

# Upper and Lower Rock Watersheds

## Risk MAP Meeting

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Wisconsin DNR

# From Map Mod to Risk MAP

|  |  |
|--|--|
| <p><b>2003 – 2008<br/>Map Modernization<br/>Program</b></p> <p>↓</p>         | <ul style="list-style-type: none"><li>• Multi-year FEMA program to update the nation's flood insurance rate maps (FIRMs) to as <u>digital, countywide format</u>.</li></ul>            |
| <p><b>2009<br/>Transition Year</b></p> <p>↓</p>                              | <ul style="list-style-type: none"><li>• Funding year between FEMA multi-year programs</li><li>• Funding provided for the main stem of the Rock River to the Illinois border.</li></ul> |
| <p><b>2010 - ?<br/>Risk MAP<br/>Mapping, Assessment and<br/>Planning</b></p> | <ul style="list-style-type: none"><li>• New multi-year FEMA program using a watershed approach</li><li>• Funding provided for Upper and Lower Rock River watershed studies</li></ul>   |

# Risk MAP Lifecycle

Focus on Better Risk Communication



# Program Goals and Measures

## Risk MAP Goals

### Goal 1: Data Gaps

Address gaps in flood hazard data

### Goal 2: Awareness & Understanding

Measurable increase of public awareness & understanding

### Goal 3: Mitigation Planning

Lead effective engagement in Mitigation Planning

### Goal 4: Digital Platform

Provide an enhanced digital platform

### Goal 5: Synergize Programs

Align Risk Analysis programs and develop synergies

## Risk MAP Measures

- Ensure 80 percent of the Nation's flood hazards are current by 2014 – the flood hazard data are new, have been updated, or deemed still valid through Risk MAP review and update process

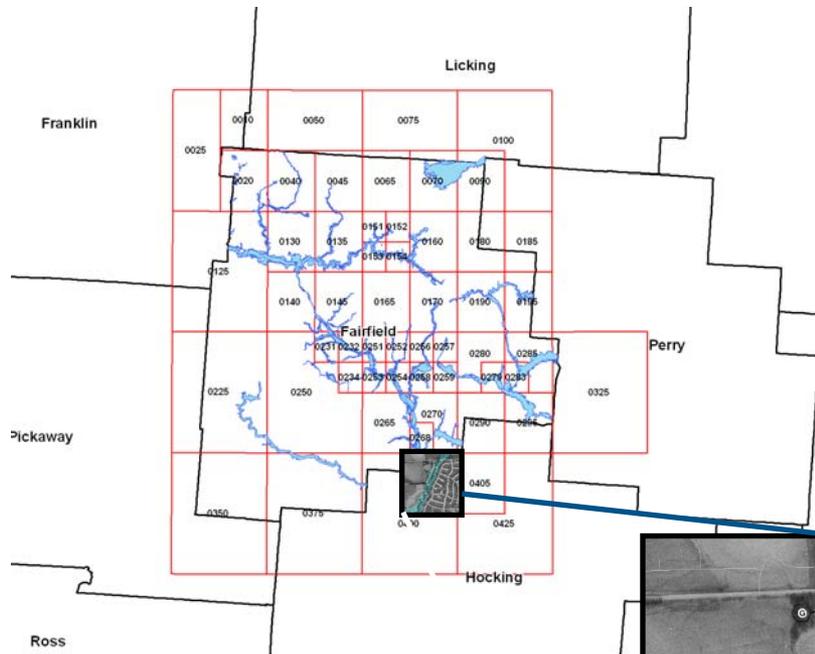
- Increase State, local, and Tribal officials' level of understanding of flood risk

- Ensure 80 percent of the U.S. population (excluding territories) is covered by a Local or Tribal hazard mitigation plan that is approved or approvable pending adoption

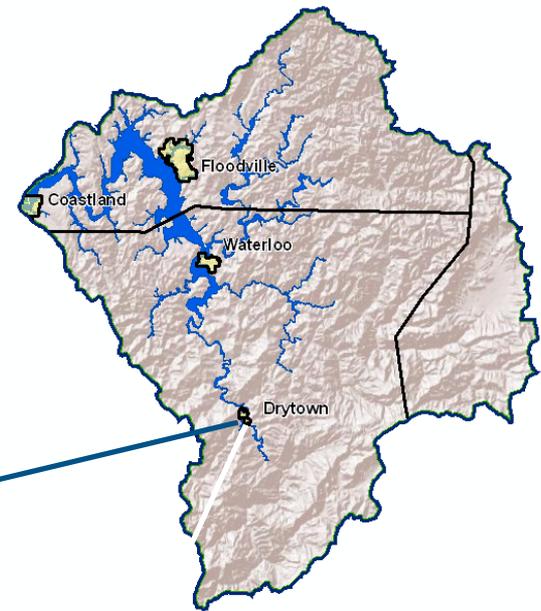
- Percent of Local hazard mitigation plans approved using quality Risk MAP data or better

- Establish a culture of continuous improvement and executing projects aimed at reducing process cycle time and improving the quality of Risk MAP products and services

# Geographic Approach / Strategy



Countywide

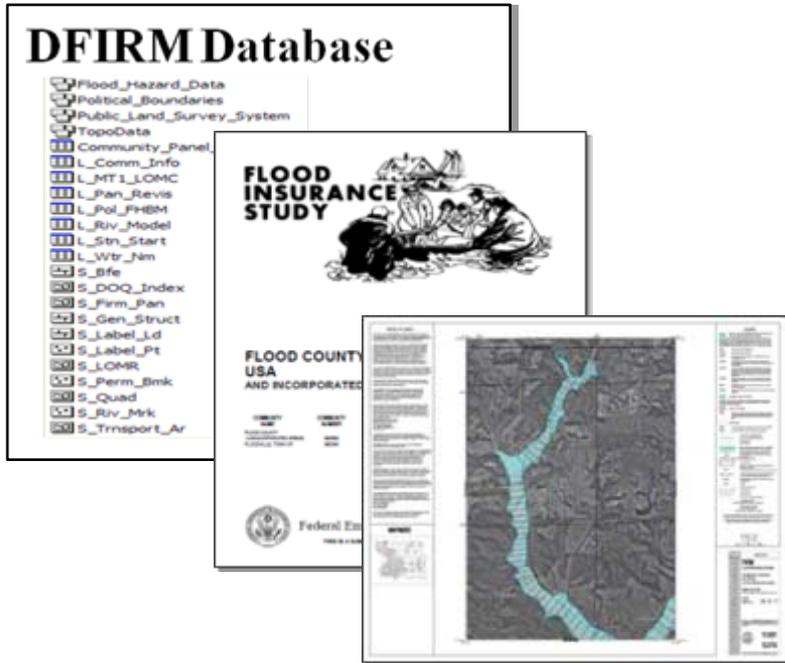


Watershed



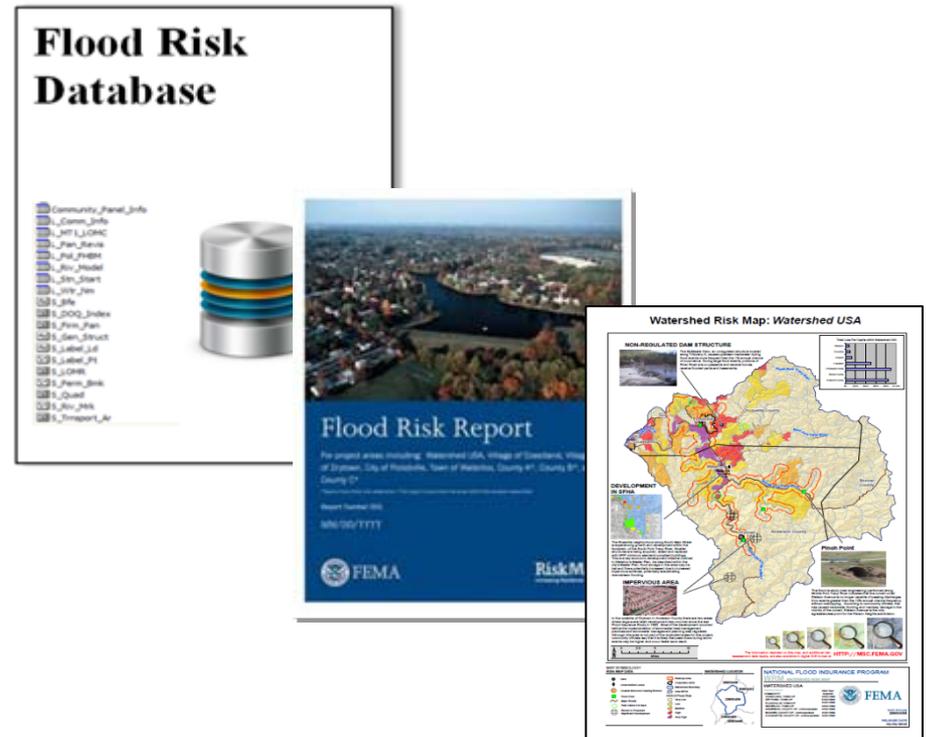
# Risk MAP Program Product Comparisons

## Traditional Regulatory Products



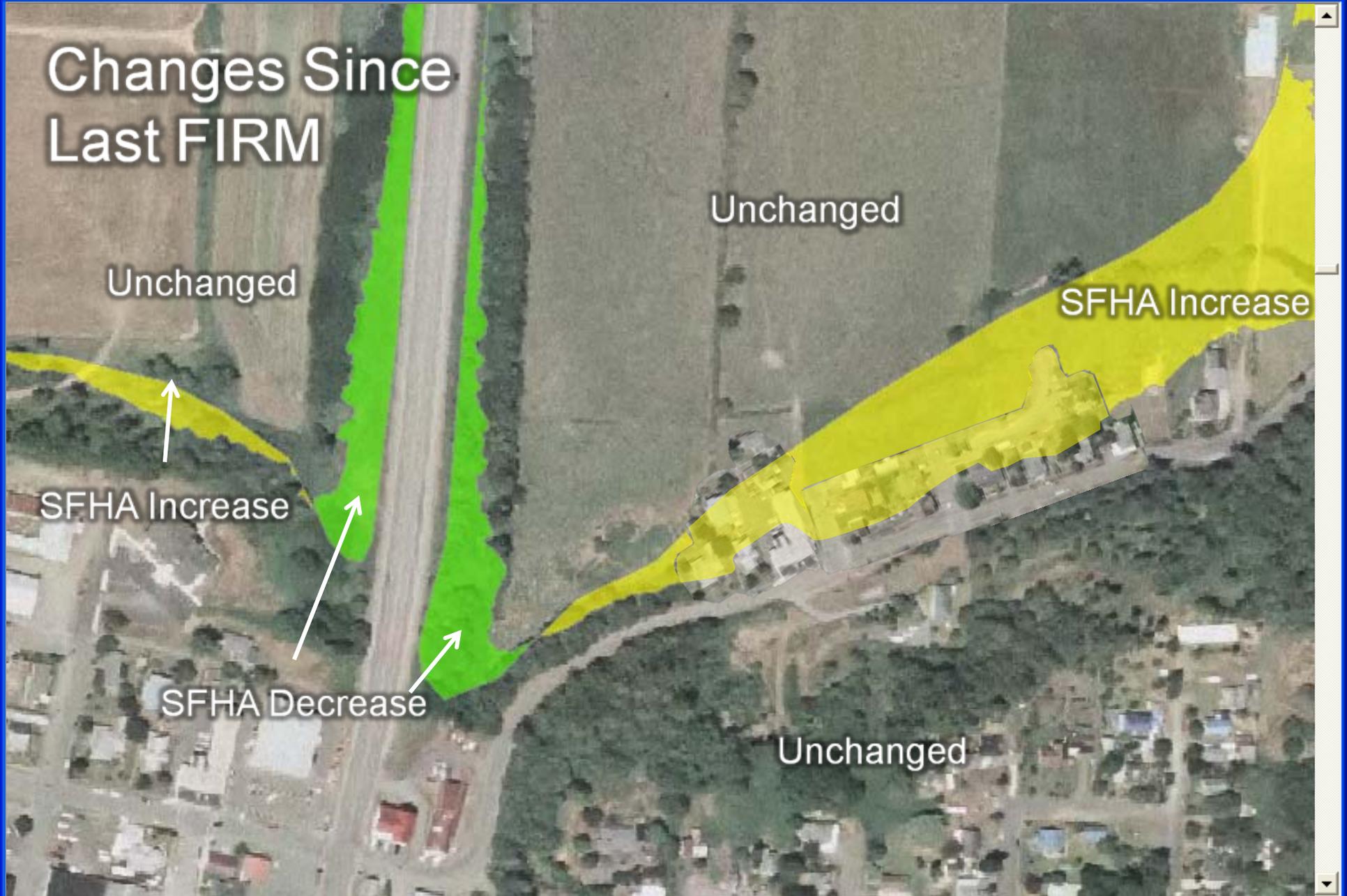
Traditional products are regulatory and subject to statutory due-process requirements

## Non-Regulatory Products



Risk MAP products are non-regulatory and are not subject to statutory due-process requirements

# Changes Since Last FIRM



Unchanged

Unchanged

SFHA Increase

SFHA Increase

SFHA Decrease

Unchanged

# Changes Since Last FIRM



| Data Fields Include                     | Example Data Values                             |
|---|---|
| Old Study Date                          | e.g. 1985                                       |
| Old Model Type(s)                       | e.g. HEC-1 / HEC-2                              |
| Old Zone Type                           | e.g. Zone A                                     |
| Old Topography                          | e.g. USGS 10-ft                                 |
| New Study Info/Methods                  | Dates, Models, etc.                             |
| New Study Zone                          | e.g. Zone AE                                    |
| New Topography                          | e.g. LiDAR 2-ft                                 |
| New Study Engineering Factors / Changes | e.g. new structures, gages, topo, landuse, etc. |
| Estimated Structures                    | e.g. 9  |
| Estimated Population                    | e.g. 27   |

**Enhanced**

# Flood Risk Database (**red** = enhanced)



## Changes Since Last FIRM

- Horizontal Changes and Results
- Structure/Population counts impacted by change**

## Depth & Analysis Grids

- Depth (10, 04, 02, 01, 0.2 percent chance)
- Percent Annual Chance
- Percent 30-Year Grid
- Delivery of Water Surface Elevation (multi-freq)**
- Water Surface Elevation Change Grid (1%)**
- Velocity Grids, Annualized Depth, Top and Toe of Levee**
- Multi Freq Grids for Levee and Coastal Areas, etc.**

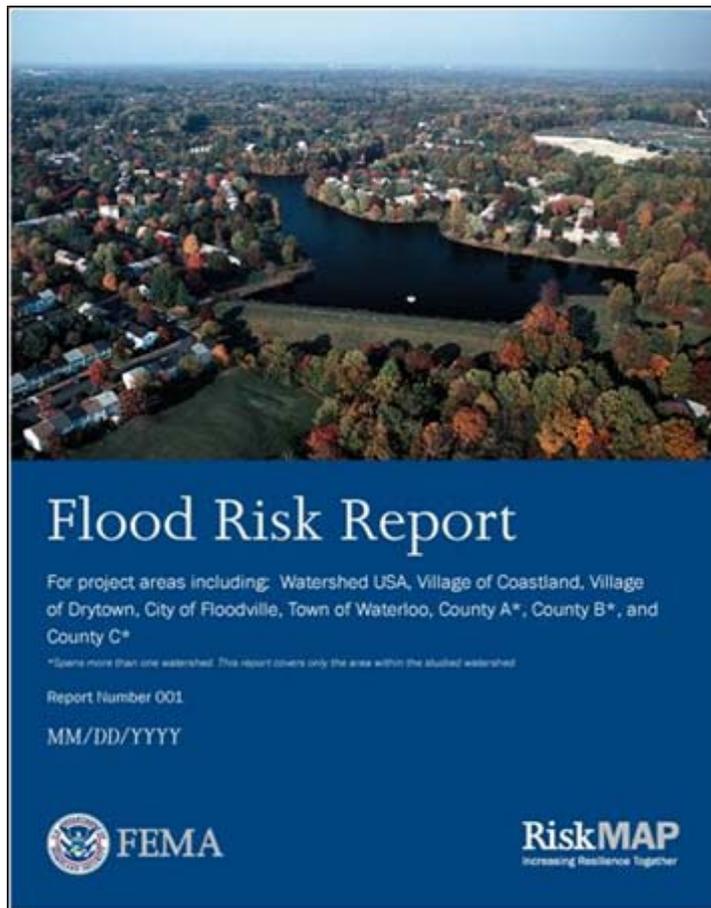
## Flood Risk Assessment

- Average Annualized Loss – 2010
- Refined Flood Risk Assessment
- HAZUS or Non-HAZUS with improved data/assumptions**

## Areas of Mitigation Interest

- Areas of Mitigation Opportunity or Awareness**

# Flood Risk Report Content Overview



- **Background:**
  - Purpose, Methods
  - Risk Reduction Practices
- **Project Results**
  - Changes Since Last FIRM
  - Depth & Analysis Grids
  - Flood Risk Assessment
  - (enhanced analyses)
    - e.g. Areas of Mitigation Interest
- **Summarized by Locations**
  - Communities and Watersheds



# Hazard Mitigation

Roxanne Gray, WI State Mitigation Planner  
Wisconsin Emergency Management Agency

# FEMA Community Rating System

Gary Heinrichs, National Flood Insurance Program Manager

Miriam Anderson, Floodplain Planner

Wisconsin DNR

# Meeting Goals & Tools

Bob Watson, P.E.  
Wisconsin DNR

# SCOPE OF WORK

- Rock River main stem to Illinois border.
  - FEMA funded and WDNR completed
- Rock River Tributaries ~300 miles of new detailed study and 305 miles of engineered A Zones.
  - FEMA funded – Survey, hydraulics and mapping to be contracted out.
- Incorporate studies from Bark River, Portage Rd Trib, Starkweather Creek, West Br. Starkweather Creek.
- Also includes Black Earth Creek in the Lower Wisconsin watershed.

# Meeting Goals

- Identify streams where the effective study/ mapping does not reflect existing conditions
- Areas of growth where more detailed flood study data is needed
- Gather available technical data to support hydrologic and hydraulic studies
- Areas where mitigation projects would benefit from updated/ upgraded flood study data
- Get the conversation started on how flood risk could be reduced

# Next Steps

- Discovery Map Update
- Discovery Report
- Discovery Map and Report posted on the web site
- FEMA Region provided information for prioritization of projects
- Conduct hydrologic and hydraulic studies
- Technical meeting to review preliminary results
- Preliminary DFIRMs presented at Open Houses for public review

# Discovery Maps

Katie McMahan, GIS Manager  
Wisconsin DNR

# Discovery Map

## Legend

|   |  |                                   |  |
|---|--|-----------------------------------|--|
|  Stream Gage             |  FIRM Panel         | <b>Special Flood Hazard Areas</b> |  |
|  Ice Jam                 |  County Boundary    |                                   |  Detailed Study (Zone AE)   |
|  Dam                     |  Community Boundary |                                   |  Approximate Study (Zone A) |
|  Areas of Concern        |  LOMR               |                                   |  |
|  Letter of Map Amendment |  |                                   |  |

## Major Roads

|  |
|--|
|  US Highway           |
|  Interstate Highway |
|  State Highway      |
|  County Highway     |

## Water Lines

|   |
|---|
|  Streams to be Studied |
|  River               |

## Subbasin (HUC-8 Watershed)

|  |
|--|
|  Lower Rock River Watershed |
|  Subbasin Boundary        |

# Break-Out Groups

# Do you know of .....?????

- Inaccurate floodplain boundaries.
- Streams reaches where the effective study does not show existing conditions
- Areas of development or new development in planning that could impact the watershed
- Areas of frequent flooding, especially road closures?  
Overtopped roads?
- Locations of new bridges, culverts, channel realignment
- Streams where more detailed study data is needed
- Locations of observed ice jams.
- Flood mitigation projects been completed or planned
- Technical data or studies that your community needs to help with mitigation projects?