

# PROGRESS AND PRIORITIES OF THE MONITORING AND RESEARCH SUBCOMMITTEE

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# GALVESTON BAY PLAN (1995)

- Support Action Plan: Research
  - RSC-1: Establish a research coordination board
  - RSC-2: Identify research needs from an ecosystem perspective
  - RSC-3: Continue State of the Bay process
  - RSC-4: Increase funding for Galveston Bay research
- Regional Monitoring Program (supplement)
  - Cooperative effort to integrate disparate monitoring efforts in the bay into a comprehensive and unified monitoring plan
  - Status and Trends
  - Access to monitoring data
  - Track implementation of Galveston Bay Plan



# STRATEGIC ACTION PLAN (2015)

- Analysis of monitoring data to determine status and trends of indicators and effect of stressors on bay health
- Applied research targeting data gaps and in support of the Galveston Bay Plan
- Dissemination of results to increase understanding of the ecosystem and support Galveston Bay Plan implementation



# GALVESTON BAY PLAN, 2<sup>ND</sup> EDITION (2018)

## Inform Science-Based Decision Making

## Applied Research and Monitoring

RES-1:  
Conduct  
Biological  
Stressor M&R

RES-2:  
Conduct  
Geochemical  
Stressor M&R

RES-3:  
Conduct  
Physical  
Stressor M&R

RES-4:  
Conduct M&R  
to Address  
Limits to  
Contact  
Recreation

RES-5:  
Conduct M&R  
to Address  
Limits to  
Seafood  
Consumption

RES-6:  
Evaluate Best  
Management  
Practice  
Projects

RES-7:  
Conduct  
Research on  
Ecosystem  
Service and  
Economic  
Valuation of  
Bay  
Resources

RES-8:  
Complete  
Coastal  
Resiliency  
and  
Acclimation  
Studies

# GALVESTON BAY PLAN, 2<sup>ND</sup> EDITION (2018)

**Inform Science-Based Decision Making**

**Increase Access to Galveston Bay Ecosystem Information**

ACS-1:  
Tracking Ecosystem Health Indicators

ACS-2:  
Access to M&R Data

ACS-3:  
Track Galveston Bay Plan  
Implementation

# RECENTLY COMPLETED MONITORING AND RESEARCH PROJECTS

- Galveston Bay Intertidal Oyster Reef Mapping and Analysis (UH)
  - Mapped present-day intertidal oyster reefs in West Galveston Bay
  - Assessed oyster health and population characteristics
  - Determined composition of associated benthic macrofauna
  - Observed avian utilization of reefs





# RECENTLY COMPLETED MONITORING AND RESEARCH PROJECTS

- Nutrient and Sediment Monitoring of the Lower San Jacinto River (USGS)
  - Installed an Acoustic Doppler Velocity Meter (ADVM) to collect velocity and backscatter data
  - Collected nutrient, suspended sediment, and isotope samples over a range of hydrologic conditions
  - Data will be used to develop index-velocity rating that will provide 5-minute streamflow data
  - Additional acoustic backscatter and water-quality data will be collected to assess potential for estimating a continuous record of suspended-sediment concentrations

# CURRENT MONITORING AND RESEARCH PROJECTS

- Characterizing Polychlorinated Biphenyls (PCBs) and Dioxins in the Houston Ship Channel and Galveston Bay Post-Harvey (UH)
- Lead Isotopes and Heavy Metal Concentrations in Galveston Bay Waters, Sediments, and Oysters (UH)
- Effect of Microplastics on the Base of Marine Food Webs (TAMUG)
- Galveston Bay Oyster Microplastics: Baselines and Impacts (TAMUG)
- The Distribution, Fate, and Transport of Emerging Contaminants in Galveston Bay (TAMU-GERG)
- Galveston Bay Regional Monitoring Database (HARC)
- Effects of Erosion Control Structures on Shoreline Marsh Species Populations (TAMUG)
- The Fate of Emerging Per- and Polyfluoroalkyl Substances (PFAS) Pollutants in Shellfish and Fish of Galveston Bay (TAMUG)



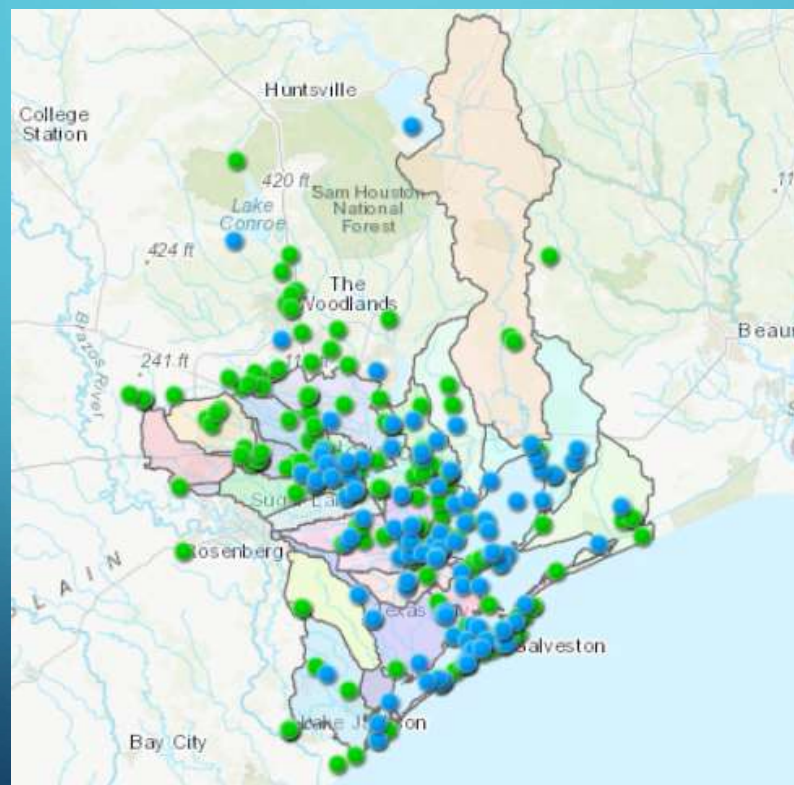
# IDENTIFIED NEEDS AND GAPS

RES-1	Projects addressing species of special concern
	Projects addressing invasive species monitoring
RES-2	Contaminants in aquatic organisms, sediments, and water
	<b>Estimate spatial and temporal trends in point source and nonpoint source loading and compliance with effluent standards</b>
RES-3	Larval transport within the estuary
	Waterway trash/ marine debris
	Impacts of coastal spine structures on species movements
	Best management practices for oyster cultch plantings and potential impacts
RES-6	Low impact development and green infrastructure performance data



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# AN INTRODUCTION TO THE GBEP IMPLEMENTATION TRACKING VIEWER



# The Galveston Bay Plan

**Priority  
(4)**

Ensure Safe Human  
and Aquatic Use

Protect and  
Sustain Living  
Resources

Engage  
Communities

Inform Science-  
Based Decision  
Making

**Subcommittee  
(4)**

Water and  
Sediment Quality  
(WSQ)

Natural Resource  
Uses (NRU)

Public  
Participation and  
Education (PPE)

Monitoring and  
Research (M&R)

**Action Plans  
(10)**

NPS

PS

PHA

HC

SC

FWI

SPO

PEA

RES

ACS

**Actions  
(38)**

NPS  
1-4

PS  
1-3

PHA  
1-5

HC  
1-3

SC  
1-2

FWI  
1-3

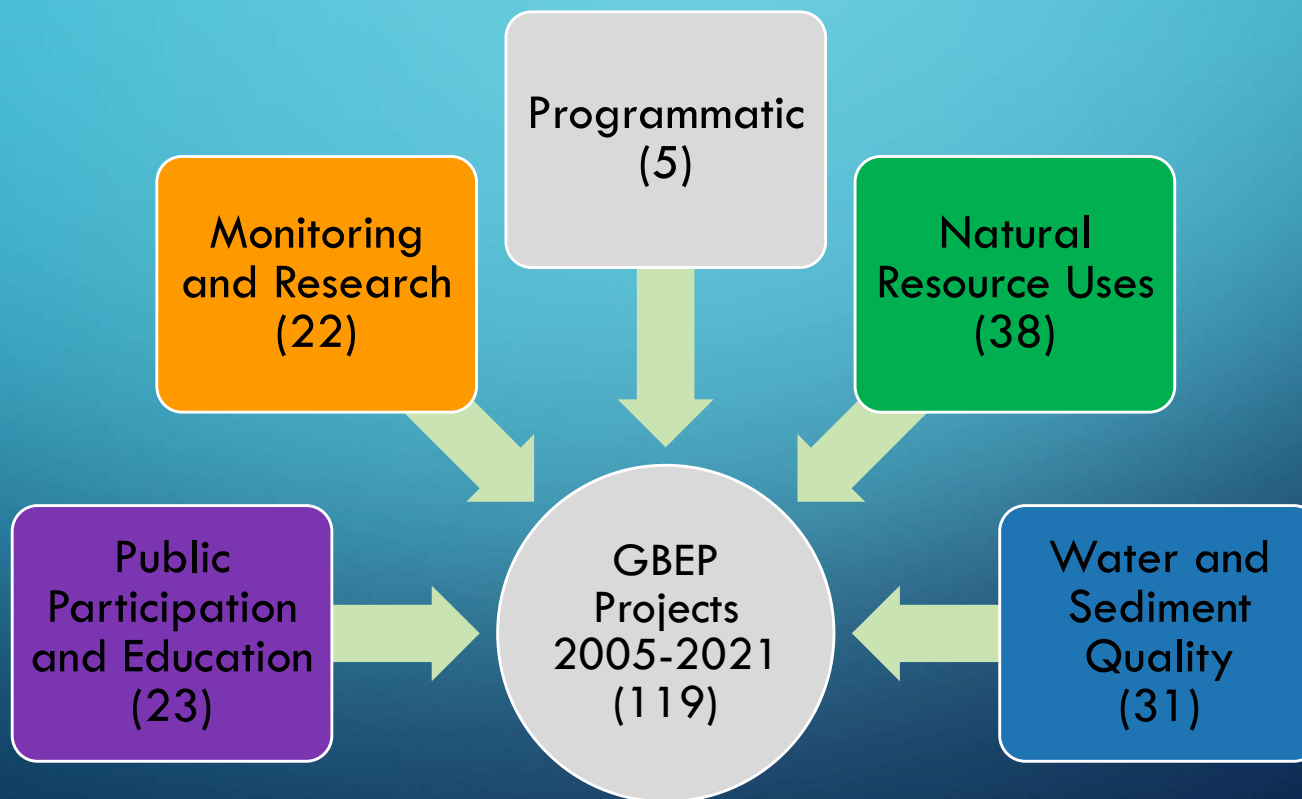
SPO  
1-4

PEA  
1-3

RES  
1-8

ACS  
1-3

# GBEP Projects 2005-2021 (119)



# GBEP Projects 2018-2021 (40)

**Priority  
(4)**

Ensure Safe  
Human and  
Aquatic Use

Protect and  
Sustain Living  
Resources

Engage  
Communities

Inform Science-  
Based Decision  
Making

**Subcommittee  
(4)**

Water and  
Sediment Quality  
(WSQ)

Natural Resource  
Uses (NRU)

Public  
Participation and  
Education (PPE)

Monitoring and  
Research (M&R)

**Projects  
(40)**  
(3 programmatic  
projects)

9 projects

8 projects

9 projects

11 projects

**Actions  
Implemented  
(207)**

48 actions

45 actions

66 actions

48 actions

# GBEP Partner Projects (241)

**Priority  
(4)**

Ensure Safe  
Human and  
Aquatic Use

Protect and  
Sustain Living  
Resources

Engage  
Communities

Inform Science-  
Based Decision  
Making

**Subcommittee  
(4)**

Water and  
Sediment  
Quality (WSQ)

Natural Resource  
Uses (NRU)

Public  
Participation and  
Education (PPE)

Monitoring and  
Research (M&R)

**Actions  
Implemented  
(483)**

76 actions

124 actions

196 actions

87 actions



# CONTACT ME

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