HAZARD MITIGATION

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What is Mitigation?

- Mitigation is any action taken to eliminate or reduce the long-term risk to human life and property from natural and technological hazards.
Break the Cycle

- Mitigation is one of the phases of emergency management (preparedness, response and recovery)
- Can occur in any phase
- Only phase that breaks the cycle
  - Damage, repair, damage
Mitigation Examples

- Structural (dams, retention ponds, levees)
- Land-use planning
- Stronger building codes
- Removing persons out of harms way
More Examples

- Raise appliances and utilities
- Install back-flow valves
- Proper landscaping
- Retrofit for wind resistance
- Construct a safe room
- Mobile Home Tie-Downs
- NOAA Weather Radios
- Education and Public Awareness
- INSURANCE (flood and sewer)
Why Mitigation?

- $140 Billion in the last 25 years in responding to disasters
- $10 Billion per year in flood damages
- Costs continue to rise
- People continue to build and live in high-risk areas
2011

- 10 weather disasters costing more than $1 billion each
- 5 tornado outbreaks
- 2 major river flood events in the upper Midwest
- Drought in the SW

- Blizzard in Midwest and Northeast
- 98 natural disasters in the first 6 months (double the avg. in 1990s)
- More than 700 deaths
- Top $35 billion not counting Hurricane Irene
Here 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
For every dollar spent on mitigation, $4 is saved in future damages.

(Per the National Institute of Building Sciences -2005)
MITIGATION - WEM

- Over $110 million in last 21 years through HMGP/FMA/PDM
- 636 properties acquired (200 + in process)
- 84 properties floodproofed (2 in process)
- 2 structures relocated
- Wind Retrofit
- Storm Shelters
- Education
- Structural (detention ponds, stormwater management, etc.)
- All Hazard Mitigation Plans
DMA2K

- Disaster Mitigation Act of 2000
- PL 106-390 signed into law 10/30/00
- Establish a national disaster hazard mitigation program
  - Section 203 – Pre-Disaster Mitigation Program
  - Section 322 – Mitigation Planning Requirement
Vision

• To reduce disaster losses thru pre-disaster mitigation planning by pre-identifying, cost-effective mitigation.

• Mitigation planning would then streamline and speed up the recovery process.
Mitigation Planning

- Describe actions to mitigate hazards, risks, and vulnerabilities
- Establish strategy to implement those actions
- Pre-identify projects to ensure comprehensive, integrated approach to hazard reduction
Local Planning Options

- Stand alone plan
- Countywide, multi-jurisdictional, watershed, regional
- Integrate into other planning – Comprehensive Planning (Smart Growth)
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
HAZards US – Multi-Hazard

• Federal Emergency Management Agency (FEMA) disaster loss estimation and mitigation planning tool

• Geographic Information System (GIS) based
  – Spatial Analysis tool required
  – Expensive to purchase and to maintain the licenses
  – Census Data
Methodology for Floods, Hurricanes, and Earthquakes

- Physical damage
- Economic Loss
- Social Impacts
Wisconsin HAZUS-MH Risk Assessment

- FFY 07 Pre-Disaster Mitigation Grant
- Coordination with Land Information and Computer Graphics Facility (LICGF) at UW – Madison and The Polis Center at Indiana University – Purdue University at Indianapolis (IUPUI)
- State wide riverine runs for all 72 counties and coastal runs for counties along Lake Superior and Lake Michigan
- Uses Digital Elevation Maps (DEM)
  - DFIRMs where available
  - Better the data, better the ending product

Land Information & Computer Graphics Facility
Risk Assessment Cont’d

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

<table>
<thead>
<tr>
<th>General Occupancy</th>
<th>Estimated Total Buildings</th>
<th>Total Damaged Buildings</th>
<th>Total Building Exposure X 1000</th>
<th>Total Economic Loss X 1000</th>
<th>Building Loss X 1000</th>
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<td>Agricultural</td>
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<td><strong>Total</strong></td>
<td><strong>120,062</strong></td>
<td><strong>588</strong></td>
<td><strong>$37,942,411</strong></td>
<td><strong>$460,477</strong></td>
<td><strong>$180,345</strong></td>
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<td>COUNTY</td>
<td>POPULATION</td>
<td>ESTIMATED TOTAL BUILDINGS</td>
<td>TOTAL DAMAGED BUILDINGS</td>
<td>TOTAL BUILDING EXPOSURE ($1,000)</td>
<td>TOTAL ECONOMIC LOSS ($1,000)</td>
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<td><strong>$54,746,056</strong></td>
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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 Status

• Crawford
  – Original plan expired on August 17, 2010
  – Update draft was reviewed on June 24, 2010
  – Waiting for final plan

• Columbia
  – Plan approved on September 29, 2008
  – Updating Plan

• Dane
  – Updated plan approved on May 12, 2010
• **Grant**
  - Plan approved on October 31, 2007
  - Updating plan

• **Iowa**
  - Draft submitted for state review

• **Richland**
  - Plan approved October 9, 2009

• **Sauk**
  - Updated plan has been forwarded to FEMA for approval
Section 406: Incorporate cost-effective mitigation measures when repairing damaged public facilities.
UNIFIED HAZARD MITIGATION ASSISTANCE PROGRAM

- Hazard Mitigation Grant Program
- Pre-Disaster Mitigation Program
- Flood Mitigation Assistance Program (flood hazard only)
- Repetitive Flood Claims Program (flood hazard only)
- Severe Repetitive Loss Program (flood hazard only)
MITIGATION PROGRAMS

- Project and Planning Grants
- 75/25% cost share
  - HMGP – State provides 12.5% of the local match
  - PDM – 90/10% for small, impoverished
  - RFC – 100% funding
  - SRL – 90/10% with strategy in State Plan
- State, local, and tribal organizations eligible applicants
  - HMGP – certain eligible private, non-profits
- Local Plan required for project funding
  - Exception is RFC Program
FUNDING AVAILABILITY

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

- **FMA**
  - 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 (cont.)

• PDM

  - 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 (cont.)

- RFC
  - Mitigation to NFIP insured structures
  - At least one paid flood insurance claim
  - Flood Mitigation Only
  - No plan requirement
  - Inability to manage subgrant or lack of 25% match
  - National Competition
Funding Availability (cont.)

• SRL
  - 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

- Either on public or private property
- Acquisition/Demolition of structures
- Relocate structures
- Elevation of structures
- Retrofit Structures
- Community Shelters
- Residential Safe Rooms
- Development of standards
- Structural hazard control, i.e., debris basins, floodwalls
- Development/updates of All Hazards Mitigation Plans
Eligible Projects (cont.)

- FMA, RFC, SRL
  - Mitigation to NFIP insured structures
  - Flood mitigation only
Acquisition/Demolition
Elevation
Floodwall
Storm Shelter
Stormwater
Columbia County

- HMGP: $85,393
  - Planning: $45,000 and $21,043 (update)
  - Project: $19,350 (pending - river gauges)
Crawford County:  $3,499,328

- HMGP:  $3,441,995
  - Plan:  $40,000 (update)
  - $589,503 County Highway Shop
  - $110,839 Village of Ferryville
  - $2,527,872 Village of Gays Mills
  - $173,781 Village of Soldiers Grove

- PDM:  $40,000 (plan)

- FMA:  $17,333 (flood plan)
Dane County

• HMGP: $580,315
  - Plan: $40,000
  - $2,180 City of Sun Prairie (Plan)
  - $37,000 Village of Cross Plains
  - $202,034 Village of DeForest
  - $160,511 City of Sun Prairie
  - $32,670 Dane County EM
  - $105,920 Village of Oregon
• **PDM:** $1,002,203
  - $195,331 (Plan Update)
  - $47,560 City of Monona (Plan information)
  - $91,600 City of Monona
  - $17,212 City of Middleton
  - $650,500 Town of Dunn

• **FMA:** $152,748
  - $18,400 Dane County (flood mitigation plan)
  - $134,348 City of Monona
Grant County

• HMGP: $1,246,794
  - $57,440 (Plan)
  - $51,972 (Plan Update)
  - $1,137,382
Iowa County

• HMGP: $76,920
  – $48,360 (Plan)
  – $28,560 Avoca (Plan)
Richland County

- **HMGP:** $203,736
  - $36,000 (Plan)
  - $84,390 Dept. of Natural Resources
  - $83,346 City of Richland Center
Sauk County

• **HMGP:** $9,067,989
  - $19,245 (Plan Update)
  - $16,792 City of Baraboo (Plan)
  - $136,254 City of Baraboo
  - $96,922 Town of Excelsoir
  - $2,602,770 City of Reedsburg
  - $1,376,192 Village of Rock Springs
  - $4,819,814 Town of Spring Green

• **PDM:** $12,750 (Plan)
REQUIREMENTS

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

- 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 (cont.)

- 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
PROCESS (cont.)

- Adhere to deadlines for submitting applications
- The sooner WEM gets the application, the sooner they can process it
Questions?