Flood Economics:
An Economist Intelligence Unit (EIU) Web Project

ASFPM Conference
May 2017
Agenda

• Project Strategy
• The Economist Intelligence Unit (EIU) Introduction
• Flood Economics
  • Research and Methodology
  • Site Tour
• Next Steps
• How You Can Participate
• Q&A
Project Purpose

Changing the Conversation About Flood Mitigation

• The Challenge
  • A lack of credible, prominent voices expressing the value of mitigation action that are accessible to nontechnical audiences.

• The Solution
  • Flood Economics brings a well-respected, independent research institution’s perspective to the flood mitigation discussion to:
    • Assert a strong economic and business case for mitigation action
    • Highlight the need (and utility) for investment in mitigation
    • Link mitigation more closely to the dialogue on resilience

https://www.floodeconomics.com
Intended Use

Flood Economics is designed to:

• Increase decisionmakers’ **awareness** of flood risk and its relevance to their communities;

• Increase their **knowledge** of how to mitigate a community’s flood risk; and

• Encourage people to **share** this knowledge with key industry experts and affected stakeholders, creating a ripple effect.

➢ **All designed to spur flood mitigation action**
Audience

Flood Economics has three primary target audiences:

- **Nontechnical Decisionmakers:**
  The key decisionmakers
  - Mayors and local council members

- **Community Leaders:**
  The voice of the community
  - Association presidents and community advocates

- **Flood Mitigation Specialists:**
  The subject experts and advisors
  - Floodplain managers and hazard mitigation professionals
The Economist Intelligence Unit

- The EIU is the research and analysis division of The Economist Group, a sister company to The Economist newspaper.

- Created in 1946, the EIU has 70 years of experience in developing timely, reliable, and impartial analysis of economic, policy, and development strategies.
Research Overview

RESEARCH DESIGN

- Comprehensive literature review
- Expert working group

RESEARCH PROGRAM

- Flood Loss Avoidance Studies
- FEMA Hazard Mitigation Grants database
- Primary interviews with experts and community leaders
- FEMA and U.S. census data on communities

https://www.floodeconomics.com
The core of the research program is the 11 community case studies.
Flood Economics Key Takeaways

1. Flood mitigation benefits go beyond dollars and cents
2. Research shows that communities benefit from flood mitigation
3. Solutions exist to support funding challenges
4. Communities that mitigate may benefit from flood insurance premium discounts of up to 45 percent
5. The benefits of flood mitigation result from local action
The online tool: https://www.floodeconomics.com
Flood Economics: Supporting Your Ongoing Efforts

Some ideas:

1. Offer data that demonstrates the direct benefits of specific mitigation actions (case studies and State-level data)

2. Leverage ideas for talking with elected officials when updating a Hazard Mitigation Plan (case studies and State-level data)

3. Help communities in the Community Rating System (CRS) program demonstrate activities that translate into CRS credits (case studies)

4. Develop ideas to support brainstorming and identify next steps during a Resilience Meeting (case studies and State-level data)
Next Steps

1. Virtual Event and Other Marketing Efforts

   • Launch and promotion: Starting now, to November 2017
     • Virtual event: June 2017
       • Media outreach (both traditional and social)
     • Three roadshow community events: Summer/Fall 2017
     • Presented at National Hurricane Conference in April 2017
       Planning to present at NLC in November 2017
     • Podcast
Q&A

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https://www.floodeconomics.com
Appendix
Community Case Studies

Elkader, Iowa

FLOOD MITIGATION INVESTMENT DELIVERS HUGE ROI FOR SMALL TOWN
Population: 1,213
Riverine Flooding, Flash Flooding

Shepherdsville, Kentucky

FROM FLOOD-PRONE NEIGHBORHOOD TO COMMUNITY PARK
Population: 11,222
Riverine Flooding, Flash Flooding

Austin, Minnesota

COMMUNITY USES LOCAL SALES TAX TO PARTIALLY FUND FLOOD MITIGATION
Population: 24,439
Riverine Flooding, Flash Flooding

Jefferson County, Wisconsin

COUNTY USES GRANT FUNDING TO ACQUIRE MORE THAN 100 HOMES
Population: 84,559
Riverine Flooding, Flash Flooding

https://www.floodeconomics.com
Community case studies

**BENEFITS OF MITIGATION**

<table>
<thead>
<tr>
<th>Economic</th>
<th>Return on investment</th>
<th>Benefit-cost ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>$985,308</td>
<td>443.4%</td>
<td>5.4</td>
</tr>
</tbody>
</table>

- Total monetized benefits
- Estimated return on investment
- Benefit-cost ratio of the Elkader projects


**PROJECT CHALLENGES**

“Finding matching funds was tough for the small town.”

The city had to come up with roughly $70,000 to meet the 50% match for the $135,000 project. It was a significant investment, but it was well worth it, says Cowser.
The United States Takes Action

STATE SUMMARY FOR CALIFORNIA

- Average return on investment: 65%
  - Range: 45 - 146
- Average benefit-cost ratio: 1.65
  - Range: 1.44 - 2.26
- CRS communities by class:
  - Class 1: 14
  - Class 2: 25
  - Class 3: 30
  - Class 4: 14

- Number of projects: 909 (1996-2016)
- Total investment: $571.0m (1996-2016)
- Total benefits: $705.9m (1996-2016)

Select a state to discover the investment, returns and benefits of flood mitigation action from 1996 to 2016 as funded by FEMA Hazard Mitigation grants (View methodology)

https://www.floodeconomics.com
## The United States Takes Action

<table>
<thead>
<tr>
<th>Category</th>
<th>Projects</th>
<th>Invested</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning and Education</strong></td>
<td></td>
<td></td>
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<tr>
<td>Mitigation planning</td>
<td>179</td>
<td>$39,398,922</td>
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<tr>
<td>Public awareness and education</td>
<td>21</td>
<td>$4,476,572</td>
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<tr>
<td>Hazard identification and risk assessment</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Building-related</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buyouts (acquisitions and relocations)</td>
<td>30</td>
<td>$49,505,309</td>
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<tr>
<td>Elevations</td>
<td>32</td>
<td>$53,246,922</td>
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<tr>
<td>Floodproofing (wet or dry)</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
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<td></td>
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<tr>
<td>Vegetation management</td>
<td>1</td>
<td>$1,998,602</td>
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<tr>
<td>Land stabilization (shoreline and landslide)</td>
<td>3</td>
<td>$3,279,439</td>
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<tr>
<td>Wetland restoration/creation</td>
<td>0</td>
<td>$0</td>
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<tr>
<td><strong>Critical Infrastructure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical infrastructure, utilities and stormwater systems</td>
<td>146</td>
<td>$167,604,036</td>
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<tr>
<td>Flood control (levees, floodwalls, dams)</td>
<td>8</td>
<td>$16,674,988</td>
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<tr>
<td>Warning systems</td>
<td>13</td>
<td>$27,923,645</td>
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<tr>
<td>Generators</td>
<td>10</td>
<td>$2,446,750</td>
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<tr>
<td>Technical assistance</td>
<td>0</td>
<td>$0</td>
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</tbody>
</table>

The number of mitigation projects by type do not sum to total Number of projects in the State Summary, due to the exclusion of several smaller mitigation project types for which there is little or no investment data.