



FEMA

National Flood Insurance Program

Agenda

Today's Agenda

- Overview
 - A brief history
 - Program description
- Nature of Flood Risk
 - Myths debunked
 - What we have learned in 40 years
- Biggert Waters Flood Insurance Modernization Act of 2012
 - Overview
 - Reinsurance
 - Private Sector Participation



National Flood Insurance Program

But before we begin...

- Remember, this session is about the Biggert Waters Flood Insurance Modernization Act (BW-12)
- Much of the time will be spent discussing the NFIP
- Provisions of BW-12 study or change
 - The role of private insurers
 - The role of reinsurance
- So keep these in mind as we go through the presentation...

National Flood Insurance Program

Overview

Introduction

- Some things have changed.
- Some things have not.



National Flood Insurance Program

Overview



**“FLOODS ARE AN ACT OF GOD; FLOOD DAMAGES
RESULT FROM ACTS OF MEN.”**

H.D. 465



National Flood Insurance Program

Overview

Managing the Hazard of Flooding

A National Approach



FEMA

Tom Hayes, ACAS & Andy Neal, FSA

CAS- 2012 In Focus Seminar: Taming Cats

October 4-5 2012 5

National Flood Insurance Program

Overview

A part of the FEMA Mission



FEMA Administrator
Craig Fugate

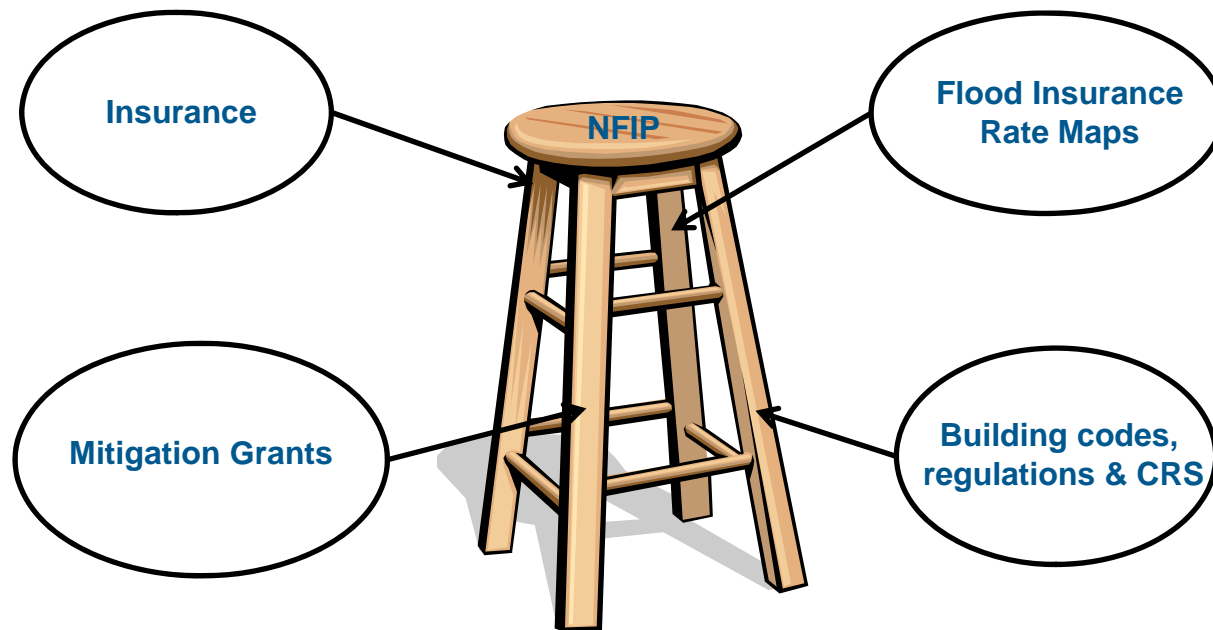
FEMA's mission is to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from and *mitigate* all hazards.

National Flood Insurance Program

Overview

The NFIP – more than insurance

The NFIP is a voluntary Federal program enabling property owners in participating communities to purchase insurance against flood losses in exchange for adopting and enforcing regulations that reduce future flood damages. A participating community's floodplain management regulations, must meet or exceed the NFIP minimum requirements.

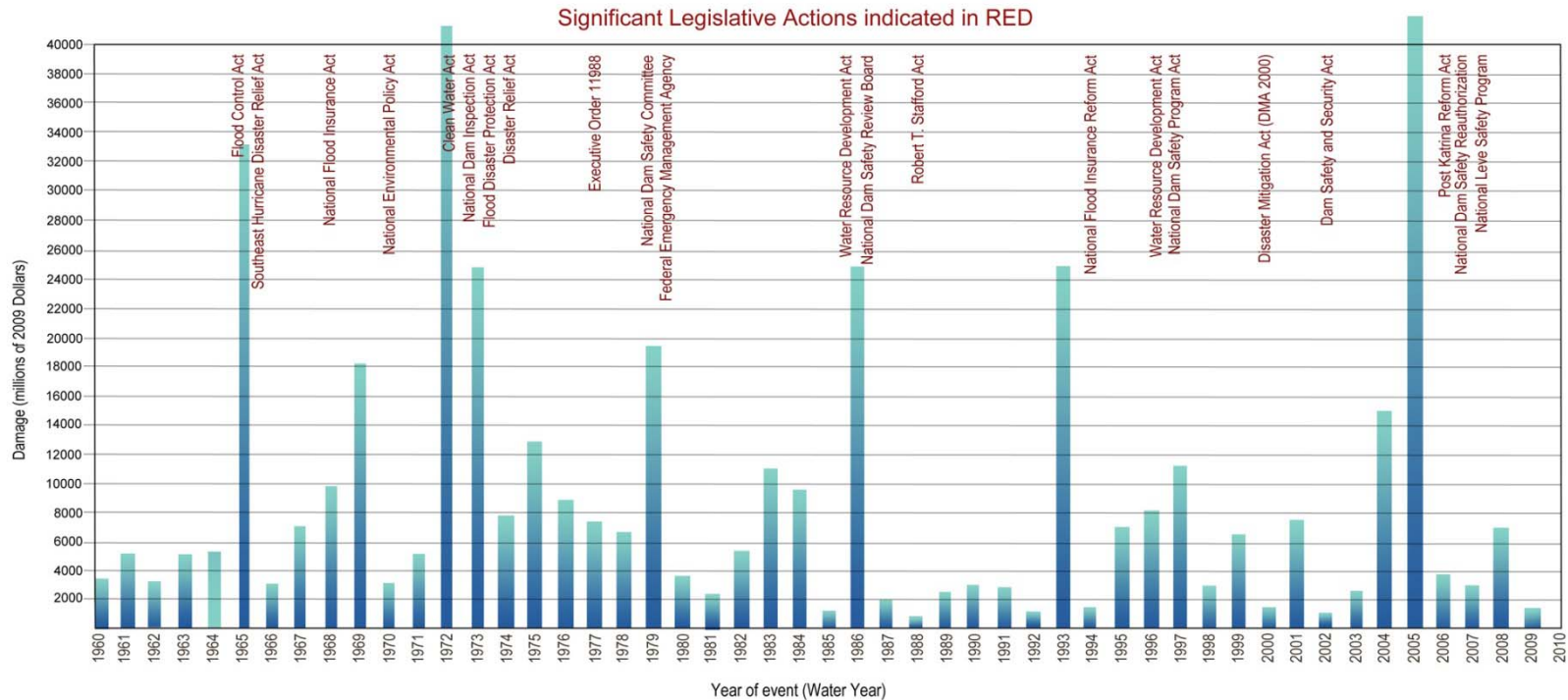


National Flood Insurance Program

A brief history

50 Years of Flooding and Federal Legislation

National Flood Damage



1. All costs adjusted for inflation to year 2009
 2. Information compiled from US Government sources, including EPA, USGS, NWS, FEMA and USACE



National Flood Insurance Program

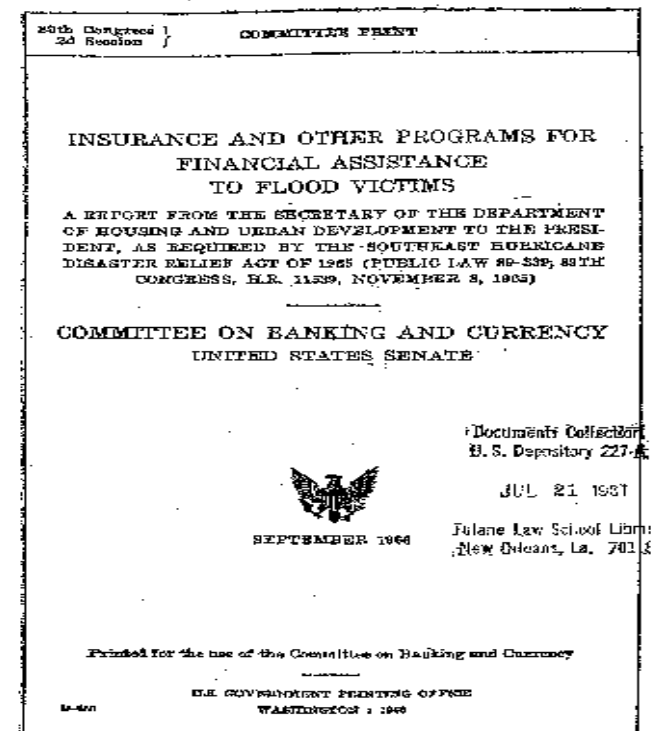
A brief history

President Johnson's 1967 Report to Congress And the National Flood Insurance Act Of 1968

Report to congress detailed four possibilities

- Purely private
- Private but government backed
- Purely government
- Government with private assistance

National Flood Insurance Act of 1968



National Flood Insurance Program

A brief history

Flood Insurance Protection Act of 1973

Tropical Storm Agnes in 1972

- Hit Southern Tier of NY, Northeast/Central PA, MD, DC, VA
- Very little flood insurance in force – Wilkes-Barre, PA had 29 policies
- Highlighted the need for incentives to participate and to buy flood insurance

Resulted in Act of 1973

- Established Mandatory Purchase Requirements
- Required FIA to notify all flood-prone communities (approx. 20,000) by June 30, 1974 of their special flood hazard areas (SFHA)



National Flood Insurance Program

A brief history

FIA/NFIA Dispute - 1977

- Dispute over program authority and financial control
 - FIA position – Secretary of HUD, not NFIA, had ultimate authority over program policy and authority to audit NFIA financial records
- FIA opted to exercise Part B of 1968 Act – all Federal program using industry resources
- EDS served as NFIP Servicing Agent
- Began a period of tension with the private insurance industry

National Flood Insurance Program

A brief history

1980's

- Two key goals:
- Make the NFIP self-supporting for the average historical loss year by 1988 (reached goal in 1986)
- Re-involve the insurance industry in the NFIP (Write Your Own Program)
 - 80+ private insurance companies – sell and service NFIP policies under their own name
 - Expense Allowance ~30% of premium (Based on A.M. Best)
 - 15% agents commission, 13% company expenses, 2% State premium tax
 - WYO Arrangement



National Flood Insurance Program

A brief history

Hurricane Katrina – 2005

- 167,169 losses
- \$16 billion paid
- \$16 billion borrowed from Treasury



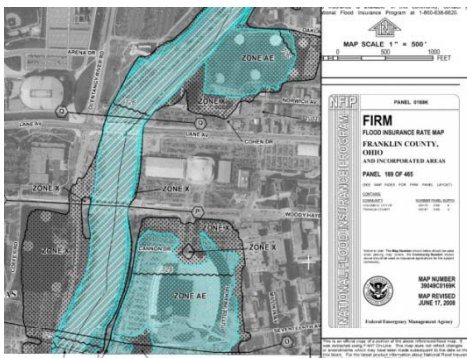
National Flood Insurance Program

Program Description

Components of the NFIP that Buy Down Risk

The NFIP is a public safety program implemented at the local level.

- **Risk Analysis** (Mapping, Assessment and Planning)
- **Risk Reduction** (Floodplain Management, Building Science, CRS and Hazard Mitigation grants)
- **Risk Insurance**



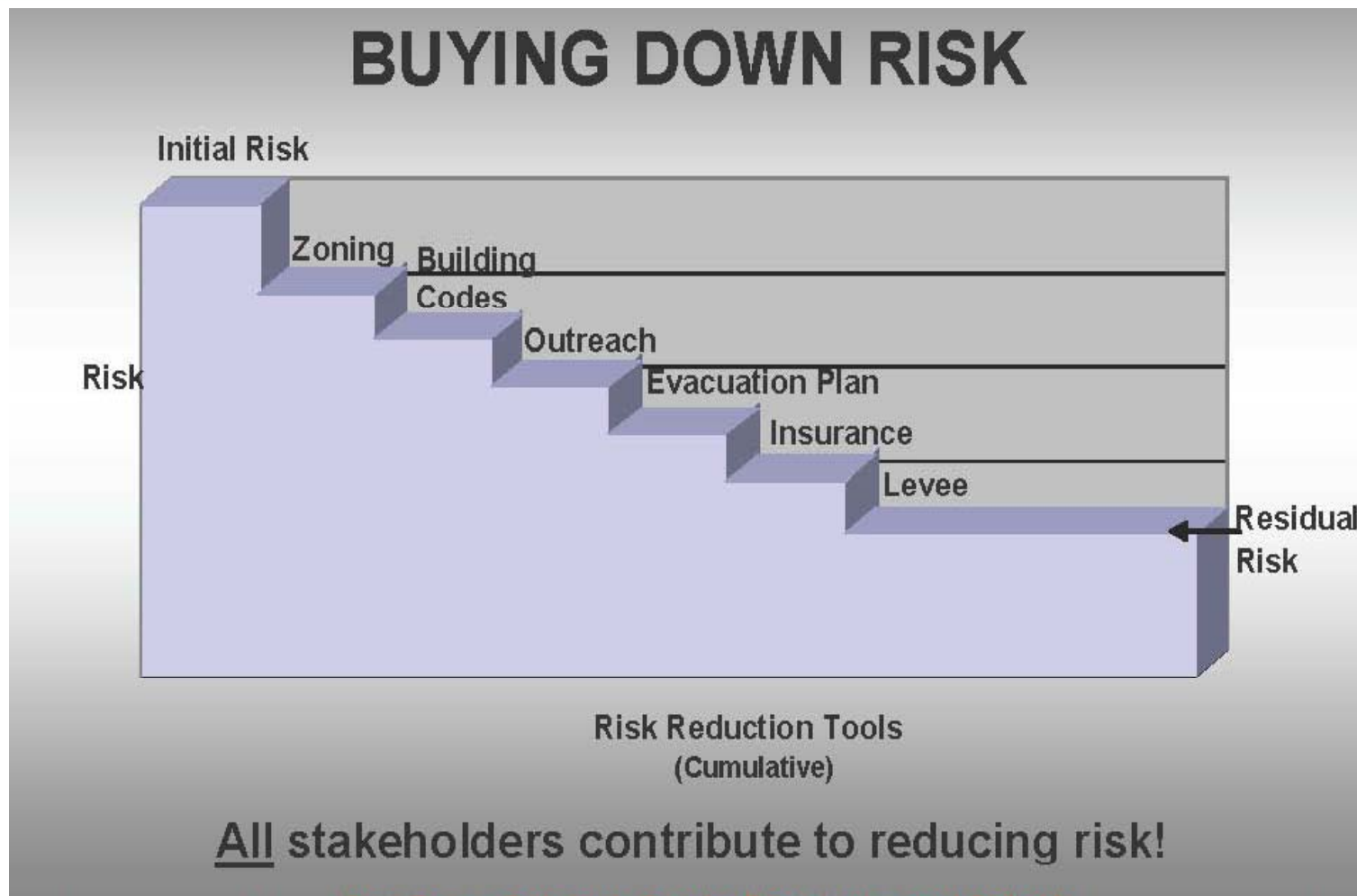
Taking Shelter From the Storm:

Building a Safe Room For Your Home or Small Business
Includes Construction Plans and Cost Estimates
FEMA 320, Third Edition / August 2008



National Flood Insurance Program

Program Description



National Flood Insurance Program

Program Description

FIMA: Risk Insurance Division

The National Flood Insurance Program (NFIP)

Nation's largest single-line property insurance carrier, with over a trillion dollars in insured assets and over 5 million policyholders in 20,600 communities.

Sets underwriting and claim policies to sell and service the NFIP policies by the insurance industry.

Why require Community Membership in the NFIP instead of selling policies to all individuals?



National Flood Insurance Program

Program Description

FIMA: Risk Insurance Division

The scope of the National Flood Insurance Program

- 5.5 million policies in force.
- Over 1.25 trillion dollars in assets insured.
- Average Paid Loss with CPI Trend

Excluding 2005	\$29,316
2005	\$108,757
All Years	\$40,557
- Over 21 thousand communities participate in the NFIP.
- 1,110 Communities participate in the Community Rating System.



National Flood Insurance Program

Program Description

FIMA: Risk Insurance Division

Flood Insurance vs. Disaster Assistance

Disaster assistance is in the form of loans (must be repaid with interest) and grants; most forms of federal disaster assistance require a Presidential declaration.

Flood insurance is a payment on a claim; there is no payback requirement.

- Offsets many federal costs:
 - Disaster assistance
 - SBA Loan subsidies
 - Tax credits for uninsured losses

National Flood Insurance Program

Nature of Flood Risk

Challenges to rating



1920-1959

Source: <http://www.hurricane.csc.noaa.gov/hurricanes/index.htm>

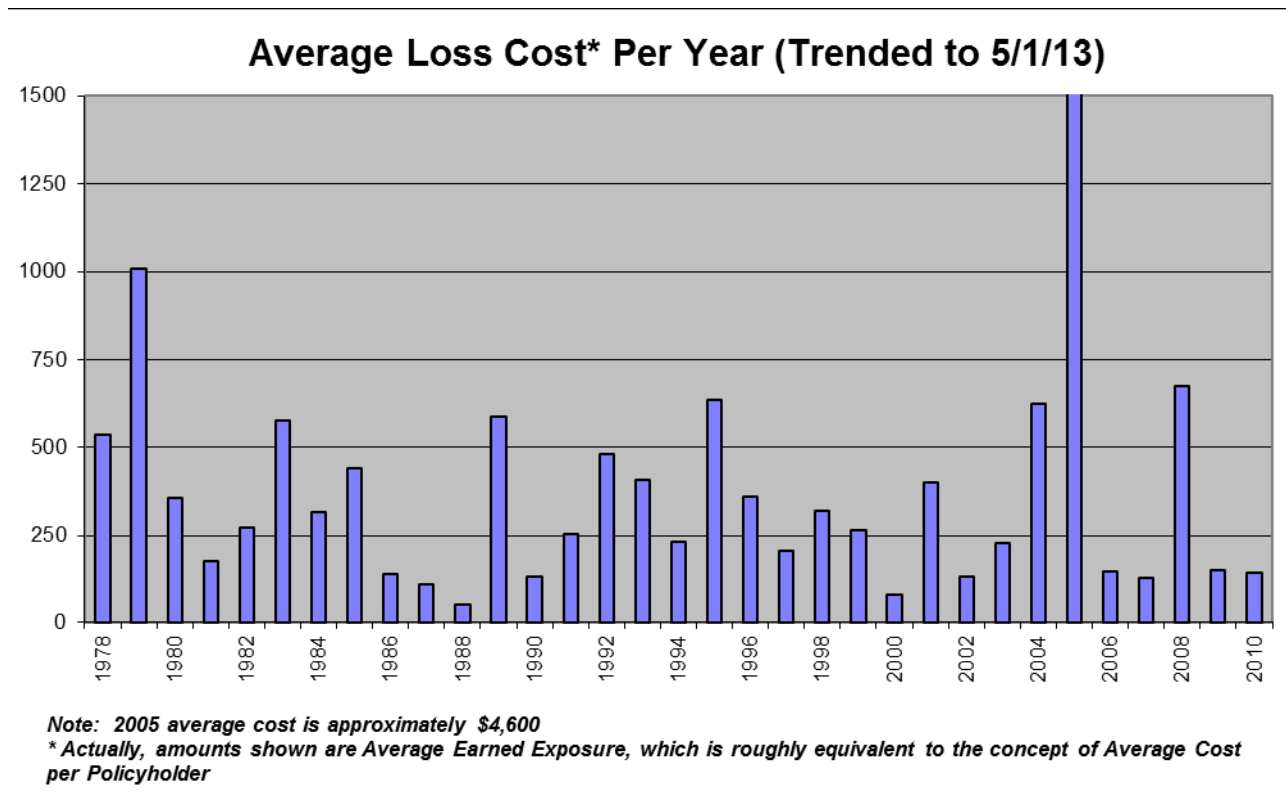


1960-1999

National Flood Insurance Program

Nature of Flood Risk

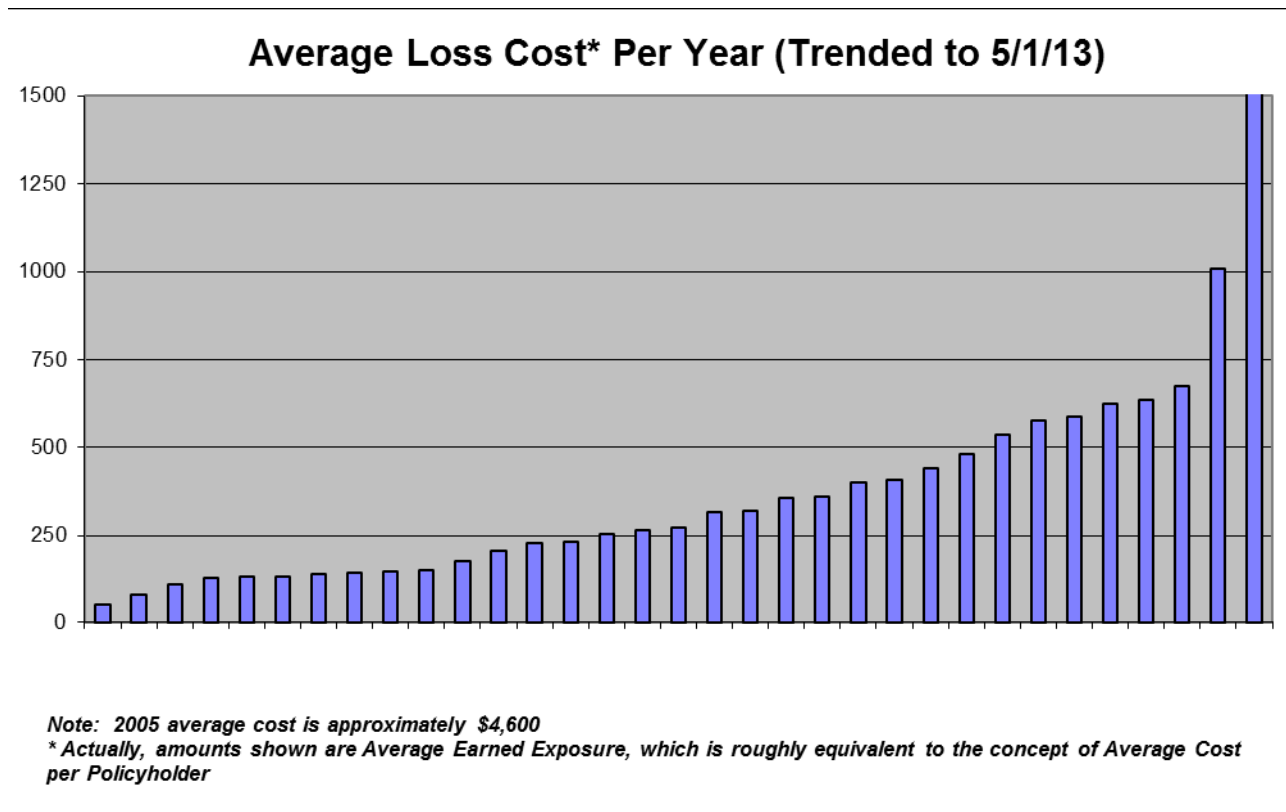
Challenges to rating



National Flood Insurance Program

Nature of Flood Risk

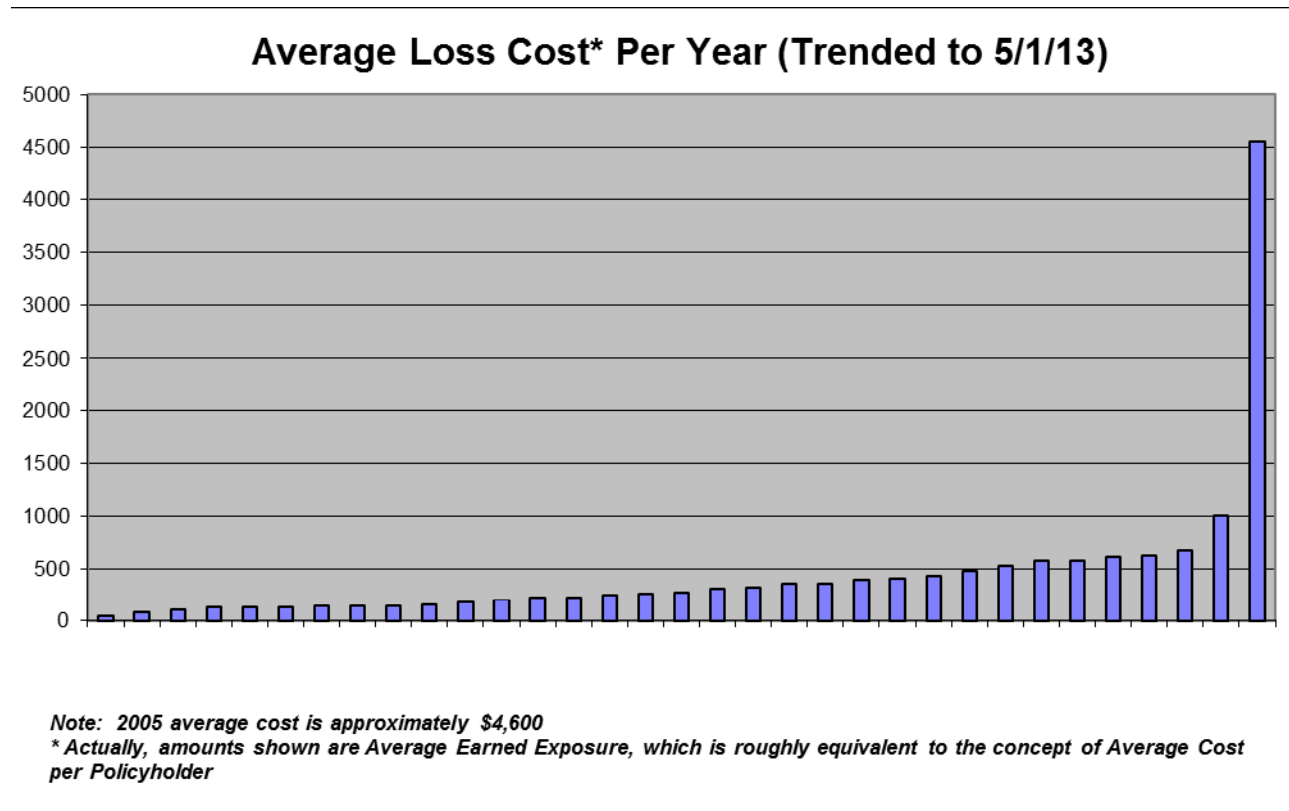
Challenges to rating



National Flood Insurance Program

Nature of Flood Risk

Challenges to rating



National Flood Insurance Program

Ratemaking

Elevation rating: the science behind the rates

$$\text{RATE} = \left[\sum_{i=\text{Min}}^{\text{Max}} (PELV_i \times DELV_i) \right] \times \frac{LADJ \times DED \times UINS}{EXLOSS}$$

- PELV is the probability that flood waters reach a certain depth (frequency)
- DELV is the ratio of the flood damage to the value of the insurable properties (severity)
- LADJ, DED, UINS Loss adjustment expenses, underinsurance, and deductible
- EXLOSS is the loading for expenses and contingency

National Flood Insurance Program

Ratemaking

Quantification of Risk: Frequency x Severity

$$\text{Expected Loss} = \left[\sum_{i=\text{Min}}^{\text{Max}} (PELV_i \times DELV_i) \right]$$

- At the core of the model is the calculation of expected loss
- We'll look at each component separately

National Flood Insurance Program

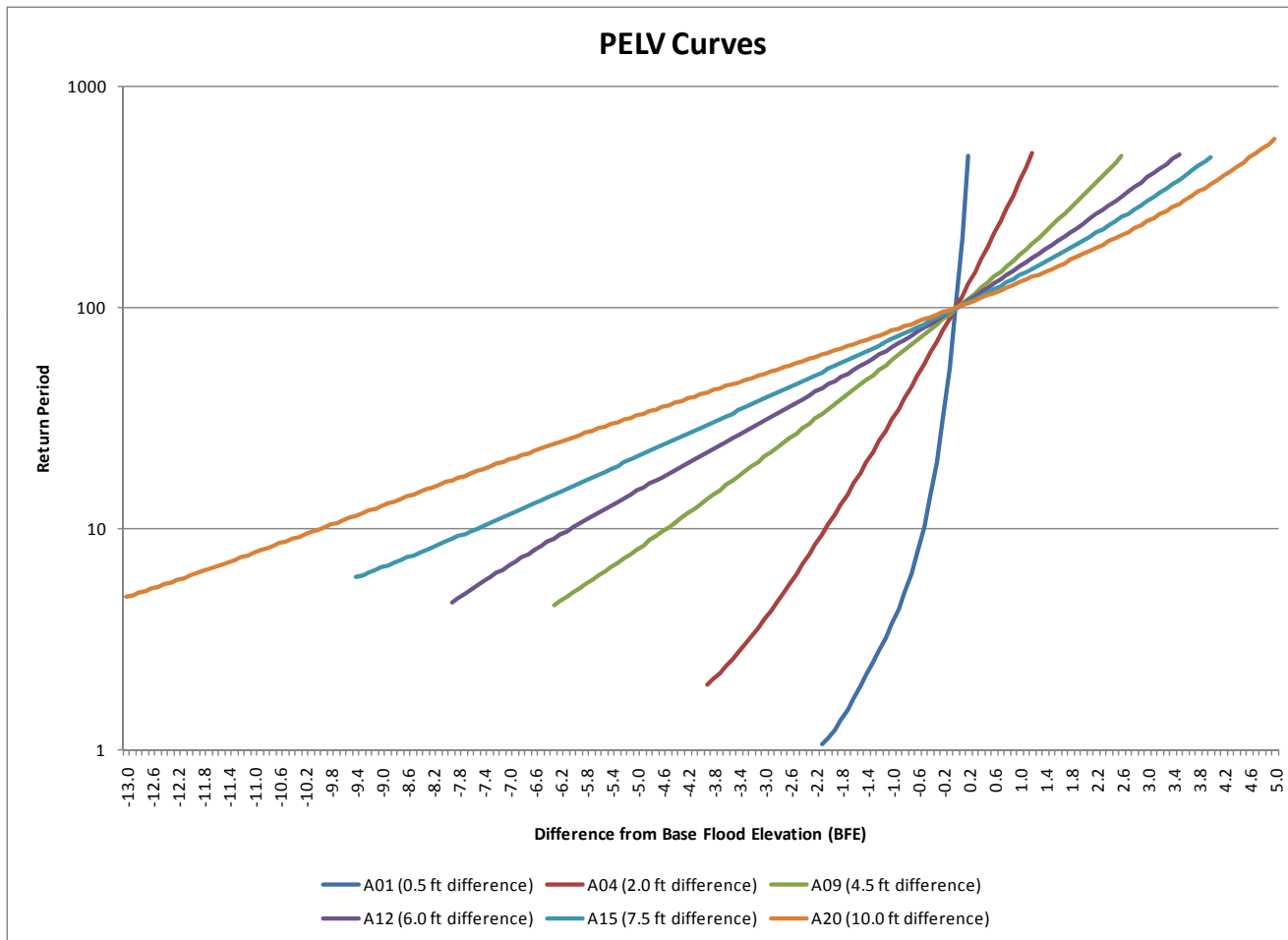
Ratemaking

PELV (probability of elevation): Frequency

- Varies by Topography
- Different probability curve for each A01-A30 zone
- A01-A30 based on difference between 10% and 1% flood elevation
- Original curves based on studies at the time the program was established
- We are currently collecting data to reevaluate the curves (this will be a multi-year project)
- Balance of complexity: For each elevation and structure type, we set one rate nationally based on the weighted average rate of the curves (weighted by policyholder distribution)

National Flood Insurance Program

Ratemaking



National Flood Insurance Program

Ratemaking

DELV (damage by elevation): Severity

- Varies by structure type and contents location
- Based on credibility weighted historical data of damage associated with different water depths in structure
 - Where NFIP data is credible, use NFIP data
 - Where NFIP data is absent, use USACE (Army Corps) data
 - Where NFIP data is available but not fully credible, use blend
- Weighted average of 2005 results (long standing water) with ex-2005 data

DELV Example

Class	2		4	
	One Story		Two Stories	
	No Basement	No Basement	No Basement	No Basement
Code	1N	2N	1N	2N
-8	-	-	-	-
-7	-	-	-	-
-6	-	-	-	-
-5	-	-	-	-
-4	-	-	-	-
-3	-	-	-	-
-2	-	-	-	-
-1	-	-	-	-
-0.5	3.50	2.50	-	-
0	18.55	13.81	-	-
1	19.38	14.43	-	-
2	27.17	19.95	-	-
3	31.14	25.15	-	-
4	38.00	30.50	-	-
5	47.50	35.77	-	-
6	51.40	39.71	-	-
7	59.50	44.57	-	-
8	61.44	47.96	-	-
9	67.82	51.96	-	-
10	69.22	55.57	-	-
11	73.52	58.34	-	-
12	71.32	60.24	-	-
13	76.78	63.48	-	-
14	76.96	65.36	-	-
15	78.59	67.30	-	-
16	78.43	68.76	-	-
17	79.40	68.94	-	-

National Flood Insurance Program

Ratemaking

Myths about NFIP Rates

Myth #1: Rates are based on averaging (past) experience.

Fact #1: Rates are based on modeling expected (future) losses.

Myth #2: Rates are based on the modeled 1% (100-year) event.

Fact #2: Modeled losses consider the full range of events, from the 10% (10-year), to the 0.2% (500-year), and beyond. Yes, even the 0.01% (10,000 year) event.

Myth #3: Rates do not have a catastrophe load.

Fact #3: By including all probabilities, the NFIP does price catastrophes.

Myth #4: NFIP actuaries are raising rates to pay for Katrina.

Fact #4: Rates are based on future expected losses and do not include a provision to pay for past losses. However, Katrina did increase our understanding of how bad catastrophic losses can be.



National Flood Insurance Program

Ratemaking

Myths about NFIP Rates (continued)

Myth #5: Pre-FIRM subsidized rates encourage unwise construction.

Fact #5: Pre-FIRM rates are only offered to structures built before the effective date of the community's first FIRM (usually the early 70's). These rates are not available to new construction.

Myth #6: The subsidy is paid for every year by my tax dollars.

Fact #6: The subsidy is only accounted for IF and When Congress forgives any debt.



National Flood Insurance Program

New Legislation

Biggert Waters Flood Insurance Modernization Act of 2012

Had four main impacts on insurance:

- Modifies coverage available to policyholders
- Modifies claims
- Calls for flexibility and transparency for policyholders
- Increases fiscal soundness of the program



National Flood Insurance Program

New Legislation

Modifications to coverage

- Under Development



National Flood Insurance Program

New Legislation

Claim modifications

- Under Development



National Flood Insurance Program

New Legislation

Flexibility and transparency for policyholders

- Under Development



National Flood Insurance Program

New Legislation

Fiscal Soundness

- Under Development





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