Hazard Mitigation Overview

Yahara Lakes Advisory Group

April 28, 2011
Discussion Topics

• Recent flood losses and damages
• Hazard mitigation programs
• Project opportunities
## Recent Flood Losses*

<table>
<thead>
<tr>
<th>Date</th>
<th>Damage Assessment (Initial Estimates)</th>
<th>Federal Assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>May 2000</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Losses:</td>
<td>$5.0 million</td>
<td>$1.25 million (Individual Assistance)</td>
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<tr>
<td>Agricultural:</td>
<td>$3.2 million</td>
<td>Not Available</td>
</tr>
<tr>
<td>Public Losses:</td>
<td>$1.1 million</td>
<td>$940,000 (Public Assistance)</td>
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<tr>
<td><strong>August 2007</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Losses:</td>
<td>$3.27 million</td>
<td>$585,000 (Individual and Household Program)</td>
</tr>
<tr>
<td>Agricultural:</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Public Losses:</td>
<td>$1.76 million</td>
<td>Not Declared for Public Assistance</td>
</tr>
<tr>
<td><strong>June 2008</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Losses:</td>
<td>$7.45 million</td>
<td>$3.51 million (Individual and Household Program)</td>
</tr>
<tr>
<td>Agricultural:</td>
<td>$64.4 million</td>
<td>Not Available</td>
</tr>
<tr>
<td>Public Losses:</td>
<td>$6.07 million</td>
<td>$1.53 million (Public Assistance)</td>
</tr>
</tbody>
</table>
* Flood Loss Footnotes

- Source is FEMA and DCEM Records
- Countywide totals
  - Compiled by Dane County Emergency Mgmt
  - Assessed by local units of government
  - Private sector losses are typically self reported
  - Not able to distinguish lake-level related losses
- Assessed for significant flood events only
Damage Assessment Categories

- Affected
- Minor Damage
- Major Damage
- Destroyed
Flood Damage Categories

**Affected**: some damage to the structure and contents, but still habitable (standing water in the basement).
Flood Damage Categories

*Minor Damage:* damaged and uninhabitable, but may be made habitable in short period of time with repairs (significant amount of water in the basement, damage to household utilities).
Flood Damage Categories

*Major Damage*: substantial failure to structural elements of residence (e.g., walls, floors, foundation), or damage that will take more than 30 days to repair (water over the 1\text{st} floor).

(This is not in Dane County)
Flood Damage Categories

**Destroyed**: total loss of structure, structure is not economically feasible to repair, or complete failure to major structural components (e.g., collapse of basement walls/foundation, walls or roof).

(This is not in Dane County)
2008 Flood Event

- Residential units: 2,380
  - 2,020 affected
  - 248 minor damage
  - 109 major damage
  - 3 destroyed
- Businesses: 155
  - 152 minor damage
  - 3 major damage
2008 Flood Event

- Federal Individual and Household Claims
  - Not all claims were paid, not all costs were eligible
  - 1,740 paid claims ($3.51 million total/$2,000 avg)
  - 34 in “100-yr flood” zone
  - 46 in “500-year flood” zone
  - 158 in hydric soil areas
  - 1603 outside of mapped flood hazard areas
    - Stormwater drainage issues
    - High groundwater
What can be done to reduce losses?

Flood mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to life and property from flooding. – The “Prevention” stage of the emergency management cycle.
Flood Mitigation Examples

• Structural (control structures)
  – Levees/floodwalls/berms
  – Channel modifications
  – Retention/detention
  – Not preferred

(This is not in Dane County)
Flood Mitigation Examples

• Non-Structural
  – Land use management/regulation
  – Natural resource protection
  – Flood proofing
  – Acquisition/relocation

Elevated Home
Mitigation Funding Sources

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)
- Repetitive Flood Claims (RFC)
- Severe Repetitive Loss (SRL)
- Community Development Block Grants
- State Programs
National (and State) Priorities

• Reduce reliance on future Federal disaster assistance
• Projects that address NFIP repetitive loss properties:
  – Acquisition and demolition or relocation of flood damaged properties
  – Retrofitting existing buildings
      • Flood proofing, elevation
  – Small structural hazard control projects
Project Requirements

• Substantially reduce risk of future damage
• Be in conformance with FEMA approved hazard mitigation plan
• Be in conformance with environmental and historic preservation regulations
• Be technically, politically, and economically feasible
• Solve the problem (the least amount of on-going maintenance/operation the better)
• Projects on private property must be voluntary
• Demonstrate ability to meet cost-sharing requirements
• **Be cost effective (BCA ratio >1)**
Benefit Cost Analysis (BCA)

- **Direct** benefits must be greater than project costs:
  - Avoided damages to buildings and contents (rule of thumb - equates to first floor flooding or greater)
  - Avoided economic impacts of loss of building function
  - Avoided economic impact of loss of function of infrastructure
  - Avoided death and injury
- **Benefits must be documented**
The Reality

- Past damages in Dane County have been significant, and widespread, but not “substantial”
- Future losses are likely, but not many structures in Dane County are considered high priority by FEMA standards
- Funding amounts are significant, but are not enough to address even the high priority properties
- Projects on the Yahara Lakes tend to rank low in priority and low on the Benefit-Cost ratio
The Reality – Funding Priorities/BCA

This is a priority over this.
Bottom Line for the Yahara System

- Are there hazard mitigation project opportunities on the Yahara Lakes?  
  - Yes
- Are there big opportunities to solve all of the property damage problems?  
  - No
- Opportunities that do exist are site and project specific
Questions?