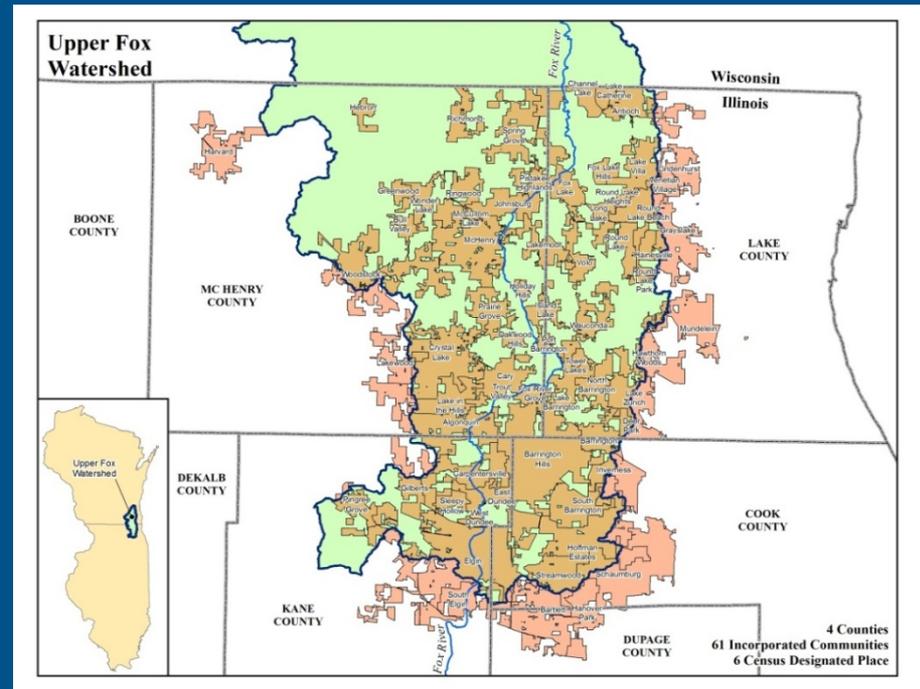




FEMA

Upper Fox Watershed FEMA Risk MAP Action Discovery Meeting October 1, 2014



Glenn Heistand P.E., CFM
 Mary Richardson, CFM
 Brad McVay, CFM

Dan Gambill, P.E.
 Pat Hubbartt, CFM



ILLINOIS STATE
 WATER SURVEY
 PRAIRIE RESEARCH INSTITUTE



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 UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

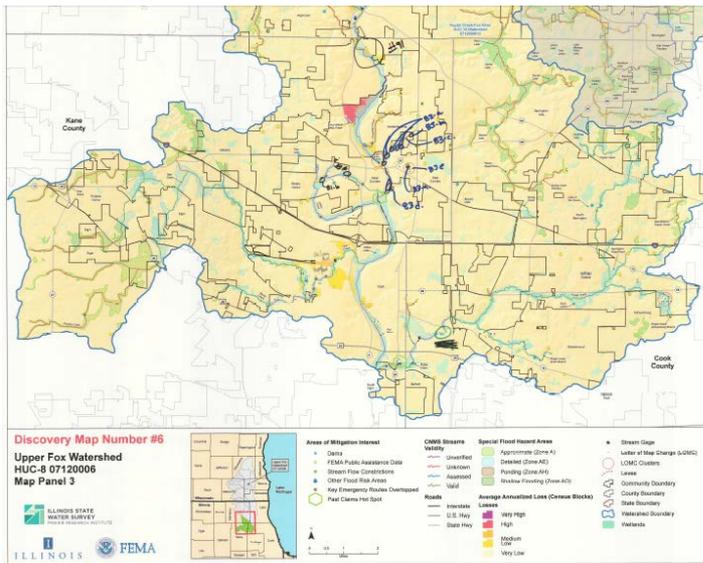
RiskMAP

Increasing Resilience Together



Risk MAP *Discovery*

- Upper Fox Discovery Meetings held in November 2012
- The goal was to work closely with the communities to gain a better understanding of local flood risk.
- Community flood risk information was collected during break-out sessions.



Upper Fox River Watershed
Comment Form #83

Please, provide the following information: Date: 11-30-12

Name: Joseph Heinz
Community/County: East Dundee
E-mail: jheinz@glennzoo.com Phone: 847-426-5535

Explain your comment below and attach any 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.

Check Comment Subject:

<input type="checkbox"/> Levee or Dam	<input type="checkbox"/> Development (past, current, or future within 5 yrs.)
<input type="checkbox"/> Non-Levee Embankments	<input checked="" type="checkbox"/> Significant Riverine Erosion
<input checked="" type="checkbox"/> Stream Flow Constriction (including ice jams)	<input type="checkbox"/> Area needing mitigation action to reduce flooding (explain need below)
<input checked="" type="checkbox"/> Overtopped Road During Flooding Events	<input checked="" type="checkbox"/> Areas of Mitigation Success
<input type="checkbox"/> At-Risk Essential Facilities	<input type="checkbox"/> Other Flood Risk Issue

Comment Marked on:

Discovery Map # 6 DFIRM Panel # _____ Other _____

A. Overtopping
B. Development of 5th Regional Stormwater Management Facility
C. Review area on glacial hill lots of erosion
D. Ice clearing on the Fox
E. Would be nice to have a study completed

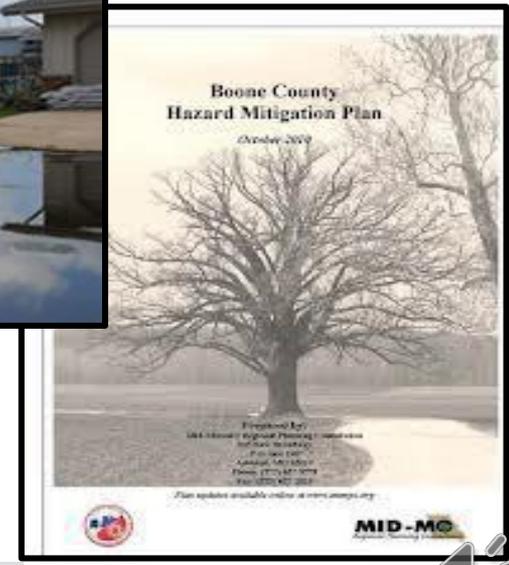
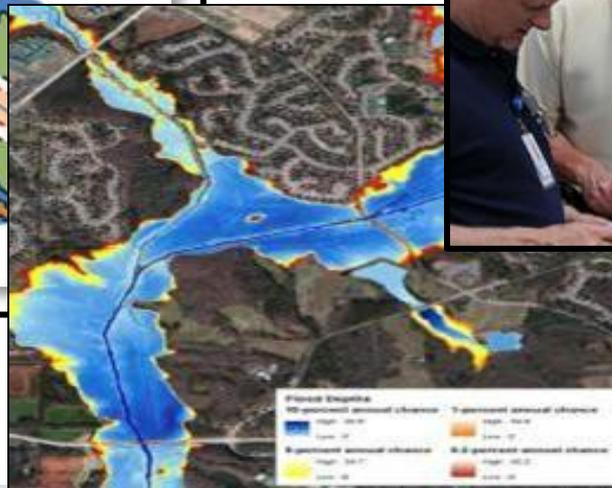
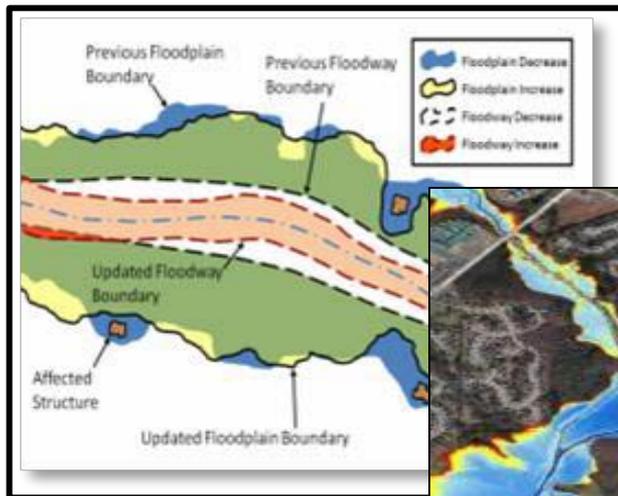
Mitigation Action -

Continue on back side if necessary. Please return form to: Pat Hubbard, Illinois State Water Survey, 2204 Griffith Drive, MC-674 Champaign, IL 60820 or e-mailed to hubbarrt@illinois.edu.



Risk MAP *Action* Discovery “Mitigation”

Through collaboration with State, Local, and Tribal entities, Risk MAP (Mapping, Assessment and Planning) will deliver quality data that increases public awareness and leads to *action that reduces risk* to life and property.



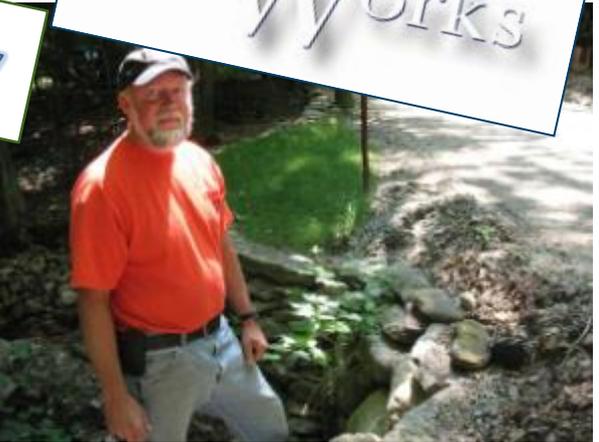
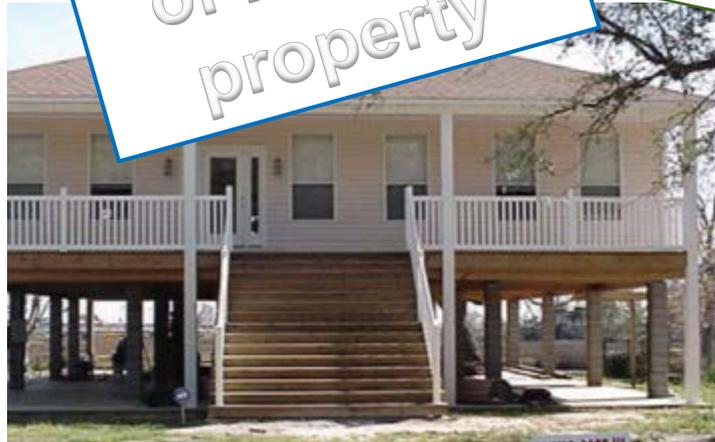
Building Community Resilience

- To increase a community's ability to **reduce flood risk** through **mitigation efforts** resulting in less loss of life and property so the community can recover quicker.

Reduce loss
of life and
property

Sustainability

Mitigation
Works



FEMA's Toolbox

Publications

Mitigation Ideas
A Resource for Reducing Risk to Natural Hazards
January 2013

Build Back Safer and Stronger
What You Need to Know

National Flood Insurance Program Increased Cost of Compliance Coverage
Creating a Safer Future



Education
www.ready.gov/kids

Natural Hazards Mitigation Plan
Kane County, Illinois

Natural Hazards Mitigation Planning Committee
Originally Published September 2003
Updated January 2009

Lake County All Natural Hazards Mitigation Plan
Lake County, Illinois

June 2012

Developed by Lake County Local Planning Committee

Plan coordinated by Lake County Community Management Commission and the Lake County Emergency Management Agency

Update of 2005 Comprehensive All Natural Hazards Mitigation Plan

Planning assistance provided by

McHenry County Natural Hazards Mitigation Plan

McHenry County Hazard Mitigation Planning Committee

December 2010

Hazard Mitigation Plans

Mitigation Action Tracker

FEMA Mitigation Action Tracker

Search by State:

Map of the United States showing mitigation action data by state.



Depth Grids



Discovery Products

ILLINOIS FLOODMAPS .ORG

Upper Fox Watershed Discovery

About the Upper Fox

The Upper Fox Watershed is located in the southeastern part of Wisconsin and in the northeastern section of Illinois. The watershed area includes parts of Rockford, Peoria, Watsega, and Milledgeville, Illinois, and Adams and Cook Counties, Illinois. Two Discovery Meetings were held in both Illinois and Wisconsin.

Updated: 9/20/14

Action Discovery Materials

- Upper Fox North Action Discovery Map (PDF)
- Upper Fox South Action Discovery Map (PDF)
- Mitigation Action Plans for Upper Fox Watershed (PDF)
- Upper Fox Watershed Discovery Meetings Comments (PDF)

Discovery Report, Map, and Database

- Draft Discovery Report for Upper Fox Watershed (PDF)
- Draft Discovery Map Panel 1 for Upper Fox Watershed (PDF)
- Draft Discovery Map Panel 2 for Upper Fox Watershed (PDF)
- Upper Fox Watershed Draft Discovery Database (Google Database)
- Draft Discovery Data Layers (PDF)

CRS

National Flood Insurance Program Community Rating System

A Local Official's Guide to Saving Lives Preventing Property Damage Reducing the Cost of Flood Insurance

FEMA 573

Changes Since Last FIRM



What Is CRS?



- **FEMA National Flood Insurance Program Administered by ISO (Insurance Services Office)**
- **Recognition for Going Above and Beyond Minimum NFIP Standards with Reduce Flood Insurance Premiums**
- **Voluntary Program with Community Activities for Point Accumulation**
- **Based on a 10 Class System. 500 Points & 5% Discount / Class**
- **Local Floodplain Management Program More Organized.**
- **Free Technical Assistance for Certain Activities**
- **Better Educated Public**
- **Reduced Flood Damage and Faster Recovery**



Premium Discounts



Class	Points	SFHA	Non-SFHA
1	4,500	45%	10%
2	4,000	40%	10%
3	3,500	35%	10%
4	3,000	30%	10%
5	2,500	25%	10%
6	2,000	20%	10%
7	1,500	15%	5%
8	1,000	10%	5%
9	500	5%	5%
10		0	0

Upper Fox CRS Communities

Community/County	Rating	Premium Discount
Carpentersville / Kane	6	20%
Crystal Lake / McHenry	6	20%
Lake In The Hills / McHenry	6	20%
Lake County	6	20%
McHenry County	8	10%



CRS Activities



- **Public Information**
- **Mapping & Regulatory**
- **Flood Damage Reduction**
- **Warning & Response**



Public Information Hazard Mitigation Plans & CRS

Kane County Public Information Activities				
Municipality	Community newsletter	Website	Website links for hazards	Technical assistance
Algonquin	Yes	Yes	Yes	No
Aurora	Yes	Yes	Yes	Yes
Batavia	Yes	Yes	Yes	Yes
Big Rock	Yes	Yes	Yes	No
Burlington	No	No	N/A	No
Campton Hills	Yes	Yes	Yes	No
Carpentersville	Yes	Yes	No	No
East Dundee	Yes	Yes	No	Yes
Elburn	No	Yes	No	No
Elgin	Yes	Yes	No	Yes
Geneva	Yes	Yes	Yes	Yes
Gilberts	Yes	Yes	Yes	Yes
Hampshire	No	Yes	No	No
Huntley	Yes	Yes	No	Yes
Kane County	No	Yes	Yes	Yes
Kaneville	No	Yes	No	No
Lily Lake	Yes	No	N/A	No
Maple Park	Yes	Yes	No	No
Montgomery	Yes	Yes	No	Yes
North Aurora	Yes	Yes	No	Yes
Pingree Grove	Yes	Yes	No	No
Sleepy Hollow	Yes	Yes	No	No
South Elgin	Yes	Yes	No	Yes
St. Charles	Yes	Yes	No	Yes
Sugar Grove	Yes	Yes	Yes	No
Virgil	No	No	No	No
Wayne	Yes	No	N/A	No
West Dundee	Yes	Yes	No	No



CRS credit: The Community Rating System provides up to 290 points for outreach projects on flood topics. 100 of those points are for having a public information program strategy. This *Plan* qualifies for the strategy credit (see Section 9.6).

Public Information

Hazard Mitigation Plans & CRS

- **Local implementation:** Community libraries in the Village of Algonquin, the Village of Cary, the City of Marengo, and the City of McHenry provides information on hazards and hazard mitigation. The Village of Algonquin, the Village of Lakewood, and the City of McHenry provide web site links to hazard information and hazard mitigation.
- **Action Item 3: Improve Natural Hazards Public Information Efforts**
- Education regarding natural hazards that can impact Lake County should be provided to all Lake County property owners and residents. A number of public information efforts have been implemented, but these efforts should be improved to more effectively reach people and to provide effective messages regarding life, health and safety and property protection. Public information and education efforts should focus on severe summer and winter storms, floods and tornadoes and materials should be developed specifically for Lake County and tailored to Lake County needs.



CRS credit: The Community Rating System provides up to 30 points for having a variety of flood references in the local public library and up to 36 more for similar material on municipal web sites.

Flood Damage Reduction

Hazard Mitigation Plans & CRS

Local implementation: Aurora and East Dundee have plans to do additional local drainage system improvements in the Blackberry Creek and Fox River watersheds, respectively. These efforts are to alleviate problems during heavy local rains

Double 18-inch concrete culverts were replaced with double 36-inch concrete culverts on No Name Creek in East Dundee in 2002 . East Dundee has additional plans to replace double 18-inch CMP culverts about 100 feet upstream of this location.



CRS Criteria: The Community Rating System credits capital improvement plans that fund drainage improvements that reduce the need for maintenance or that eliminate bottlenecks, logjams and other maintenance problems. Up to 50 points are provided

Flood Damage Reduction

Hazard Mitigation Plans & CRS

- **Lake County ANHMP**
- **Action Item 9: Property Protection Projects**
- Properties that are exposed to flood damage and severe storms throughout Lake County should be protected through property protection measures where regional structural projects are not feasible. Property protection measures should include, but not be limited to, acquisition, elevation, floodproofing, or retrofitting. Priority should be given to repetitive loss properties, but all flood prone properties (floodplain, depressional storage or SMC problem areas) including critical facilities should be included.
- **Action Item 14: Improve Capacity of Drainage Systems**
- When opportunities arise and when downstream areas are not adversely impacted (or mitigated), communities should strive to increase the capacity of drainage systems. Drainage improvements may include opening up restrictive culverts or bridges, storm sewer improvements, etc



Mapping and Regulatory Hazard Mitigation Plans & CRS

- Table 4-3 McHenry Countywide Stormwater Ordinance –

Certified Community Status

Municipality:		Status:
Village of	Algonquin	Kane
Village of	Barrington Hills	Non-Certified
Village of	Bull Valley	Non-Certified
Village of	Cary	Non-Certified
City of	Crystal Lake	Certified
Village of	Fox Lake	Lake-part
Village of	Fox River Grove	Non-Certified
Village of	Greenwood	Non-Certified
City of	Harvard	Non-Certified
Village of	Hebron	Certified
Village of	Holiday Hills	Non-Certified
Village of	Huntley	Kane
Village of	Island Lake	Lake-full
Village of	Johnsburg	Certified
Village of	Lake in the Hills	Certified
Village of	Lakemoor	Non-Certified
Village of	Lakewood	Certified
City of	Marengo	Certified
Village of	McCullom Lake	Certified
City of	McHenry	Certified
Village of	Oakwood Hills	Non-Certified
Village of	Port Barrington	Lake-part
Village of	Prairie Grove	Certified
Village of	Richmond	Certified
Village of	Ringwood	Certified
Village of	Spring Grove	Certified
Village of	Trout Valley	Non-Certified
Village of	Union	Certified
Village of	Wonder Lake	Certified
City of	Woodstock	Certified

The County and all municipalities should receive at least 300 points for these provisions of the McHenry County Stormwater Ordinance. They certainly exceed minimum State and Federal requirements.



Mapping and Regulatory Hazard Mitigation Plans & CRS

- **Action Item 4: SMC Flood Mitigation Projects**
- Based on the findings in Chapter 3 of this ANHMP, it is important for the Lake County SMC to continue with their watershed management efforts for the purpose of flood mitigation in unincorporated Lake County and within the Lake County municipalities.
- b. Priority actions for the **Fox River Watershed** in the next five years include
 - • Floodplain buyout program
 - • Floodplain remapping/studies for Fish Lake Drain, Sequoit Creek, Squaw Creek, and Round Lake Drain/Eagle Creek/Long Lake
 - • Watershed planning/coordination for Fish Lake Drain

Warning and Response

Hazard Mitigation Plans & CRS

- **Action Item 5: Development of Flood Stage Maps**
- Flood stage maps should be developed to show varying depths of flooding and the respective area of inundation for floodplain areas within Lake County's major watersheds. The maps should be developed by watershed based on available hydrologic and hydraulic models. Flood stage maps can be used by all agencies to determine early protection actions.
- Benefits: Flood stage mapping would provide a depiction of the most at-risk structures, intersections, and utilities in the floodplain. They would aid in mitigation project planning. Most importantly, they would provide data for emergency response (and response planning) and allow communities to assess and identify needed resources





FEMA

How To Join

1

Must be
NFIP
Compliant

2

ISO/CRS
Specialist
will help
w/
application

3

Document
Activities
you choose

RiskMAP

Increasing Resilience Together



CRS Contact Information

Lou Ann Patellaro

lpatellaro@iso.com

954-651-5021

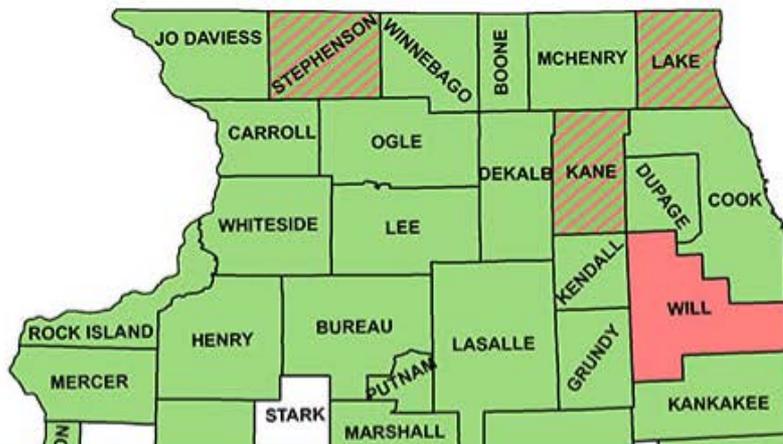
Discovery Products

<http://www.illinoisfloodmaps.org>



FEMA Flood Insurance Rate Maps, Studies, and Database Products

The [Illinois State Water Survey](#) is providing preliminary and final Flood Insurance Rate Maps on this web site. Maps revised between preliminary and final phases are not posted. Effective Flood Insurance Rate Maps are posted at the Federal Emergency Management Agency [Map Service Center](#) web site. The FEMA web site for each effective digital FIRM may be accessed by selecting the county and individual map.



What is a DFIRM?

The Digital Flood Insurance Rate Map (DFIRM) Database is a digital version of the FEMA flood insurance rate map that is designed for use with digital mapping and analysis software.



A sample DFIRM showing areas of greater flood risk in blue

The DFIRM is designed to provide the user with the ability to determine the flood zone, base flood elevation within one foot and the floodway status for a particular location. It also

Upper Fox Watershed Discovery

ILLINOIS
FLOODMAPS
.ORG

DFIRMs ▾

Outreach ▾

Services ▾

MT-2 LOMR

Risk MAP

The Federal Emergency Management Agency has initiated the Risk Mapping Assessment and Planning (Risk MAP) program. The vision for Risk MAP is :Through collaboration with State, Local, and Tribal entities, Risk MAP will deliver quality data that increases public awareness and leads to action that reduces risk to life and property.

Outreach to communities is an essential element for Risk MAP success. There are several phases of outreach which is typically conducted at watershed level, using the boundaries of the [Hydrologic Unit Code 8 basins](#). Information about a community's flood risk is vital for residents, community planners, officials, and other stakeholders to prepare for floods and prevent serious damages.

In the Discovery process, information is gathered to gain a more comprehensive understanding of risks, and stakeholders are encouraged to address this issue in their communities. Important data may include information on historical flooding, existing flood hazards, and mitigation efforts. In addition, state and tribal mitigation plans and plans from other communities are reviewed to document flood risk assessments and mitigation strategies already underway in the watershed.

Once the information is gathered, FEMA may determine that a flood risk project should be initiated. Data and information gathered during the Discovery process will be used to (1) identify technical assistance for hazard mitigation planning; (2) determine which flood risk products would be developed; and (3) plan a communication strategy to increase flood risk awareness among communities in the watershed.

Watershed Discovery

[Cache River Watershed Discovery](#)

[Chicago River Watershed Discovery](#)

- Cache River Watershed Discovery
- Chicago River Watershed Discovery
- Des Plaines Watershed Discovery
- Lower Fox Watershed Discovery
- Lower Rock Watershed
- Lower Rock Watershed in Winnebago County Discovery
- Lower and Middle Wabash Watershed Discovery
- Saline River Watershed Discovery
- Upper Fox Watershed Discovery**
- Upper Sangamon Watershed Discovery
- Peoria County Outreach Meeting



Community Officials examine watershed map

The Discovery process helps communities identify areas at risk for flooding and solutions for reducing that risk.

Upper Fox Discovery Database

ILLINOIS
FLOODMAPS
.ORG

DFIRMs ▾

Outreach ▾

Services ▾

MT-2 LOMR

Upper Fox Watershed Discovery

The Upper Fox Watershed is located in the southeastern part of Wisconsin and in the far northeastern section of Illinois. The watershed area includes parts of Kenosha, Racine, Walworth, and Waukesha Counties in Wisconsin and Cook, Kane, Lake and McHenry Counties in Illinois. Two Discovery meetings were held in both Illinois and Wisconsin.

Updated: 9/4/2014

Action Discovery Materials

- [Upper Fox North Action Discovery Map \(PDF\)](#)
- [Upper Fox South Action Discovery Map \(PDF\)](#)
- [Mitigation Action Form for Upper Fox Watershed \(fillable PDF\)](#)
- [Upper Fox Watershed Discovery Meetings Comments \(PDF\)](#)

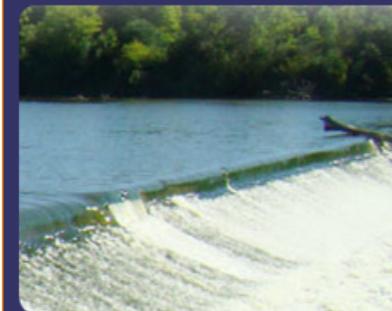
Discovery Report, Map, and Database

- [Draft Discovery Report for Upper Fox Watershed \(PDF\)](#)
- [Draft Discovery Map Panel 1 for Upper Fox Watershed \(PDF\)](#)
- [Draft Discovery Map Panel 2 for Upper Fox Watershed \(PDF\)](#)
- [Upper Fox Watershed Draft Discovery Database \(zipped database\)](#)
- [Draft Discovery Data Layers \(PDF\)](#)

[Links to Discovery-related websites](#)

About the Upper Fox

The Upper Fox Watershed, HUC 07120006, is located in the far northeastern part of Illinois and the southeastern part of Wisconsin. The entire watershed covers 1543 square miles of which the Illinois portion covers 617 square miles or approximately forty percent.



Fox River near Carpentersville

The Illinois portion of the Upper Fox watershed includes sections of Cook, Kane, Lake, and McHenry Counties.

Mitigation Action Tracker (MAT)

- The **Mitigation Action Tracker (MAT)** is a Web-based tool used to capture, store, organize and track mitigation actions.
- Community officials are encouraged to utilize this tool as a resource for organizing and tracking potential mitigation actions in their community.
- Numerous mitigation actions have been entered as part of our follow up work after Risk MAP Discovery meetings.

