Community-Based Flood Insurance Alternative
Geologic Hazard Abatement Districts
The Challenge

- Rising seas and historic rainfall require a new approach to managing flood risk
- Flood threat mitigation, emergency response, and disaster recovery require funding
- Alternatives to the NFIP, for funding improvements and providing protections, are needed
National Flood Insurance Program (NFIP) – Existing System

- Established in 1968
- Estimated that only 20 to 30 percent have coverage
  - No mortgages
  - Private loans
  - Non-compliance (lender or homeowner)
- Increased premiums borne by small group of at-risk pool
The Numbers Prove the Point...

- Premiums are not matching risks
- Implicit and explicit subsidies are exacerbating risk/mitigation mismatch
- Repetitive loss structures consume 1/3 of claims, but constitute 1 percent of NFIP policy base
- Reform process ("Rethinking the NFIP") underway since 2009

<table>
<thead>
<tr>
<th>STATE</th>
<th>Total No. of Policies</th>
<th>Total Losses since 1978</th>
<th>Total Claims Since 1978 ($)</th>
<th>Annual Premiums Collected ($)</th>
<th>Claims per Loss ($)</th>
<th>Claims per Policy ($)</th>
<th>Claims per Premium ($/§)</th>
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<td>CA</td>
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As of September 30, 2010
The Alternative Concept

- GHAD partners with insurance company
- Residents assess themselves; appears as a line item on property tax bill
- GHAD collects the assessed fees and:
  - Pays a portion to cover insurance premium
  - Uses remaining funds for preventive maintenance and ongoing adaptive improvements
Flood Insurance that is Not NFIP

- 100% Participation of all in hazard zone
- 100% policy retention in perpetuity
- A portion of premium spent on risk reduction
- Guaranteed reimbursement to insurer
- Unification of land use and flood planning
Why a GHAD?

- Superior alternative:
  - Focus on prevention of damage
  - Proactive monitoring of potential hazards
  - Ability to swiftly undertake improvements

- Rapid response capabilities for public safety

- Funding for ongoing improvements to flood control structures

- Broad range of available remedial measures

- Ability to accumulate funds to address large-scale improvements or disaster recovery
The Result

- Safer floodplains
- More effective emergency response
- Lower cost of flood insurance
- Greater protection of public safety and property
- Affordable and adaptive infrastructure improvements
Thank you! Questions?

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Geologic Hazard Abatement Districts (GHADs)

- Established by the Beverly Act in 1979
- Independent, state-level public entity to oversee geologic hazard prevention, mitigation, abatement and control
- Similar authority to other public agencies including:
  - Taxing ability
  - Bonding ability
  - Legal immunity
- Must be formed under one of two available board structures
- No limitation as to number of units, area, or contiguity
Geologic Hazard Abatement Districts (GHADs)

- GHAD is a State Level Agency
  - Equal in stature to county or other state agencies
  - Board actions are independent of other agencies
  - Reserve funds are exclusively used by GHAD and may not be accessed by any other agency

- Locally Autonomous
  - Disciplined to accumulate sufficient reserves
  - Sophistication with respect to frequency of geologic events
  - Familiar with local conditions
Step 1: Planning

- Determine whether a GHAD is the best solution
- Define GHAD Boundaries
- Establish GHAD responsibilities and limitations
- Assess whether to create a new GHAD or annex to an existing GHAD
Step 2: Formation

- Create a Plan of Control
- Determine a Board of Directors
  - Duties of the Board
- Declare that agency is subject to GHAD law
- Prepare petition or resolution initiating formation
- Hold public hearing on formation
  - Opportunity for property owner input
  - Adoption of resolution for formation
  - Adoption of Plan of Control
  - Appointment of officers
The Plan of Control

- Prepared by a Certified Engineering Geologist, this document usually includes the following critical information:
  - Boundary description*
  - Scope of GHAD’s duties*
  - Identification of Board structure
  - Criteria for GHAD involvement
  - Prioritization of expenditures
  - Acceptance criteria
  - Maintenance and monitoring plan
  - Monitoring protocols
  - Projected improvement prioritization

* Legally required
Step 3: Financing

- Typically funded through supplemental property tax assessments
- Engineer’s report provides the basis for the operating budget
- Revenue stream is divided into operations, reserve accumulation, and insurance premium
- Budget provides short and long-term costs
- Components:
  - Operation and maintenance costs
  - Reserve Accumulation
  - Insurance Premium
- Assessment levels can be set higher than the expected levy amount
Case Study - SJAFCA

- Existing flood control agency in Central Valley of California
- Greater than 149,000 “units”
  - Units assigned to a variety of dwellings and other structures
- Preliminary actuarial analysis and budget developed
  - $12 million in annual capital improvements (2012 $)
  - $1.2 billion large-scale expenditure every 50 years (2012 $)
    - Based on maximum policy coverage over portion of jurisdiction
    - Annual budgetary line items for maintenance, administration, and consultation
- Annual assessment of $275 per “unit”
- Demonstrates the dual benefits of local administrative efficiency and economy of scale
Case Study – Twin Creeks

- Existing 300+ residential development in Stockton
- Levee protected on three sides; interstate freeway embankment on fourth side
- Levee-protected; however, levees to be de-certified
  - No current entity to upgrade/certify levees
- Private insurance carrier will provide insurance policy for catastrophic loss
- Yearly assessment would be split into two streams
  - Levee upgrades and ongoing monitoring maintenance
  - Payment of annual insurance premiums
Case Study – San Rafael

- Approximately 4,600 parcels are mapped in Special Flood Hazard Area (SFHA)
- As of 2013, 1,884 parcels are covered by flood insurance policies through NFIP
- $2,305,554 collected in premiums in 2013 ($1,225 average premium)
- 571 loss claims filed in 30 years; $9,150,000 adjusting for inflation ($16,025 average claim)
- $150 million flood protection (est.) project would remove City from 100-year floodplain
- Annual assessment of $1,300 (2015 dollars) could fund annual capital improvements of $1 million/year and 100-year loss of $1.05 billion
Case Study – Broad Beach

- Beachfront expanse located in Malibu
- Significant beach erosion over past 40 years has greatly reduced or eliminated dry beach
  - Climate change-driven storm events
  - Sediment starving from tributary waters
- Private homes, private/public infrastructure, and public access amenities endangered
Broad Beach – Focus and Financial Structure

- GHAD will fund capital improvements
  - Revetment wall
  - Beach nourishment
  - Dune/habitat restoration
- Funding for ongoing operations and maintenance
  - Sand backpassing and nourishments
  - Ongoing monitoring
Broad Beach - Operational Structure

● GHAD formed on behalf of an HOA
● GHAD Board consists of landowners within District
● Assessments levied based on per foot of beach frontage basis
● GHAD provides funding for flexible Adaptive Management to mitigate uncertainty