



photo by
Alan Springett



Floodplain Management

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A Floodplain Is:

- a. River or stream channel up to natural banks
- b. Low-lying area along a river, stream, or coast subject to flooding
- c. Area along a river, stream, or coast subject to flooding by the 1% chance flood
- d. Area along a river, stream, or coast that is developed and subject to flooding

**Which of these
definitions apply?**



Why Are People in Floodplains?

- First settlers faced a wilderness without roads.
- Coasts and rivers provided harbors, transportation routes, and fishing/water sources.
- Now people enjoy living near water for recreation and pleasant surroundings.
- Unintended consequence: Flood losses.



The National Flood Insurance Act of 1968

The National Flood Insurance Act created the Federal Insurance Administration and directed it to:

- Identify flood-prone areas within the U.S.
- Establish flood-risk zones within those areas.
- Require new and substantially improved buildings be constructed in ways that minimize flood damage.
- Transfer cost of private property flood losses from taxpayer to property owner.



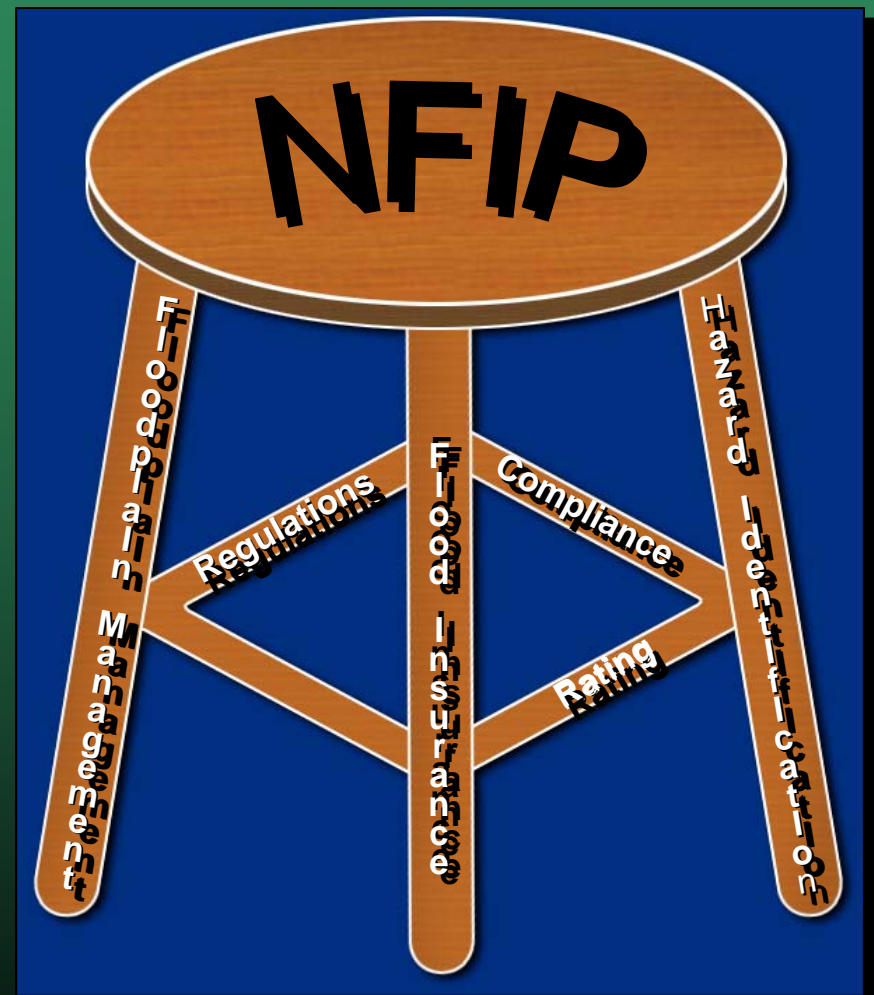
NFIP Goals

- Reduce loss of life and property caused by flooding
- Reduce rising disaster relief costs caused by flooding
- Make Federally backed flood insurance coverage available to property owners



“The Three-Legged Stool”

- The NFIP balances three related program areas:
 - Flood Hazard Identification (mapping).
 - Floodplain Management (regulations such as building codes and zoning).
 - Flood Insurance (provision of low-cost insurance for property owners in participating communities).

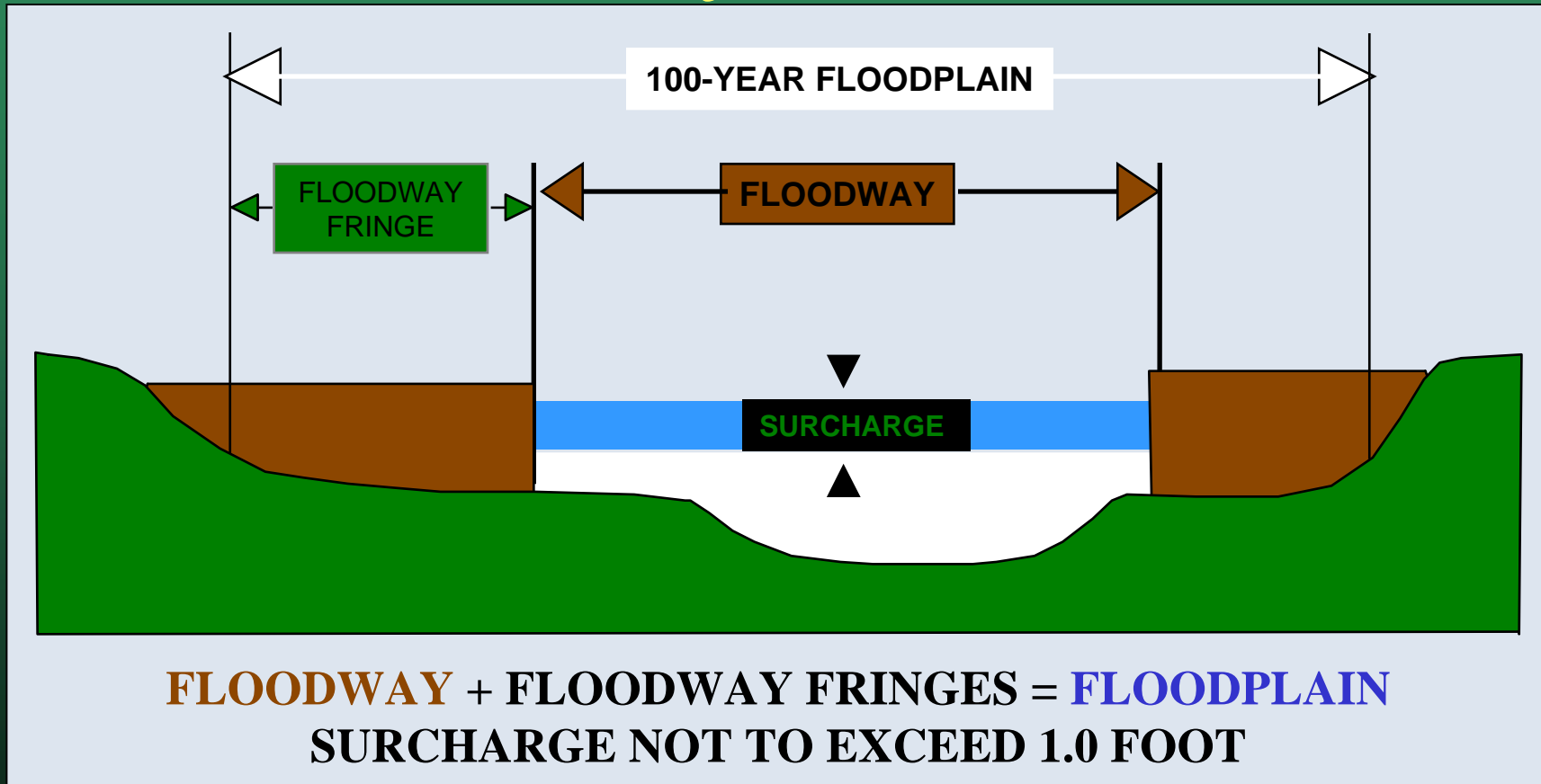


Standard NFIP Building Requirements: AE Zone

- The lowest enclosed area, including basement must be at or above the Base Flood Elevation *plus two feet (residential)*
- Non-residential buildings may be flood proofed in lieu of elevation
- **NO** development in the regulatory floodway that would raise flood elevations



Floodway Schematic



Standard NFIP Building Requirements: A Zone (No Base Flood Elevation)

- Where no Base Flood Elevation: Lowest floor at least 3' above highest adjacent grade
 - If have a BFE then use it
 - Developments over 5 acres or over 50 lots must provide a BFE



Substantial Improvement = New Construction

- Improvement or Rehabilitation Value that Exceeds 50% of the Market Value of the Structure
- Includes structures which have incurred “substantial damage”, regardless of the actual repair work performed



All Development in Floodplain Must be Reviewed

- All development in a flood-prone area must be consistent with the need to minimize flood damages
 - (44 CFR 60.3(a)(4)(i))
- Administrator may require a technical analysis that shows whether proposed development may result in physical damage to other property



Has NFIP Prevented Flood Damage?

- Structures Built to Standards Suffer 75% Less Damage during Base Flood.
- Program Saves About \$1 billion / year in structural flood damages.



Is This Enough? Consider:

- Floodway encroachments often overlooked
- Analysis of Potential Damage to Other Property Rarely Done
- Build-out in compliance with NFIP standards will increase flooding
- In spite of Mapping Improvements, Mapping is Insufficient



More to Consider

- NFIP Standards are Minimum Standards
 - Designed to be Reasonable for Insurance and for Protection of Structures from Most Events.
- Larger Floods can and do occur!
- Watersheds change.
- Flood Studies Assume Free Flowing Channels.
- Not all Flood Hazards are Mapped.



Can More be Done?



Can More be Done?

- Higher than Minimum Standards
- Residual Risk
- Stormwater Management
- Improved Mapping
- Risky Development is not Economic Development!



Higher Than Minimum Standards

- DEC has developed Optional Language
- Higher than minimum standards can increase safety, decrease flood insurance rates, and provide the community with points in the Community Rating System (CRS)

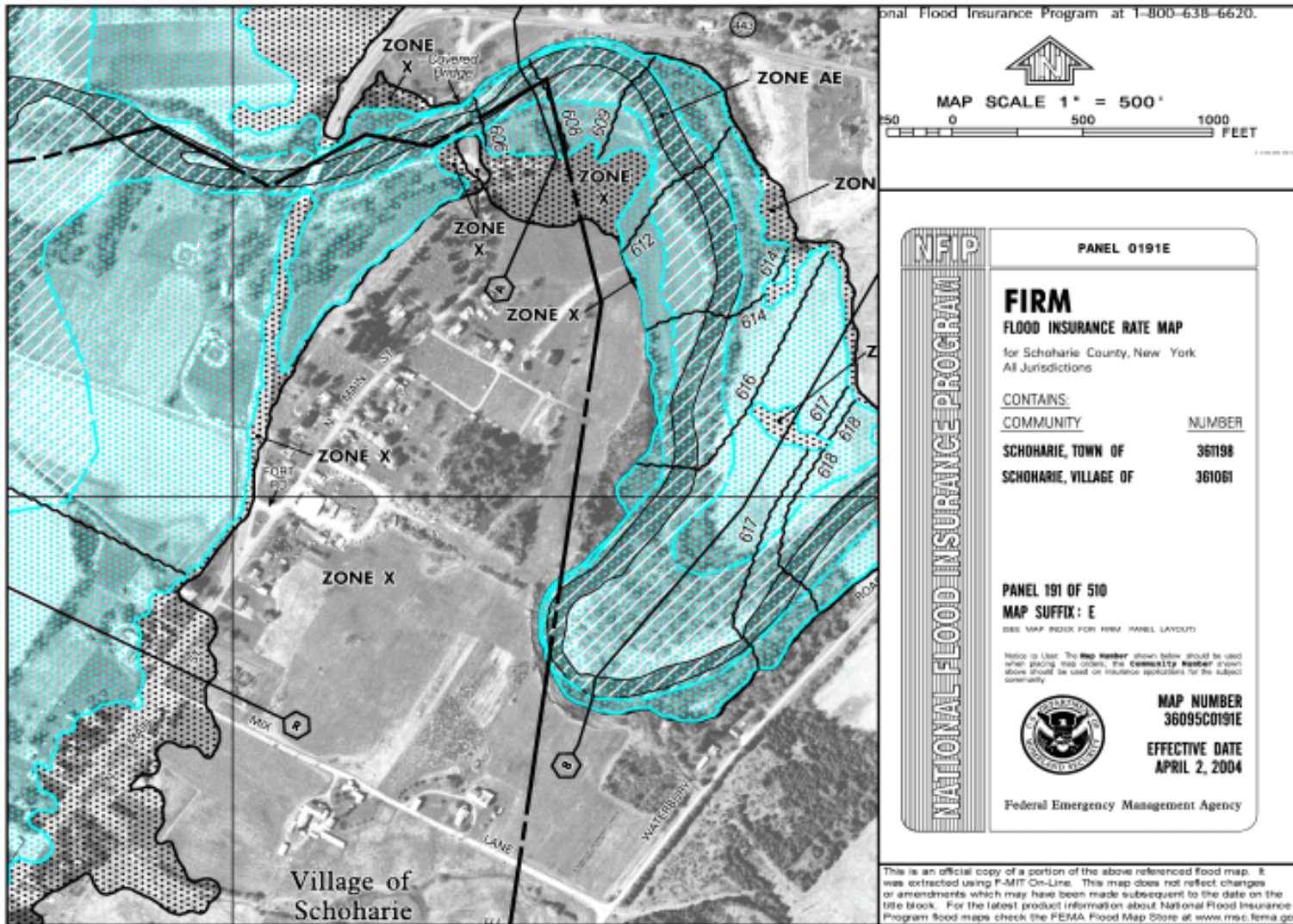


Higher than Minimum Standards: Examples

- Freeboard
- Cumulative Damage or Improvement
- Compensatory Storage
- Other hazard zones: e.g., levee protected areas or areas below dams
- Critical Facilities



Floodplain Mapping is Key



Mapping Needs

- 48,642 Square Miles
- 8,938 Map Panels
- 7,932 Detailed Stream/Shore Miles
- 18,401 Approximate Stream/Shore Miles
- 1,471 Communities
- 57 Counties plus NYC



Mapping Needs

- Topo: \$400/Square Mile (\$19.4 Million)
- Base Map Acquisition: \$550/Panel (\$4.9 million, already funded)
- Map Production: \$1550/Panel (\$13.8 Million)
- Detailed Study Costs: \$14,000/Mile (\$120 million)
- Approximate Study Costs: \$600/Mile (\$11 million)
- **Maximum Mapping Need = \$169 Million**



Realistic Mapping Need

Excludes Topo and Base Map

- All Counties
 - Maximum: \$148 Million
 - Minimum: \$37 Million
 - Planning Need: \$93 Million
- Remaining Counties
 - Maximum: \$68 Million
 - Minimum: \$21 Million
 - Planning Need: \$48 Million



Concerns and Suggestions

- Levee Certification
- Local Assistance Needed
- Protect and Enhance Floodways
- Use DFIRMs for Mitigation Planning



Final Thoughts

- Recognize Flood Risk and Plan Accordingly
- *“...ten thousand river commissions, with the mines of the world at their back, cannot tame that lawless stream, cannot curb it or define it, cannot say to it ‘Go here,’ or ‘Go there,’ and make it obey; cannot save a shore which it has sentenced, cannot bar its path with an obstruction which it will not tear down, dance over, and laugh at.”*

--Mark Twain, Life on the Mississippi



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