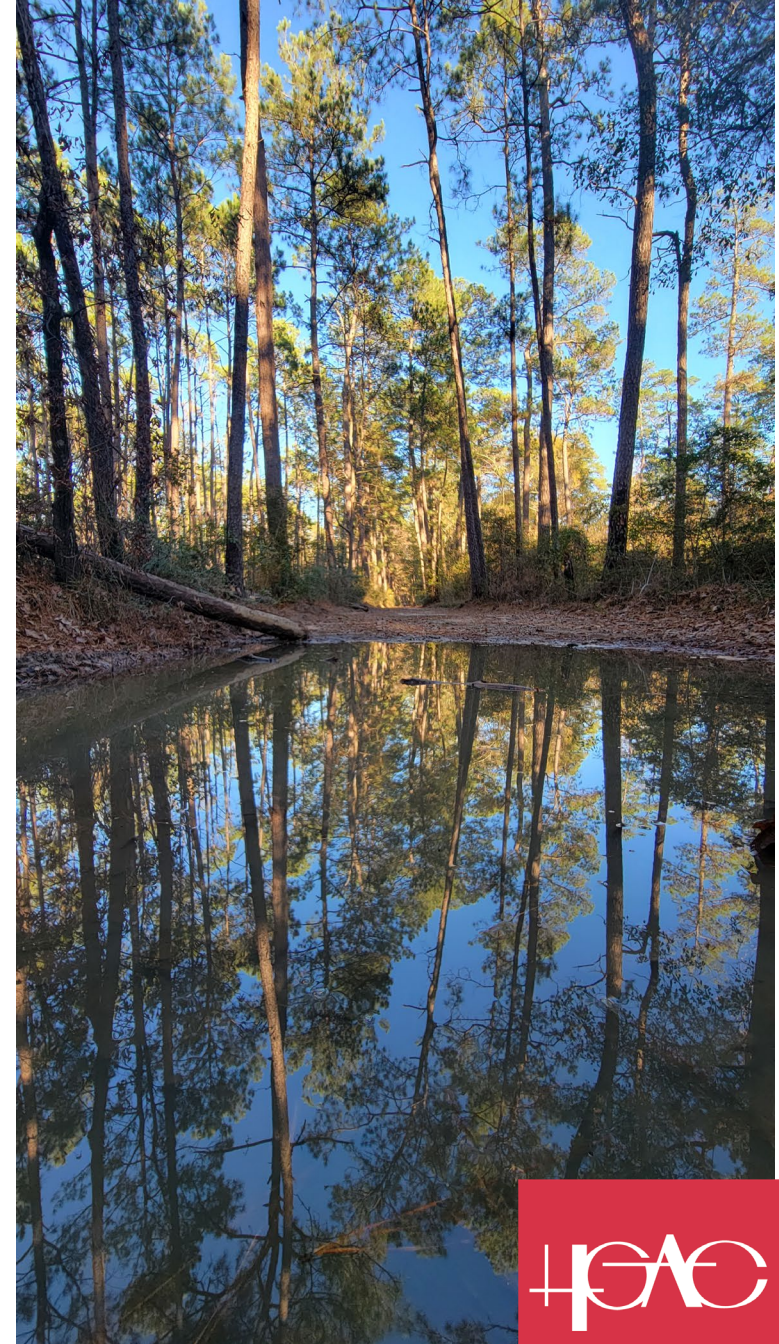


Regional Flood Management Committee

Quarterly Meeting, 10/18/23



Houston-Galveston
Area Council



Houston-Galveston
Area Council

REGIONAL FLOOD MANAGEMENT COMMITTEE QUARTERLY MEETING

October 18, 2023

1:30 pm to 3:30 pm

H-GAC, 2nd Floor Conference Rooms B/C

A G E N D A

1:30 PM

Welcome

Public Comment (3 minutes per speaker)

Speaker Presentation: The No Adverse Impact Legal Guide for Flood Risk Management

Jerry Murphy, JD, AICP, CFM

State Specialized Program Agent (SSPA) - Flood Resilient Communities
University of Florida | Institute of Food and Agricultural Sciences
UF/IFAS Program for Resource Efficient Communities

Update: Texas General Land Office's (GLO) Combined River Basin Flood Study, Central Region

Other Announcements or Business

3:30 PM

Adjourn



The No Adverse Impact Legal Guide for Flood Risk Management

Jerry Murphy, JD, AICP, CFM

State Specialized Program Agent (SSPA) - Flood Resilient Communities
University of Florida | Institute of Food and Agricultural Sciences
UF/IFAS Program for Resource Efficient Communities



A Legal Examination of Flood Risk Management, Floodplain Stewardship, and the No Adverse Impact (NAI) Approach

REGIONAL FLOOD MANAGEMENT COMMITTEE OF
THE HOUSTON-GALVESTON AREA COUNCIL



October 18, 2023

Regional Flood Management Committee of the Houston-
Galveston Area Council



UF | **IFAS**
UNIVERSITY of FLORIDA

The NAI Legal Guide

Jerry Murphy, JD, AICP, CFM, State Specialized Program Agent, Program for Resource Efficient Communities, University of Florida | Institute of Food & Agricultural Sciences (IFAS) Extension

Thomas Ruppert, Esq., Assistant Provost for Coastal Resilience, Director, Virginia Coastal Resilience Collaborative (VCRC) William & Mary University

John Ryan-Henry, JD, Policy Analyst, Coastal States Organization

Janet Thigpen, CFM, Flood Mitigation Specialist, Southern Tier Central Regional Planning & Development Board, NY Co-chair ASFPM NAI Policy Committee

Terri Turner, AICP, CFM, Principal/Owner, HALO Strategic Planning; Co-chair ASFPM NAI Policy Committee



A Caveat:

This presentation is neither intended to be, nor may it be taken as legal advice. For legal advice, consult with an attorney licensed to practice in your jurisdiction and demonstrating expertise in applicable subject matter.

Opinions and positions expressed are those of the presenter individually and are not the opinions or positions of ASFPM or the University of Florida.



Agenda

Making the Case for a No Adverse Impact (NAI) Approach to Floodplain Stewardship?

- Past Is Not Prelude Anymore
- Big Picture Thinking on Floodplain Stewardship

Legal Framework for Floodplain Stewardship, NAI Approach, and Implementation

- Fifth Amendment Takings Law
- Common Law and Sovereign Immunity

Introduction to initial NAI Legal Guide & Next Steps



Making the Case for a No Adverse Impact (NAI) Approach to Floodplain Stewardship

Regional Flood Management Committee of the Houston-
Galveston Area Council

October 18, 2023



What Is No Adverse Impact (NAI) Floodplain Stewardship?

REGIONAL FLOOD MANAGEMENT COMMITTEE OF THE HOUSTON-
GALVESTON AREA COUNCIL

October 18, 2023



No Adverse Impact (NAI)



No Adverse Impact (NAI) is an approach that ensures that the action of any community, private land owner, or public land owner **does not adversely impact the property or rights of others, including the public.**



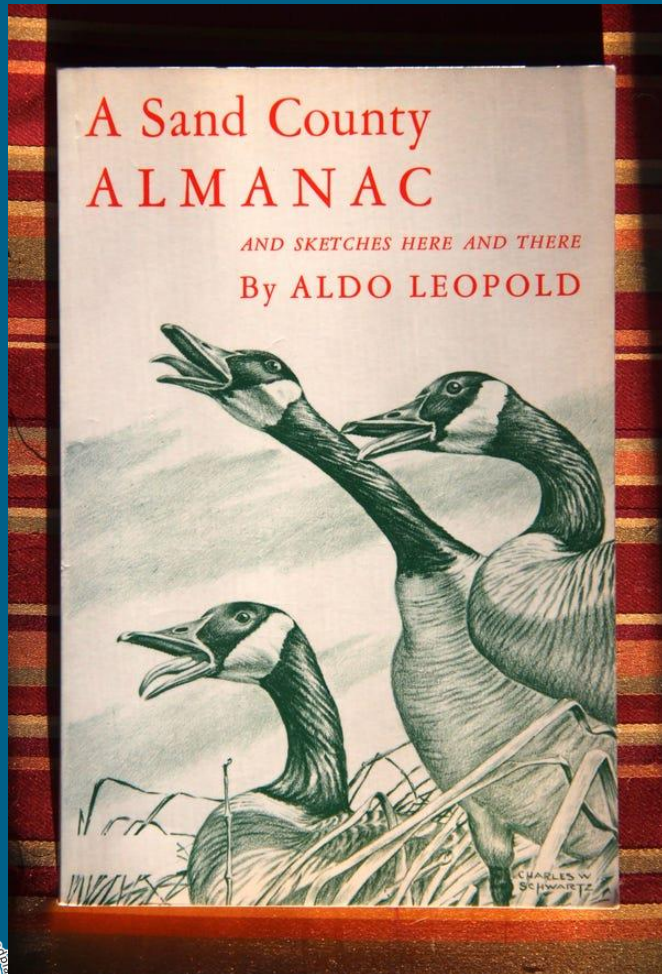
Floodplain Stewardship

Caring for and protecting the beneficial biologic, ecologic, and hydrologic functions of areas where a risk of flooding is anticipated, and guiding necessary human interventions in these areas to minimize the potential for adverse impacts and flood damage.



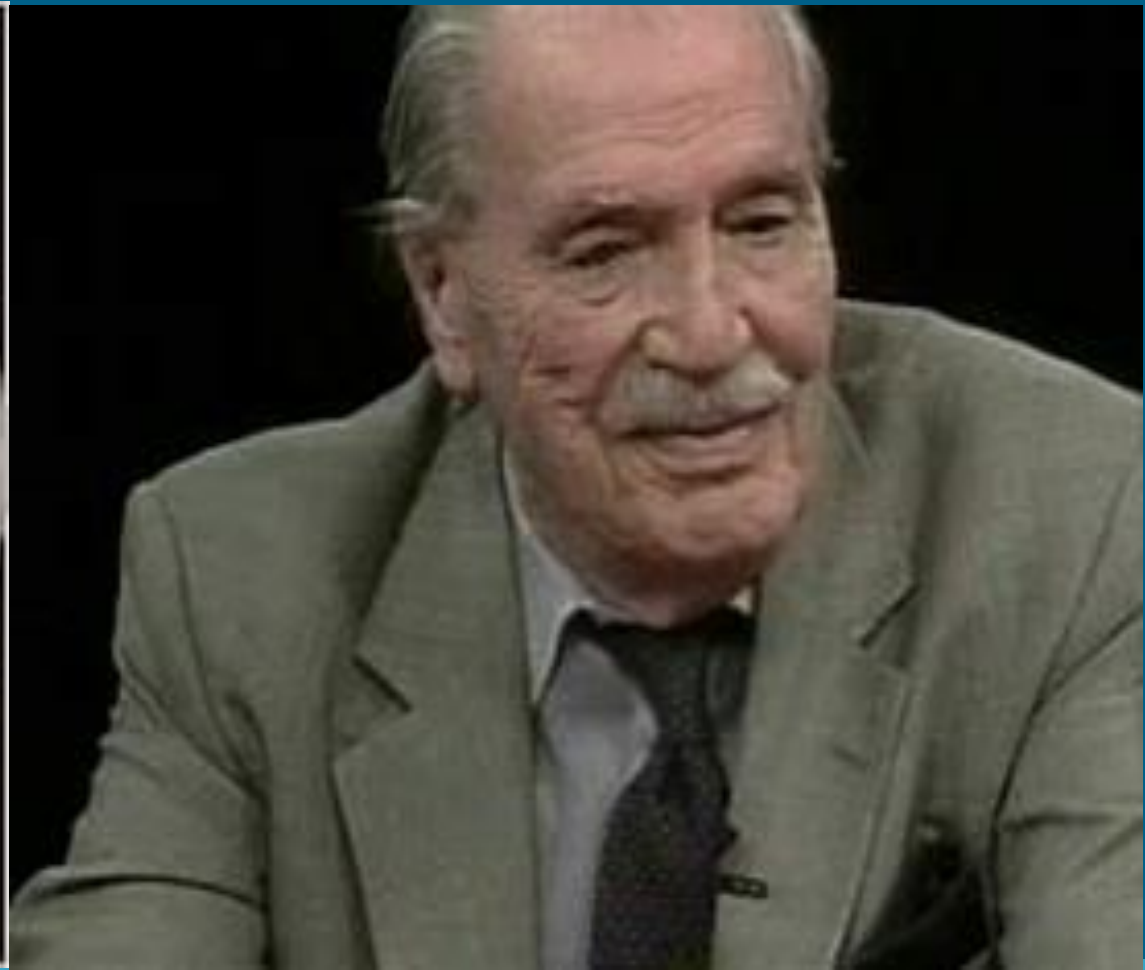
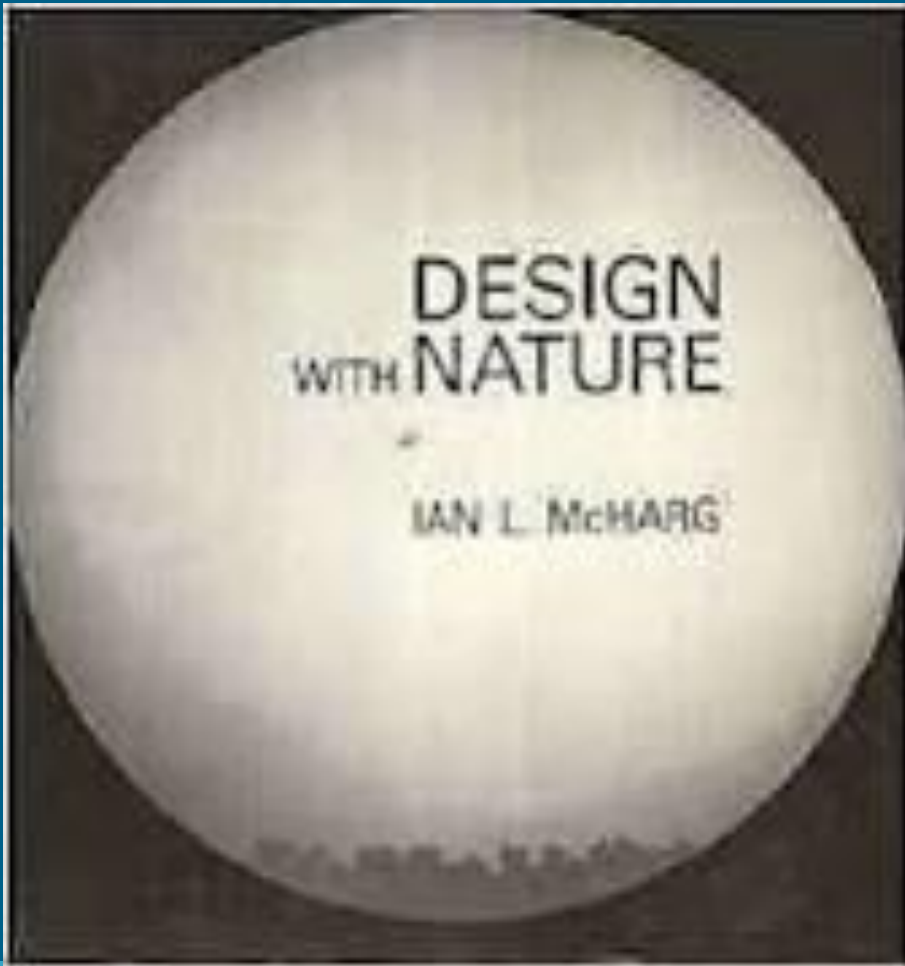
Aldo Leopold (1887-1948)

A Sand County Almanac (1949)



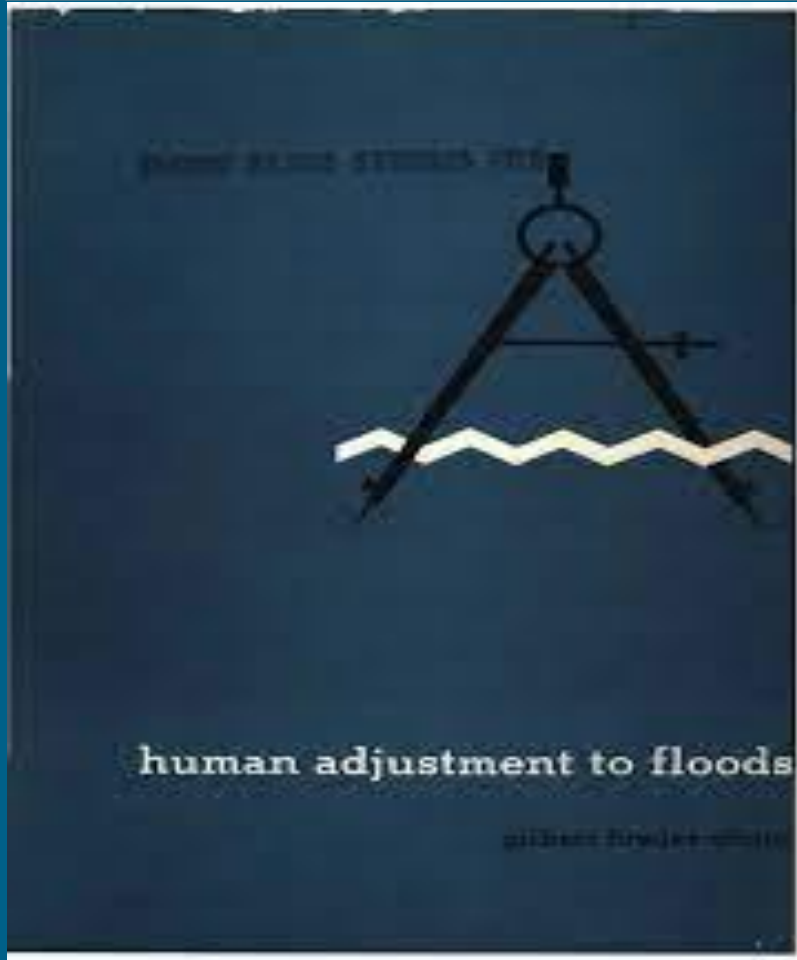
Ian McHarg (1920-2001)

Design with Nature (1969)



Gilbert White (1911-2006)

Human Adjustment to Floods (1945)



Gilbert White

Human Adjustment to Floods

"It has become common in scientific as well as popular literature to consider floods as great natural adversaries which man seeks persistently to overpower. . . . This simple and prevailing view neglects in large measure the possible feasibility of other forms of adjustment."



National Flood Insurance Program (NFIP)



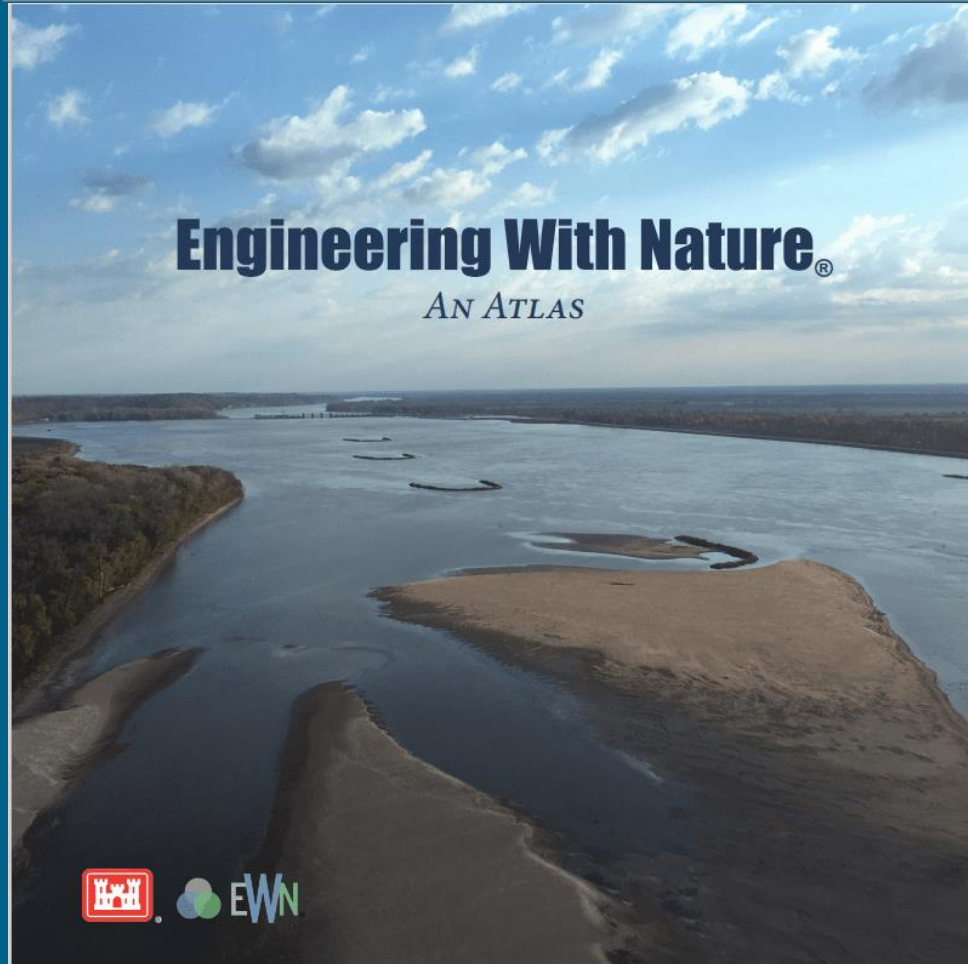
THERE'S THE FLOODPLAIN. NOW WHERE DO WE GO FROM HERE?



THERE'S THE
FLOODPLAIN.
NOW WHERE
DO WE GO FROM
HERE?



Engineering with Nature



WHY No Adverse Impacts?

Even if we perfectly implement current federal floodplain management standards, damages will increase.

Current approaches deal primarily with how to *build* in the floodplain rather than how to *minimize future flood risks and damages*.





WHY NAI?

NFIP Limitations:

- Few Restricted Areas
 - Seaward of mean high tide
 - Floodways
- No requirement to protect natural floodplain functions
- No limits on siting critical facilities
- Floodplain fill is allowed and facilitated



WHAT IS NAI?

NAI does not mean NO development!

NAI means that *adverse impacts* are identified and mitigated.



WHAT IS NAI?

The true strength of the No Adverse Impact approach is that it encourages local decision making to ensure that future development **impacts will be identified, considered on a watershed-wide basis, and mitigated.**



It is a truly comprehensive strategy for reducing flood losses and costs.



IMPLEMENTING NAI

Identify ALL the impacts of a proposed development or program

- Drainage, storage
- Sediment, erosion
- Access
- Flood Safety, etc.

Determine which properties or community members will be impacted

Devise and implement a strategy for mitigating anticipated adverse impacts



IMPLEMENTING NAI?

NAI is a principle - not a specific set of standards

The NAI concept can be incorporated into all community activities

NAI Toolkit and How-To Guides present ideas for integrating NAI into local programs to provide a higher level of flood protection

Each NAI program is unique – It is tailored to the community's specific situation



NAI IN COMMUNITY ACTIVITES

- Hazard Identification (Mapping)
- Planning
- Regulations & Standards
- Mitigation
- Infrastructure
- Emergency Services
- Education & Outreach



NAI SUMMARY

Every piece of property has some element of flood risk

NAI is a principle that leads to a flood risk reduction process

How-To Guides for Local Communities are great resources!



*NAI How-to Guides, the NAI Toolkit and other resources are at www.floods.org – click on the NAI page



Billion-Dollar Disasters BY THE NUMBERS (1980–2020)



DROUGHT



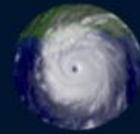
FLOODING



FREEZE



SEVERE STORMS



TROPICAL CYCLONE



WILDFIRE



WINTER STORM

For more info:
www.ncdc.noaa.gov/billions/

1980

The year NOAA started tracking billion-dollar disasters

119

Number of billion-dollar events from 2010-2019



22

Number of U.S. billion-dollar disasters in 2020—the most on record



7.0

Average number of billion-dollar disasters per year since 1980

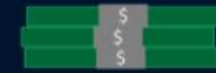
285

Number of billion-dollar disasters in the U.S. since 1980

\$1.875

TRILLION

Total cost of the 285 billion-dollar disasters



7

Number of billion-dollar tropical cyclones that struck the U.S. in 2020



15.1

Average number of billion-dollar disasters per year since 2015

50

Number of states that have had at least one billion-dollar disaster

124

Number of billion-dollar disasters that have impacted Texas since 1980—the most of any state



Common Law and Sovereign Immunity

Regional Flood Management Committee of the Houston-
Galveston Area Council

October 18, 2023



Common Law Liability—CAUSES OF ACTION

Under common law, no landowner—public or private—has the right to use their land in a manner that substantially increases flood or erosion damages on adjacent lands; if so, liability.

Liability lawsuits are commonly based upon one (1) or more of four (4) causes of action in Tort:

- Negligence
- Nuisance
- Trespass
- Law of Surface Water



A Civil Wrong for Which the Law Provides a Remedy

Intentional Torts

Not our focus
(exception: trespass)

Negligence

Duty of Care

Breach

Causation

Damages

But,
**SOVEREIGN
IMMUNITY**



Common Law Causes of Action—NEGLIGENCE

What is the “standard of care” for reasonable conduct?
Evolving from a Floodplain Management perspective:

- The standard of conduct is that of a reasonable person in the circumstances.
- This is the primary legal basis for public liability for:
 - Improperly designed flood control structures
 - Improperly prepared or issued warnings
 - Inadequately processed permits





<http://floodlist.com/wp-content/uploads/2015/09/nuisance-flooding.jpg>



Common Law Causes of Action—NUISANCE

NUISANCE

No landowner, public or private:

- has a right to use his/her land in a manner
- that substantially interferes, in a physical sense,
- with the use of adjacent lands.

“Reasonable conduct” is usually not a defense against a nuisance suit.





Ill. Farmers Insurance Co. v. MWRD of Greater Chicago



III. Farmers Insurance Co. v. MWRD of Greater Chicago

Governmental and Sovereign Immunity

The government/sovereign (=crown) cannot be sued without its consent.

Courts will typically use one (1) of four (4) tests:

1. Governmental v. Proprietary Function Test
2. Ministerial/Operational v. Discretionary Functions/Acts Test
3. Planning v. Implementation
4. Non-justiciable v. Justiciable



Common Law Causes of Action—TRESPASS



Landowners can succeed in trespass suits for:

- certain types of public and private actions
- that result in physical invasion of private property
- Including increased flooding or drainage.

Cause of Action: LAW OF SURFACE WATER

In most states landowners cannot substantially damage other landowners

- by blocking the flow of diffused surface waters,
- increasing that flow, or
- channeling that flow to a point other than the point of natural discharge.

Landowners are liable for damages caused by interference with the natural flow of surface water when their actions are 'unreasonable'.



Fifth Amendment Takings Law

Regional Flood Management Committee of the Houston-
Galveston Area Council

October 18, 2023



We the People

of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do hereby ordain and establish this Constitution for the United States of America.

Article 1

Section 1. All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

Section 2. The House of Representatives shall be composed of Members chosen every second Year by the People of the several States, and the Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.

“Takings” in the U.S. Constitution

and who shall not, when elected, be an inhabitant of that State in which he shall be chosen.

Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and including Indians not taxed, three fifths of all other Persons. The actual Enumeration shall be made within three Years after the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as they shall by Law direct. The Number of Representatives shall not exceed one for every thirty thousand, but each State shall have at least one Representative, and until such Enumeration, shall be made, the State of New Hampshire shall be entitled to three, Massachusetts eight, Rhode Island and Providence Plantations one, Connecticut five, New York six, Pennsylvania seven, Delaware one, Maryland one, Virginia three, North Carolina five, South Carolina five, and Georgia three.

When vacancies happen in the Representation from any of the preceding States, the Electors in such State shall fill such Vacancies.

The House of Representatives shall chuse their Speaker and other Officers, and shall have the sole Power of Impeachment.

Section 3. The Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.

Immediately after they shall be assembled in Consequence of the first Election, they shall be divided as equally as may be into three Clauses, two of which shall chuse one of their Members in each State, the third shall chuse one of their Members in each State, and the Members chosen in the first two Clauses shall have no Power, until they be equally divided.

The Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.

No Person shall be a Senator who shall not have attained to the Age of thirty Years, and been seven Years a Citizen of the United States, and who shall not, when elected, be an inhabitant of that State for which he shall be chosen.

The Vice President of the United States shall be chused in the same Manner as the Senators, but he shall not be chused out of the same State with the Senators.

The Senate shall chuse their other Officers, and also a President pro tempore, in the Absence of the Vice President, or when he shall exercise the Office of President of the United States.



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“Takings” in the U.S. Constitution

Invasion without intent to take title = inverse condemnation

Regulation going “too far” = regulatory taking

“... nor shall private property be taken for public use, without just compensation.”

All regulatory takings = inverse condemnation, but not all inverse condemnation = regulatory taking



Analysis of Most Regulatory Takings: The *Penn Central* Case

1978 case established key 3-part test:

1. Economic impact of the regulation on the property owner
2. The “reasonable investment-backed expectations” of the property owner
3. The nature of the government action

Each of these over the past decades has developed its own series of factors and aspects; extreme complexity in some cases



The Good: Lots of Case Law Supporting NAI

Beverly Bank v. Illinois Department of Transportation

- Illinois Supreme Court upheld state regulation prohibiting residential structures in regulatory floodway

State's argument focused on protecting health, safety, and welfare including

- Risk to first responders
- Risk to property owners who would be stranded
- Increased expenditure of public funds



The Good

Columbia Venture, LLC v. Richland County, 776 S.E.2d 900 (S.C. 2015)), reh'g denied (Oct. 9, 2015), cert. denied, 136 S. Ct. 1458 (2016).

- Court emphasized the **“important public purposes of mitigating the social and economic costs of flooding that are served by the County’s ordinances.”**
- Also highlighted the **“safety-enhancing character of the government action”** of regulating the floodway.



The Bad

After the U.S. Supreme Court's *Koontz* decision (2013)

- Conflicting decisions about its application:
- *F.P. Development v. Charter Township of Canton*: All generally applicable fee-based mitigation permit requirements fail the extension of *Koontz* to monetary exactions
- Contra:
- *Knight v. Metropolitan Government of Nashville & Davidson County* and *Ballinger v. City of Oakland* both found *Koontz* did not apply, but for different reasons



The *Really* Ugly

Series of appellate state cases in NY encouraging and rewarding land speculation in long-classified and undevelopable wetlands

Ideker Farms series of cases

- USACE “channelized” Missouri River, creating valuable farmland
- Due to ESA, USACE ordered to mitigate harms
- Increased water levels after ESA led to lawsuits
- RESULT: Taxpayers must pay AGAIN



LEGAL RESEARCH FINDINGS:

Almost no cases* of gov't liability in a takings claim against a community's denial of use where the proposed use would have had substantial offsite impacts or threatened public safety.

Courts have broadly supported restrictive regulations for high-risk flood areas based upon public safety, nuisance prevention, public trust and other concerns.

*The dramatic departure from this general rule: *Lucas v. South Carolina Coastal Com'n*, 505 US 1003 (1992) (NOTE: *very* limited holding & applicability in floodplain context; only 1.6% of *Lucas* claims successful)



AVOIDING A SUCCESSFUL TAKINGS CLAIM BASED ON REGULATION

Clearly relate regulation to preventing harm. (*Lingle*)

Avoid interfering with owner's right to exclude. (*Loretto*)

Avoid denial of all economic uses. (*Lucas*)

Consider Transferable Development Rights, similar residual rights and uses, alternative development options to retain economic land use value. (*Penn Central*)

Close relationship between permit conditions and harm avoided. (*Nollan-Dolan*)

Do not propose anything or negotiate with permit applicants. (*Koontz*)

DO NOT rush through land use changes or zoning changes in response to public opposition to a particular project *after* its proposal or acquisition of land for a project acceptable under current zoning without overwhelming evidence of the need to protect public health and safety or prevent a clear nuisance



Change is the Constant

"Sic utere tuo ut alienum non laedas" and industrialization: conflict driving changes in property law

Early U.S. law: no "takings" for mere regulation of available use of land. Only for legal taking, and physical impacts to actual property or recognized property rights.

Shift from very strict "*sic utere*" to a standard that found no liability for "disturbances" from standard practices in industries deemed important to the public interest.

Demonstrates "elastic nature of property rights" (Justice Stevens' dissent in *Lucas v. South Carolina Cstl. Com'n.*)



Change is the Constant

“all property in this country is held under the implied obligation that the owner's use of it shall not be injurious to the community”

- Mugler v. Kansas, 123 U.S. 623 , 665 (1887)

Supreme Court noted that in *Fertilizing Co. v. Hyde Park*, 97 U.S. 659, 667, (1878), it had upheld an ordinance that shut down a fertilizer plant operating in a location that was previously expressly authorized because the use “had become a nuisance to the community in which it was conducted, producing discomfort, and often sickness, among large masses of people”

- Mugler v. Kansas, 123 U.S. 623 , 666-67 (1887)



More Change

Pennsylvania Coal Company vs. Mahon, 260 US 393 (1922).

VERSUS

Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470 (S.Ct., 1987)

Almost identical facts: subsidence from coal mining; regulations to prevent

SCOTUS found taking in 1922 but not in 1987



Overarching Conclusion

Conflicting case law on takings; it's all over the place

Extreme complexity has developed around *many* factors

Provides opportunity—and *need*—to very carefully frame

Courts can use complexity and framing to get where they want

Good faith, careful, thoughtful regulation done through transparent, appropriate processes are quite safe, even when the impacts to property are severe

Bad facts make bad law!!!!!! Don't give a court bad facts.





THE THREE LITTLE PIGS: CLIMATE CHANGE EDITION

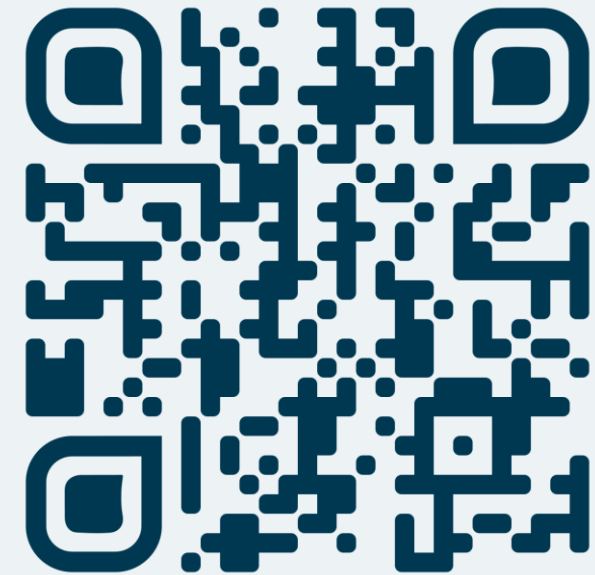


NAI Legal Guide and Next Steps

- ❖ **More legal content is already on the way**
What else should be included – coastal law, state law?
- ❖ **Content for floodplain managers...**
Is on the way, but currently written for attorneys
- ❖ **How can the legal guide be improved?**
Let us know – see contacts below

Contacts for general inquiry and legal content:

- ❖ **Jerry Murphy,**
UF|IFAS PREC, murphyge@ufl.edu
- ❖ **Jeff Stone, Research Director**
ASFPM Flood Science Center, jeff@floods.org



no.floods.org/LegalGuide



Update: GLO's Combined River Basin Flood Study, Central Region





GLO Combined River Basin Flood Study

Central Region Update

Houston-Galveston Area Council (HGAC)
Regional Flood Management Committee

October 18, 2023



Agenda

- Study Overview
- Outreach & Data Collection
- Baseline Flood Modeling Scope within H-GAC
- Stakeholder Feedback
- Next Steps



GLO Representatives



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Community Revitalization and
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OUTREACH LEAD
Pam Hawkins
H2O PARTNERS



OUTREACH SPECIALIST
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MODELING MANAGER
Garrett Johnston

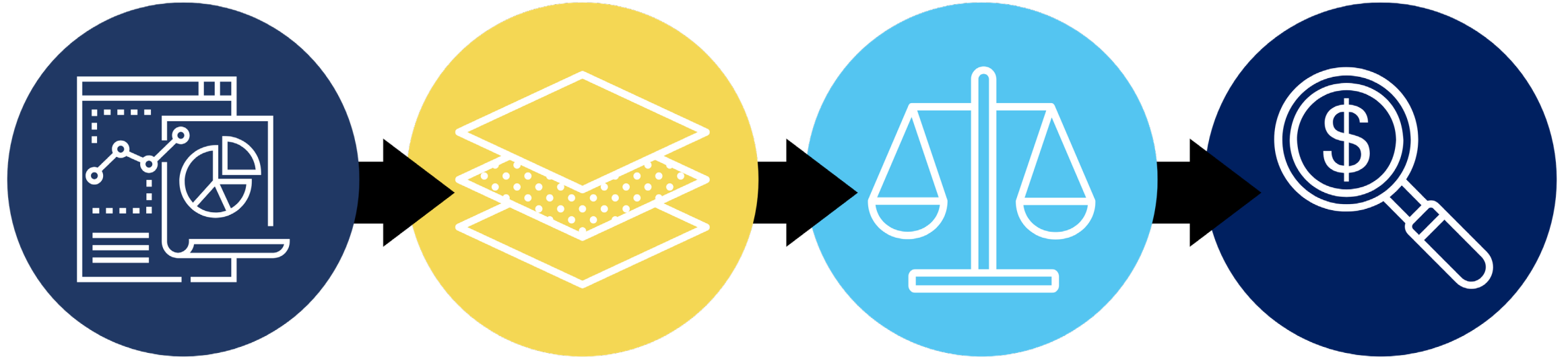


MODELING LEAD
Andrew Swynenberg

Texas General Land Office
Commissioner Dawn Buckingham, M.D.



Study Phases



Data Collection

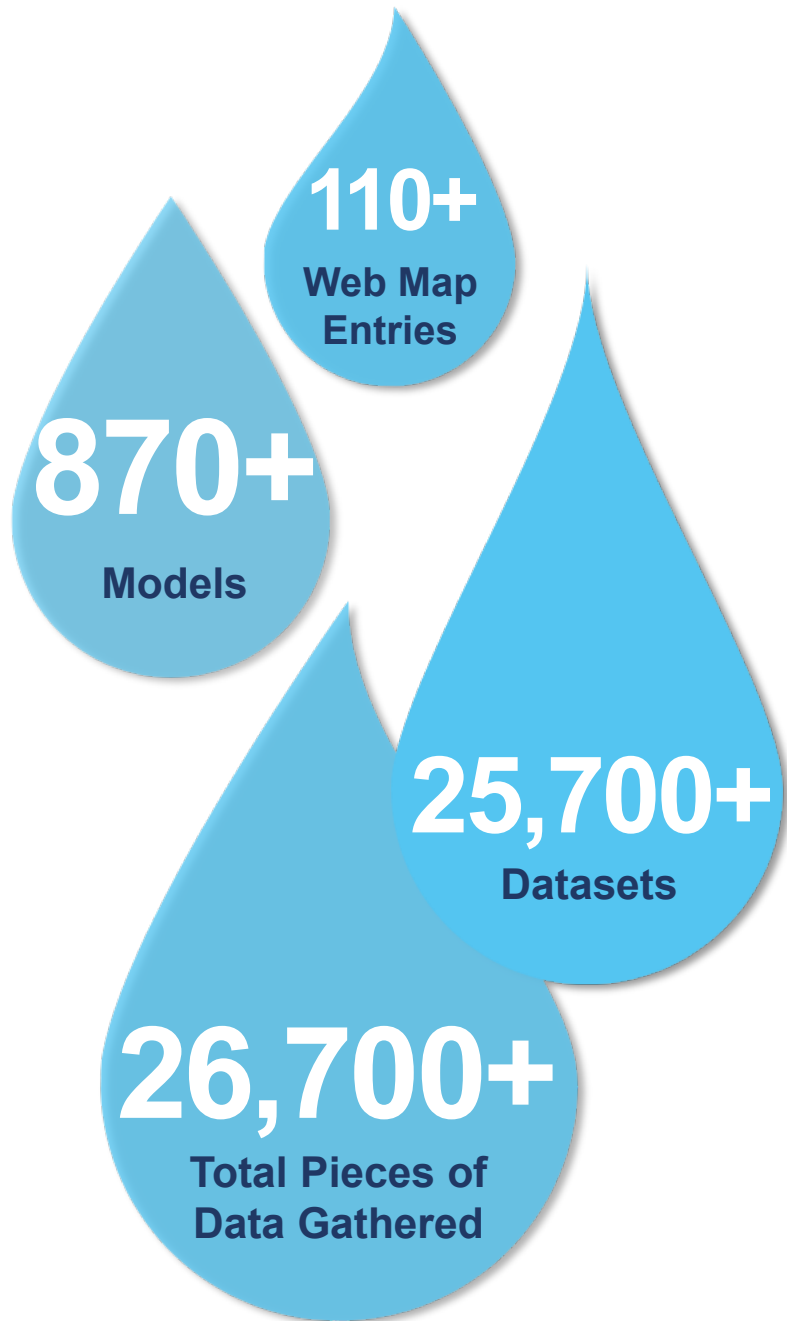
Evaluation of
Flood Risk

Identification of
Mitigation
Projects

Determination of
Funding
Sources

Previous Stakeholder Meetings Recap





Data Collection Summary

126 Unique Contributors

Texas General Land Office
Commissioner Dawn Buckingham, M.D.



Modeling and Dataset Contributors

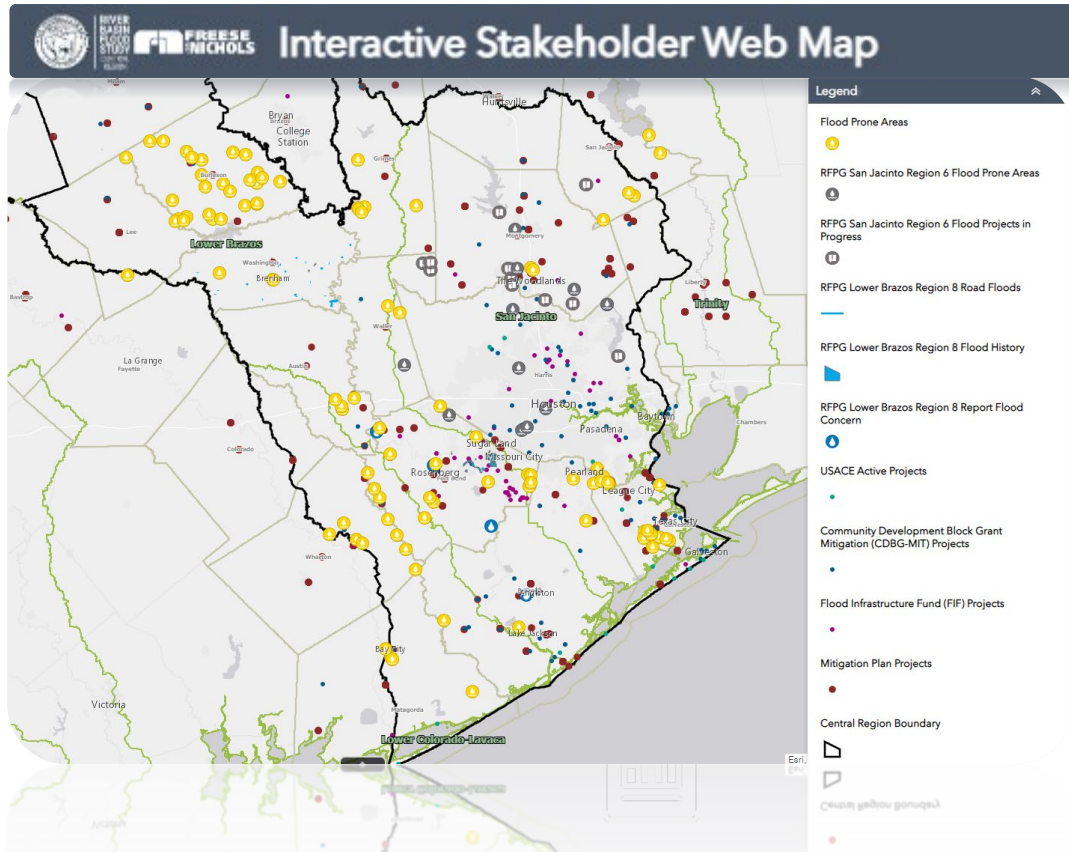
- Data received from 20+ communities within H-GAC



Contributor	Dataset Sources	Modeling Sources
City	22	7
County	5	3
Drainage Districts, Regional Flood Planning Groups	6	4
State (ex. TWDB, TxDOT)	3	2
Federal (ex. FEMA, USACE)	2	2



Data Sharing with TWDB Regional Flood Planning Groups



1st Flood Planning Cycle

RFPG → GLO

Flood-prone areas, ongoing projects identified by stakeholders

GLO → RFPG

Project data (FIF, CDBG MIT, Hazard Mitigation Plans)

RFPG → GLO

Draft Regional Flood Plans and supporting data

2nd Flood Planning Cycle Opportunities

GLO → RFPG

All collected and generated data, analysis and modeling

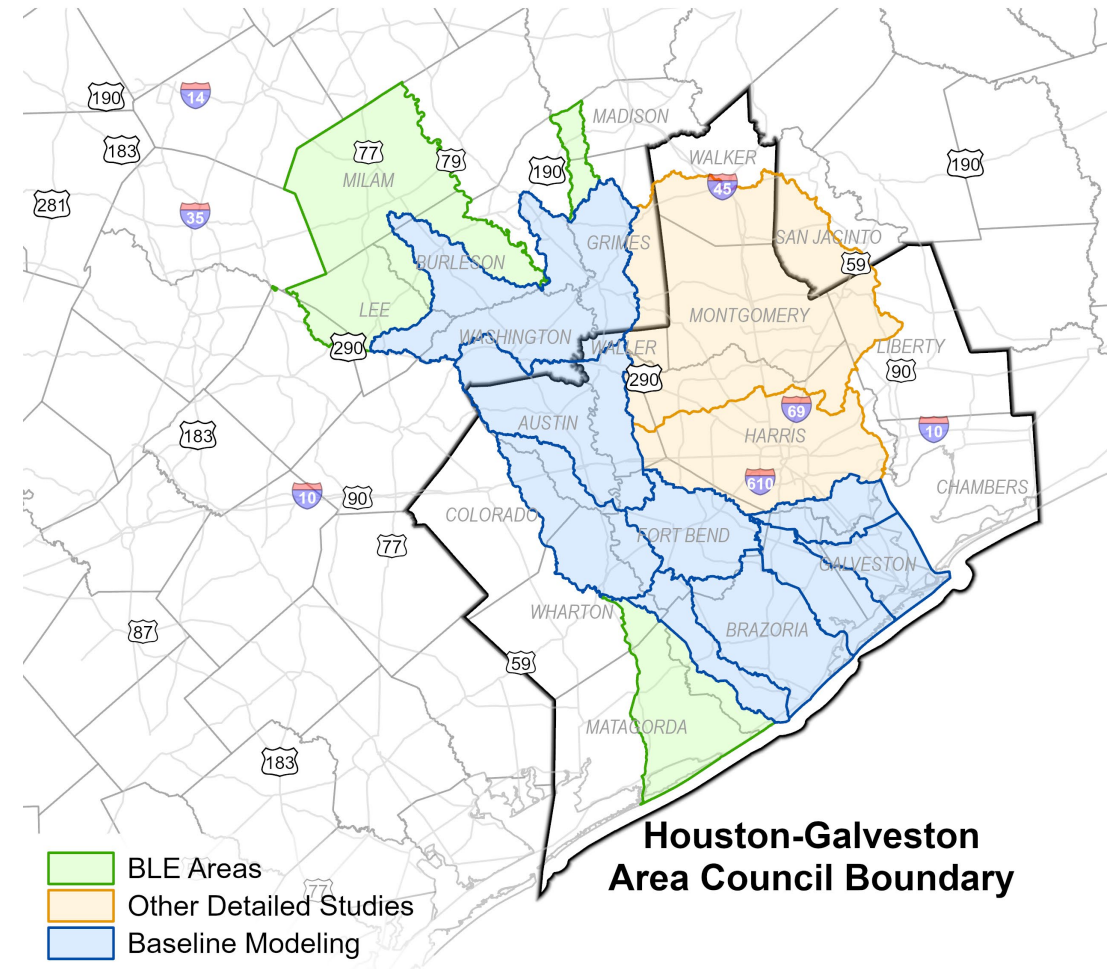
Stakeholder insights and feedback

GLO/TWDB Data Sharing Agreement signed 07/2021



Baseline Modeling

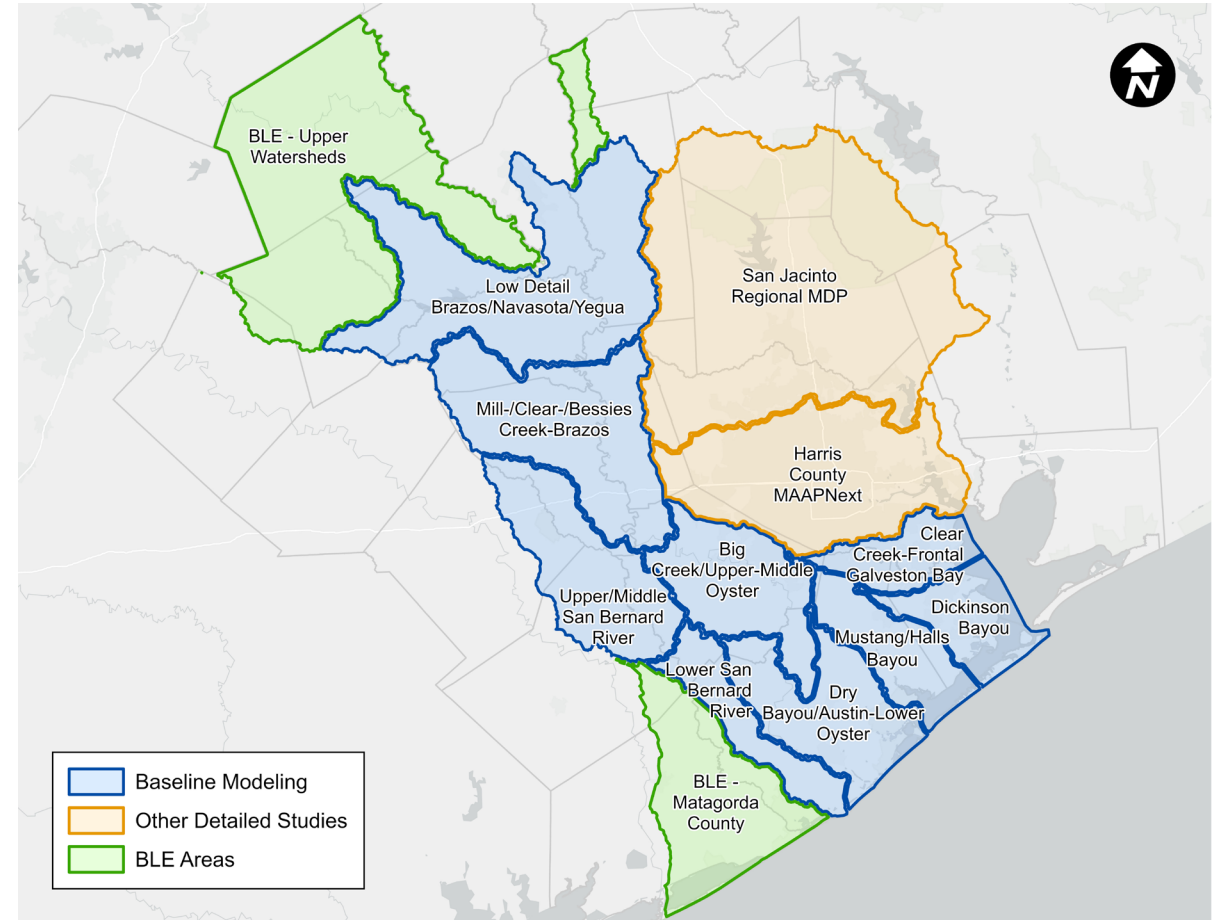
- Previous planning efforts
 - Pilot Studies
 - Standards Development
 - Flood risk, vulnerability, and engagement analysis
- Baseline Modeling scope goals:
 - Broad coverage of updated flood modeling for region
 - Leveraging of existing models and data
 - Scale of modeling conducive to large-scale project development and evaluation
- Additional modeling enhancements may be made in future phases, in support of project development.



Baseline Modeling Study Areas

Several GLO RBFS Central Region study areas within HGAC boundary:

1. Mill-/Clear-/Bessies Creek-Brazos
2. Big Creek/Upper-Middle Oyster Creek
3. Upper/Middle San Bernard River
4. Lower San Bernard River
5. Dry Bayou/Austin-Lower Oyster
6. Dickinson Bayou
7. Clear Creek
8. Mustang/Halls Bayou



Baseline Modeling Scope

- Hydrologic and hydraulic modeling to establish baseline (existing conditions), focused on representing riverine and coastal flood risk
- Methodology consistent with Baseline Conditions SOP developed in previous phase
- Level of detail within modeling is driven by level of flood risk in area
- Comprehensive 2D modeling, using rain-on-mesh or rainfall-runoff using HEC-RAS
- Does not include storm sewer or internal drainage system hydraulic modeling
- Includes calibration and validation to historical events



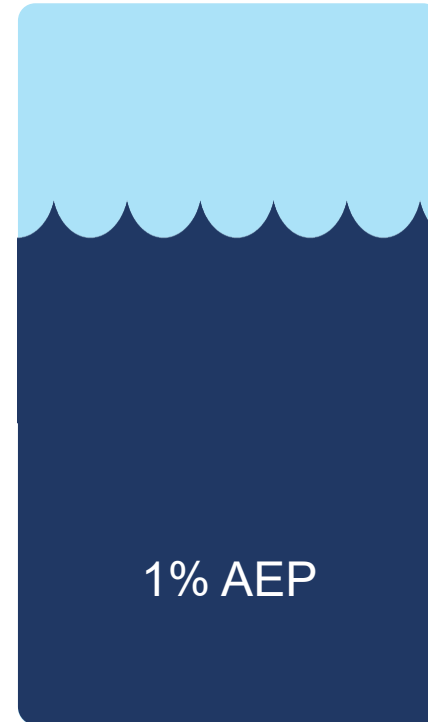
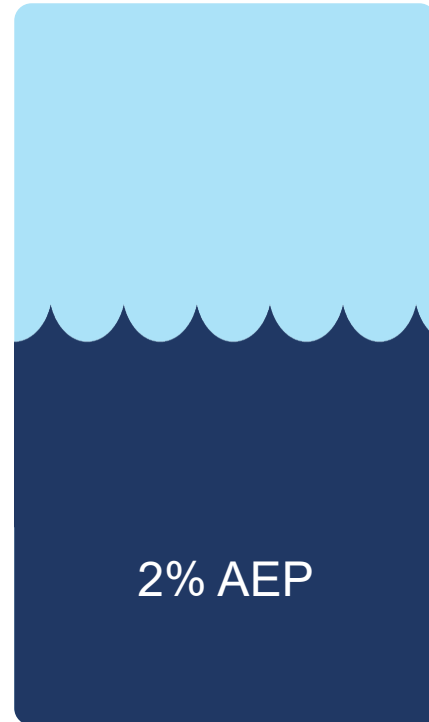
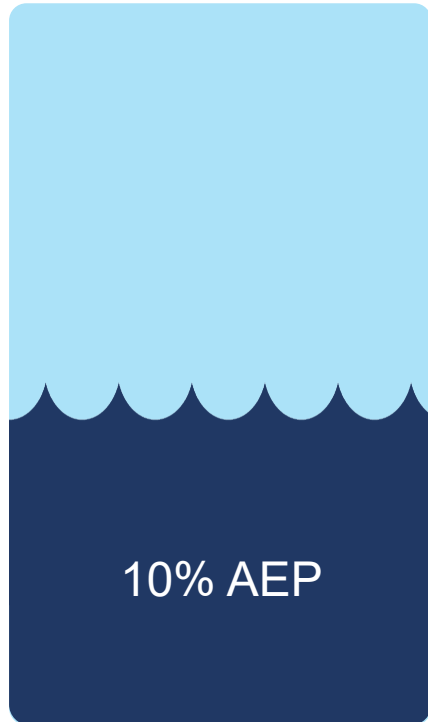
Baseline Modeling Outputs

2D Hydraulic Models of Natural Riverine and Waterways



Feature Class Deliverables

- Inundation Boundary
- Depth Grid
- Water Surface Elevation Grid



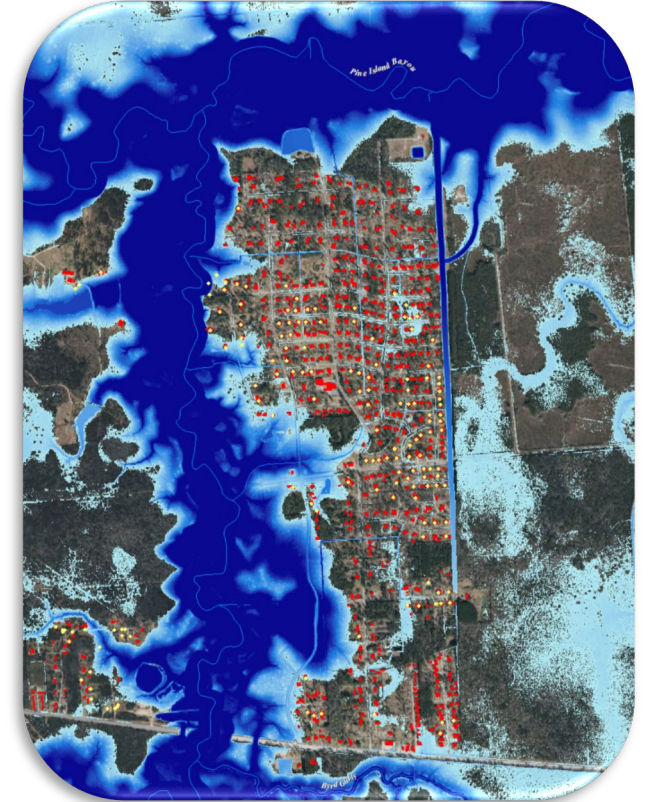
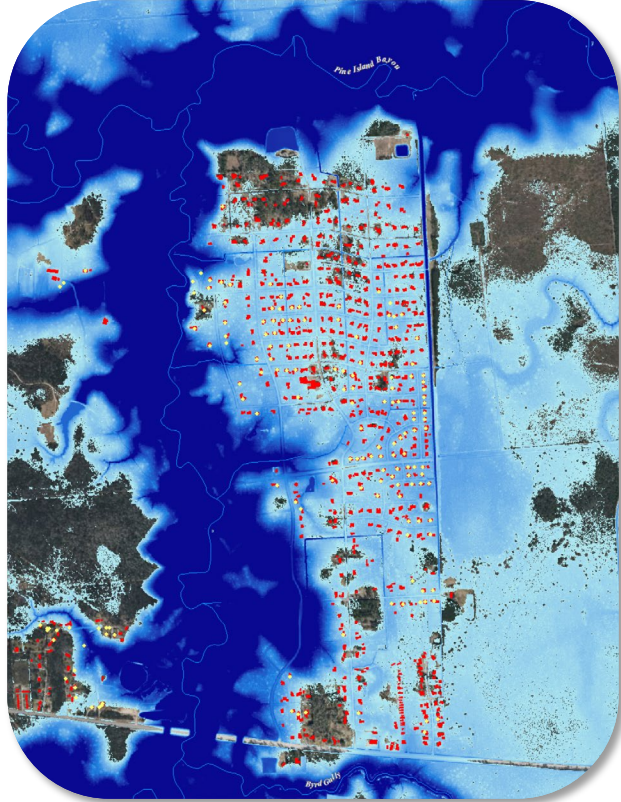
Potential Baseline Modeling Uses

- **Inform** risk assessments in Planning:
 - Hazard Mitigation
 - Emergency Management
 - Stormwater Management
- **Leverage** in the development of mitigation projects
- **Define** project scopes of work for grant applications



Study Next Step - Alternatives Analysis

- “What if?” Scenarios to Reduce Flood Risk: *Major Channelization Projects, Levees, Dams*



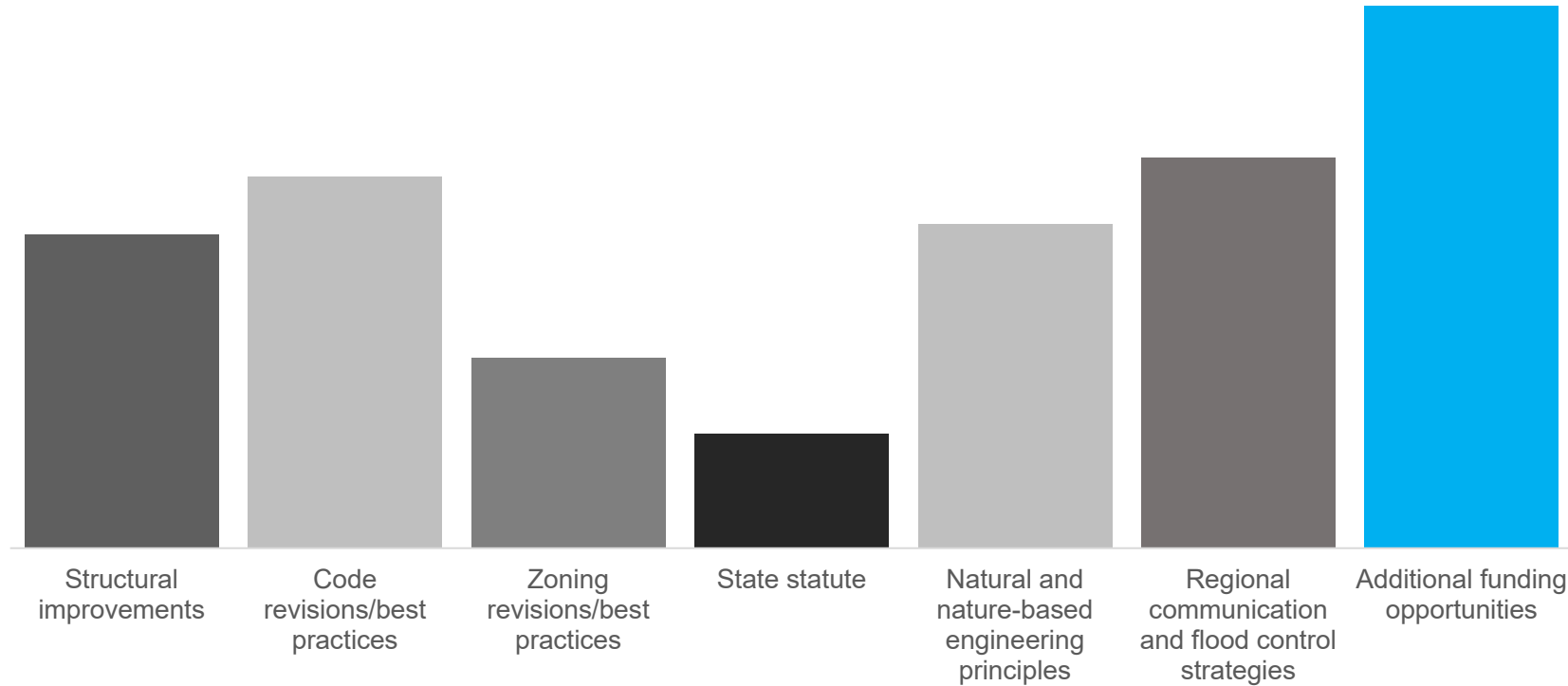
What We Have Heard From Our Region

- Shared challenges regarding obtaining funding and managing flood risk



In our 2021 post-Harvey survey in the Central Region, we heard:

Everyone prioritizes funding.



Provide input on your funding challenges and needs:



80% of survey respondents selected "Additional Funding Opportunities" as one of the flood mitigation recommendations their community would consider.



Next Steps



Watershed Modeling Results Workshops

Project Identification and Funding





*Planning together will promote unity
and trust to empower decision-makers
to better protect Texans from disasters.*

QUESTIONS?

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Texas General Land Office
Commissioner Dawn Buckingham, M.D.



Other Announcements

Amanda Ashcroft, H-GAC



Other Announcements

- H-GAC's Water Resources Committee
- **Building Resilient Infrastructure and Communities (BRIC) 2023 NOFO**
 - *Eligible Projects*
Capability and Capacity-Building Activities, Hazard Mitigation, Management Costs associated with a specific mitigation measure or project
 - Open 10/16/2023
 - Closes 2/29/2024
- **Flood Mitigation Assistance (FMA) 2023 NOFO**
 - *Eligible Projects*
The FMA grant program funds three types of activities and projects: Capability and Capacity Building Activities, Localized Flood Risk Reduction Projects, and Individual Flood Mitigation Projects
 - Open 10/16/2023
 - Closes 2/29/2024



Member Roundtable



We are adjourned, thank
you for attending!

Contact

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