about hazards and mitigation**
  - Website with maps
  - Partner with businesses
  - Mailings to residents in specific area
  - Displays at public libraries, fairs
  - Publicity through media
  - Present to HOAs, neighborhoods, school groups

## Local Hazard Mitigation Plans

[Add images of local hazard mitigation plans]

[Insert dates of each local hazard mitigation plan to correspond with image]

## Plan Updates and Implementation



## Hazard Mitigation Grant Programs

- **Eligible Project Types**
  - Property acquisition and demolition or relocation
  - Retrofitting existing buildings and facilities
  - Vegetative management/soil stabilization
  - Safe room construction
  - Stormwater management
  - Wildfire mitigation activities
  - Localized minor flood reduction projects for *critical facilities*
  - Infrastructure protective measures



## Hazard Mitigation Grant Programs

- Competitive Pre-Disaster Mitigation Program
- Post-Disaster Mitigation Grant Program
- Federal/Non-Federal cost share
- Must align with mitigation strategy in local and state plans
- Require detailed scope of work and benefit-cost analysis
- Contact:
  - [Fill in local Emergency Management contact]
  - [Fill in State Hazard Mitigation Officer contact]



## Risk Communication

- Citizens expect local officials to inform them about flood risk
- People who believe they are at risk are more likely to take actions
- People who hear about risk often are more likely to take action
- People want to hear about risk on news and through letters
- Communication Assistance
  - Flood risk products/flood hazard maps
  - Media materials
  - Community outreach templates



## Flood Risk Data and Discovery Maps



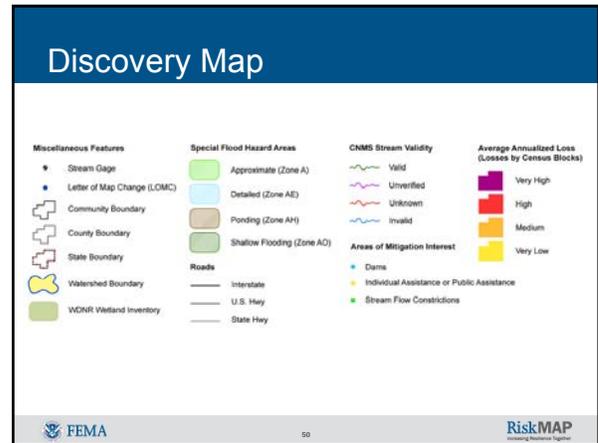
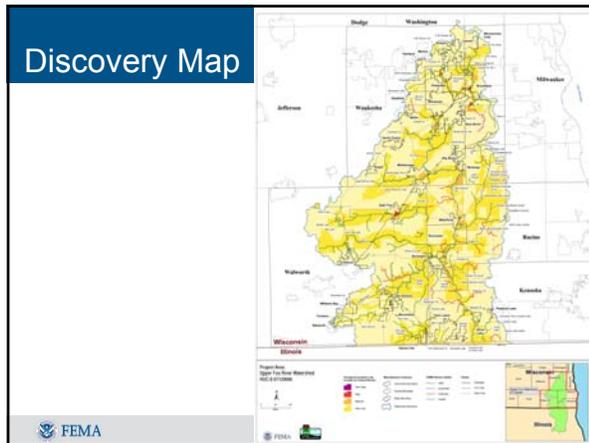
## Data Collection

- From the communities we look for:
  - Infrastructure information for levees and new bridges, dams, culverts, and road improvements
  - Building footprints or parcel data
  - Boundary, hydrography, and transportation layers
  - Elevation data

## Elevation Data/LiDAR Status

- Kenosha – 2012 LiDAR available
- Racine – 2012 LiDAR needs processing
- Walworth – 2005 Photogrammetric
- Waukesha – 2012 LiDAR available 12/12

Data Types	Description	Source
Average Annualized Loss	FEMA's Level 1 HAZUS Average Annualized Loss Analysis	FEMA
Community Boundaries	Location of municipal boundaries	Wisconsin Department of Transportation
Coordinated Needs Management Strategy (CNMS)	Engineering study needs as defined by Phase 3 CNMS data	Region V CNMS inventory
County Boundaries	Location of county boundaries	USGS Topographic Maps
Dams	Location of dams	WDNR Inventory
Streams and Rivers	Stream centerlines based on USGS topo quads	USGS Topographic Maps
HUC-8 Watershed	Watershed boundary	USGS Watershed Boundary Data
Ice Jams	Location of ice jams	U.S. Army Corps of Engineers - Jam Database
Letters of Map Change	Locations of letters of map change	FEMA National Flood Hazard Layer
Major Roads	Location of interstates and major highways	Wisconsin Department of Transportation
Special Flood Hazard Areas	Location of FEMA flood hazard areas	FEMA Digital Flood Insurance Rate Maps
Stream Gages	Location of stream gages operated by multiple agencies	USGS National Hydrography Dataset
Watershed Boundaries	Hydrologic Unit Code-8, watershed boundaries	USGS National Hydrography Dataset
Wetland	Wetland delineations digitized from 24K USGS topo quads	Wisconsin DNR



## Break Out Session

FEMA RiskMAP

- ## Questions to Consider
- Do you have flood hazard data used for planning/management that are not reflected on the FIRM?
  - Are there inaccuracies in the FIRMs for your community? Where?
  - Are there new road crossings that are not reflected on the FIRM?
  - Are there areas of high population (or population growth) where a Zone A exists on the FIRM?
  - Are there areas of future development pressure where a mapped floodplain would be helpful to identify risk?
  - Where are problem flooding areas?
  - Where are areas of concern for emergency response, i.e., evacuation routing, critical facilities, other vulnerabilities?
  - Do you agree with the identified requests and needs currently shown on FEMA's Discovery Map?
  - How would you prioritize these issues and needs?
- FEMA RiskMAP



## Hazard Mitigation

Robyn Fennig  
Disaster Response and Recovery Planner

Upper Fox River Watershed Discovery Meeting  
November 13, 2012




## What is Mitigation?

According to the Federal Emergency Management Agency (FEMA):

**"Mitigation is any sustained action taken to eliminate or reduce the long-term risk to human life and property from natural and technological hazards"**



Photo from Kishwaukee County



Photo from Soldiers Grove, WI



## Break the Cycle




## Why Do We Mitigate?




- Disasters are costly to society
- State and Federal aid insufficient
- Mitigate to prevent future damages
- Lessen impact and speed response and recovery
- Mitigation happens at the local level



## Why Do We Mitigate?

### Nationwide Trends

- \$140 Billion in the last 25 years in responding to disasters
- \$6 Billion per year in flood damages
- Costs continue to rise
- People continue to build and live in high-risk areas





## Why Do We Mitigate?

### In Wisconsin

- \$3 billion in Disaster-related damages last 3 decades
- 12 Federal Disaster Declarations in the 90's compared to 6 in the 80's
- 2000, 2001, two in 2002, 2004, 2007, 2008, two in 2010, 2011, 2012
- 2 snow emergencies (2000 and 2008)




### WEM Hazard Mitigation

- Over **\$110 million** in last 21 years through HMGP/FMA/PDM
- Acquisition and Demolition
- Floodproofing and Elevation
- Relocation
- Wind Retrofit
- Safe Rooms
- River Gauges
- NOAA Weather Radios
- Mitigation of Utilities
- Education
- Structural (detention ponds, stormwater management, etc.)
- All-Hazard Mitigation Plans

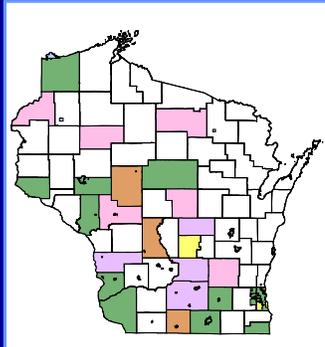


### HMGP Project Highlights

Projects funded with HMGP Funding DR-874 (1990) to DR-1944 (2010)

Participating Jurisdictions Type of Project

- Acquisition (74 projects)
- Education (2 projects)
- Other (11 projects)
- Radios (7 projects)
- Safe Rooms (7 projects)
- Storm Sewer/Detention (12 projects)



### HMGP Project Highlights

Total HMGP Funding by Project Type (DR-874 to DR-1944)

Project Type	Funding
Storm Sewer	\$3,942,833.00
Safe Room	\$1,462,679.00
Radios	\$176,896.00
Other	\$1,825,916.00
Education	\$74,668.00
Acquisition	\$71,291,965.00

- 653 properties acquired
- 42 structures floodproofed and/or retrofit
- 23 structures elevated
- 1 structure relocated

### Value of Mitigation



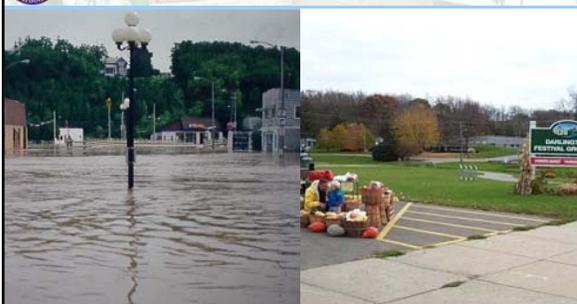
Gays Mills, WI

**For every \$1 spent on mitigation, \$4 is saved in future damages.**  
(Per the National Institute of Building Sciences -2005)

### Examples of Mitigation



### Acquisition/Demolition



Communities acquire land, demolish structures and keep the land in open space designation

Images from Darlington, WI



**Elevation**

Elevation raises a structure out of the floodplain. Wisconsin has specific regulations to follow with elevation projects. See DNR for more information.

Image from Soldiers Grove, WI

This slide features a circular logo in the top left corner. The main image shows two views of a large, multi-story house with a prominent porch. The left view shows the house elevated on a concrete foundation, while the right view shows it at ground level. A blue banner at the bottom contains text and a source credit.



**Floodwall**

Floodwalls can prevent water from inundating structures that cannot be elevated, relocated, or demolished.

Image from Darlington, WI

This slide features a circular logo in the top left corner. The main image shows a long, light-colored concrete wall in front of a two-story house. A blue banner at the bottom contains text and a source credit.

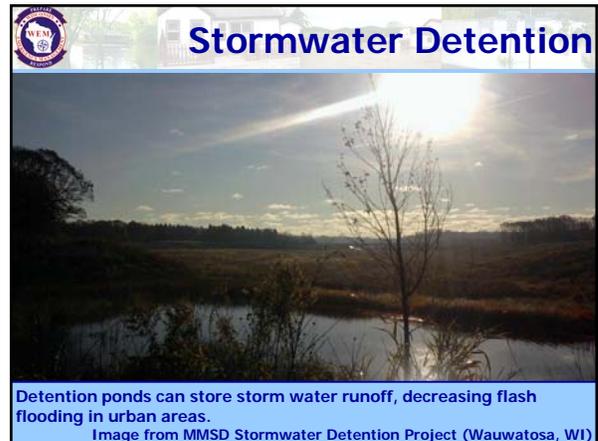


**Community Safe Room**

Community Safe Rooms built to FEMA-361 standards can withstand winds up to 250 MPH

Image from Town of Dunn, WI

This slide features a circular logo in the top left corner. The main image shows a large, grey, rectangular building with a sign that reads "TORNADO SHELTER". A blue banner at the bottom contains text and a source credit.



**Stormwater Detention**

Detention ponds can store storm water runoff, decreasing flash flooding in urban areas.

Image from MMSD Stormwater Detention Project (Wauwatosa, WI)

This slide features a circular logo in the top left corner. The main image shows a large, open area with a body of water in the foreground and trees in the background under a bright sky. A blue banner at the bottom contains text and a source credit.



**Stormwater Systems**

Stream restoration allows watersheds to better manage flooding

Image from Theinsville, WI

This slide features a circular logo in the top left corner. The main image shows a stream flowing through a residential area with houses and trees. A blue banner at the bottom contains text and a source credit.



**River Warning Systems**

River warning systems installed on conservation dams to warn county officials about expected dam breaching.

Images from Vernon County

This slide features a circular logo in the top left corner. The main image is split into two parts: on the left, a man in a cap stands near a dam; on the right, a person holds a piece of electronic equipment. A blue banner at the bottom contains text and a source credit.

### Other Projects

- NOAA Weather Radios
- Mobile Home Tie-Downs
- Raise appliances and utilities
- Install back-flow valves
- Retrofit for wind resistance
- Education and Public Awareness
- INSURANCE (flood and sewer)
- Land use planning
- Wind Retrofit Guide for Residential Buildings
- Proper Landscaping

### Benefits of Mitigation

- Protect the health/safety of citizens
- Preserve or expand tax base
- Attract or retain business/industry
- Revitalize a depressed area




### Benefits of Mitigation

- Enhance recreation and tourism
  - Parks
  - Trails
- Increase Community Pride & improve quality of life
- Save Tax Dollars




### Mitigation Planning




### Disaster Mitigation Act of 2000

- Public Law 106-390 signed into law 10/30/00
- Establishes a national disaster hazard mitigation program
  - Section 203: Pre-Disaster Mitigation Program
  - Section 322: Mitigation Planning Requirement




### Vision of DMA 2000

- To reduce disaster losses through pre-disaster mitigation planning to identify cost-effective mitigation.
- Mitigation planning as a tool to streamline and speed up recovery process



### Mitigation Planning



- Describe actions to mitigate hazards, risks, and vulnerabilities
- Establish strategy to implement those actions
- Pre-identify projects taking a comprehensive, integrated approach to hazard reduction

### Local Planning Options

- Stand alone plan
- Countywide, multi-jurisdictional, watershed, regional
- Integrate into other planning mechanisms– i.e. Comprehensive Plans




### Local/Tribal Mitigation Plan Criteria

- Local Planning – 44 CFR Part 201.6
- Tribal Planning – 44 CFR Part 201.7
- Components
  - Planning Process
  - Risk Assessment
  - Mitigation Strategy
  - Plan Maintenance Process
  - Plan Adoption
  - Plan Review

### The Planning Process

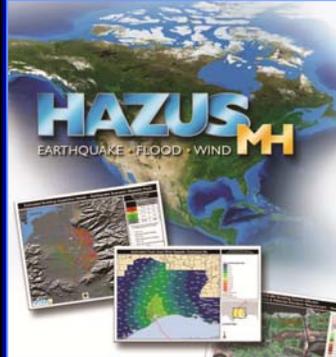
- Describes and documents the planning process (who, what, when)
- Review existing plans, studies, and laws
- Engage the public
- Basic demographics
- Description of land uses and development trends

### Risk Assessment

- Description, location, and extent of hazards
- Past events
- Probability of future events
- Type and number of structures at risk
- Potential losses
- Potential impacts




### HAZUS-MH



- FEMA's standardized risk assessment methodology to estimate potential losses from flood, wind, and earthquake hazards
- GIS-based software
  - Interfaces with ESRI
- Free to download
- Version 2.1 (2012)
  - Updated damage/loss functions
  - Hazard-specific data updated

### HAZUS-MH WI Risk Assessment

- Results were a 100-year flood analysis for each county
- Data estimates are derived from census data incorporated into HAZUS

### Upper Fox River HAZUS-MH Risk Assessment

County	Population	# Damaged Buildings	Total Building Exposure (\$1,000)	Total Economic Loss (\$1000)	Building Loss (\$1000)	Short Term Shelter (# People)
Kenosha	149,577	374	\$12,467,944	\$250,736	\$93,902	3,740
Racine	188,831	501	\$15,693,961	\$238,307	\$106,819	5,924
Walworth	93,759	285	\$9,304,295	\$232,517	\$120,010	1,053
Waukesha	360,767	1,154	\$35,955,764	\$739,778	\$291,616	13,042
<b>TOTAL</b>	<b>792,934</b>	<b>2,314</b>	<b>73,421,964</b>	<b>1,461,338</b>	<b>612,347</b>	<b>23,759</b>

### Mitigation Goals and Strategies

- Long-term goals
- Objectives
- Mitigation actions (measures) and projects that will reduce risk for each identified hazard
- Action plan for implementing the identified actions



### Plan Review, Maintenance and Adoption

- Monitoring, evaluation, and updating the plan every 5 years
- Incorporation into existing planning mechanisms
- Continued public participation
- Plan adoption
- Plan is reviewed by the State, certified, and sent to FEMA for approval.

### Planning Deadlines

- Must have an approved All Hazards Mitigation Plan to receive PDM, HMGP, FMA, SRL (exception RFC)
- Local Plans have to be reviewed, updated, and re-approved every 5 years

### Plan Update Requirements

- Review recommended revisions from the review of the approved plan
- Follow Plan Maintenance Section of the approved plan; if different document the new process
- Evaluate, review, analyze and update each section of the plan
- Follow federal and state guidance
- Address any data deficiencies identified in the first plan

### Plan Updates

- Should allow one year to 18 months for update
- Plan expires on 5 years from approval date



Vernon County, WI

### Hazard Mitigation Planning in WI



**Tribal Plans:**  
 Forest County Potawatomi - Approved  
 Ho Chunk - Approved, Updating  
 Menominee Nation - Expired, Updating  
 Oneida - Approved  
 St. Croix Chippewa - Approved  
 Stockbridge-Munsee - Approved

**University Plans:**  
 University of Wisconsin-Madison - New Plan  
 University of Wisconsin-River Falls - Approved

**Single Jurisdiction Plans:**  
 Village of Avoca, Iowa County - Approved  
 City of Crandon, Forest County - Expired, Meets Requirements  
 City of Darling, Lafayette County - Approved  
 City of Eau Claire, Eau Claire County - Expired, Updating  
 City of Milwaukee, Milwaukee County - Approved  
 City of Sheboygan, Sheboygan County - Approved  
 City of Superior, Douglas County - Approved

**Legend**  
 Counties With Approved Plans  
 Counties With No Approved Plan  
 Counties With No Plan, Not Active in Planning Process  
 Counties With an Expired Plan  
 Counties Active in Planning or Updating Process  
 Counties with Plans that Meet Requirements

### Plan Status in the Upper Fox Watershed

- Waukesha County (EPTEC, Inc.)
  - Plan approved 3/15/2011
  - Plan expires 3/15/2016
- Walworth County (Civi Tek)
  - Plan approved 7/7/2009
  - Plan expires 7/7/2014
  - Planning grant approved under FEMA-1944-DR-WI
- Racine County (SEWRPC)
  - Plan approved 11/30/2010
  - Plan expires 11/30/2015
- Kenosha County (SEWRPC)
  - Plan approved 6/30/2011
  - Plan expires 6/30/2016

### Public Assistance Program

Incorporate cost-effective mitigation measures when repairing damaged public facilities.




Black River Falls, WI

### Unified Hazard Mitigation Assistance Program

- Hazard Mitigation Grant Program
- Pre-Disaster Mitigation Program
- Flood Mitigation Assistance Program
- Repetitive Flood Claims Program
- Severe Repetitive Loss Program

### Eligible Sub-Applicants

Entity	Program Name				
	HAZARD MITIGATION GRANT PROGRAM	PRE-DISASTER MITIGATION	FLOOD MITIGATION ASSISTANCE	REPETITIVE FLOOD CLAIMS	SEVERE REPETITIVE LOSS
State Agencies	✓	✓	✓	✓	✓
Tribal Governments	✓	✓	✓	✓	✓
Local Governments	✓	✓	✓	✓	✓
Private Non-Profit Organizations (PNPs)	✓				

### Cost Sharing

Programs	Mitigation Activity Grant (Percent of Federal/Non-Federal Share)	Management Costs (Percent of Federal/Non-Federal Share)	
		Grantee	Sub-Grantee
HMGP	75/25	100/0	-/-*
PDM	75/25	75/25	75/25
PDM – Sub-grantee is a small impoverished community	90/10	75/25	90/10
PDM – Tribal grantee is small impoverished community	90/10	90/10	90/10
FMA	75/25	75/25	75/25
FMA – severe repetitive loss property with Repetitive Loss Strategy	90/10	90/10	90/10
RFC	100/0	100/0	100/0
SRL	75/25	75/25	75/25
SRL – with Repetitive Loss Strategy	90/10	90/10	90/10

### Funding Availability

#### Hazard Mitigation Grant Program

- Post-Disaster
- 15% (20% with Enhanced Plan) of the total federal funds allocated for Public and Individual Assistance Programs for each disaster

### Funding Availability (Continued)

#### Pre-Disaster Mitigation Program

- State base amount of \$575,000
- Annual, national competition
- Subgrants projects capped at \$3 million federal share; Planning \$800,000 million for new plan, \$400,000 plan update
- Program reauthorized through 9/30/13

### Funding Availability (Continued)

#### Flood Mitigation Assistance Program

- Annual allocation (approx. \$250,000)
- # of flood insurance policies and repetitive loss properties in the state
- Flood Mitigation only
- Mitigation to NFIP insured structures

### Funding Availability (Continued)

#### Repetitive Flood Claims Program

- Mitigation to NFIP insured structures
- At least one paid flood insurance claim
- Flood Mitigation Only
- No plan requirement
- Inability to manage sub-grant or lack of 25% match
- National Competition

### Funding Availability (Continued)

#### Severe Repetitive Loss Program

- Mitigation to NFIP insured structures
- Flood mitigation only
- At least 4 NFIP claim payments over \$5,000 each, and cumulative exceeds \$20,000; or 2 payments exceeds the value of the structure
- Allocations for target states; otherwise competition
- 11 properties (4 validated) in WI
  - 3 mitigated
  - 1 included in a pending application
  - 1 cannot locate

### Eligible Projects

Eligible Activities					
	HAZARD MITIGATION	FLOOD MITIGATION	FLOOD RESISTANCE	FLOOD CLAIMS	SEVERE REPETITIVE LOSS
<b>Mitigation Projects</b>	√	√	√	√	√
Property Acquisition & Structure Demolition	√	√	√	√	√
Property Acquisition & Structure Relocation	√	√	√	√	√
Structure Elevation	√	√	√	√	√
Mitigation Reconstruction					√
Dry Floodproofing of Historic Residential Structures	√	√	√	√	√
Dry Floodproofing of Non-Residential Structures	√	√	√	√	√
Minor Localized Flood Reduction Projects	√	√	√	√	√
Structural Retrofitting of Existing Buildings	√	√			

### Eligible Projects (Continued)

Eligible Activities					
	HAZARD MITIGATION	FLOOD MITIGATION	FLOOD RESISTANCE	FLOOD CLAIMS	SEVERE REPETITIVE LOSS
<b>Mitigation Projects (Continued)</b>	√	√	√	√	√
Non-Structural Retrofitting of Existing Bld. & Facilities	√	√			
Safe Room Construction	√	√			
Infrastructure Retrofit	√	√			
Soil Stabilization	√	√			
Wildfire Mitigation	√	√			
Post-Disaster Code Enforcement	√				
5% Initiative Projects	√				
<b>Hazard Mitigation Planning</b>	√	√	√		
<b>Management Costs</b>	√	√	√	√	√

### Requirements

- Participating in the NFIP and in good standing
- Cost-Beneficial
- Environmentally Sound
- Considered other alternatives
- Best alternative
- Independently solve the problem
- Plan requirement (except RFC)



### Requirements

- HMA applications (PDM, FMA, RFC, and SRL) have to be submitted via FEMA's eGrants system



### Mitigation Program Priorities

- Substantially Damaged Properties
- Severe Repetitive Loss and Repetitive Loss Properties
- Approximately 467 RL properties identified in Wisconsin among 97 communities
- 4 validated SRL properties
- Mitigated approximately 112 repetitive loss properties and 1 SRL



### Process

- Mitigation Planning is the tool to identify feasible and cost-effective mitigation measures
- Identify mitigation early in process, i.e., beginning with the PDA
- Work with State Mitigation Staff
- Work with DNR Floodplain Management staff on NFIP compliance
- Identify any environmental or historical issues or concerns that could delay or impact the project



### Process (Continued)

- Gather data for project development and for the benefit-cost analysis
- Work with property owners
- Document alternatives
- Attend State briefings
- Review and follow federal and state guidance
- Adhere to deadlines for submitting applications
- The sooner WEM gets the application, the sooner they can process it



### Racine County

- HMGP: \$2,029,037.80 (State & Federal)
- PDM:
  - PDM08 Racine County Hazard Mitigation Plan
- FMA: N/A



### Walworth County

- HMGP: \$2,406,561.98 (State & Federal)
- PDM:
  - PDM07: Walworth County Plan
- FMA: N/A



### Waukesha County

- HMGP: \$10,758,000.86 (State & Federal)
- PDM:
  - PDM07 Waukesha County Plan
- FMA: N/A



### Kenosha County

- HMGP: \$7,526,464.11 (State & Federal)
- PDM:
  - PDM03: Acquisition and Demolition
- FMA:
  - FMA07: Project



### Questions?



**Contact Info:**

**Robyn Fennig**  
Disaster Response and Recovery Planner  
(608) 242-3200  
[Robyn.Fennig@Wisconsin.gov](mailto:Robyn.Fennig@Wisconsin.gov)

**Roxanne Gray**  
State Hazard Mitigation Officer  
(608) 242-3211  
[Roxanne.Gray@Wisconsin.gov](mailto:Roxanne.Gray@Wisconsin.gov)

WEM Hazard Mitigation Planning:  
<http://emergencymanagement.wi.gov/mitigation/planning.asp>

FEMA Hazard Mitigation Assistance:  
<http://www.fema.gov/hazard-mitigation-assistance>

Addendum: Upper (Illinois) Fox Action Discovery Report  
HUC8 07120006

**I. Action Discovery Meeting Details**

Four Action Discovery meetings were held for the Upper (Illinois) Fox Watershed on February 11 and 18, 2014 (see Table 1). Just like the initial Discovery Meetings, the WDNR teamed up with Wisconsin Emergency Management (WEM) to host the Action Discovery Meetings. This teamwork between these two agencies is a great example of stakeholder coordination, which helps streamline and focus the discussions with the affected communities, uniting over the common ground about mitigation potential.

This watershed has two Tier I communities – the Cities of Brookfield and New Berlin, which were each met with by the DNR and WEM one-on-one. An additional seven Tier II communities also participated in two group discussions. Those Tier II communities are the City of Muskego, Village of Menomonee Falls and the counties of Kenosha, Waukesha, Racine, Washington and Walworth. Appendix E has an example of the Action Discovery Meeting Invitation that was sent to each of the communities and Appendix F has the sign in sheets from the four meetings.

**Table 1. Action Discovery Meeting Details**

<b>Tier</b>	<b>Description</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>	<b>Room</b>
I	One-on-one	February 11, 2014	1pm	Brookfield City Hall 2000 North Calhoun Road	North Conference Room
II	Small Group	February 11, 2014	3pm	Menomonee Falls Village Hall W156 N8480 Pilgrim Road	Board Room (Rm 2245)
I	One-on-one	February 18, 2014	1pm	New Berlin City Hall 3805 South Casper Drive	Panther Conference Room
II	Small Group	February 18, 2014	3pm	New Berlin Public Library 15105 Library Lane	Community Meeting Room

**II. Summary of Findings**

The WDNR reiterated that the goal of the Action Discovery meetings was to assure there was a good understanding of how the RiskMAP process can be used to help communities mitigate flood risk. This area is primed for mitigation activity based on previously identified areas of mitigation interest and past mitigation activities. Appendix G lists all of the past mitigation projects conducted by communities in the watershed using state or federal funding but does not include those done solely with local funding.

The primary feedback the WDNR received from the communities during the action discovery community engagement process were examples of how they currently mitigate

flooding. The other main theme from the communities was that they would like the DNR and FEMA to keep their initial Discovery comments in mind. Several communities wanted an updated timeline of when the new maps would become effective as they are anxious for updated study information. This overriding sentiment can be perfectly summed up by Walworth County, which stated “Walworth County takes a strong role in the preservation of mapped floodplains and does not permit any development or filling in the floodplain. Therefore, the areas that repeatedly flood are protected best in Walworth County by being mapped so that no development can occur in those areas.”

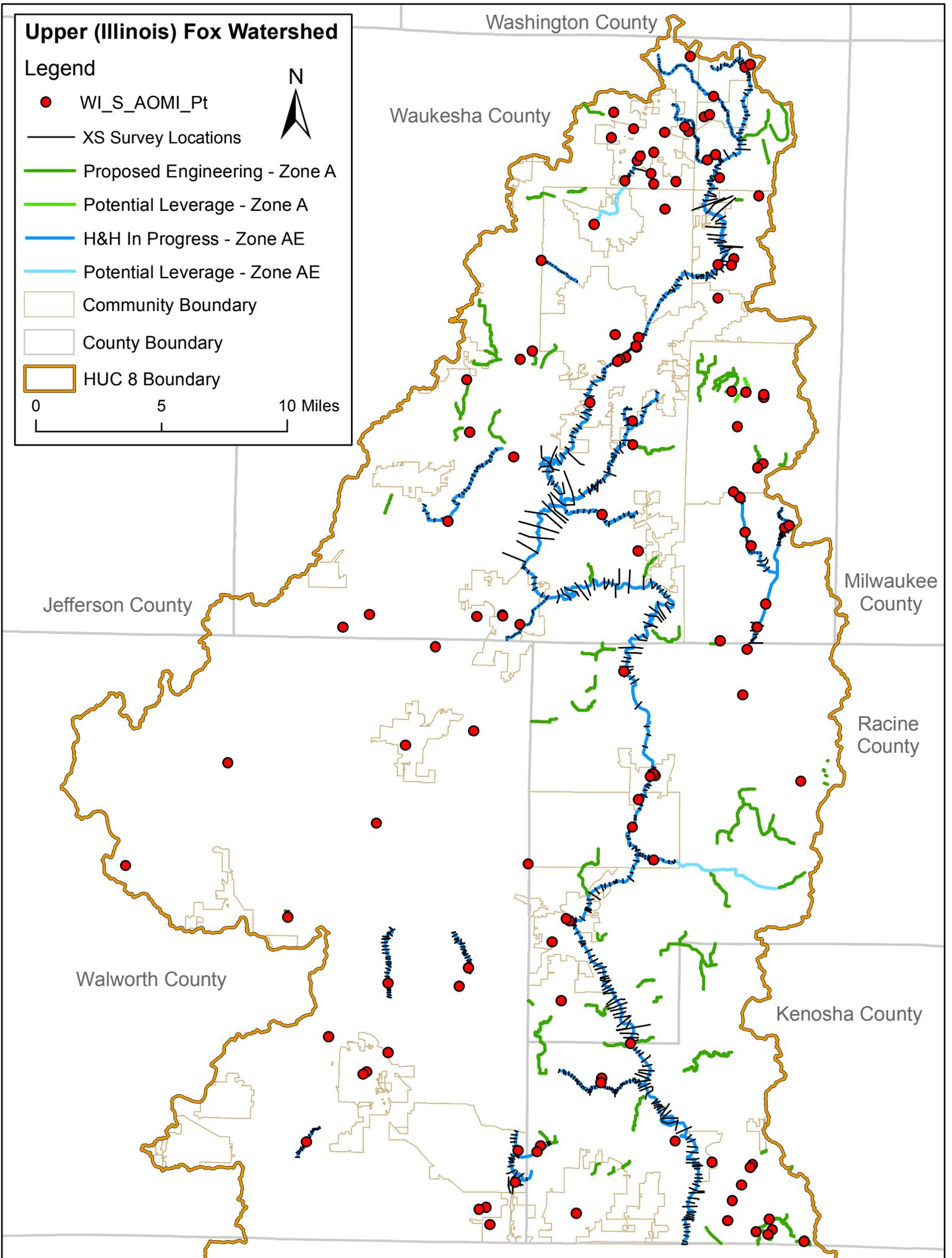
With these repeated sentiments it is not surprising that the Action Discovery process did not reveal a significant number of new mitigation ideas. However, data development has already begun in the watershed using the results of the initial Discovery meetings. A map of the areas surveyed as part of data development is shown in Figure 1 below. A list of the surveyed streams with mileage is found in Table 2a. A few potential leverage areas are also listed in Table 2b.

The Action Discovery process also allowed time for reflection on the A Zones currently mapped in the watershed that are not backed by engineering models. Tables 2c-e list these streams and miles for the counties of Kenosha, Racine and Waukesha that were not planned to be updated based on the data development in progress. All non-model backed A Zones in Walworth County were updated as part of the Lower Rock Watershed project.

# Upper (Illinois) Fox Watershed

## Legend

- WI\_S\_AOMI\_Pt
  - XS Survey Locations
  - Proposed Engineering - Zone A
  - Potential Leverage - Zone A
  - H&H In Progress - Zone AE
  - Potential Leverage - Zone AE
  - Community Boundary
  - County Boundary
  - HUC 8 Boundary
- 0 5 10 Miles



**Table 2a. Current Stream Mileage Surveyed – H&H Required**

<u>Stream Name</u>	<u>Mileage</u>
Benedict/Tombeau Lake	0.46
Eagle Creek	2.25
East Branch Nippersink Creek	3.15
East Channel Fox River	0.57
Fox River	81.77
Fox River Tributary 2	6.65
Geneva Lake Tributary	1.74
Jewel Creek	0.68
Little Muskego Lake	1.26
Mill Brook	5.29
Mukwonago River Tributary	2.65
Muskego Canal	2.77
Muskego Lake	3.98
New Munster Creek	4.95
Pebble Brook	8.25
Pebble Brook Tributary	1.14
Pewaukee River	1.25
Pewaukee Trib 11.1	1.77
Powers Lake Tributary	1.62
Quietwood Creek	2.19
Spring Brook	6.18
Sugar Creek Tributary	0.48
Sugar Creek Tributary Surcharge Route	0.41
Tributary to Ore Creek	3.44
Tributary to White River	2.27
Willow Springs Creek	5.27
<b>TOTAL</b>	<b>152.45</b>

**Table 2b. Current Stream Mileage Surveyed – Potential Leverage**

<u>Stream Name</u>	<u>Mileage</u>
Eagle Creek	2.94
Pewaukee River	9.21
*Unnamed Trib by Ruekert-Mielke	1.32
<b>TOTAL</b>	<b>12.15</b>

\*Inclusion of this possible LOMR depends on if the community can find and submit the data.

**Table 2c. Proposed Additional Engineered Zone As – Kenosha County**

<u>Stream Name</u>	<u>Mileage</u>
Bassett Creek	0.49
Bassett Creek Tributary	0.42
Hoosier Creek Canal	1.98
Karcher Creek	1.47
Palmer Creek	1.65
Peat Lake	0.90
Peterson Creek	4.07
Powers Lake	2.27
Spring Brook	1.95
Trevor Creek	3.22
Unnamed Pond 2	0.60
Unnamed Tributary No. 1 to Hoosier Creek Canal	0.98
Unnamed Tributary No. 2 to Hoosier Creek Canal	1.24
Unnamed Tributary to Center Lake	0.27
Unnamed Tributary to Hooker Lake	0.13
Unnamed Tributary to Trevor Creek	0.44
Rock Lake	1.33
Cross Lake	1.15
<b>TOTAL</b>	<b>24.54</b>

**Table 2d. Proposed Additional Engineered Zone As – Racine County**

<u>Stream Name</u>	<u>Mileage</u>
East Eagle Lake Ditch	1.25
Hoosier Branch Canal	0.80
Hoosier Creek Canal	1.61
Lake Denoon	0.17
North Cape Lateral	0.02
Spring Brook	1.80
Unnamed Tributary 1 to Fox River	1.50
Unnamed Tributary 1 to North Cape Lateral	1.20
Unnamed Tributary 1.1 to Fox River	0.27
Unnamed Tributary 1.1 to North Cape Lateral	1.47
Unnamed Tributary 1.1.1 to North Cape Lateral	0.39
Unnamed Tributary 1.1.2 to North Cape Lateral	0.88
Unnamed Tributary 1.2 to Fox River	0.20
Unnamed Tributary 1.2 to North Cape Lateral	1.96
Unnamed Tributary 1.2.1 to North Cape Lateral	1.34
Unnamed Tributary 1.2.2 to North Cape Lateral	0.66
Unnamed Tributary 2 to Fox River	0.85
Unnamed Tributary 2 to North Cape Lateral	0.14
Unnamed Tributary 3 to Fox River	1.34
Unnamed Tributary 3 to North Cape Lateral	0.07
Unnamed Tributary 4 to Fox River	2.59
Unnamed Tributary 4 to North Cape Lateral	0.04
Unnamed Tributary 5 to Fox River	1.56
Unnamed Tributary 5 to North Cape Lateral	0.02
Unnamed Tributary 6 to Fox River	0.46
Unnamed Tributary 7 to Fox River	0.73
Unnamed Tributary to Eagle Creek	1.85
Unnamed Tributary to Honey Creek	1.12
Unnamed Tributary to Hoosier Creek	0.72
Unnamed Tributary to Spring Valley Creek	0.25
<b>TOTAL</b>	<b>27.26</b>

**Table 2e. Proposed Additional Engineered Zone As – Waukesha County**

<u>Stream Name</u>	<u>Mileage</u>
Artesian Brook	1.01
Brandy Brook	3.20
Genesee Creek	1.47
Horseshoe Brook	0.93
Jericho Creek	0.79
Krueger Brook	1.80
Mill Creek	2.03
Muskego Creek	0.68
North Branch Genesee Creek	0.56
Pebble Creek	1.18
Pewaukee Lake Tributary	0.83
South Branch Genesee Creek	0.80
Unnamed	0.52
Unnamed	1.84
Unnamed	1.32
Unnamed	1.30
Unnamed	1.39
Unnamed	2.13
Unnamed	0.51
Unnamed	0.26
Unnamed	1.09
Unnamed	1.48
Unnamed	0.83
Unnamed	1.22
Unnamed	1.89
Unnamed	0.95
Unnamed Tributary 3 to Bark River	0.99
Unnamed Tributary 4 to Fox River	2.49
West Branch Pewaukee Lake Tributary	1.29
<b>TOTAL</b>	<b>36.79</b>

### III. Updated Data

#### i. CAPI Analysis

Below is a list of the Tier I and II Communities the WDNR met with during Action Discovery. A couple communities with lower CAPI scores were designated as Tier II communities because we felt it was important to include all counties where there were streams in the watershed. These communities are very proactive in meeting with the DNR, have a track record of past mitigation activities and subsequently have great potential for continued mitigation success. Therefore, the DNR used local knowledge and discretion in determining between some Tier II and III communities. The Village of Silver Lake did not attend a small group meeting and never responded to multiple outreach attempts. The CAPI analysis has been updated in Table 3 below to reflect the Tier I and II analysis changes.

**Table 3. Updated CAPI Analysis**

<b>HUC NAME</b>	<b>COUNTY</b>	<b>CIS NAME</b>	<b>CAPI SCORE</b>	<b>Recommended Engagement Tier</b>	<b>Attended Action (Re) Discovery</b>
Upper Fox	WAUKESHA	BROOKFIELD, CITY OF	64.86	1	√
Upper Fox	WAUKESHA	NEW BERLIN, CITY OF	63.04	1	√
Upper Fox	WAUKESHA	MUSKEGO, CITY OF	62.97	2	√
Upper Fox	KENOSHA	KENOSHA COUNTY	59.58	2	√
Upper Fox	WAUKESHA	MENOMONEE FALLS, VILLAGE OF	52.56	2	√
Upper Fox	WAUKESHA	WAUKESHA COUNTY	51.85	2	√
Upper Fox	RACINE	RACINE COUNTY	42.71	2	√
Upper Fox	WASHINGTON	WASHINGTON COUNTY	40.43	2	√
Upper Fox	WALWORTH	WALWORTH COUNTY	36.03	2	√
Upper Fox	KENOSHA	SILVER LAKE, VILLAGE OF	56.45	2	No response
Upper Fox	WAUKESHA	DELAFIELD, CITY OF	41.27	3	
Upper Fox	WAUKESHA	WAUKESHA, CITY OF	41.09	3	
Upper Fox	WAUKESHA	PEWAUKEE, VILLAGE OF	32.91	3	
Upper Fox	MILWAUKEE	FRANKLIN, CITY OF	32.73	3	
Upper Fox	WAUKESHA	BIG BEND, VILLAGE OF	26.75	3	
Upper Fox	RACINE	WATERFORD, VILLAGE OF	24.07	3	
Upper Fox	WAUKESHA	PEWAUKEE, CITY OF	23.08	3	
Upper Fox	WALWORTH	EAST TROY, VILLAGE OF	21.74	3	
Upper Fox	WAUKESHA	HARTLAND, VILLAGE OF	21.32	3	
Upper Fox	RACINE	BURLINGTON, CITY OF	20.78	3	
Upper Fox	WAUKESHA	LANNON, VILLAGE OF	20.63	3	
Upper Fox	KENOSHA	TWIN LAKES, VILLAGE OF	19.40	3	
Upper Fox	WALWORTH	LAKE GENEVA, CITY OF	19.40	3	
Upper Fox	KENOSHA	PADDOCK LAKE, VILLAGE OF	18.63	3	

Upper Fox	WAUKESHA	SUSSEX, VILLAGE OF	18.06	3
Upper Fox	WAUKESHA	MUKWONAGO, VILLAGE OF	17.47	3
Upper Fox	WALWORTH	GENOA CITY, VILLAGE OF	14.88	3
Upper Fox	WALWORTH	FONTANA ON GENEVA LAKE, VILLAGE OF	14.18	3
Upper Fox	WAUKESHA	EAGLE, VILLAGE OF	13.20	3
Upper Fox	RACINE	ROCHESTER, VILLAGE OF	12.73	3
Upper Fox	WALWORTH	ELKHORN, CITY OF	11.31	3
Upper Fox	WALWORTH	WILLIAMS BAY, VILLAGE OF	11.20	3
Upper Fox	WAUKESHA	WALES, VILLAGE OF	8.32	3
Upper Fox	WAUKESHA	NORTH PRAIRIE, VILLAGE OF	8.24	3
Upper Fox	WALWORTH	WALWORTH, VILLAGE OF	6.73	3
Upper Fox	JEFFERSON	JEFFERSON COUNTY	0.00	3

ii. Mitigation Potential with RiskMAP

At the Action Discovery meetings, Tier I and II communities were asked to identify locations where mitigation projects could reduce the impacts of flooding. Prior to the meetings, the DNR worked closely with the Roxanne Gray, the State Hazard Mitigation Officer at Wisconsin Emergency Management (WEM), to data mine information previously identified by the communities in their Hazard Mitigation Plans (HMPs). The data from the HMPs were also presented to the communities at the meetings and used to facilitate potential mitigation discussion.

In total, nine communities from the Upper (Illinois) Fox Watershed participated in the Action Discovery meetings and expressed their strong desire to get updated maps, which would in turn help them mitigate flooding in the communities.

Potential areas of mitigation concern identified by communities participating in the Action Discovery process are listed in Table 4. They include but are not limited to areas in need of mitigation action to reduce flooding, overtopped roads during flood events and undersized culverts. This data was also used to update FEMA's Mitigation Action Tracker online.

**Table 4. Additional Potential Mitigation Projects**

<b>Community</b>	<b>Subject(s)</b>	<b>Project</b>	<b>Status</b>
City of Brookfield, City of New Berlin	Approximate Study or No Study on a Stream Where Development is Occuring or Likely To Be	2004 Unnamed Trib studied by Ruckert-Mielke. Community needs to submit study for a LOMR. Possibly the same Zone A study the City of New Berlin mentions as a potential leverage by Willow Drive.	Incomplete
City of Brookfield	Buyout; Areas of Mitigation Success	Adelaide and Oak Hill acquisition and demo done (2nd in HMP)	Completed
City of Brookfield	Buyout; Areas of Mitigation Success	Imperial Estates floods (3rd in HMP)	Completed
City of Brookfield	Overtopped Road During Flood Events	Baker Road/CTH Y; North Ave/CTY M - Fox River cuts through	In Progress through RiskMAP
City of Brookfield	Overtopped Road During Flood Events	Elmbrook Memorial Hospital affected when CTH M overtops road, closed road for several days	In Progress through RiskMAP
City of Brookfield	Potential Storage Area	Sunny Slope and Greenfield - flat - may help New Berlin	Incomplete
Menomonee Falls	Overtopped Road During Flood Events	Willow Creek studied/being studied - replaced structures but road still floods and affects home access	In Progress
Menomonee Falls	Potential Storage Area; Areas of Mitigation Success	Potential Detention pond/ wetland scrape at Christman & Maple off UF; bought properties	In Progress through RiskMAP
Menomonee Falls	Areas of Mitigation Success	Areo Park Airport (abandoned) - Village bought that land - unnamed trib off Fox	Completed
City of New Berlin	Undersized Culverts; Roads Overtopping	Beloit Road - A zone needed?	Incomplete
City of New Berlin	Undersized Culverts; Roads Overtopping	Beres Road - overtopping roads ingress/egress of subdivision	Incomplete
City of New Berlin	Effective Study No Longer Reflects Existing Conditions	Poplar Creek - Industrial Park - controversy - not mapped accurately. Stream centerline should go north of Observatory	Incomplete
City of New Berlin	Area in Need of Mitigation Action To Reduce Flooding	Victor Road - create high flow ditch? So Poplar Creek doesn't cross road twice in short area.	Incomplete
City of New Berlin	Undersized Culverts; Roads Overtopping	Calhoun - road flooding and damage all along	Incomplete

City of Muskego	Effective Study No Longer Reflects Existing Conditions	Muskego Canal - DNR grant - locally adopted floodplain good, FEMA maps poor - surveyed for this study	In Progress through RiskMAP
City of Muskego	Effective Study No Longer Reflects Existing Conditions	Quietwood Creek - repetitive loss property in HMP - being surveyed for this study	In Progress through RiskMAP
City of Muskego	Dam	Muskego Dam has IOM plan > reflect accurate flood elevations associated with dam operations	In Progress through RiskMAP
Kenosha County	Dam	rebuilt dam at Center Lake > changes outlet elevation	Incomplete through RiskMAP
Kenosha County	Effective Study No Longer Reflects Existing Conditions	Center Lake - a lot of flooding. Goes along with original Discovery Comment to use LIDAR requesting a detailed study on this lake. Originally given 4th priority.	Incomplete
Kenosha County	Effective Study No Longer Reflects Existing Conditions	Rock Lake - a lot of flooding. Goes along with original Discovery Comment requesting a detailed study on this lake. Originally given 3rd priority.	In Progress through RiskMAP
Kenosha County	Effective Study No Longer Reflects Existing Conditions	Cross lake - a lot of flooding	In Progress through RiskMAP
Kenosha County	Effective Study No Longer Reflects Existing Conditions	Camp Lake - a lot of flooding. Goes along with original Discovery Comment to use LIDAR requesting a detailed study on this lake. Originally given 4th priority.	Incomplete
Kenosha County	Effective Study No Longer Reflects Existing Conditions	Trevor Creek - a lot of flooding	In Progress through RiskMAP
Kenosha County	Effective Study No Longer Reflects Existing Conditions	Powers Lake - new detailed floodplain - "awesome"	In Progress through RiskMAP
Kenosha County	Effective Study No Longer Reflects Existing Conditions	New Munster being restudied - good	In Progress through RiskMAP
Kenosha County	Areas of Mitigation Success	Lots of mitigation - see paragraph below	Completed
Racine County	Areas of Mitigation Success	updating HMP in next 2 years	In Progress through RiskMAP

During the small group meeting, Kenosha County shared several successful mitigation projects they have accomplished and future mitigation action plans. With a CRS rating of 5, they are a very effective stakeholder in the RiskMAP process. They have bought out over 100 homes and continue to put up county money to acquire and demolish homes at repeated risk of flooding. At the time of the Action Discovery meetings, there were 66 vacant properties in the Fox River floodplain and the county has a 3-year plan in place where they are trying to buy out these homes by forgiving back taxes if the homeowners give up the abandoned properties. Kenosha County was very pleased to know their original Discovery Comments were incorporated into areas that will be restudied, such as Powers, Rock and Cross Lakes and Trevor Creek.

#### **IV. Recommendations**

Communities in the Upper (Illinois) Fox watershed are very proactive about mitigating flood risk and work closely with WEM, DNR, and other area stakeholders such as SEWRPC to address flooding issues. It should be noted that several communities were confused why they were again being asked for Discovery-related information; particularly given the fact the WDNR received \$450,000 in funding for Hydrology, Hydraulics & Floodplain Development in FY12. Survey work was completed in the summer of 2013 for the over 152 miles of streams previously identified from the original Discovery Report.

The results of the Action Discovery process indicate a strong recommendation to continue with Data Development through the Preliminary Mapping Key Decisions Point phase on all detailed streams previously surveyed as part of this project. WDNR is also planning to propose using left over funding from other Risk MAP activities to fund updating 88.5 miles of Approximate Zones with engineering models in the watershed.

While not identified during discovery, data from the data development phase is already slated to be used in a number of mitigation activities in the near future as referenced in Table A. The hydrologic and hydraulic models for Spring Brook in Waukesha County will be used by the owner of the Willow Springs Dam to complete a dam failure analysis. The inundation area identified downstream of the dam will then be zoned as floodplain to assure there is no inappropriate development in this hazard area.

The results of the new detailed study on the Tributary to Orr Creek will help to ease the concerns of adjacent property owners who feel the current A Zone is too conservative. One business owner in the area is currently unable to do a desired expansion to their business because of the floodplain designation and has contacted local, state and federal officials with this concern and concern for neighbors who are paying high flood insurance premiums because of the current maps. A preliminary look the new data suggests the study will solve the development and insurance concerns of many, if not all of these properties.

# V. Appendix E: Action Discovery Meeting Invitation Examples

State of Wisconsin  
DEPARTMENT OF NATURAL RESOURCES  
101 S. Webster Street  
Box 7921  
Madison WI 53707-7921



February 4, 2014

Nicole Hewitt, PE  
City of New Berlin  
3805 South Casper Drive  
New Berlin, WI 53151

Dear Ms. Hewitt:

I am writing to follow-up on my recent e-mail about the Wisconsin Department of Natural Resources' (WDNR's) upcoming Risk MAP Re-Discovery Meeting, confirm the meeting's schedule, and request your assistance in inviting attendees.

As you may know, the Re-Discovery process, just like the initial Discovery process, is critical in determining whether a Risk MAP project is needed within your watershed. The information exchanged between the DNR (as a cooperating partner with FEMA) and the City of New Berlin within the Upper Fox Watershed during Re-Discovery will improve our understanding of your flood hazard mapping, flood risk, mitigation planning, and communication needs.

After e-mailing with you and other representatives from the City of New Berlin, we have scheduled the Re-Discovery Meeting for **February 18, 2014 from 1-2pm at 3805 South Casper Drive in New Berlin, Panther Conference Room**. At the meeting, we will review the flood risk data we have gathered to date, discuss your community's flooding history, development plan, flood risk concerns, storm water and floodplain management activities and other daily operations that impact your flood risk (e.g., cleaning of drainage ditches, culverts).

We would like to request your help in inviting community leaders, emergency managers, GIS specialists, and local planners to the meeting. In addition, we recommend inviting others with a vested interest in your watershed's resources, floodplains, and flood risk.

We thank you for supporting this effort. The partnership between the WDNR and the City of New Berlin will be vital to our success in identifying flood risks and needs that may exist. To learn more, please contact me at 608-264-8988 or [Colleen.Hermans@Wisconsin.gov](mailto:Colleen.Hermans@Wisconsin.gov). Thank you again for your help.

Please RSVP by e-mail whether you plan on attending the meeting or not.

Sincerely,

Colleen Hermans  
GIS Project Lead, Floodplain Management Program  
Wisconsin DNR

## Confirmation email:

**From:** Hermans, Colleen A - DNR  
**Bcc:** "Racine County - DMA (david.maack@goRacine.org)"; ATrzebiatowski@cityofmuskego.org  
**Subject:** Re-Discovery Follow-up  
**Date:** Friday, February 07, 2014 9:45:00 AM  
**Attachments:** Upper Fox Comment Form Ex.pdf

---

Good morning,

Thank you for RSVP'ing to the upcoming Re-Discovery meeting on Tuesday, February 18 at 3pm at New Berlin Public Library. I look forward to hearing any additional concerns you have about flooding or mitigation since the last time we met for the initial Discovery meeting. My goal is to leave our round-table discussion with a thorough understanding about the your community's flood risk concerns and possibly any mitigation strategies you hope to implement in the near future where new maps could help you achieve that goal. I will relay this information to FEMA with the hopes of convincing them to fund through data development in this watershed.

I will bring some maps we can write on about your areas of concern. I will also bring any previous comments you provided at the initial Discovery meetings, along with flood-related mitigation topics mentioned in the county's Hazard Mitigation Plan, to go over at this meeting. If you get a chance before the meeting, please review what was highlighted as concerns in the "Final Discovery Report" for the Upper Fox watershed located on our webpage here: <http://dnr.wi.gov/topic/floodplains/riskmap.html>. This webpage also has the initial meeting's maps and presentations for reference.

Lastly, if you know of any new or missed concerns, feel free to fill out the attached Comment Form for the meeting. Otherwise, I will have copies of this at the meeting and we can fill it out together.

Please let me know if you have any questions. Otherwise I will see you a couple weeks.

Sincerely,

Colleen



*Colleen A. Hermans*

GIS Project Manager  
Bureau of Watershed Management  
Wisconsin Department of Natural Resources  
Phone: (608) 264-8988

E-mail: [Colleen.Hermans@Wisconsin.gov](mailto:Colleen.Hermans@Wisconsin.gov)

Website: <http://dnr.wigov/topic/Floodplains/>

## Post Action Discovery Follow-up Email:

**From:** Hermans, Colleen A - DNR  
**To:** "[dsimpson@cityofmuskego.org](mailto:dsimpson@cityofmuskego.org)"; "[ATrzebiatowski@cityofmuskego.org](mailto:ATrzebiatowski@cityofmuskego.org)"; "[Racine County - DMA \(david.maack@goRacine.org\)](#)"  
**Subject:** Follow-up: Upper Fox Watershed Re-Discovery Meetings  
**Date:** Wednesday, February 26, 2014 12:18:00 PM

---

Good afternoon everyone,

Thank you for meeting with me and my colleagues with the DNR and Wisconsin Emergency Management at the Upper Fox Watershed Re-Discovery meeting on Tuesday, February 18. I found it very useful to sit down and discuss with you in person your community's flooding concerns and mitigation ideas for the Upper Fox Watershed. I will capture our discussion and pass it on to FEMA with the hopes we get funding to re-map some areas in the Watershed.

My goal is to have an addendum written capturing your flooding and mitigation ideas by the end of April. I will add this to the original Discovery Report, found on our website here: <http://dnr.wi.gov/topic/floodplains/riskmap.html>. This webpage also has the initial Discovery meeting's maps and presentations for reference, along with the streams we initially singled out as potentially needing new studies.

If you think of any other flooding concerns or mitigation-related issues, please feel free to email me and I will be sure to pass your information on to FEMA. I will let you know once the addendum is written and then again when we learn about next year's funding.

In the meantime, please let me know if you have any questions. Thank you again for taking the time to attend the Re-Discovery meeting.

Sincerely,  
Colleen

 *Colleen A. Hermans*

GIS Project Manager  
Bureau of Watershed Management  
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Facebook: [www.Facebook.com/WIDNR](http://www.Facebook.com/WIDNR)  
Twitter: [www.Twitter.com/WIDNR](http://www.Twitter.com/WIDNR)

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## VI. Appendix F: Action Discovery Meeting Attendance Lists

### February 11, 2014 Meetings

Community	Contact Name	Email	Watershed	Check In <input checked="" type="checkbox"/>
Village of Menomonee Falls (MF)	Matt Carran & colleagues	MCarran@menomonee-falls.org	Both	<input checked="" type="checkbox"/>
Washington County	Scott Schmidt	Scott.Schmidt@co.washington.wi.us	Both	<input checked="" type="checkbox"/>
Washington County	David Seils	Dave.Seils@co.washington.wi.us	Both	<input checked="" type="checkbox"/>
Washington County	Phil Gaudet	Phil.Gaudet@co.washington.wi.us	Both	<input checked="" type="checkbox"/>
Village of Newburg	Rick Goeckner	via David Seils	MKE	<input checked="" type="checkbox"/>
Village of Newburg	Matthew Bednarski	Matthew.Bednarski@graef-usa.com	MKE	<input checked="" type="checkbox"/>
Waukesha County	Bill Stolte	WStolte@waukeshacounty.gov	Both	<input checked="" type="checkbox"/>
Waukesha County	Jason Fruth	JFruth@waukeshacounty.gov	Both	<input checked="" type="checkbox"/>
City of Brookfield	Mike Theis & colleagues	theis@ci.brookfield.wi.us	Both	<input checked="" type="checkbox"/>
City of Milwaukee	Steven Fronk	SFRONK@milwaukee.gov	MKE	<input checked="" type="checkbox"/>
City of Milwaukee	Ed Richardson & colleagues	Ed.Richardson@milwaukee.gov	MKE	<input checked="" type="checkbox"/>
City of Milwaukee	Chris Rute	Chris.Rute@milwaukee.gov	MKE	<input checked="" type="checkbox"/>
City of New Berlin	Nicole Hewitt & colleagues	nhewitt@newberlin.org	Both	<input checked="" type="checkbox"/>
City of Glendale	Collin Johnson	C.Johnson@glendale-wi.org	MKE	<input checked="" type="checkbox"/>
Village of Thiensville	Michael Campbell	mcampbell@ruekert-mielke.com	MKE	<input checked="" type="checkbox"/>
Village of Thiensville	Dianne Robertson	drobertson@village.thiensville.wi.us	MKE	<input checked="" type="checkbox"/>
Ozaukee County <i>ANDY H</i>	Barry Sullivan & colleagues	bsullivan@co.ozaukee.wi.us	MKE	<input checked="" type="checkbox"/>
Racine County	David Maack	David.Maack@goRacine.org	UF	<input checked="" type="checkbox"/>
City of Muskego	David Simpson			<input checked="" type="checkbox"/>
City of Muskego	Adam Trzebiatowski	ATrzebiatowski@cityofmuskego.org	UF	<input checked="" type="checkbox"/>
City of Mequon	Jack Veder	izader@ci.mequon.wi.us	MKE	<input checked="" type="checkbox"/>
Village of Elm Grove	Casey Griffiths	cgriffiths@elmgrove.wi.org	MKE	<input checked="" type="checkbox"/>
Walworth County	John Ennis	jennis@co.walworth.wi.us	UF	<input checked="" type="checkbox"/>
City of Milw.	Nader Sabar	nader.sabar@milwaukee.gov		<input checked="" type="checkbox"/>
" " "	Ed Richardson	Richard@milwaukee.gov		<input checked="" type="checkbox"/>
City of Milwaukee	Steve Fronk	stfronk@milwaukee.gov	MKE	<input checked="" type="checkbox"/>
City of Brookfield	Theresa Given	thengiven@ci.brookfield.wi.us		<input checked="" type="checkbox"/>
City of Brookfield	Michael Theis	Theis@ci.brookfield.wi.us	MKE	<input checked="" type="checkbox"/>
City of Brookfield	Larry Goudy	goudy@ci.brookfield.wi.us	"	<input checked="" type="checkbox"/>
" " "	Tom Grisa	grisa@ci.brookfield.wi.us	"	<input checked="" type="checkbox"/>
City of West Bend	Murk Piotrowicz	piotrowm@ci.west-bend.wi.us	MKE	<input checked="" type="checkbox"/>
City of West Bend	MAX MARECHAL	marecham@ci.west-bend.wi.us	MKE	<input checked="" type="checkbox"/>
City of West Bend	Chris Kankel	ckankel@kankelstrategies.com		<input checked="" type="checkbox"/>
Village of Men. Falls	Tom Hoffman	thoffman@menomonee-falls.org	Both	<input checked="" type="checkbox"/>
" " "	Arlin Johnson	arjohnson@menomonee-falls.org	Both	<input checked="" type="checkbox"/>
NEWBURG	Myon Klotz	Myon.Klotz@graef-usa.com	NEW	<input checked="" type="checkbox"/>
Village of Kewaskaw	Chad Cook	ccook@village.kewaskaw.wi.us	MKE	<input checked="" type="checkbox"/>

### February 18, 2014 Meetings

Community	CAPI Tier	Contact Name	Email	Watershed	Check In <input checked="" type="checkbox"/>
City of New Berlin	I	Nicole Hewitt & colleagues	nhewitt@newberlin.org	Both	<input checked="" type="checkbox"/>
Racine County	II	David Maack	David.Maack@goRacine.org <i>Director</i>	UF	<input checked="" type="checkbox"/>
City of Muskego	II	David Simpson			<input checked="" type="checkbox"/>
City of Muskego	II	Adam Trzebiatowski	ATrzebiatowski@cityofmuskego.org	UF	<input checked="" type="checkbox"/>
Kenosha County	II	Andy Buehler	Andy.Buehler@kenoshacounty.org	UF	<input checked="" type="checkbox"/>
Kenosha County	II	Dan Treloar	Dan.Treloar@kenoshacounty.org	UF	<input checked="" type="checkbox"/>
City of New Berlin		Greg Kankel		UF	<input checked="" type="checkbox"/>

## VII. Appendix G: State of Wisconsin Mitigation Grants in Upper (Illinois) Fox Watershed

**TABLE J-1 HAZARD MITIGATION GRANT PROGRAM (HMGP) PROJECTS FUNDED IN THE UPPER FOX WATERSHED**

Disaster Number	Year	Community	County	Cost HMGP Funds	Project Description	Comments
DR-1180	1997	Brookfield, City	Waukesha	\$139,203	Acquisition of 1 residential structure	
DR-1180	1997	Menomonee Falls, Vil.	Waukesha	\$1,969,799	Acquisition of 11 residential structures	
DR-1236	1998	Brookfield, City	Waukesha	\$140,060	Acquisition of 1 residential structure	
DR-1236	1998	Menomonee Falls, Vil	Waukesha	\$397,396	Acquisition of 2 residential structures	Continuation of the DR-1180 project for Menomonee Falls
DR-1236	1998	New Berlin, City	Waukesha	\$93,947	Acquisition of 1 residential structure	
DR-1238	1998	Kenosha County	Kenosha	\$1,094,835	Acquisition of 18 residential structures in the Fox River floodway	Local match provided by CDBG
DR-1332	2000	Kenosha County	Kenosha	\$736,294	Acquisition of 9 residential structures	Local match provided by CDBG
DR-1369	2001	Kenosha County	Kenosha	\$631,323	Acquisition of 5 residential structures	Continuation of Fox River project
DR-1526	2004	Kenosha County	Kenosha	\$832,164	Acquisition of 26 residential structures	
DR-1719	2007	Kenosha County	Kenosha	\$1,492,414	Acquisition of 23 residential structures (3 SD)	Requested \$3,293,949; also applied to PDM
DR-1719	2007	Mt. Pleasant, Village	Racine	\$241,494	Acquisition of 2 SD residential structures	
DR-1768	2008	Kenosha County	Kenosha	\$2,488,118	Acquisition of 16 residential structures (8 SD)	
DR-1768	2008	Sugar Creek, Town	Walworth	\$840,991	Acquisition of 5 SD residential structures	

**TABLE J-2 HMGP PLANS FUNDED IN THE UPPER FOX WATERSHED**

Disaster Number	Year	Community	County	Cost HMGP Funds	New Plan or 5-Year Update	Plan Status
DR-1768	2008	Kenosha County	Kenosha	\$40,000	Update	Plan is approved

\$74,273,863 in HMGP project and planning funds have been spent in or allocated to the State, as of June 30, 2011.

**TABLE J-3 FLOOD MITIGATION ASSISTANCE (FMA) PROJECTS FUNDED IN THE UPPER FOX WATERSHED**

Year	Community	County	Cost FMA Funds	Project Description	Comments
1999	Kenosha County	Kenosha	\$166,800	Acquisition of 2 residential structures	Local match provided by global match funds under DR-1238
2000	Brookfield, City	Waukesha	\$46,267	Acquisition of 1 repetitive loss property	Supplemented by FMA 2001 funds
2001	Brookfield, City	Waukesha	\$140,219	See 2000, Brookfield, City above	
2001	Kenosha County	Kenosha	\$53,448	Acquisition of 1 residential structure	Continuation of Fox River project

2003	WEM	All	\$16,320	Technical support for applicants	Personnel, travel, supplies
2005	WEM	All	\$11,464	Technical assistance to subgrantees	Personnel, travel, supplies
2006	Kenosha County	Kenosha	\$ -	Acquisition of 1 residential structure	Grant funds returned because negotiations with property owner
2007	Kenosha County	Kenosha	\$124,767	Acquisition of 1 residential structure	
2007	WEM	All	\$4,020	Technical assistance to subgrantees	Personnel, travel, supplies
2010	WEM	All	\$8,994	Technical assistance to subgrantees	Personnel, travel, supplies

**TABLE J-4 FMA PLANS FUNDED IN THE UPPER FOX WATERSHED**

Year	Community	County	Cost FMA Funds	Plan Status
1996/1997	Kenosha County	Kenosha	\$6,000	Plan is approved
1999	Brookfield, City	Waukesha	\$10,000	Plan is approved

FMA planning grants can only be used for flood mitigation plans or plan sections. Because most counties in the state now use all-hazards mitigation plans which include flood hazards, planning funds that can only be used for flood mitigation plans are no longer applied for. \$2,021,058 in FMA project and planning funds have been spent in or allocated to the State as of June 30, 2011.

**TABLE J-5 PRE-DISASTER MITIGATION (PDM) PROJECTS FUNDED IN THE UPPER FOX WATERSHED**

Year	Community	County	Cost PDM Funds	Project Description	Comments
2002	WEM	All	\$15,520	Technical assistance	Personnel, travel, and supplies
2003	WEM	All	\$32,834	Technical assistance	Personnel, travel, and supplies
2003C	Kenosha County	Kenosha	\$390,073	Acquisition of 3 residential structures and 5 vacant parcels	
2003C	WEM	All	\$176,812	Technical assistance	Personnel, travel, and supplies
2005C	State of Wisconsin	All	\$182,010	Development of structure inventory database	
2005C	WEM	All	\$88,480	Technical assistance	Personnel, travel, and supplies
2006C	WEM	All	\$22,141	Technical assistance	Personnel, travel, and supplies
2007C	WEM	All	\$70,092	Technical assistance	Personnel, travel, and supplies
2008C	WEM	All	\$23,897	Technical assistance	Personnel, travel, and supplies
2008C	WEM		\$18,906	Technical assistance	LPDM; personnel, travel, and
2009C	WEM	All	\$25,579	Technical assistance	Personnel, travel, and supplies
2010C	WEM	All	\$47,859	Technical assistance	Personnel, travel, and supplies

**TABLE J-6 PDM PLANS FUNDED IN THE UPPER FOX WATERSHED**

Year	Community	County	Cost PDM Funds	New Plan or 5-Year Update	Plan Status
2002	Kenosha County	Kenosha	\$24,200	New	Plan is approved
2007C	Walworth County	Walworth	\$41,878	New	Plan is approved
2007C	Waukesha	Waukesha	\$63,977	New	Plan is approved
2007C	WEM	All	\$402,574	Update	Agreement with UW for HAZUS flood risk assessment
2008C	Racine County	Racine	\$40,000	Update	Update is approved

\$10,152,632 in PDM project and planning funds have been spent in or allocated to the State as of June 30, 2011.

#### TABLE J-7 COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) PUBLIC FACILITIES (PF) PROJECTS

Contract	Applicant	County	Award	Project Description
FY99-0504	Menomonee Falls, Vil.	Waukesha	\$171,261	Acquire two of ten floodplain properties (land and buildings)

#### TABLE J-8 CDBG EMERGENCY ASSISTANCE PROGRAM (EAP) PROJECTS

Contract/ EAP #	Grantee Name	County	Award Amount	Project Description
89195.01	Wheatland, Town	Kenosha	\$500,000	Acquire/demolish homes/hazardous structures and provide relocation assistance to homeowners
89195.02	Kenosha County	Kenosha	\$648,000	Acquire/demolish homes/hazardous structures and provide relocation assistance to homeowners
80195.04	Kenosha County	Kenosha	\$250,000	Acquisition/relocation and demolition and clearance of hazardous structures
EAP #05-06	Kenosha County	Kenosha	\$109,000	Rehabilitation of damaged housing units, replacement of wells/septic systems and water/sewer lines, construction of replacement housing units, demolition and clearance of hazardous structures, and acquisition/relocation
EAP #07-11	Kenosha County	Kenosha	\$900,108	Rehabilitation of damaged housing units, acquisition/demolition/relocation, LiDAR
EAP #08-09	Racine County	Racine	\$277,000	Rehabilitation of damaged housing units, LiDAR
EAP #08-13	Walworth County	Walworth	\$474,000	Rehabilitation of damaged housing units, acquisition and demolition
EAP #08-25	Waukesha County	Waukesha	\$3,533,120	Rehabilitation of damaged housing units, stormwater management, dam repairs, detention pond,
EAP #08-45	Waterford, Village	Racine	\$1,108,200	Public facilities pump station
EAP #08-68	Pleasant Prairie, Village	Kenosha	\$794,300	Rehabilitation of damaged housing units, stormwater management

Approximately \$109,714,279 in CDBG funds for projects with mitigation components has been spent in or allocated to the State as of June 30, 2011. This list is only an estimate for two reasons: First, some of the award amounts listed include non-mitigation projects, but the amount spent on mitigation projects was inextricable so the entire amount is listed; Second, some projects were omitted from the list because the mitigation component was relatively small.

Table D.7 lists the CDBG-PF funds only through 2004 because relevant PF project awards are added into the EAP award amounts for

all subsequent years.

LiDAR stands for Light Detection and Ranging and is used to create accurate floodplain and other topographical maps.

**TABLE J-9 MUNICIPAL FLOOD CONTROL GRANT PROGRAM PROJECTS, 2002-2011**

Year	Grant Number	Community	County	Funds	Description
2006-07	MFC-67206-06	Brookfield, City	Waukesha	\$207,922.50	Dam removal, channel restoration
2006-07	MFC-67261-06	New Berlin, City	Waukesha	\$129,317.06	Property acquisition
2006-07	MFC-22046-05	Paris, Town	Kenosha	\$43,584.80	Property acquisition
2006-07	MFC-30016-06	Wheatland, Town	Kenosha	\$0.00	Fox River mitigation - negotiations with property owner failed
2008-09	MFC-30016-08	Wheatland, Town	Kenosha	\$546,985.10	2 acquisitions
2008-09	MFC-51151-08	Mt. Pleasant, Village	Racine	\$200,000.00	River restoration
2010-11	MFC-68261-10	New Berlin, City	Waukesha	\$160,020.00	1 acquisition
2010-11	MFC-68206-10	Brookfield, City	Waukesha	\$197,305.50	Flood control project

\$10,686,070.15 has been spent in or allocated in the state for flood mitigation projects by the Municipal Flood Control grant program as of June 30, 2011. The Municipal Flood Control program is run by the Wisconsin Department of Natural Resources.

The dollar amounts in red signify grant award amounts. The grants are still open, so the final expense amount is not yet known. The dollar amounts in black are final expense amounts.