Is it time to throw away the three legged stool?

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Three Legged Stool

- Floodplain Mapping
- Floodplain Management
- Flood Insurance
- Mitigation
Problem Statement

- Flood Losses Continue to Increase
- More Frequent and Severe Storms
- Population is Growing
- Population is Migrating to the Coasts
Opportunity

If we were going to start over from scratch what would we do different with respect to:

- Flood insurance
- Floodplain mapping
- Floodplain management
- Mitigation
Flood Insurance – Do Over

Change conversation

• “In/Out” versus “What is the Risk?”
• “Risk of flooding” versus “Risk of purchasing a flood insurance policy”
Flood Insurance – Do Over (cont)

Products tailored to risk and insurance

• It is not a map!
• GIS database to provide lenders/agents with flood elevations at structure location
  - 10-, 20-, 50-, 100-, 500-year
• Web tool to compute premium at structure based on risk at structure
Flood Insurance – Do Over (cont)

- Flood insurance becomes mandatory and premiums based on risk (construction and flood elevation)
- Premiums are actuarially based on risk
  - Based on specific risk not generalized zone
  - Affordability: this is a big issue
    - Mitigation grants to reduce risk and premium
    - Vouchers based on financial need
    - Become focus of post-disaster assistance for mitigation
Floodplain Management - Do Over

• Stop celebrating an “out” determination as a good thing

• Develop specific and separate products tailored for floodplain management
  - Tools/products focus on risk not “in/out”
  - Depth grids
  - %-chance flooding
  - Velocity grids

• No longer map black/white zones
  - Map graduated risk
10% Chance Depth Grid
4% Chance Depth Grid
2% Chance Depth Grid
0.2% Chance Depth Grid
Percent Annual Chance Grid
Percent Chance of Flooding Over 30-Years

Legend

% Chance over 30-years

- 5 - 10%
- 10 - 20%
- 20 - 30%
- 30 - 40%
- 40 - 50%
- 50 - 60%
- 60 - 70%
- 70 - 80%
- 80 - 90%
- 90 - 99%

Map showing areas with different percentages of chance for flooding over 30 years.
Floodplain Mapping - Do Over (cont)

**Investing in Mitigation Action Leads to a More Resilient Bayside**

Creating resilient communities that are able to survive and recover from hazards requires investment.

**The Growing Cost of Your Flood Risk**

If you do nothing, your community’s flood risk will increased by **over 250%** by 2100.

**Mitigation Actions Reduce Risk**

You cannot prevent flooding, but communities can buy down the risk of damage through mitigation investments.

**Moving Towards Resilience**

Opportunities for Mitigation Action with the analysis at the watershed level.

- **Hazard Mitigation Plans** – Developing a plan for your community enables you to take action to reduce loss of life and property. This activity can buy down your risk by **5%**.
- **Warning Systems** – Alerting citizens to impending hazardous conditions so they may take immediate actions to protect themselves and their property buys down the community’s risk by **2%**.
- **Acquisition** – Purchasing at-risk structures and underlying land allows your community to restore or preserve the floodplain and lowers buys down your risk by **20%**.
- **Elevation** – Raising at-risk structures or building new structures in the floodplain area above the base flood elevation buys down the risk by **5%**.
- **Relocation** – Moving at-risk structures out of the floodplain and converting it to open space can buy down your risk by **11%**.
- **Floodproofing** – Installing a building specific system to prevent water from entering or damaging nonresidential structures and buys down your risk by **5%**.
• Future conditions
• Utilize 2D modeling
• NAI concepts
Mitigation – Post Disaster

• Public Assistance
  - Bulk of dollars
  - Focus on higher standards
  - Build back better
  - One Strike!

• Individual Assistance
  - Provide very little assistance when compared to PA
    - Average grant after Sandy was $8,300
  - Low interest loans continue
  - Communicate current risk and future risk
    - Build back better
Mitigation – Pre Disaster

• Increased funding – PDM
  • Still will not be enough
• Local government
  • All mitigation is local
• Create value proposition
• Increased incentives
  • Disaster deductible
  • Sliding cost shares

FEDERAL

LOCAL

RESILIENT NATION
What do we need to do?

• This is a complex problem with many tentacles without simple solutions.
  • Almost 100 year flood policy history
  • More than the NFIP

• Have to start somewhere, small chunks/bite size pieces
Questions