Maine Beaches Conference 2009

National Flood Insurance Program
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How do state and federal laws affect coastal property?

- Brief history of the NFIP
- Basic terms
- 3 parts: mapping, regulations, insurance
- How they fit together and the effect on coastal property
Maine Facts

5,779 lakes and ponds
5,299 miles of coastline (1/3 of eastern seaboard)
2,772 square miles of floodplain (>RI)
17,000,000 acres of forests

The Forks Plt.

Photo by Lou Sidell
31,800 miles of rivers and streams
3,500 miles of saltwater

Wells Beach

Photo by Brigitte Ndikum-Nyada
5,000,000 acres of wetlands

Mayfield Plt. Photo by Lou Sidell
4,613 Islands and ledges
Is Flooding a Problem in Maine?

February 2, 1978

Coastal Storm
- $20 M 1978
- $60 M 2006

Old Orchard Beach
April 1987 (statewide)
October 1991 Halloween Storm

- Southern coastal Maine
- 3 deaths
- Damage to buildings
- Infrastructure damages

Photo by Lou Sidell
National Flood Insurance Program (NFIP) 1968

- Established insurance program as alternative to disaster relief
- Distributed responsibility for FPM to all levels of government and private sector
- Set a national standard for regulating new development
- Began comprehensive flood mapping
Resulting Efforts

- Regulations for development in high risk flood hazard areas
- Building codes – flood resistant construct
- Acquisition and relocation of buildings
- Retrofitting existing buildings
- Installing flood warning systems/levees
- Controlling storm water runoff
- Providing self-help advice to property owners
How the NFIP Works

- **Quid Pro Quo**: mutual agreement between the Feds (FEMA) and your community
- Community agrees to regulate development in mapped floodplains
- Ordinance Adoption
- In return, federally backed flood insurance is made available
- 3 basic parts: Mapping – Insurance - Regulations
Mapping

- FEMA has developed and mapped flood hazard data for your community.
- Flood maps are used by local officials to determine standards for flood prone development.
- Flood maps are used by and federal agencies as the basis for regulating flood prone construction.
Mapping

- Insurance agents use them to rate policies

- Lenders use them to determine when insurance is mandatory as a condition of a loan or other financial assistance
What area does FEMA map?

- Base Flood

A flood that has a 1% chance of being equaled or exceeded in any given year. It is often referred to as the “100-year” flood.
One percent chance of occurring in any given year

Does not mean it will happen once in 100 years
Flood Risk Stats
30-Year Mortgage

- There is a 8-10% chance of a home fire.
- For a house located within the Special Flood Hazard Area, there is a 26% chance that it will be inundated by a 100 year flood during the life of a 30-year mortgage.
Mapped Floodplains vs. Natural Floodplains

Floodplain

SFHA
Definition of Special Flood Hazard Area

“Darkly shaded area on a Flood Insurance Rate Map which identifies the area that has a 1% chance of being flooded in any given year. The FIRM identifies these shaded areas as flood zones A, AO, AH, A1-30, AE, V, V1-30, and VE.”
Definition of Base Flood Elevation

“The elevation of the surface of the water during a 1% chance flood.
Special Flood Hazard Areas

Zone A - No BFE’s determined.
Zone AE, A1-30 - BFE’s determined.
Zone AH - Flood depths of 1 to 3 feet (usually areas of ponding); BFE’s determined.
Zone AO - Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain; average depths determined.)
Zone VE, V1-30 - Coastal velocity hazard (wave action is at least 3’); BFE’s determined.
Map Example
New Aerial Photo Base Map
York & Cumberland New Data

- Berwick
- Biddeford
- Kennebunk
- Kennebunkport
- Kittery
- Ogunquit
- Old Orchard Bch
- South Berwick
- Wells
- York
Definition of Development

“means ANY CHANGE TO IMPROVED OR UNIMPROVED REAL ESTATE, including but not limited to the construction of buildings or other structures; construction of additions or substantial improvements; mining, dredging, filling, grading, paving, excavation, drilling operations or storage of equipment or materials; … (cont.)
(cont.) Def. of Development

...and the storage, deposition, or extraction of materials, public or private sewage disposal systems or water supply facilities.”

[This is very broad, including structural & nonstructural, with $500 recommended minimum threshold]
All development requires a local permit

Why?

- The goal is to break the cycle of having flooding – damage – repair
- Protect life and property (investments)
- Protect the natural and beneficial functions of floodplains
- Balance the needs of the environment with the pressure of development
Ordinance Standards in Floodplains

Minor Improvements
Normal maintenance/Non-structural: filling, grading, water supply, sewage disposal
- Adequately anchored
- Flood damage materials below the base flood elevation
- Construction methods and practices to minimize flood damage
- Design and locate electrical, heating, plumbing so they will not be damaged
New Construction
Substantial Improvements

- New Buildings
- Substantial Improvement:
  50% or more improvement in the value of the building only

**Lowest Floor** must be elevated to 1’ above the base flood elevation
2’ in some coastal communities
Elevation in A Zones
A, AE, A1-30

3 ways to accomplish elevation

- Fill
- Solid foundation walls with openings
- Open foundation: posts, piers, columns
Elevation Options
(A, A1-30, AE, & AH)

Slab on fill

BFE

Fill
Elevation Options
(A, A1-30, AE, & AH)

Hydraulic Opening (typical)

Lowest Floor BFE

Continuous Foundation Wall with crawlspace
Wells
Elevation Options
(A, A1-30, AE, & AH)

Open foundation (posts, piles, piers, columns)
Georgetown
Elevation in V Zones
V1-30 or VE

Open foundation system only!
Flood Insurance

FLOODPLAIN CONSTRUCTION & ITS EFFECTS ON FLOOD INSURANCE RATES

- Build it **right** and insurance premiums will be affordable
- Build it **wrong** and premiums will be very expensive
- **Exceed** minimum standards and insurance will be much lower
FLOOD INSURANCE

Mandatory Purchase Requirement

Any federally backed lending institution shall not make, increase, extend or renew any loan in the SFHA unless the building, mobile home, and any personal property securing the loan is covered by flood insurance for the life of the loan.
Ways to Cut Flood Insurance Premiums

- Elevate lowest floors of structures above the BFE
- Add freeboard of one foot or more to reduce insurance premiums
- Maine requires one foot freeboard
- Flood proof non-residential structures a minimum of one foot above the BFE
Ways to Cut Flood Insurance Premiums

- Locate the structure outside the SFHA
- Elevate structures on fill such that the top of the fill is above the BFE and obtain a Letter of Map Revision Based on Fill to waive the mandatory purchase of flood insurance requirement (Not in a V Zone)
Cost Comparison

- Single family structure, no basement, post-FIRM, Zone AE

Coverage:
- Structure $100,000
- Contents $50,000

Pre-FIRM vs. Post-FIRM
## Insurance Premiums

<table>
<thead>
<tr>
<th>Lowest Floor Elevation</th>
<th>Annual Premium</th>
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<tbody>
<tr>
<td>2-feet above BFE</td>
<td>$259</td>
</tr>
<tr>
<td>1-foot above BFE</td>
<td>$313</td>
</tr>
<tr>
<td>At BFE</td>
<td>$452</td>
</tr>
<tr>
<td>1-foot below BFE</td>
<td>$1,433</td>
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Questions?

www.maine.gov/spo/flood
or call the State Planning Office at
287-3261