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MICHAEL BAKER CORPORATION



**Special FEMA Sponsored Outreach Meetings
January 2008**

Liability For Failed Levees
Edward A. Thomas Esq.

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**Land Use Regulations Are Local
Within A State and Federal Context**

- The Views Expressed Are Those Of The Author And Do Not Necessarily Reflect Approval Of FEMA Or Any Organization.
- This is Not Legal Advice-It Is A Lecture Based On General Principles Of Law. For Legal Advice See A Lawyer Licensed In Your Jurisdiction.


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The Problem

California's got a lot of levees....



...and sometimes they break

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And Then There Is a Lot of Misery




Photo: Robert A. Eplett-OES CA

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The Extent of the Problem



What's at Risk?

1.8 Million People
+ 2.2 Million Acres
+ 200,000 Structures
Over \$56 Billion

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**II: Background and Legal
Responsibility**

- Introduction
- Trends in Flood Damages
- Rights and Duty to Manage Development
- The Taking Issue

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III: Floods and Litigation

- Who Pays for Damage?
- Who Can Sue For Damage?
- Who Can They Sue?

IV: Possible Next Steps

- Levees Land Use and Liability
- Talking Points

V: Why Should Local Government Do Something?

- Levees, Land Use and Liability
- Talking Points

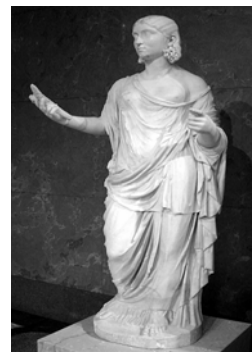
VI: Questions

- Comments?
- Questions?

Ed's New Client

- Recently I Have Accepted A New, Pro Bono Publico Client
- Pro Bono Publico Means for The Good of the Public
- Also Means That She Does Not Pay
- My Client Is Accused Of Monstrous Crimes: Murder, Devastation, Suffering of Thousands
- Yet Does Not Have A Chance To Confront Her Accusers
- That Is Un-American
- It Is Un-British

My New (Pro Bono) Client



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Does Nature Cause Disasters?

- Are Natural Disasters “Natural”?
- Dr. Gilbert White Stated The Facts:
 - **“Floods are Acts of Nature; But Flood Losses Are Largely Acts of Man”**
- Flood Losses Are Therefore Un-Natural!
- My Client Is Innocent

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Trends in Flood Damages

- Flood Losses and Reported Flood Heights Are Increasing
- Demographic Trends Indicate Great Future Challenges
- Sea Level Rise
- Climate Change

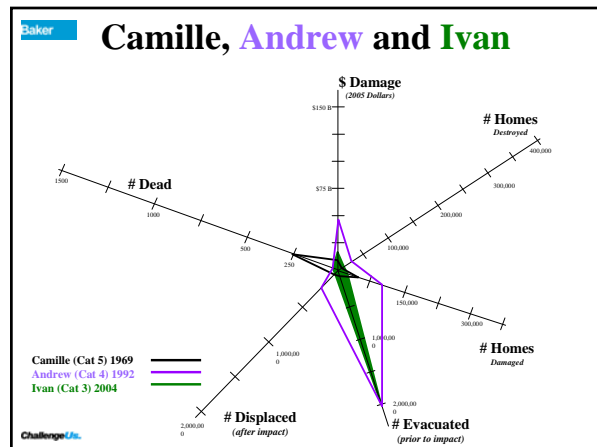
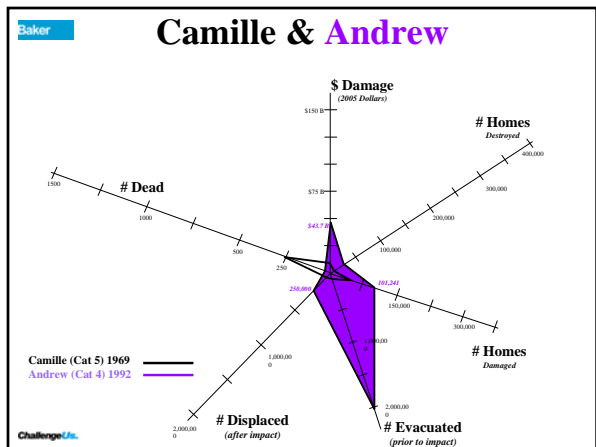
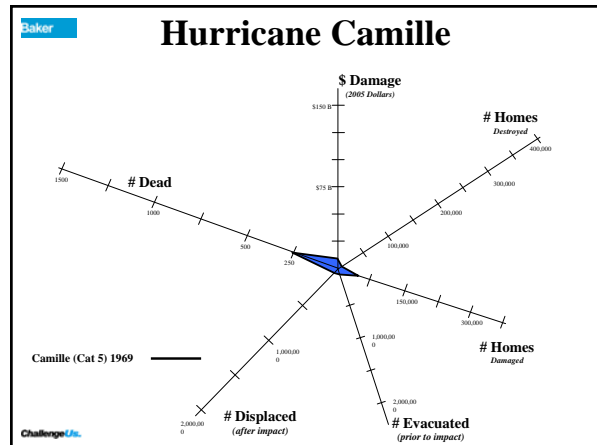
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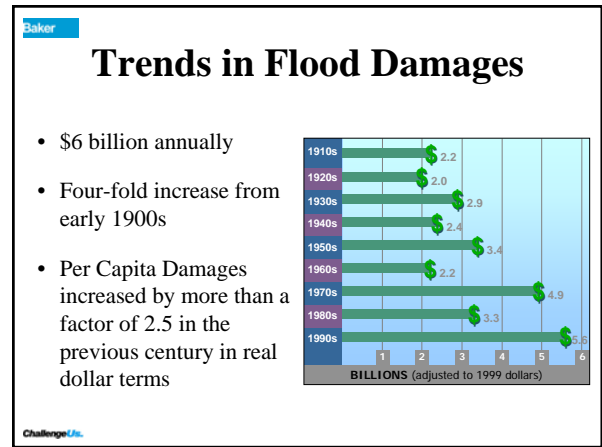
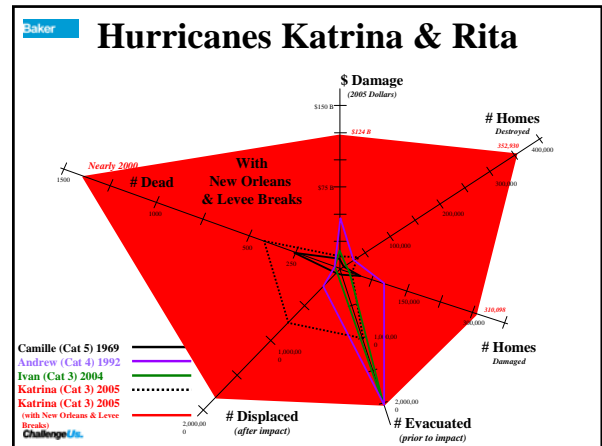
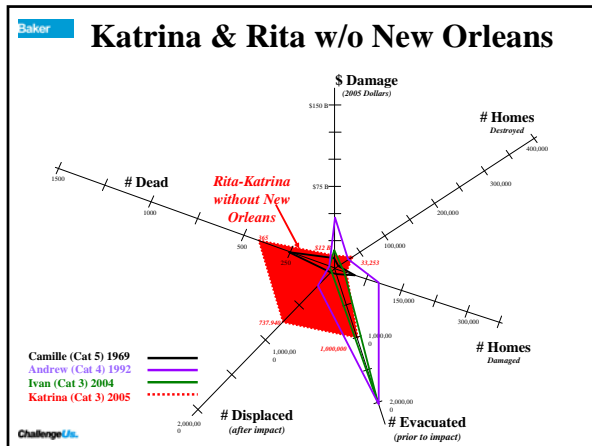
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Lesson Of Hurricane Katrina

- We Need Housing for Employees to Have Businesses and Industry-to Have an Economy
- There Is No Possibility of A Sustainable Economy Without Safe Housing And Safe Locations For Business And Industry To Occupy

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Problem

Why are Flood Heights Increasing?

- A. Bad Luck
- B. Urbanization, Loss Of Natural Valley Storage, Increasing Impermeable Surfaces in the Watershed
- C. Global Cooling
- D. All Of The Above

Central Message

Even if we perfectly implement current standards, **damages and flood heights will increase**

Remember, we have done a number of positive things, both non-structural and structural, but... We'll discuss why that is...

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Where is the Floodplain?

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Today's Floodplain Is Not Necessarily Tomorrow's Floodplain

If large areas of the floodplain are filled, then there will be an increase in the land area needed to store flood waters. This means your home or business may be impacted.

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What is A Watershed?

A watershed is an area of land that drains into a lake or river. As rainwater and melting snow run downhill, they carry sediment and other materials into our streams, lakes, and groundwater. The image below is a watershed illustration.

Watersheds provide water for drinking, irrigation, and streams. Many people also enjoy the lakes and streams for their beauty — and for boating, fishing, and swimming. Healthy watersheds also provide food and shelter for wildlife.

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With Full Build Out Flood Heights May Increase Dramatically

- No Adverse Impact:
 - A New Direction in Floodplain Management Policy
 - Larry Larson PE, CFM and Doug Plasencia P.E., CFM
 - Published in *Natural Hazards Review*, November 2001, IAAN 1527-6988

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Demographic Trends: The Future

- As We Move Into the Next Generation Things Will Be **Much More Challenging For Floodplain and Stormwater Managers**
- Dr. Arthur “Chris” Nelson, FAICP
- **Leadership in a New Era**
- “More than half of the built environment of the United States we will see in 2025 did not exist in 2000”

Journal of the American Planning Association, Vol. 72, No. 4, Autumn 2006
© American Planning Association, Chicago, IL

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Governmental Rights and Duties to Manage Development

- Does Government Have a Right to Regulate to Prevent Harm?
- Does Government Have an Affirmative Duty to Regulate to Prevent Harm?

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One Solution

No Adverse Impact Principle for:

- Development Decision-making
- Planning
- Emergency Preparedness

Why No Adverse Impact?

Flood damages are rapidly increasing *unnecessarily!*

Current approaches deal primarily with *how to build in a floodplain vs. how to minimize future damages*

No Adverse Impact Floodplain Management

- What is “No Adverse Impact Floodplain Management”?
- ASFPM Defines it as “...an Approach that ensures the action of any property owner, public or private, does not adversely impact the property and rights of others”

No Adverse Impact Explained

NAI is a concept/policy/strategy that broadens one's focus from the built environment to include how changes to the built environment potentially impact other properties.

NAI broadens property rights by protecting the property rights of those that would be adversely impacted by the actions of others

No Adverse Impact

Activities that could adversely impact flood damage to another property or community will be allowed only to the extent that the impacts are mitigated or have been accounted for within an adopted community-based plan.

No Adverse Impact Roles

State & Local government is the key

- Develop and adopt NAI community-based plans
- Adopt NAI strategies
- Educate citizens on the “Good Neighbor Policy”



How To Follow The No Adverse Impact Principle?

- Identify ALL the Impacts of a Proposed Development
- Determine ALL the Properties Which Will be Impacted
- Notify Impacted Persons of the Impact of Any Proposed Development

How To Follow The No Adverse Impact Principle?

- Design or Re-Design the Project to Avoid Adverse Impacts
- Require Appropriate Mitigation Measures Acceptable to the Community and the Affected Members of the Community

What Is The Result Of Following The No Adverse Impact Principle?

- With NAI, the Persons Who May be Victimized By Improper Development Are Made Aware and Can Have their Concerns Voiced to Community Officials
- Really Turns the Usual Development Process Around!

What Is The Result Of Following the No Adverse Impact Principle?

- **Protection Of The Property Rights Of All**
- Legally Speaking, Prevention of Harm is Treated Quite Differently Than Making the Community a Better Place
- **Prevention of Harm to the Public Is Accorded Enormous Deference by the Courts**

No Adverse Impact Floodplain Regulation

- Consistent with the Concept of Sustainable Development
- Provides a Pragmatic Standard for Regulation
- Compliments Good Wetland and Stormwater Regulation
- Makes Sense on a Local and Regional Basis
- May be Rewarded by FEMA's Community Rating System, Especially Under the New CRS Manual.

No Adverse Impact Floodplain Management

- New Concept?
- "*Sic utere tuo ut alienum non laedas*"
- Detailed Legal Paper by Jon Kusler and Ed Thomas available at: www.floods.org
- More Information in ASFPM
A Toolkit on Common Sense Floodplain Management at: www.floods.org



NO ADVERSE IMPACT FLOODPLAIN MANAGEMENT AND THE COURTS November 2007 Edition

By:
Jon A. Kusler, Esq. and
Edward A. Thomas, Esq.
Prepared for the Association of State Floodplain Managers

The Taking Issue

- Fifth Amendment to the Constitution: “...nor shall private property be taken for public use without just compensation.”
- Was this Some Theoretical Thought, or Passing Fancy?
- Which Part of this Directly Mentions Regulation?
- *Pennsylvania Coal Company vs. Mahon* 260 US 293 (1922). *But See, Keystone Coal* 480 US 470, 1987.

Increase In Cases Involving Land Use

- There Has Been a Huge Increase in Taking Issue Cases, and Related Controversies Involving Development
- Thousands of Cases Reviewed by Jon Kusler, Me and Others
- Common thread? Courts Have Modified Common Law to Require an **Increased Standard of Care** as the State of the Art of Hazard Management Has Improved

Taking Lawsuit Results

- Hazard Based Regulations Successfully Held to be a Taking -Almost None!
- Many, Many Cases where **Communities and Landowners Held Liable for Harming Others**

Examples of Situations Where Governments May Be Held Liable

- Construction of a Road Blocks Drainage
- Stormwater System Increases Flows
- Structure Blocks Watercourse
- Bridge Without Adequate Opening
- Grading Land Increases Runoff
- Flood Control Structure Causes Damage
- Filling Wetland Causes Damage
- Issuing Permits for Development Which Causes Harm to a Third Party

Landowner Does Not Have All Rights Under The Law

- No “Right” to be a Nuisance
- No “Right to Violate the Property Rights of Others
- No Right to Trespass
- No Right to be Negligent
- No Right to Violate Laws of Reasonable Surface Water Use; or Riparian Laws
- No Right to Violate “Public Trust”

Public Entities Do Not Have The Right To Do Just Anything Either!

- No Right to Use Public Office To Wage Vendettas
- No Right To Abuse the Public
- No Right To Use Regulation To Steal From a Landowner

Extremely Important US Supreme Court Case on Takings

- Lingle v. Chevron, *US Supreme Court No. 04-163 Decided May 23, 2005*

Here Is The Gas Station in Lingle



In Lingle, the Supreme Court States How to Determine If There Is a Taking I

Physical Intrusion See, *Loretto v. Teleprompter Manhattan 458 US 419 (1982)*;



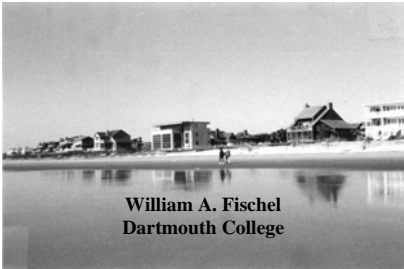
Loretto Apartment Building: Physical Intrusion

In Lingle, The Supreme Court States How To Determine If There Is A Taking II

Total, or Near Total Regulatory Taking.
See, *Lucas v. South Carolina Coastal Council 505 US 1003 (1992)*;

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Lucas Sites Pre-Development



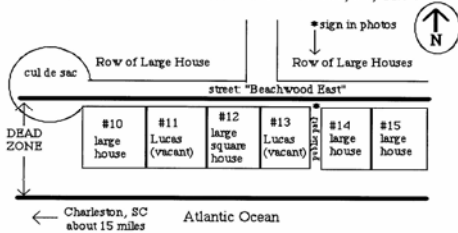
William A. Fischel
Dartmouth College

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Lucas Extinguishing Legitimate Investment Backed Expectations

Part of "Wild Dunes" resort on Isles of Palms, SC, 11/94

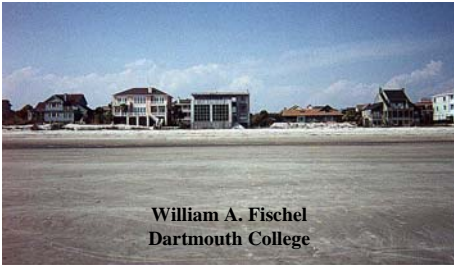


← Charleston, SC about 15 miles Atlantic Ocean

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Lucas Post Development Of One Lot



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In Lingle, The Supreme Court States How to Determine If There Is A Taking III

A "Penn Central Taking".
See, Penn Central v. City of New York 438 US 104 (1978);

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Grand Central Station, New York




Washington University in St. Louis
SCHOOL OF LAW

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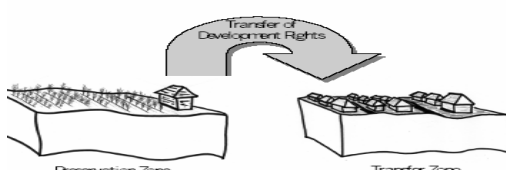
Grand Central, With New Design



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Transfer of Development Rights



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In Lingle, The Supreme Court States How to Determine If There Is A Taking IV

A land use exaction which has little or no relationship to the "property". (*sic*). I think they meant to say little or no relationship between the exaction and the articulated government interest. (*Nollan*; and *Dolan*).

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Nollan House from Road




Washington University in St. Louis School of Law

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Nollan House from Beach




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Dolan From Street




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Dolan Floodplain and Bike Path



Washington University in St. Louis School of Law

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In Lingle, The Supreme Court States How To Determine If There Is A Taking

- The Court went on to say that the Tests articulated "...all aim to identify **regulatory actions that are functionally equivalent to a direct appropriation of or ouster from private property**"

Avoiding a Taking

- Avoid Interfering with the Owners Right to **Exclude** Others (Loretto)
- Avoid Denial of All Economic Use (Lucas)
- In Highly Regulated Areas Consider **Transferable Development Rights** or Similar Residual Right so the Land Has Appropriate Value (Penn Central)
- **Clearly Relate Regulation to Preventing a Hazard.** See, Different results in *Gove* cited previously and *Annicelli v. Town of South Kingston*, 463 A.d 133 (1983); and *Lopes v. Peabody*

Hazard Based Regulation And the Constitution

- Hazard Based Regulation Generally Sustained Against Constitutional Challenges
- Goal of Protecting the Public Accorded **ENORMOUS DEFERENCE** by the Courts

IV: Floods and Litigation

- Who Pays?
- Who Can Sue?
- Who Can They Sue?

IV: Floods and Litigation

- When Someone Is Damaged by the Actions of Others Who Pays?
- This is a Fundamental Question Of Law.

There Are Only Three Ways For Someone To Rebuild Following Damage

- Self Help** -Loans-Savings-Charity Neighbors
- Insurance** Disaster Relief Is usually a Combination of Social Insurance and Self Help
- Litigation**

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Insurance

Insurance – The “What When” Tool

Usually Very Positive

- It can help reduce economic misery.
- It can provide a temporary “fall-back position” while a levee is being improved.
- It is a partial solution to residual risk.

Insurance Does Have Negatives

- For the NFIP, insurance drives the 100 year standard which may be inadequate for levees.

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Insurance

Insurance It doesn't work unless it is purchased.

- Outreach/awareness/risk perception
- Mandatory:
 - Notification?
 - Purchase?
- Beyond the Federal Flood Insurance Levees Are A Concern
 - Benefits of Private - “Excess Insurance”
 - Actuary based
 - Promotes awareness among the “captains of industry”
 - Business Interruption Insurance
 - Public Facilities?

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Overview Of Liability

Who Can Sue A Community/Levee Owner/Operator/Public Official Involved in a Failed Levee?

- A. Almost Anyone
- B. Employees
- C. The Public
- D. Sub-dividers
- E. Contractors
- F. Employer
- G. Any Additional Ideas From You Folks?

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Grounds For Suit

- Standard of Care for Professionals Is Increasingly High As Professionals Develop Increasingly Sophisticated Design Methods
- Previously Accepted Defenses Such As the Common Enemy Doctrine for Flood Fighting is Increasingly Replaced By “Rule of Reasonable Person”
- The “Reasonable Person is Expected To Be An Expert When We Are Discussing Something Like A Dam Or Levee

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Proof Of Causation Of Harm Is Easier Now Than In Past Times

- Forensic Hydrologists
- Forensic Hydraulic Engineers

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Legal Issues: Professional Liability For Construction in Hazardous Areas

- Excellent Paper By Jon Kusler PhD, Esq. Is Now Available
 - Located At www.floods.org
- http://www.floods.org/PDF/ASFPM_Professional_Liability_Construction.pdf
- Prepared For The Association Of State Floodplain Managers Foundation

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V: Why Should Government Do Something About This?

- Remember That Slide We Showed A Little While Ago About Lawsuits Against Government?
- Neat Article on Litigation in Nebraska
- In a Word: Liability

Examples of Situations Where Governments Have Been Held Liable

- Construction of a Road Blocks Drainage
- Stormwater System Increases Flows
- Structure Blocks Watercourse
- Bridge Without Adequate Opening
- Grading Land Increases Runoff
- Flood Control Structure Causes Damage
- Filling Wetland Causes Damage
- Issuing Permits for Development Which Causes Harm to a Third Party

Levees, Land Use and Liability

- Levees Are Designed To Fail (At Some Point)
- You Could Also Say That They Are Only Designed To Provide Protection To A Certain Level
- But Are These Two Statements Just Different Expressions Of The Same Idea?

Levees – Major Issues

- Engineering & Mapping
- Floodplain Management & Economics
- Legal
- Insurance
- Social/Political



A Levee is an economic decision. A levee may not always eliminate the misery, it may only delay it until that point in time when nature's forces exceeded man's willingness to invest in greater risk protection

Mapping Areas Protected by a Levee

- Huge Increase In Interest In Mapping Levees Following Katrina
- FEMA Is Modernizing And Updating Our Nation's Floodmaps
- Many Stakeholders mapping these areas. What are their criteria?
 - USACE
 - States
 - Private Industry

Problem

What Two Kinds Of Levees Are There?

- Well Designed And Well Maintained
- Those Which Have Failed And Those Which Will Fail In The Future
- High Risk And Low Risk
- All of The Above

English Law Treated Dams and Levees Differently

- Negligence Need Not Be Proved—"Strict Liability
- Roman Maxim : "Sic Utere Tuo Ut Alienum Non Laedas"
- Rylands v. Fletcher, L.R. 3 H.L. 330 (1868).
- Dams/Levees: "Non-Natural Use of Land"
- Sometimes Called Ultra-Hazardous or Abnormal.

Problem

Anyone Ever Hear Of Mohandas K. Gandhi? He Was:

- One Of The Great Moralists of The Twentieth Century.
- A British Trained Attorney-At-Law.
- A Tremendous Influence On The Philosophy Which Guided Dr. Martin Luther King.
- All Of The Above.

According To Gandhi's Writings

- "Sic Utere Tuo Ut Alienum Non Laedas" That Is, In English: Use Your Property So You Do Not Harm Others Is:
- " A Grand Doctrine Of Life And The Basis Of (Loving Relationships) Between Neighbors"
- The Concept Of Using Property So It Does Not Harm Others Is Important To Discussion Of Levee Liability And Design.
- This Concept Will Also Help Us Understand How To Proceed In The Future, As We Shall See.

Almost All United States Courts Have Adopted Strict Liability For Failed Dams and Levees

- Strict Liability For Dam/Levee Failure Adopted by the Courts in Most of 50 States and Recently Partially Adopted in One More State.
- State of California Recently Held Liable for Levee Failure in Amount of About 464 Million Dollars. *PATERNO v. STATE*, C040553, (Cal.App.4th 2003)

Legal Challenges When Dams And Levees Do Not Protect.

- Early English Common Law: Person Who Causes Harm Absolutely Responsible For Damage "...if I lift my stick in self defense...and there is a man injured.... (Justice Brian, 1466)
- Later a Legal Standard of Negligence Was Developed
- Negligence is Based on a Breach of a Duty of Care Owed to Another

Paper On This Topic From ASFPM

LIABILITY FOR WATER CONTROL STRUCTURE FAILURE DUE TO FLOODING



- Special Edition for the Floodplain Managers Annual Meeting
- September 7, 2006
- Edward A. Thomas, Esq., Michael Baker, Inc.
- www.floods.org

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Strict Liability

- Strict Liability is Not “Absolute Liability”
- Four Defenses:
 - a) Vis Major or Act of God;
 - b) Plaintiff’s Own Fault; or
 - c) Unforeseeable Act of Third Party
 - d) Statutory or Sovereign Immunity

No Need For Plaintiff to Show Negligence

- That a Levee Was Designed Perfectly-Or Maintained Impeccably Not Good Defense

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Why Are Levees Treated Differently By The Law?

- “ There are only two kinds of levees, those which have failed and those which will fail in the future”

Quote Attributed to William H. Hall, the State of California’s Pioneering State Engineer as well as Mark Twain and Many Others

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Other Reasons Why Are Levees Treated Differently By The Law

- Possibility of Serious Loss of Life and Property. Duty of Care When Life and Limb are At Stake is the Highest Possible: Dean Thayer of Harvard 1916
- Roman Maxim of Law: Use Your Property So as You do not Harm Others
- Somewhat Back to the Beginnings of Common Law


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California Law Changes

1986 Sacramento River Flood

- 1 levee rupture
- + 50,000 people evacuated
- + 9,000 families left homeless
- + 29 counties declared
- + \$532 million in damages
- + almost 2 decades of litigation



Photographer: Geoff Fricker

= Paterno, A landmark court decision in 2003

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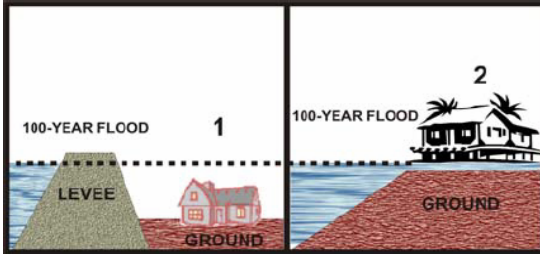
California Law on Liability for Failed Levees Quite Complicated

- California Courts Have Used A Negligence Standard for Dams/Levees See, Suitliff v. Sweetwater, 182 Cal. 34 (1920)
- But for Water Displaced By a Road-Strict Liability See, Youngman v. DOT 2006 Cal. App. Unpub. Lexis 4104
- Courts Have Been Concerned As to Whether or not the Property Flooded in the Past See, Youngman id.
- Might That Legal Analysis Evolve?

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California Courts Ask Did The Property Flood?



Images from: Interagency Levee Policy Review Committee, *The National Levee Challenge: Levees and the FEMA Map Modernization Initiative*, September 2006.

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Is The Nature Of The Flooding The Same?

Images from: Interagency Levee Policy Review Committee, *The National Levee Challenge: Levees and the FEMA Map Modernization Initiative*, September 2006.

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Special Sovereign Immunity For The United States

- “No liability of any kind shall attach to or rest upon the United States for any damage from or by floods or flood waters at any place. . . .” United States Code TITLE 33 — NAVIGATION AND NAVIGABLE WATERS CHAPTER 15 — FLOOD CONTROL 33 U.S.C. § 702c.
- Courts Have Found That This Phrase Applies to Flood Control But Not to Other Efforts Such as Navigation. (See, e.g. GRACI v. UNITED STATES, 456 F.2d 20 (5th Cir. 1971)).
- Litigation Pending to Test Constitutional Limits of this Immunity

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Louisiana Levee Failure Legal Issues

- Katrina Lawsuits
- 250,000 Plaintiffs
- Well Over \$278 Billion in Damages Requested
- Approximately 1000 Plaintiffs Attorneys Involved
- A Copy of An Article on This Topic Appeared in The National Wetlands Newsletter and Is Available at: http://www.floods.org/PDF/ET_Katrina_Insurance_082907.pdf
- For The First Time In Many Years Lenders Will Loose Considerable Money on Mortgages in A Disaster Area

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Lawsuits Are Being Filed Following Hurricane Katrina

Defendants:

- Corps of Engineers
- Local Levee Boards
- Oil and Gas Companies
- State Government, Public Employees, and Officials (Professionally and Personally); Construction Companies, Architects or Design Firms and Maintenance Entities

Over \$ 278 Billion In Claims For:

- loss of life
- injury
- insurable risks: commercial losses, property damage, business interruption, jobs lost, repair costs, disability claims
- virtually every type action allowed by our legal system

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How Can The Federal Government Be Liable?

Numerous Legal Arguments Including:

- Violation of Constitutional Protections:
 - 1) Fifth Amendment “Taking”
 - 2) Violation of Due Process
 - 3) Violation of Equal Protection of Law
- 42 USC Section 1983 Claims against Individuals
- "malfeasance, misfeasance and nonfeasance" in ensuring the competent design, construction, inspection, maintenance and operation of an entire navigable waterway system” From Insurance Journal, June 6, 2005
- 33 USC 702 (c) does not apply to Navigation and other non-flood Control Projects

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Public Safety First Legally-Morally-Ethically

- The first Fundamental Canon of the American Society of Civil Engineer's (ASCE) Code of Ethics states that:

“Engineers shall hold paramount the safety, health, and welfare of the public....”

“This canon must be the guiding principle for rebuilding the hurricane protection system in New Orleans.

And it must be applied with equal rigor to every aspect of an engineer's work – in New Orleans, in America, and throughout the world.”

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Problem

Question: When You Are Uncertain How To Design A Facility Whose Failure Could Result In Catastrophic Loss, Do You?

- A. Hope For The Best; Plan for the Worst?
- B. Use A 50% Confidence Interval To Calculate Flood Elevations Used To Design A Levee?
- C. Assume That Changing Watershed Conditions Will Not Increase Flood Heights?
- D. Meet FEMA Minimum Standards And Be Safe?

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Talking Points

Our Nation's Flood Problem Is:

- A. Complicated
- B. Not Easily Solved With Simplistic Ill-Considered Proposals
- C. Getting Worse
- D. Likely To Get Much Worse, Unless We Work Together To Solve Problems

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First Part Of The Solution Do It Right

- Conservative Calculations And Design
- Consider Current and Future Conditions
- Consider Consequences Of Failure

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Additional Part Of The Solution

Encourage Communities To Go Beyond NFIP Minimum Standards To A No Adverse Impact Approach:

Flood Insurance Community Rating Credits=Lower Flood Insurance Rates:

NAI Based Development Decision-making

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When All Upstream Communities Are Not Following NAI Principles:

- Does A Design Professional Need To Conduct A Future Conditions Hydrological Analysis To Determine Proper Freeboard?
- Need A Design Professional Calculate In Possible Effects Of Sea Level Rise and Land Subsidence?
- Update Outdated Hydrology And Hydraulics?
- What Will A Court Say Later?

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Levees: Where Are We Headed As A Nation?

FEMA Initiatives-Policy and Guidance

California Bond Issues and White Papers

Louisiana Initiatives Such As Levee School

Legislation Both Federal and State

Mega Pending Litigation

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Take Away Messages For Today Prevention

- We Throw Lots Of Money At Problems After They Occur
- You Can Pay Either Now Or Later
- The Legal System Is Ready To Help You Pay Later

Take Away Message

Responsible For A Dam or Levee?

- Levees Can Fail Or Be Overtopped
- Uninsured Victims Will Likely Sue
- Flood Insurance For All Affected By Levee Failure Helps Everyone

Message For All Involved In Community Development

The Fundamental Rules of Development Articulated, By Federal Law, Envision Housing and Development Which Is:

- Decent
- Safe
- Sanitary
- Affordable

Flooded Development Fails That Vision!

Housing And Development Which Flood Are:

- Indecent
- Unsafe
- Unsanitary
- Unaffordable- by the Flood Victims, By Their Community, By The State, and By Our Nation.

VI: Questions

- Comments?
- Questions?

MICHAEL BAKER CORPORATION



Special FEMA Outreach Meetings

Liability for Failed Levees

January 2008

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“Challenge Us”

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