

# Progress and Priorities of the WSQ Subcommittee

Galveston Bay Estuary Program





# The Galveston Bay Plan, 1995

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- Implemented pollution prevention practices throughout the watershed.
- Collaborated with local governments and developers to reduce sources of NPS pollution.
- Supported watershed protection initiatives.

# Galveston Bay

## Charting the Course to 2015 Galveston Bay Strategic Action Plan



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## The Strategic Action Plan, 2007

- ▶ Not intended to replace but help focus efforts of the 95' Galveston Bay Plan.
- ▶ WSQ priority problems were identified.
- ▶ Goals and objectives were created to address identified problems.



# THE GALVESTON BAY PLAN, 2ND EDITION

## PLAN PRIORITY 1: ENSURE SAFE HUMAN AND AQUATIC LIFE USE

### ACTION PLANS

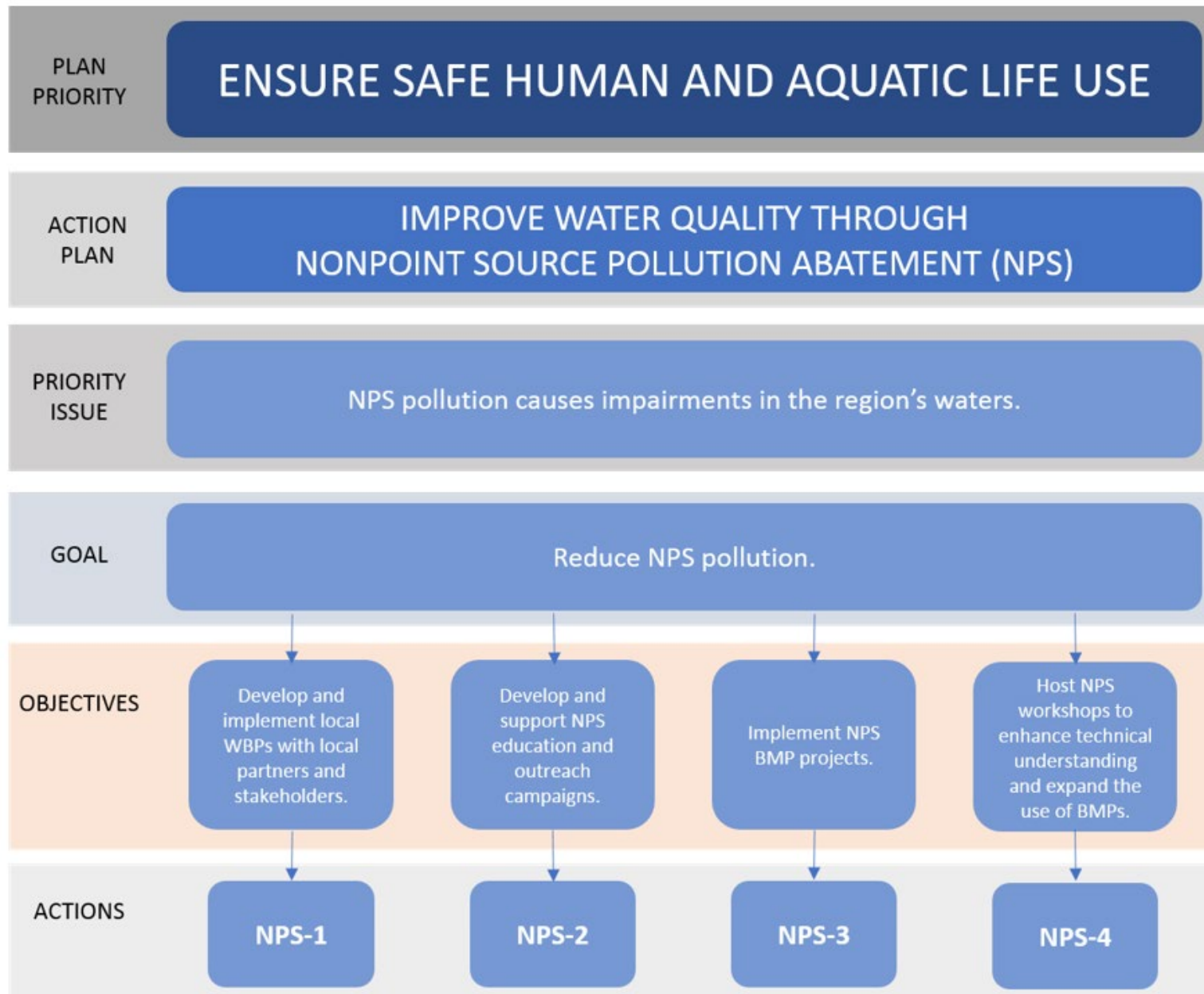
IMPROVE WATER QUALITY THROUGH  
NONPOINT SOURCE POLLUTION ABATEMENT (NPS)

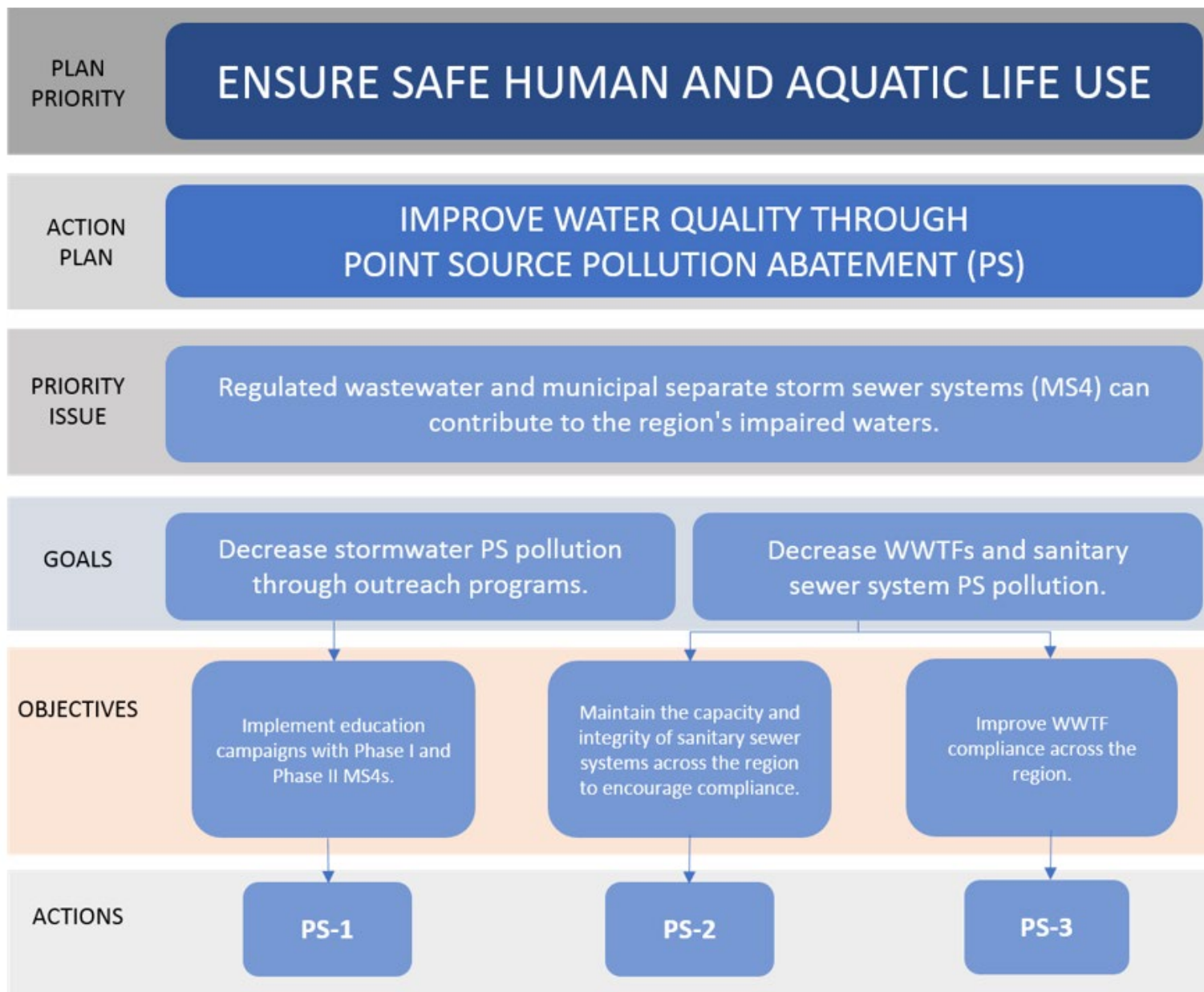
IMPROVE WATER QUALITY THROUGH  
POINT SOURCE POLLUTION ABATEMENT (PS)

PROMOTE PUBLIC HEALTH AND AWARENESS (PHA)

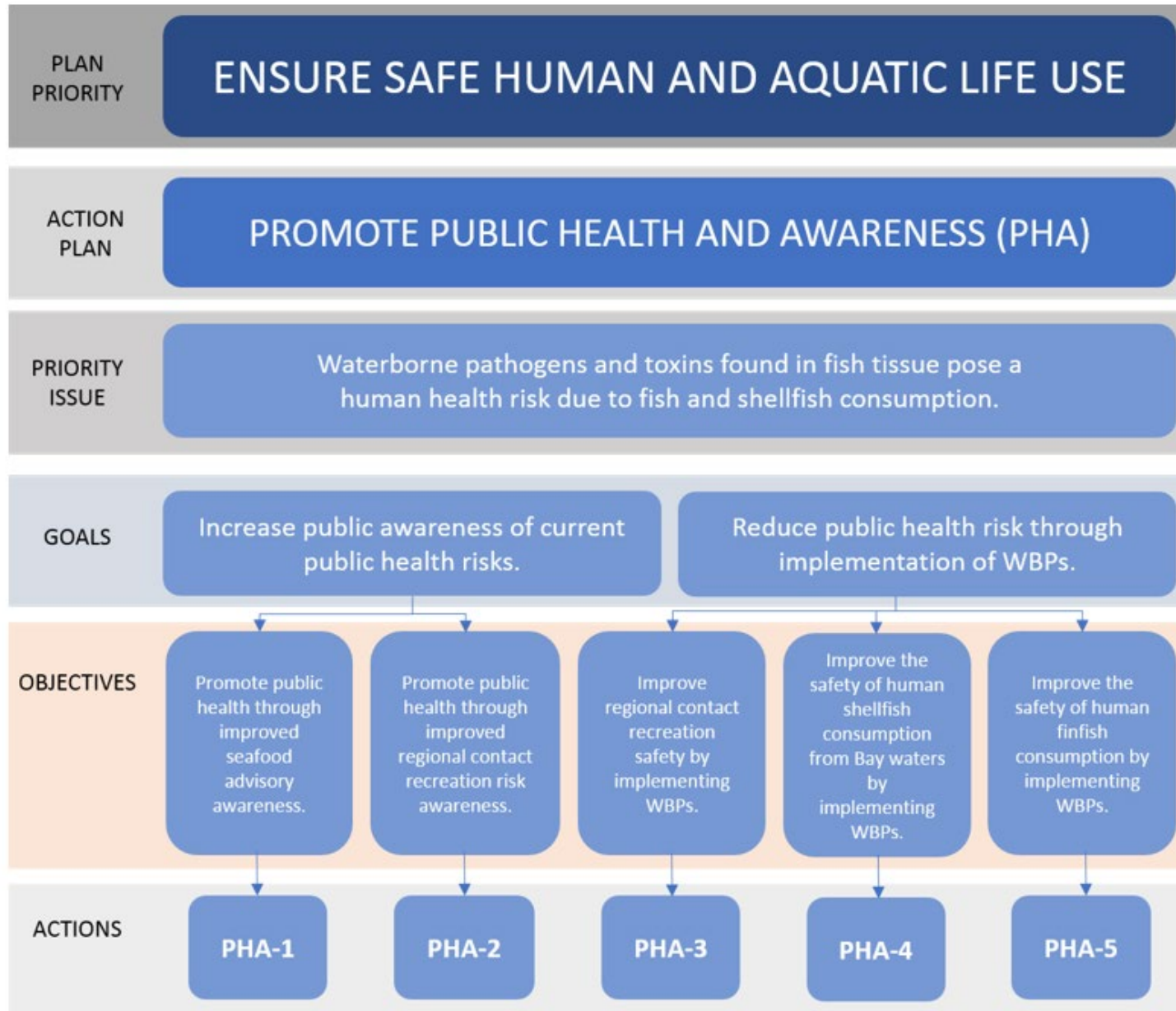
- ▶ Created more specific, measurable, and attainable goals.
- ▶ Reduced Action Items from 29 to 12.











Year	Project	Partners	Amount	Description	NPS-1	NPS-2	NPS-3	NPS-4	PS-1	PS-2	PS-3	PHA-1	PHA-2	PHA-3	PHA-4	PHA-5
2012	Galveston, Brazoria, and Harris County Stormwater Quality Improvement (Stormwater Wetland Pilot Projects)	Texas A&M AgriLife Extension Coastal Watershed Program	\$435,000	Texas A&M identified potential sites and outlined approaches for integrating stormwater wetlands with flood risk reduction projects. Texas A&M also investigated opportunities to integrate private land owner interests in using water quality improvement practices on private land. Two projects that restored/created stormwater detention wetlands and upland habitat were initiated.		X	X	X	X							
2012	Cedar Bayou Watershed Protection Plan	Houston-Galveston Area Council (H-GAC)	\$30,000	The WPP was developed by engaging local stakeholders, and conducting comprehensive water quality monitoring and watershed modeling activities. The focus of the WPP is on improving water quality in Cedar Bayou by addressing impairments including bacteria, polychlorinated biphenyls (PCBs), dioxins, and macrobenthic communities.	X	X	X	X		X	X			X		
2014	Highland Bayou Watershed Protection Plan (WPP), Phase II	Texas A&M AgriLife Extension Coastal Watershed Program	\$100,000	This project supported the continued development of the Highland Bayou Regional WPP. Project results were shared with the regional community of developers, planners, local governments and special districts as well as local communities.	X	X	X	X		X	X			X		
2014	Galveston Bay Public Awareness Campaign for Fats, Oils, and Grease	City of Nassau Bay	\$216,000	Throughout the Cease the Grease campaign, Galveston Bay Foundation (GBF) coordinated a regional effort amongst key partners within the campaign's volunteer workgroup. GBF redesigned specialized marketing material for our region, plan a schedule for campaign media distribution and citizen engagement, provide a Campaign Strategy Toolkit for partners, and track campaign progress.							X	X	X			
2015	Top Five, Least Five Priority Bacteria Impaired Assessment Units	Houston-Galveston Area Council	\$100,000	H-GAC addressed 10 targeted watersheds to identify sources of bacteria pollution through targeted monitoring. Once the sources were identified, H-GAC reported those sources to the appropriate entity for correction, demonstrated improved water quality, and documented the project to demonstrate the value of a prioritized watershed approach through outreach materials and workshops.						X	X			X		
2015	Double Bayou Watershed Protection Plan (WPP)	GeoTechnology Research Institute/ Houston Advanced Research Center (HARC)	\$123,126	The goal of the project was to develop the Double Bayou WPP. The watershed planning process involved the formation of a watershed stakeholder group, implementation of targeted monitoring, further data analysis, and development of watershed management measure recommendations.	X	X	X	X		X	X			X		
2016	Stormwater Best Management Practice (BMP) testing at the Ghirardi Family Water Smart Park	Texas A&M AgriLife Extension Coastal Watershed Program	\$57,300	The Texas A&M AgriLife Extension continued a water quality monitoring program at Ghirardi Family WaterSmart Park, providing long term data about stormwater BMPs and their continued ability to improve water quality. Texas A&M AgriLife Extension provided continued data collection at six sites within the park: pervious pavers, impervious pavers, green roof, cistern, swale, and rain garden.		X	X	X	X							
2017	West Fork, San Jacinto, and Lake Creek Watershed Protection Plan (WPP)	Houston-Galveston Area Council	\$20,000	This project developed a Watershed Protection Plan (WPP) for the West Fork of the San Jacinto River including the Lake Creek watershed, and a characterization of both the Spring Creek and Cypress Creek watersheds. H-GAC facilitated stakeholders' participation in the development of a plan to address impairments. The selection of BMPs included an inventory and evaluation of management practices and an identification of needs and opportunities to implement management measures.	X	X	X	X		X	X			X		
2017	Galveston Bay Coalition of Watersheds	Texas A&M AgriLife Extension Coastal Watershed Program	\$85,000	The Galveston Bay Coalition of Watersheds (GBCW) was established to implement measures from existing WPPs and I-Plans. The GBCW includes stakeholders from existing groups including Dickinson, Highland, and Jarbo bayous, as well as watersheds that will likely be developing WPPs or I-Plans in the future. This regional approach extends limited resources for coordinating implementation efforts, and facilitates the coordination already happening between groups.	X	X	X	X					X			
2017	Designing for Impact: Promoting Low Impact Development (LID) Implementation	Houston-Galveston Area Council (H-GAC)	\$30,000	The goal of this project is to work with local governments to encourage greater use of LID in the region. H-GAC is partnering with the City of Pearland in this pilot project to make their municipal codes more "LID-friendly." H-GAC will present the City of Pearland with a tailored report outlining impediments to LID implementation in their code, proposing code and ordinance revisions, and prioritizing LID techniques appropriate for their jurisdiction. H-GAC will also host a community LID workshop.		X	X	X	X							

WSQ  
Projects  
Completed  
Since 2012



# Ongoing WSQ Projects

- ▶ Green Infrastructure for Texas (GIFT)
- ▶ Bacterial Source Tracking on Tributaries of Trinity and Galveston Bays (BST)
- ▶ Coordinating Implementation of a WPP for Double Bayou Contract
- ▶ Targeted Bacteria Monitoring
- ▶ Occurrence of Microplastics in Tributaries to Galveston Bay

# GIFT Project

- ▶ Helped advance the knowledge and usage of ecological restoration and stormwater wetlands as GI practices.
- ▶ Supported the construction of stormwater wetlands at three locations.
- ▶ Developed a method to monitor the condition of a restored wetland.
- ▶ Established new partnerships and empowered more entities to begin using stormwater wetlands in their communities.





# BST Project

- ▶ Better characterized sources of bacteria entering the bays.
- ▶ Provided additional information needed to address bacteria concerns in five watersheds.
- ▶ Supported implementation of existing watershed-based plans.
- ▶ Will help local decision makers select appropriate management measures.



# Continued and New WSQ Projects in FY21

- ▶ Coordinating Implementation of a WPP for Double Bayou Contract
- ▶ Targeted Bacteria Monitoring
- ▶ Occurrence of Microplastics in Tributaries to Galveston Bay
- ▶ Baseline Assessment of Microplastics in Galveston Bay
- ▶ Outreach Implementation for Galveston Bay Watershed Water Quality Projects



# Identified Needs and Gaps

- ▶ Impact of flooding on WSQ
- ▶ Direct pathogen monitoring as a public risk assessment
- ▶ Soil health with a focus on urban/suburban workshops and toolkits
- ▶ Additional WPPs / WPP implementation / Localized watershed protection in already identified problem areas
- ▶ WSQ monitoring of existing GI projects / Additional GI projects
- ▶ Marinas and anchorages as geochemical stressors to the system
- ▶ Waterway trash, marine debris, and/or macro- and microplastics
- ▶ Emerging contaminants
- ▶ Public repository for current emerging contaminant studies
- ▶ Human induced bacterial impairments

# FY22 WSQ Subcommittee Priorities

- ▶ Green infrastructure and soil health projects / monitoring to improve water quality
- ▶ Supporting management measures and watershed-based plans
- ▶ Waterway trash, marine debris, and/or macroplastics and microplastics



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