

HOUSTON STRONGER

May 25, 2018, 11:30 a.m.
3200 Southwest Freeway (Phoenix Tower)
Suite 2400, Rio Grande Conference Room

Agenda

1. **Welcome (Joe B. Allen)** 11:30 a.m.
2. **Report for Association of Water Board Directors -Texas** 11:40 a.m.
 - a. Scott Davis
 - b. Q&A
3. **Harris County Flood Control District Recommendations** 12:00 p.m.
 - a. Alan Black
 - b. Q&A
4. **Implementation of Federal Legislation** 12:20 p.m.
 - a. Congressman John Culberson
 - b. Q&A
5. **Harris Plus Organization** 12:50 p.m.
 - a. Review of Harris Plus Meeting (Chris Lindsay)
 - b. Update on Membership (Casey Morgan)
6. **Houston Stronger Updates** 1:00 p.m.
 - a. Houston Stronger Media/Public Relations (Suzy Hartgrove)
 - b. May 31st Event (Carmen Kumpula)
7. **Policy/Legislative Action Updates** 1:10 p.m.
 - a. Harris County Bond Proposition (Gabe Baker, Joe B. Allen)
 - b. Other Jurisdictions (Auggie Campbell)
8. **Open Discussion/New Business** 1:20 p.m.
9. **Adjourn** 1:30 p.m.

Houston Stronger is a coalition of civic groups, business associations and active citizens from throughout the Texas Gulf Coast region dedicated to working with local, state and federal officials to implement a comprehensive regional flood control plan that safeguards our citizens and property.

Houston Agreement Association



HOUSTON
AUTOMOBILE DEALERS

HOUSTON
WILDERNESS
It's Our Nature



TAC
Houston Region

center for
opportunity
urbanism

PARTNERSHIP



KATY AREA
CHERRY GROVE HERE

FORT
BEND
ECONOMIC
DEVELOPMENT
BOARD



NAMC
NATIONAL ASSOCIATION OF
MINORITY CONTRACTORS
GREATER HOUSTON CHAPTER

nha
NATIONAL HOUSING
AND INVESTMENT ASSOCIATION

HAR
COM

HREC
Houston Real Estate Council

ACEC
HOUSTON

GHBA
GREATER HOUSTON
BUILDERS ASSOCIATION

WEST HOUSTON
ASSOCIATION
Leadership in Quality Growth



HOUSTON STRONGER



Sims Bayou

"Sims Bayou was the only major channel that did not overtop its banks during Hurricane Harvey because of recent improvements. This \$390 million investment enabled Sims to handle a 100-year storm event, and the Harris County Flood Control District concluded that the enhancements paid for themselves in Harvey alone."

Karen Becerra

President, The Houston Chapter of the National Association of Minority Contractors

"If Harris County voters approve this bond, a homeowner with a \$100,000 house would pay \$50 dollars for flood control each year. A homeowner would pay \$100 each year for a \$200,000 house and \$150 dollars for a \$300,000 home and so on. If we act quickly, for every dollar Harris County provides, the federal government can provide between two and ten dollars in funding."

John Moody

Chairman, The West Houston Association



WHY A BOND ELECTION?

Congress has allocated more than \$141 billion to help Texas, Florida, Puerto Rico, and 20 other states address emergency response and resiliency expenses from storms in 2017. In order to be eligible to receive these dollars, local governments are required to provide matching funds.

At a March 27th Harris County Commissioner's Court meeting, County Judge Emmett and County Commissioners considered calling an election for voter approval on bond funding that would provide the required local match for much-needed flood control projects.

Houston Stronger estimates that Harris County is likely to need approval for a bond of at least \$2.5 billion to receive federal funds to support buyouts, channel improvements, and other resiliency projects to bring 100-year storm protection to the other 21 major watersheds in Harris County.

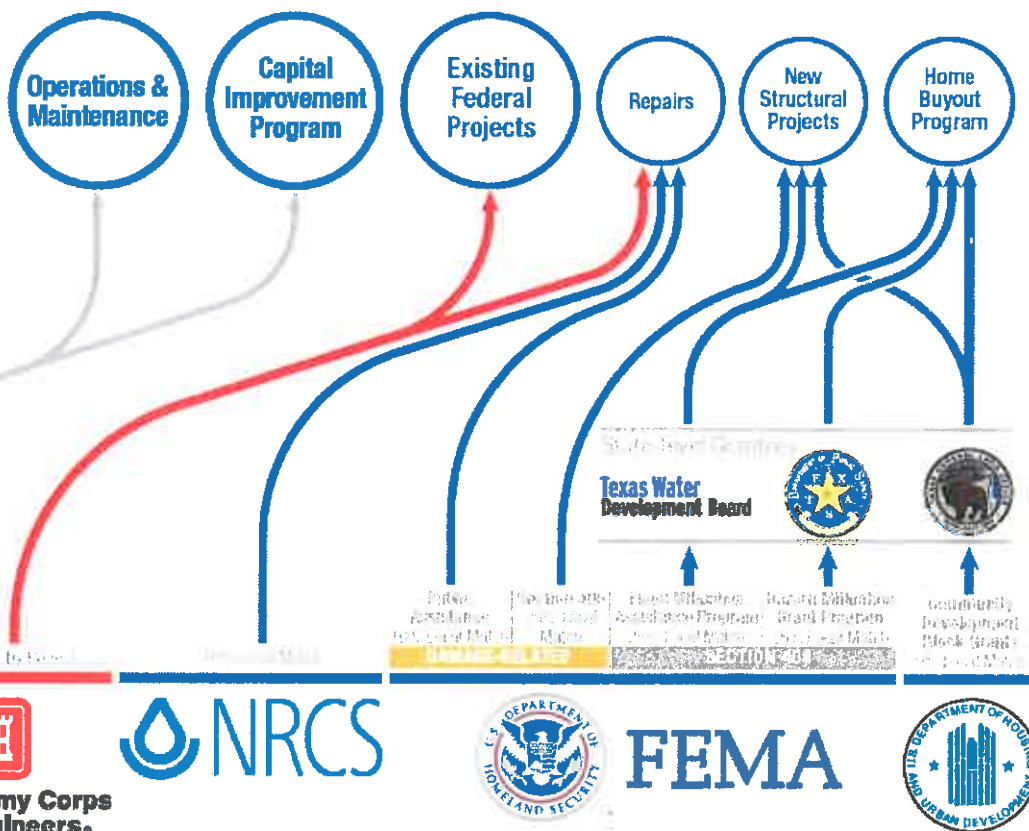
Harris County Budget Officer Bill Jackson estimates that a \$2.5 billion bonds requires a tax increase of no more than 5 cents per \$100 value. Assuming a growth rate in Harris County of 3 % and issuing \$250 million in bonds each year over ten years, taxes are likely to increase by approximately 2.2 cents per \$100 evaluation.

THE ELECTION WILL BE HELD AUGUST 25TH, 2018

We are asking for \$2.5 billion dollars to go toward flood protection including all major tributaries, with priority aimed toward buyouts.

Find more information on the vote at <http://harrisvotes.com/>

How is
HARRIS COUNTY
**FLOOD
CONTROL
DISTRICT**
funded?



*The County
can start local
projects with
this funding
while we wait
to receive
federal dollars.*



Texas Recovery

Hurricane Harvey: Partnerships and Progress



FEMA

all totals as of May 7, 2018



Mitigation
\$1.1 BIL 30 Day Estimate - Hazard Mitigation Grant Program

PUBLIC ASSISTANCE

1,270
REQUESTS FOR PUBLIC ASSISTANCE

12 MILLION



Cubic Yards of Storm Debris Picked Up

186 Obligated Projects for **\$644 MIL**

Housing and Other Disaster Related Expenses: **\$1.61 BIL**

Small Business Administration (SBA) **\$3.33 BILLION** loans approved:

\$8.68 BIL NATIONAL FLOOD INSURANCE PROGRAM (NFIP) ADVANCE PAYMENTS AND CLAIMS PAID (ESTIMATE*)

Disaster Assistance **UNEMPLOYMENT**



23 MIL



FLOOD INSURANCE CLAIMS

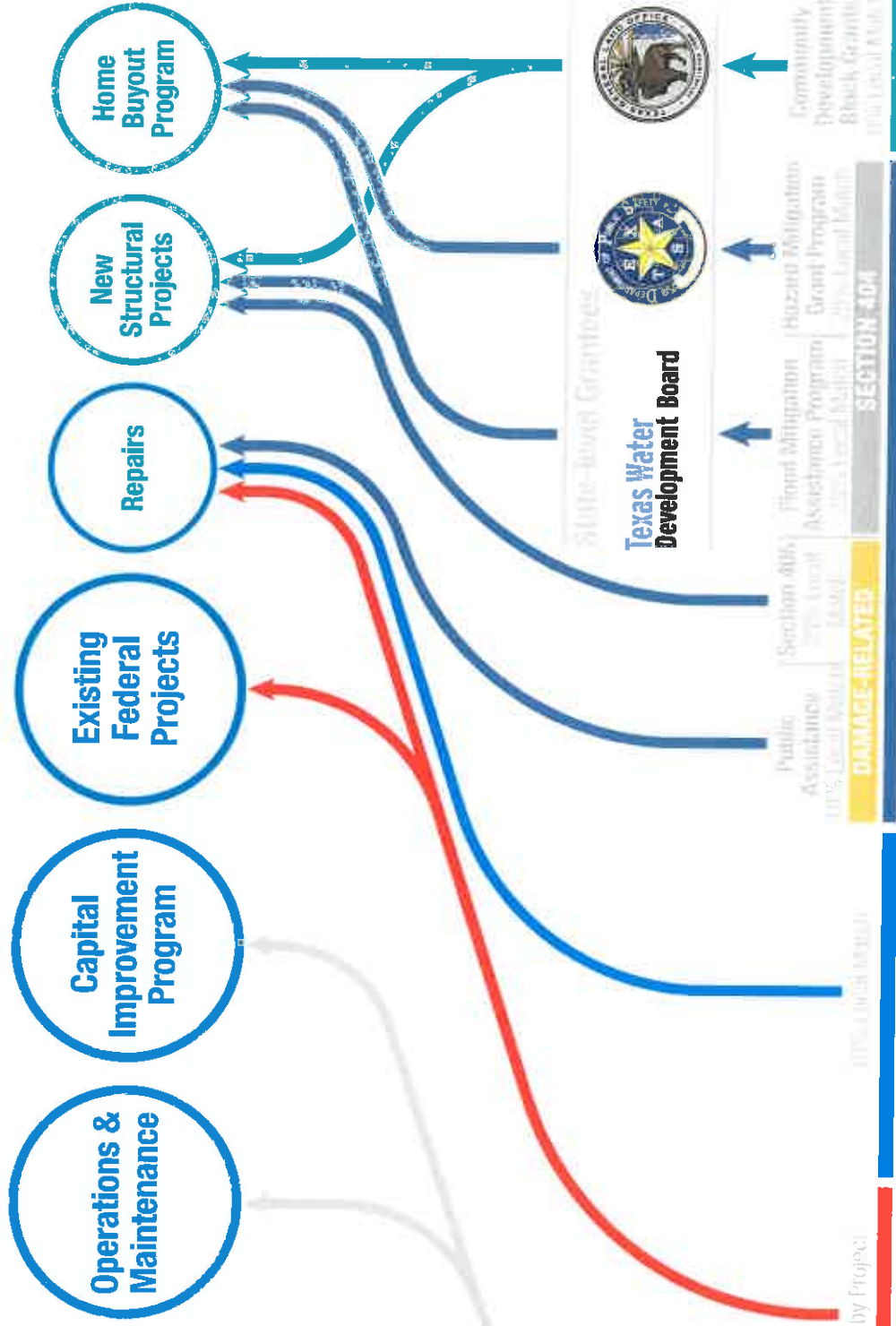
91 THOUSAND

17,592 SURVIVORS IN TEMPORARY HOUSING & INNOVATIVE REPAIR PROGRAMS

How is



funded?



Varies by Project

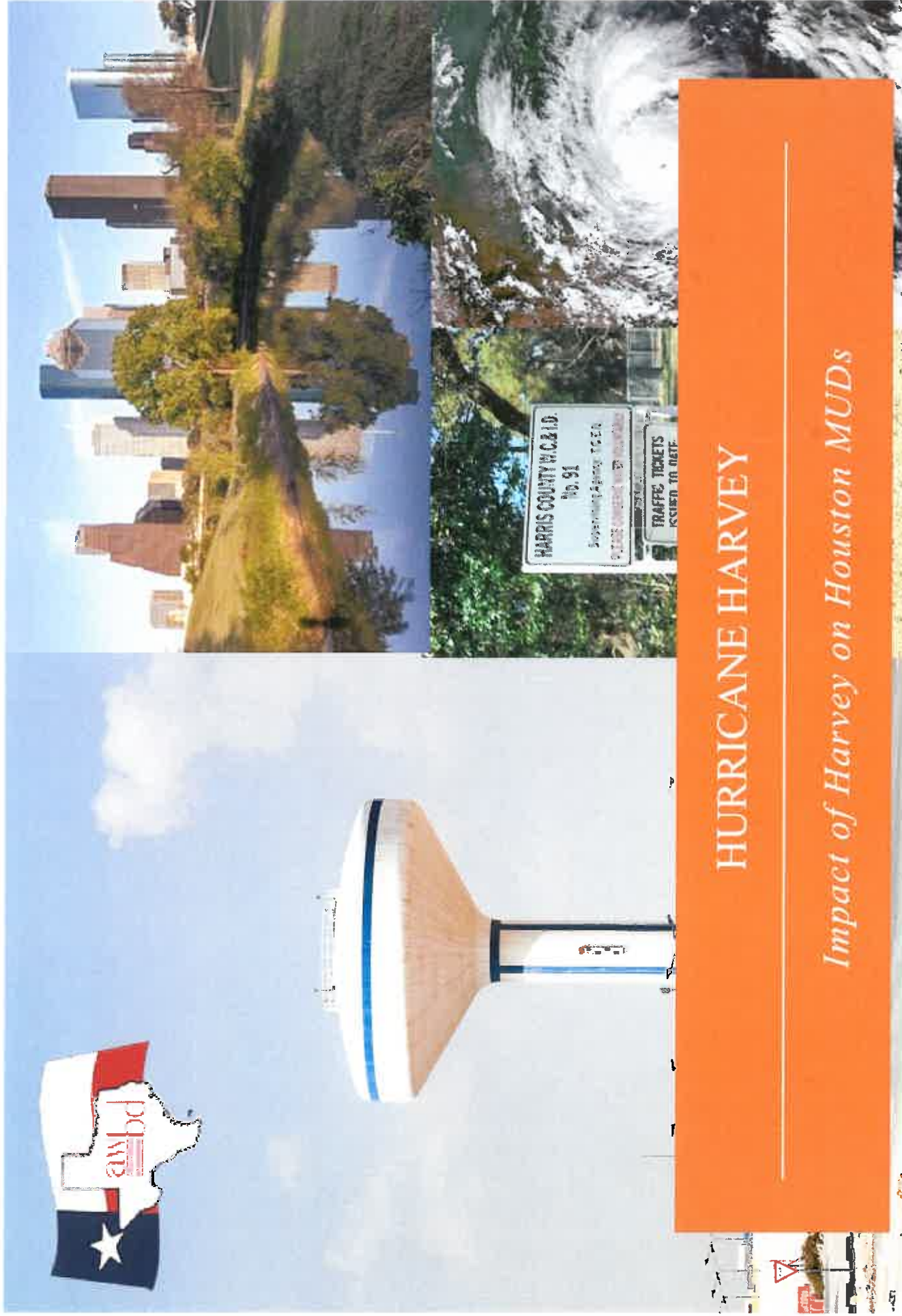


**US Army Corps
of Engineers®**



FEMA





HURRICANE HARVEY

Impact of Harvey on Houston MUDs

May 2018 | Houston Stronger
Impact of Harvey on Houston MUDs

ABOUT US: ADVISORY



Define strategic insights to optimize development execution and placemaking through focused research & analysis on all product types.

Our Clients: builders, REITS, capital sources, public sector, developers & attorneys

43

Number of counties
we work in at a given time

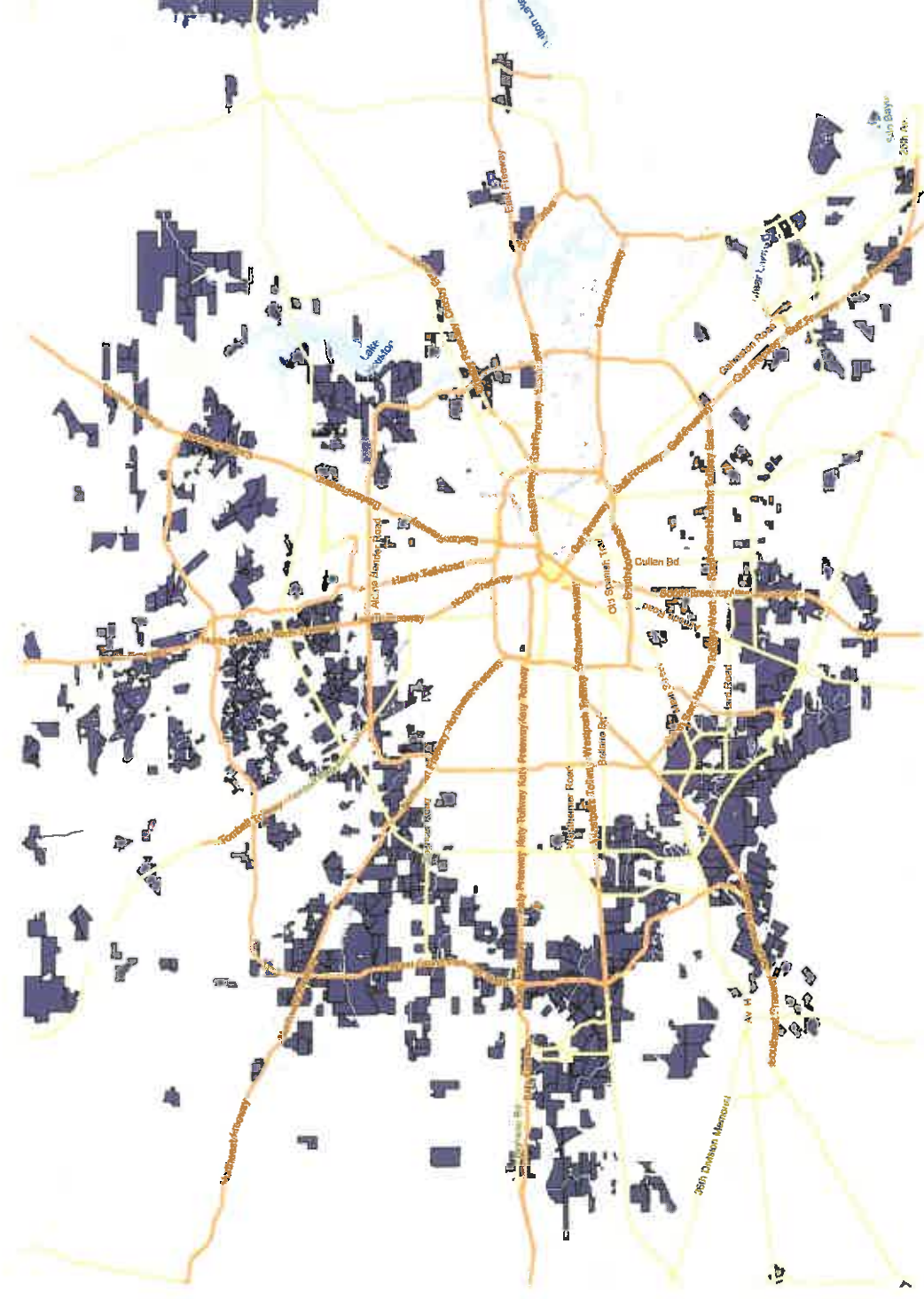
800

Approximate number
of studies a year

SERVICES

- Community & Master Planned Development
- Multi-family, Urban & Mixed Use
- Resort & International Development
- Commercial Analysis
- Institutional Advisory & Portfolio Analysis
- Financial Analysis
- Litigation Support & Expert Witness

VAST MAJORITY OF DISTRICTS EXPERIENCED NO FLOODING



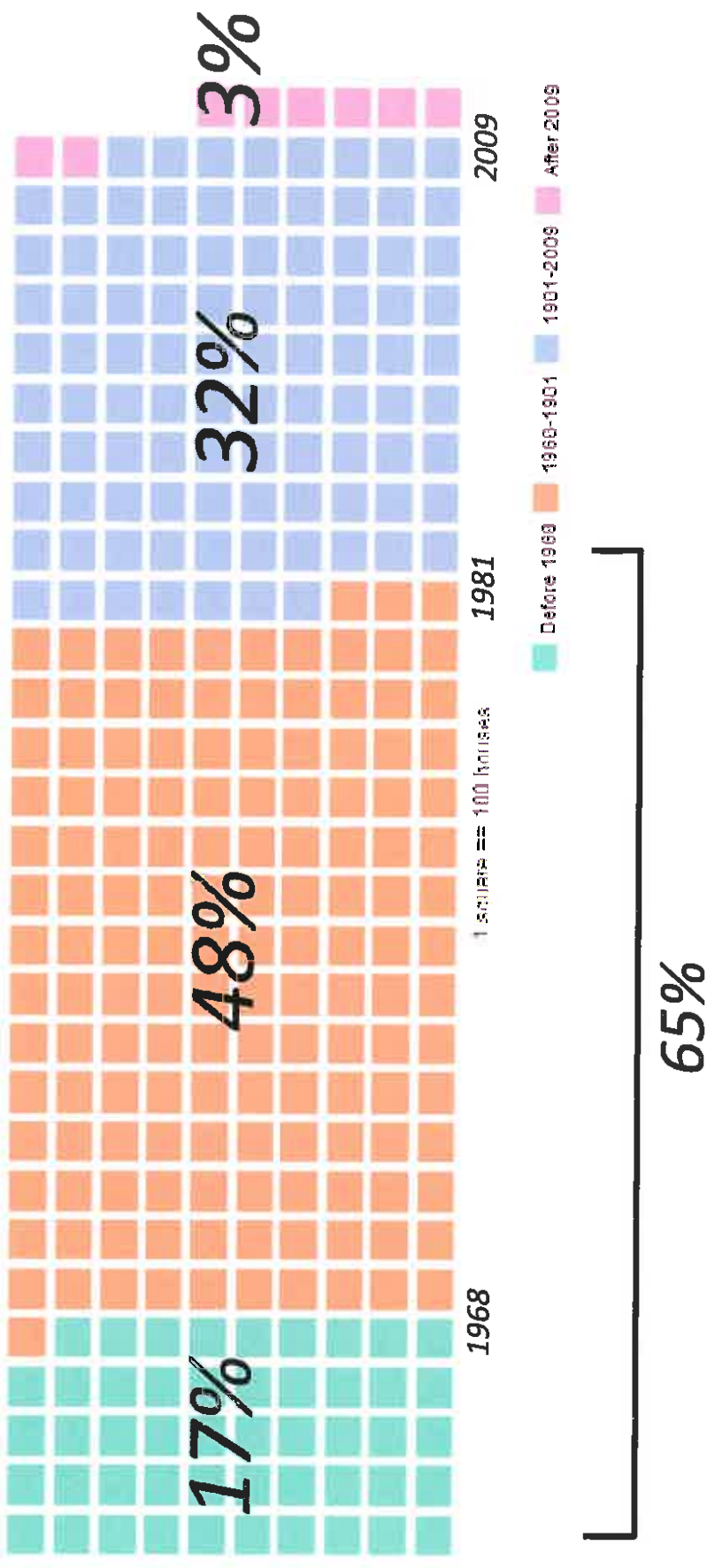
Source: Meyers Research, TCEQ, Open Street Map

SURVEY RESULTS: EXTENT OF FLOODED HOMES BY DISTRICT

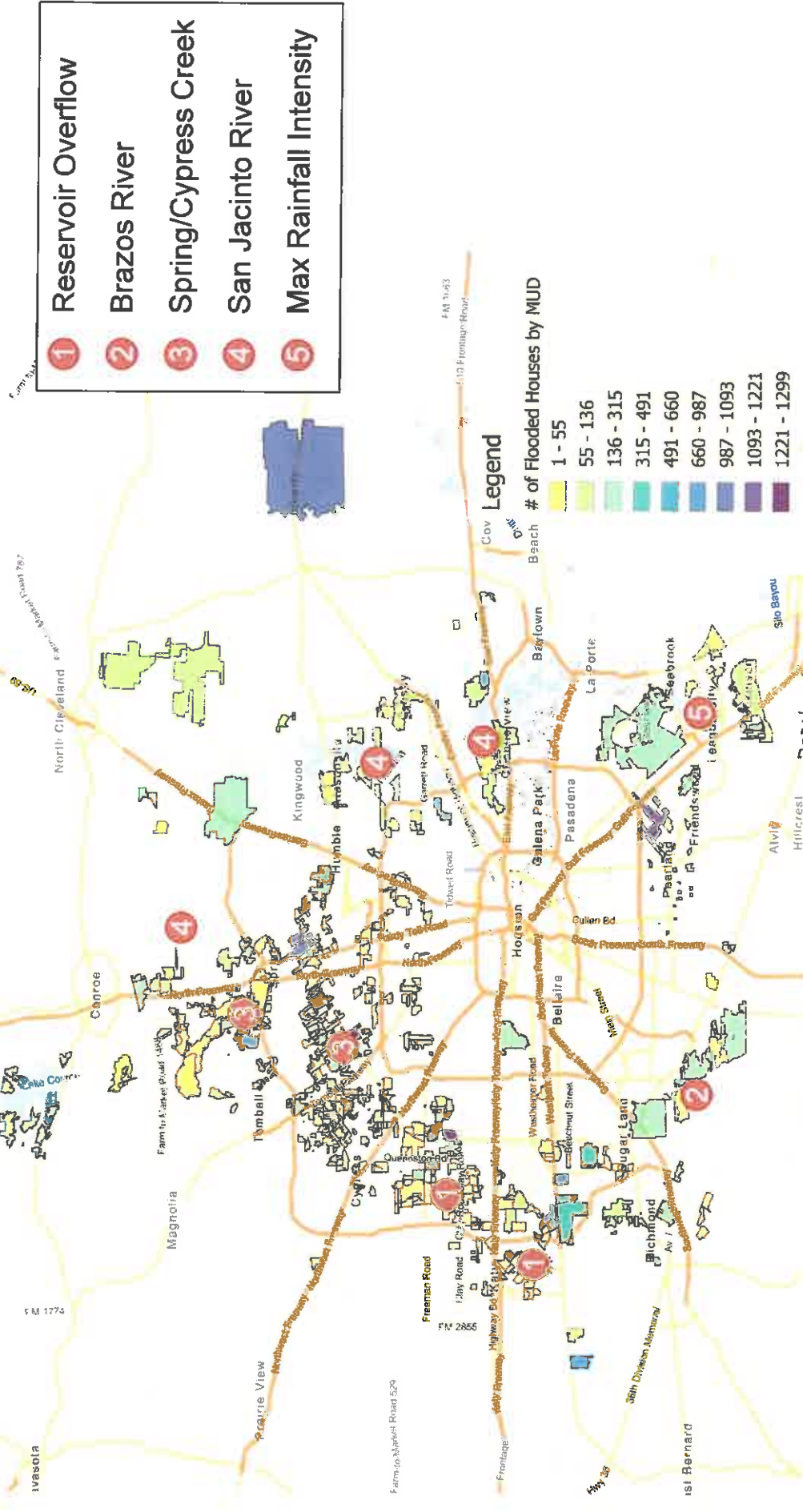
Percentage of Homes Flooded	No. of Districts	Total Homes	Homes Flooded
Less than 5%	129	271,189	4,163
5-20%	59	82,990	9,087
20-40%	30	31,907	8,660
40-60%	15	15,978	7,680
60-80%	9	4,085	2,869
80-100%	11	5,334	4,752
Grand Total	253	411,483	37,211

SURVEY RESULTS: FLOODING BY SUBDIVISION PLAT DATE

Flooding by Subdivision Plat Date



SURVEY RESULTS: WHERE WAS THE FLOODING CONCENTRATED?



MUDS WERE RESILIENT DURING THE STORM

Harvey was a devastating storm that brought unprecedented amounts of rainfall to the Houston area. Any loss of life or property in a storm is a tragedy. Our study of the impact of Harvey shows:

- MUDs were resilient and prepared for the storm. Only 12 MUDs (statewide) had to issue “boil water notices” in the storm’s aftermath. MUD directors and operators responded quickly to deploy back-up systems and additional pumps powered by generators to keep water and wastewater services operating.
- MUDs endured the storm. Less than two dozen MUDs reported damage to district-owned infrastructure and the vast majority of that damage was almost immediately repaired. As of the date of this report, only 3 districts (statewide) sustained damage that has left them inoperable.
- MUDs are financially healthy. MUDs are conservatively managed, and only seven districts which experienced significant flooding has less than one year’s debt service payment in cash reserves. Collectively those districts are expected to have adequate tax revenues to cover that debt service. MUDs have reserves to cover operating costs, debt service and capital improvements and provide roads, water and wastewater services, and other amenities like parks without the pension liabilities of a city or county government.

LESSONS LEARNED

Harvey was a devastating storm that brought unprecedented amounts of rainfall to the Houston area. Any loss of life or property in a storm is a tragedy. Our study of the impact of Harvey shows:

- One of the safest places to be during the storm was in a new house – our current drainage and detention regulatory regime works.
- Current regulatory efforts by the City of Houston aren't addressing the primary areas of the most intense flooding and are driving development outside the city and its ETJ
- The Chapter 19 revisions only provide storm protection for those that can afford it – and leave the region's most vulnerable citizens at risk for continued flooding danger.
- The world is watching what we do here – Houston is America's engine of opportunity and our future is at great reputational risk if we fail to adopt regional solutions that address the risks of flooding for all our citizens

BEVERLY HILLS | SAN DIEGO | ORANGE COUNTY | BAY AREA | DALLAS | HOUSTON | PHOENIX | DENVER | PHILADELPHIA | NEW YORK

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RESEARCH
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THANK YOU.

For information about this
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HOUSTON
2700 Post Oak Boulevard,
21st Floor
Houston, TX 77056

Download the full study at <https://bit.ly/2GMHu7xt>

Houston Stronger

May 31st Event Schedule—DRAFT

- | | | | |
|----|------|------------------|---|
| 1. | 2:00 | Open Room | |
| 2. | 2:10 | Event Opening: | MC: (Melanie Lawson)* |
| 3. | 2:15 | Expert Panel: | Russ Poppe & Marvin Odum (moderated by MC) |
| 4. | 2:45 | Q&A | |
| 5. | 3:00 | Remarks | Ed Gonzalez (Discussing importance to public safety)* |
| 6. | 3:15 | Introduction: | (Perhaps John Moody, but we're open to ideas) |
| 7. | 3:20 | Headline Speech: | Ed Emmett |
| 8. | 3:55 | Adjourn | MC |

*Conformation by end of 5/25/2018

Room hold 400

West Houston Institute
2.4

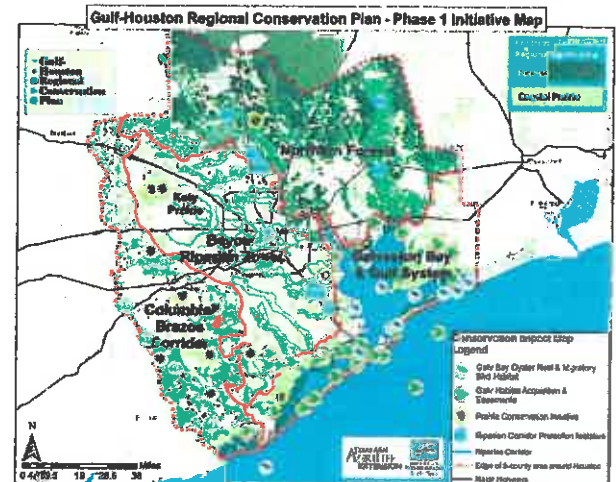
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Gulf-Houston Region Targets 24% in Nature-based Infrastructure by 2040

Houston, TX: The 8-county *Gulf-Houston Regional Conservation Plan* (Gulf-Houston RCP) comprised of over 100 governmental, environmental, academic and business groups with a diverse steering committee announce the public launch of the Gulf-Houston RCP's **24% by 2040 Nature-Based Infrastructure Strategy** – a collaboration to improve the quality of life in our 8-county region through increases in protected/preserved land-use in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery & Waller counties.

How much preserved/protected Nature-Based Infrastructure (NBI) does the 8-county region have now?

A mere 9.2 percent of the 4.8 million acres of land that make up the Gulf-Houston region are protected areas that have been set aside to detain floodwater, provide recreation for people and habitat for wildlife, maintain native vegetation for erosion control and preserve flood-mitigating natural waterways. Meanwhile, over 26% of the 4.8 million acres is currently developed in some capacity – residential, commercial or gray-based infrastructure. That leaves roughly 65% of our 8-county region for necessary increased combinations of nature-based infrastructure and population growth and economic development. If existing NBI plans and projects receive needed funding in our region, before and after Hurricane Harvey, the 8-county region could achieve 24% in nature-based infrastructure by 2040, when regional populations are projected to reach over 9 million.



How do we achieve 24% in preserved/protected NBI by 2040? Over the last four years, the Gulf-Houston region has accelerated and expanded large-scale plans and market-based projects for community resilience. Most of these projects fall into four key areas– riparian corridors, prairies and forests, coastal bays & estuaries or oyster reefs & islands. If these targeted projects, and more recent storm-resilience projects are funded, 24% of preserved/protected land could be achieved allowing for larger tracts of riparian corridors protected, additional prairie and forest lands acquired and preserved, and wetlands restored and enhanced for coastal protection. *“Whether it’s to aid in flood prevention, coastal erosion & sea level rise in Galveston Bay, enhancement of prairie preserves or recreational use, all regional nature-based infrastructure requires both long-term maintenance and a sufficient amount of preserved land to allow for adequate regional protection and resilience,”* explained Dr. Loren Raun, Rice University Faculty.

Over the last four years, over \$180 million in land acquisition and other NBI projects around the 8-counties have been funded, and Harvey-based funds will add significantly to NBI increases. Deborah January-Bevers, President of Houston Wilderness noted that *“local cost-share funding coupled with state and federal funds will allow our region to reach 24% in Nature-Based Infrastructure by 2040 or earlier.”* The remaining 14.8% needed to reach 24% can be achieved in 3 targeted project areas: (1) 6% from the “shovel-ready” NBI projects shown in the Gulf-Houston RCP’s Working-List of Projects (see interactive project map at www.gulfhoustonrcp.org); (2) 6% from public and private NBI projects outlined in various county, city, regional plans, and (3) 2.8% from wetland mitigation projects and future planned communities.

“Hurricane Harvey brought home the need to do things differently in our region,” remarked Jill Boullion, Executive Director, Bayou Land Conservancy. *“This achievable goal of 24% in nature-based land use, including protection of sensitive flood plains, will allow us to grow our economy and provide a high quality-of-life for the millions more that will make the Houston region home over the next 20+ years.”*

###

Participating Members of the Gulf-Houston RCP Steering Committee include:

Business	Government	Nonprofit	Academic
Arcadis	City of Houston – Houston Health Department	Armand Bayou Nature Center	Rice University
Asakura Robinson	Galveston Island Nature Tourism Council	Bayou Land Conservancy	Texas A&M
Bank of Texas	Galveston Park Board	Bayou Preservation Association	Texas A&M Galveston
BBVA Compass	Harris County Flood Control District	Buffalo Bayou Partnership	Texas A&M Sea Grant
CBRE	Houston Parks and Recreation Department	Building Conservation Trust (CCA)	Texas A&M Agri-Life
Clark Condon	Texas Commission on Environmental Quality	Cypress Creek Flood Control Coalition/Cypress Creek Greenway	Texas State University (Meadows Center for Water & Environment)
Conoco Phillips	Texas Parks and Wildlife Department	Ducks Unlimited	University of Houston – Honors College
CVS Health	U.S. Fish and Wildlife Service – Coastal	Galveston Bay Foundation	
Empresa Energy	U.S. Fish and Wildlife Service – Community Partnerships	Greens Bayou Coalition	
Frost Bank		Hermann Park	
John Daugherty Realtors		Houston Advanced Research Center	
JPMorgan Chase		Houston Arboretum	
Kirksey Architecture		Houston Audubon	
KPRC		Houston-Galveston Area Council	
NRG		Houston Parks Board	
Port of Houston Authority		Houston Wilderness	
RES (Restoration Environmental Services)		Katy Prairie Conservancy	
Shell		Kinder Institute for Urban Research	
Talley Landscape Architects		Lake Creek Greenway Partnership	
The Howard Hughes Corporation		Lake Houston Greenway	
		Memorial Park Conservancy	
		Student Conservation Association	
		Texas Native Prairie Association	
		Trees for Houston	
		The Conservation Fund	
		The Nature Conservancy	
		Trust for Public Land	
		Turtle Island Restoration Network	

24% by 2040 Strategy

A Regional Land-Use Strategy Enhanced Air, Water and Soil & Long-term Resilience

8-County Region: Brazoria • Chambers • Fort Bend • Galveston • Harris • Liberty • Montgomery • Waller

THE 24% BY 2040 STRATEGY: The Gulf-Houston Regional Conservation Plan (GulfHoustonRCP.org) – a long-term collaboration of environmental, business and governmental entities working together on enhanced environmental services, continuity and connectivity for the 8-County Gulf-Houston Region:

26% is developed land-use

9.2% is protected nature-based infrastructure

64.8% is undeveloped

24% nature-based infrastructure is needed by 2040

TARGETED NEED AREAS THAT REQUIRE 24% IN REGIONAL PROTECTED NATURE-BASED INFRASTRUCTURE (NBI):

- Flooding and hurricane damage reduction
- Storm surges and sea level rise resilience
- Enhanced ecosystem services for flood mitigation, erosion control, air & water quality, carbon capture & nature-based recreation

REACHING THE 24% STRATEGY GOAL:

(1) **9.2% in current protected NBI** that

requires maintenance through various funding sources:

- All detention areas and reservoirs
- All federal/state/county/city/MUD parks, wildlife refuges and forests
- All riparian and coastal rights-of-way and protected open spaces
- All designated public and private conservation/mitigation easements

(2) **14.8% in NBI projects** in need of full or

partial funding via various funding sources:

- 6% from “shovel-ready” Gulf-Houston RCP Working List of NBI projects (www.gulfhoustonrcp.org)
- 6% from public and private NBI projects in various study/planning/proposal stages
- 2.8% from regulatory-based wetland mitigation projects

BENEFITS OF 24% by 2040

- **Economic:** Investing in long-term undeveloped nature-based infrastructure is a critical part of long-term protection of the region's residents, businesses and wildlife. Over \$145 million in land acquisition projects have been funded since 2013, mainly from RESTORE funds, federal/state agency grants. Every mile of marsh reduces inland storm surge by 1 foot. **IMPACTS:** Protecting 24% in targeted nature-based infrastructure builds up more than 20 feet in shoreline surge protection through living shorelines and related nearshore habitats
- **Ecological:** Native prairies in Greater Houston absorb 8.21 inches per hour of rainfall, and store 78 metric tons of carbon per prairie acre each year. **IMPACTS:** Protecting 24% in targeted nature-based infrastructure removes 27 million tons of carbon annually from the atmosphere in our region, and allows for 78 billion gallons of water storage.
- **Social:** Large parts of our region's conserved lands serve multiple purposes as flood control and riparian buffer areas with parks, beaches, hike & bike trails, eco-tourism, fishing, kayaking and other outdoor activities. **IMPACTS:** Protecting 24% in targeted nature-based infrastructure provides as much as 700,000 acres in additional parks and recreation in our region.



Land Cover by County

9.2% of the Total Undeveloped Land is Nature-Based Infrastructure

County	Total Land Cover (acres)	Total Developed Land %	Land Currently Protected % (w/ acres)	Available Undeveloped Land%
Harris	1,136,886	51%	1.8% (86,986)	47.2%
Montgomery	669,618	32%	1.3% (61,617)	66.7%
Fort Bend	556,289	25%	0.9% (43,228)	74.1%
Liberty	825,335	13%	0.6% (28,875)	86.4%
Waller	328,123	12%	0.1% (3,920)	87.9%
Galveston	378,744	10%	0.4% (21,361)	89.6%
Brazoria	378,744	10%	2.8% (134,640)	87.2%
Chambers	557,440	8%	1.3% (62,473)	91.7%
Total	4,831,179	26%	9.2%	64.8%

Continuum and Action Agenda for Regional Resilience

By 2040, **24%** or **1,159,200 acres** of the 8-county region will be preserved/protected

- Encourage land-use projects to secure the floodway, floodplain and wetlands as buffer for at-risk waterways in the San Jacinto Watershed
- Support the Houston Ship Channel Expansion Channel Improvement Project (HSC ECIP) Report's Beneficial Use Projects
- Continue to Support all levels of funding for RCP-Working List of Projects based on Targeted Need Areas

By 2032, 20% or **966,000 acres** will be preserved/protected

- Encourage funding for large-scale marsh & dune restoration and enhancement projects along regional coast, estuaries and bay systems
- Encourage large-scale nature-based infrastructure projects that provide resilience for regional storm surge events, sea level rise and erosion control
- Support use of private land conservation easements and acquisitions that allow for additions to 24% by 2040



- Support all levels of funding for land acquisition for critical pieces of Columbia Bottomlands, Brazos River & Lower Trinity River Watersheds

May 14, 2018

Today, 9% or **450,040 acres** of nature-based land in the 8-county region is preserved/protected

Gulf-Houston RCP Action Agenda Items that MAINTAIN or ENHANCE the current 9% of protected nature-based land:

- Support Comprehensive Regional Maintenance & Enhancement of 9.2% in nature-based infrastructure to improve water storage, and conveyance needs
- Create and implement a regional Invasive Species Management Plan & Riparian Forestry
- Facilitation of the multi-partner Riparian On-Site Observation Teams (ROOTS)
- Support all levels of funding for RCP-Working List of Projects based on Targeted Need Areas

By 2024, 15% or **724,500 acres** will be preserved/protected

- Support the Texas Flood Accountability Act of 2017 filed by Regional Congressional Delegation
- Encourage and support federal and state funds (including FEMA, GLO, CDBG) related to Hurricane Harvey relief and resilience
- Support local county/city bond referendums and other funding sources for additional nature-based infrastructure and open land acquisition projects

- Support regional "buy-out" and "waterway land expansion" programs that allow for additions to the 24% by 2040

- Support all levels of funding for completion of the Bayou Greenways 2020 Initiative



It's Our Nature

