Post-Flood Watershed Challenges and Opportunities

Bill Ehm: Iowa DNR
Larry Weber: Iowa Flood Center
Julie Tallman: City of Iowa City

Credit: Don Baker, USGS
Flood events are predictable natural occurrences but their impact can be greatly reduced.
A Unified National Program for Floodplain Management

**Goal:** Reduce flood damages

- Modify flooding: Reduce the magnitude and frequency of floods through structural works / physical means
- Modify impact: Lessen the impact of flood damage on individuals and governments
- Modify susceptibility: Learn to live with floods – adopt development policies that minimize flood losses

Three main strategies to reduce the public and private costs of flood damages
Insanity:

Doing the same thing over and over again and expecting different results.

*Albert Einstein*
Flood Plain Regulations

- Regulate floodplains at the 0.2% (500 year) recurrence rather than the 1.0% (100 year) recurrence
- After 0.2% maps have been developed
- Prohibit structures in the floodway
- Limit fill to 3 vertical feet
- No critical infrastructure in the 0.2% floodplain
Summary of Watershed-Based Recommendations

- Hydrologic tiling study
- Multipurpose wetlands
- Watershed Demonstration Pilot
- Reassess practice designs
- Urban stormwater standards
- Update stormwater permits
- Reconnect streams with the floodplain
- Process to purchase floodplain easements
Summary of Funding Recommendations

• Grant program for levee certification ($200,000 annually)

• Watershed based flood plain planning & implementation ($3 million & $50 million annually)

• Additional funding for existing watershed programs (REAP, WSPF, WIRB, etc.)

• Additional staff for field level work watershed work ($4.2 million annually)

• Continue Iowa Flood Center & DNR Flood Plain Section ($4.3 million annually)
In response to extreme flooding in 2008, the State of Iowa established (and funded) the new Iowa Flood Center at IIHR. The legislature appropriated $1.3M for the center in its first year (FY2010) and renewed at the same level for FY2011 and FY2012.
Overview

- To plan, implement, and evaluate watershed projects to lessen the severity and frequency of flooding in Iowa
- Identified four partner watersheds in May 2012
Iowa Watershed Project

Phase I: Hydrologic Assessment
- Hydrologic model development
- Identify areas in subwatersheds for project construction

Phase II: Project Construction & Implementation
- Engage landowners to construct projects in subwatersheds
- Projects may include:
  Active and passive distributed storage, floodplain restoration or easements, buffer strip installation and enhancement, advanced tile drainage
- Monitor impact of constructed projects and evaluate feasibility at a larger scale

Engagement of watershed boards and private land owners will be vital to project success
Results 100 yr Storm
7.5 inches of Rain

74% Reduction

47% Reduction

43% Reduction

18% Reduction

43% Reduction

48% Reduction