GALVESTON BAY ESTUARY PROGRAM: FISCAL 2022 WORK PLAN

GALVESTON BAY COUNCIL MEETING

OCTOBER 21, 2020

Fiscal Year (FY) 2022 GBEP Funding

Funding estimates based on FY 2021 levels

Salary, fringe, and indirect levels subject to change

Federal

$1,200,000 §320 CWA Funding

Comes “pre-matched” by TCEQ (1:1)

$600,000 from TCEQ, $600,000 from EPA

State

$352,400

Funding Estimates for FY 2022

Funding Type	Federal (CWA §320)	State	Total
Total Funding	$ 1,200,000	$ 352,400	$ 1,552,400
Administration*	$ (636,645)	$ (109,513)	$ (746,158)
Remaining	$ 563,355	$ 242,887	$ 806,242

*Administration includes salary, fringe, indirect, website hosting and maintenance, intern, and general operational costs.

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FY 2022 GBEP Proposed Budget

Category	Grantee	Original Funding Request	FY 2022 Staff Recommendation		*FY 2023	NOTES:
			State Funding	Federal Funding		
Baseline Costs						
Salaries, Fringe, and Indirect	N/A	$ 616,900.00	*$77,400	$ 616,900.00	$ -	*State funding for salary is from a different department (index) outside of GBEP and is not calculated as part of the GBEP budget
General Operational Costs	N/A	$ 30,000.00	$ 32,113.00	$ 8,245.00	$ -	
Programmatic Costs						
1. Annual Website Hosting & Maintenance (2 websites)	Wilkins Group	$ 6,000.00	$ -	$ 4,000.00	$ -	
2. Back the Bay Website Redesign	Wilkins Group	$ 25,000.00	$ -	$ 25,000.00	$ -	
3. Mickey Leland Environmental Internship Program	Goodwill Staffing Services	$ 7,500.00	$ -	$ 7,500.00	$ -	
4. Regional Monitoring Database	HARC/GTRI	$ 100,000.00	$ -	$ 104,018.00	$ 35,931.00	PRIOR APPROVAL FROM GBC _ NO CHANGES
WSQ						
5. Baseline Assessment of Microplastics in Galveston Bay	USGS	$ 45,000.00	$ -	$ 28,500.00	$ -	PRIOR APPROVAL FROM GBC _ NO CHANGES
6. Supporting the Use of Green Infrastructure in the Lower Galveston Bay Watershed	H-GAC	$ 60,000.00	$ 42,887.00	$ 2,113.00	$ -	
7. Townwood Park Green Stormwater Infrastructure	HPARD	$ 90,000.00	$ -	$ 55,000.00	$ -	
8. ALTERNATIVE: Watershed Protection Plan Development for Clear Creek	*H-GAC*	*$ 30,000.00*	$ -	$ -	$ -	
NRU						
9. Conservation Assistance Program	GBF	$ 100,000.00	$ -	$ 100,000.00	$ -	
10. The 7th/8th Additions to the Coastal Heritage Preserve	TPWD	$ 150,000.00	$ 125,000.00	$ -	$ -	
11. Jones Bay Oystercatcher Habitat Restoration and Enhancement	GBF thru TPWD	$ 150,000.00	$ 75,000.00	$ -	$ -	
12. ALTERNATIVE: Sylvan Rodriguez Park Habitat Restoration	*HPARD*	*$ 75,300.00*	$ -	$ -	$ -	
PPE						
13. Audubon TERN citizen science in Schools: Students as field researchers	Audubon TX thru HCDE	$ 50,000.00	$ -	$ 40,000.00	$ -	
14. Microplastics in the Galveston Bay Watershed: The Big Impacts of Tiny Pollution	TIRN thru UHCL	$ 51,888.00	$ -	$ 50,000.00	$ -	
15. Mobilizing the Environmental Education Community through Prairie Education	NTPA, CEC, EcoRise thru UHCL	$ 89,467.00	$ -	$ 51,520.00	$ -	
M&R						
16. The Distribution, Fate, and Transport of Emerging Contaminants in Galveston Bay	TAMU Oceanography	$ 49,549.00	$ -	$ 5,490.00	$ -	PRIOR APPROVAL FROM GBC _ NO CHANGES
17. Effects of Erosion Control Structures on Shoreline Marsh Species Populations	TAMUG	$ 69,305.00	$ -	$ 38,165.00	$ 31,140.00	
18. The Fate of Emerging PFAS Pollutants in Shellfish And Fish of Galveston Bay	TAMUG	$ 105,549.00	$ -	$ 63,549.00	$ 42,000.00	
FY 2022 Funding Requests		$ 1,901,458.00	$ 275,000.00	$ 1,200,000.00		
FY 2022 Anticipated Funding Allocation		$ 1,475,000.00	$ 275,000.00	$ 1,200,000.00		
Difference		$ -	$ -	$ -	$ 109,071.00	

FY 2022 PROGRAMMATIC PROJECTS

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2. BACK THE BAY WEBSITE REDESIGN

Lead: To Be Determined

Proposed Amount: $25,000 (Federal)

Description: Redesign the website as a resource to support education and outreach efforts in the region with Back the Bay messaging.

Notes: New project; the website was originally designed to support the Back the Bay campaign. Redesign will keep many of the current creative assets and will add more partner resources using Back the Bay messaging. The redesign will be created with the input of the PPE and other subcommittees.

BACK BAY

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4. REGIONAL MONITORING DATABASE

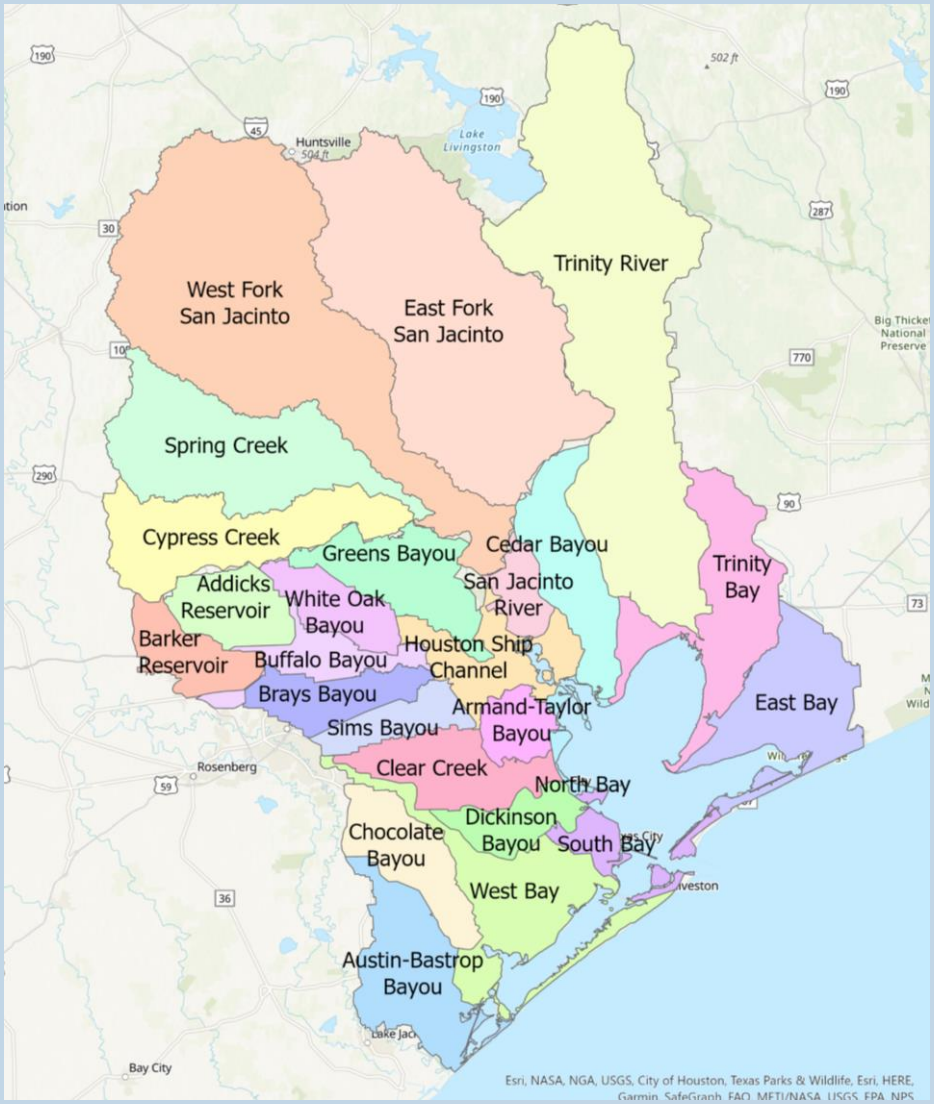
Lead: Houston Advanced Research Center

Proposed Amount: $104,081 (Federal); $130,001 (Federal) funded in FY 2021 and $35,931 (Federal) is set aside for funding in FY 2023

Description: The Regional Monitoring Database will gather environmental datasets related to the lower Galveston Bay watershed in cooperation with federal, state, and local governments, as well as universities and research organizations to evaluate progress in reaching a sustainable Galveston Bay ecosystem and identify gaps in monitoring programs. The Regional Monitoring Database will consist of an interactive, web-based application with data download capabilities and will be developed with input from stakeholders.

Notes: Existing project; Year 2 (FY 2022) and Year 3 (FY 2023) of funding were approved by B&P and the GBC in FY 2021.

4. REGIONAL MONITORING DATABASE



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FY 2022
WATER & SEDIMENT QUALITY (WSQ) PROJECTS

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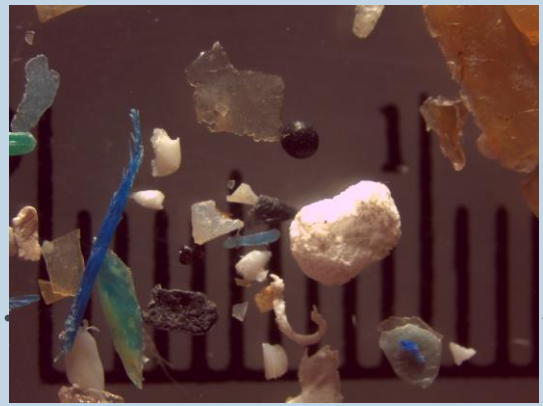
WSQ 5. BASELINE ASSESSMENT OF MICROPLASTICS IN GALVESTON BAY

Lead: United States Geological Survey

Proposed Amount: $28,500 (Federal); $61,500 (Federal and State) funded in FY 2021

Description: To better understand the spatial distribution and abundance of microplastics entering Galveston Bay the USGS, in cooperation with GBEP, began assessing the occurrence of microplastics in tributaries to Galveston Bay in FY 2020. Beginning in FY 2021 as an expansion to this study, USGS will assess microplastics in the open waters of the Galveston Bay complex. If present, the categories of microplastics will be assessed to supplement the dataset collected in the FY 2020 study. Sampling sites will be selected in coordination with the GBEP subcommittees and will also be informed by the results from the FY 2020 study in the tributaries. Specific locations within Galveston Bay will also be coordinated with other ongoing GBEP microplastics projects to leverage scientific efficacy.

Notes: Existing project; Year 2 (FY 2022) of funding was approved by B&P and the GBC in FY 2021.



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WSQ 6. SUPPORTING THE USE OF GREEN INFRASTRUCTURE IN THE LOWER GALVESTON BAY WATERSHED

Lead: Houston-Galveston Area Council

Proposed Amount: $45,000 (State $42,887; Federal $2,113)

Description: The project objective is to provide local decision makers with the justification needed to make the installation of BMPs a priority by placing in their hands, a recommended green infrastructure practice list that is based on actual local and regional data.

- Convene & organize a project committee of local stakeholders (e.g. EIH, HARC, TX AgriLife, HCFCD, HC, COH)
- Compile available local BMP data, catalogued by practice(s)
- Complete analysis of BMP data and/or utilize existing analysis
- Compare analysis with state & national examples from areas of common soils & precipitation
- Recommend BMPs based on performance
- Host at minimum one NPS workshop targeted to MS4 operators & local governments
- Write a final report that includes a distribution and outreach plan

Notes: New project; will leverage $10,000 or more of in-kind services from H-GAC.

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WSQ 7. TOWNWOOD PARK GREEN STORMWATER INFRASTRUCTURE

Lead: Houston Parks and Recreation Department

Proposed Amount: $55,000 (Federal)

Description: The Townwood Park Green Stormwater Infrastructure (GSI) project will create three GSI demonstration features, two bioretention sites and one 3.6-acre vegetated filter strip, to support future implementation of GSI in parks and private development in Houston. The establishment of these features will provide a needed nature-based approach to water quality and quantity concerns for the City of Houston and will be a key step in addressing Houston's resiliency challenges. Interpretive signage will be installed that provides information on the functions of GSI, the connections of Houston's watersheds to Galveston Bay, and the role that community members play in protecting our waterways.

Notes: New project; HPARD will provide project management and maintenance and will also supply all native herbaceous plants and 75% of the native trees for the project.

WSQ 8. ALTERNATIVE: WATERSHED PROTECTION PLAN DEVELOPMENT FOR CLEAR CREEK

Lead: Houston-Galveston Area Council

Proposed Amount: $30,000 (State)

Description: H-GAC is currently working with TCEQ on a Clean Water Act Section 319 watershed protection plan (WPP) development project for Clear Creek, expected to initiate in FY 2021 and continue through FY 2024. The effort will produce an EPA 9-Element WPP and conduct NPS education and outreach. Preliminary work was completed as part of a TMDL project, during which strong local support for full development specific to this watershed was expressed.

Funding will support stakeholder facilitation and WPP development, outreach and education, and supplement outreach efforts in coordination with GBEP and its partners.

Notes: New project; the project will leverage $220,780 from Section 319 and additional local match from various sources.

FY 2022 NATURAL RESOURCES USES (NRU) PROJECTS

Dollar Bay CAP Project (photo: GBF)

Wetlands at Coastal Heritage Preserve (photo: TPWD)

Oystercatchers foraging on intertidal oyster reefs (photo: Alan Wilde)

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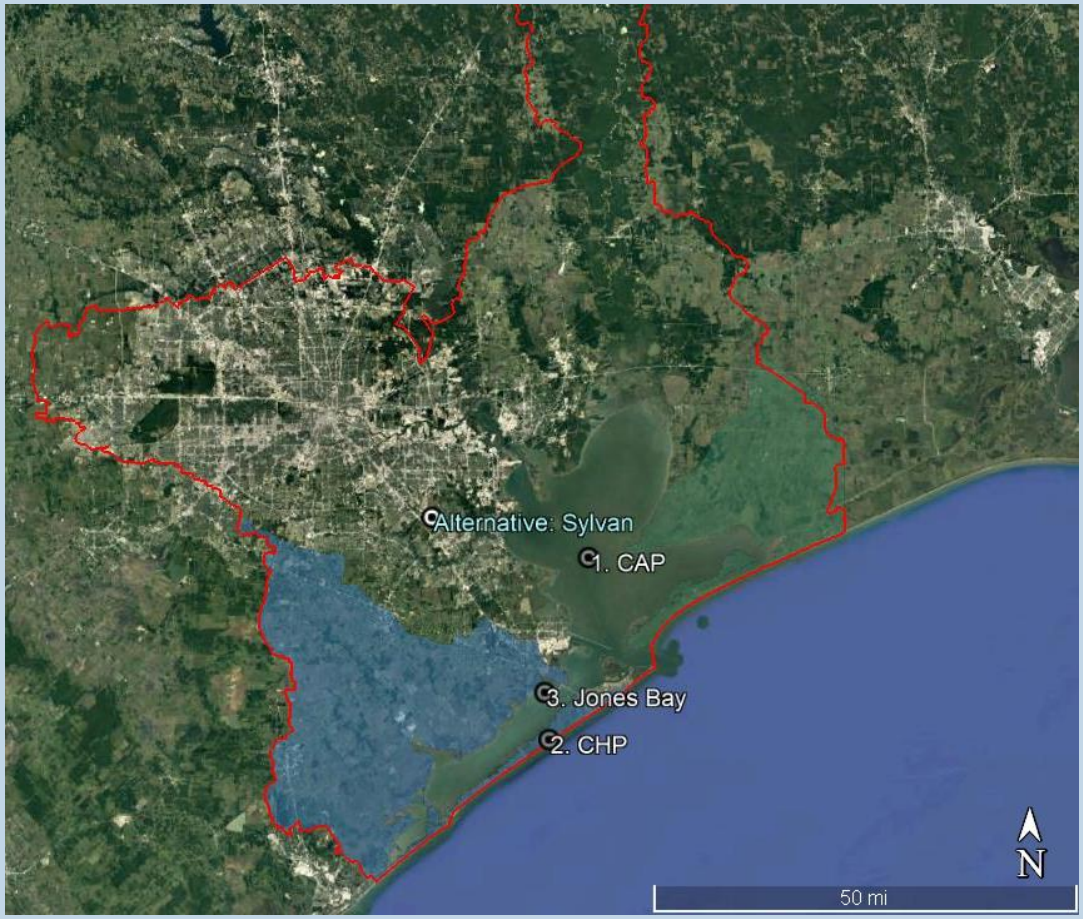
FY 2022 NATURAL RESOURCES USES (NRU) PROJECTS



1. Conservation Assistance Program	$100,000
2. The 7th/8th Additions to the Coastal Heritage Preserve	$125,000
3. Jones Bay Oystercatcher Habitat Restoration & Enhancement	$75,000
ALTERNATIVE: Sylvan Rodriguez Habitat Restoration Project	*$75,300*
NRU Total	**$300,000**

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NRU 9. CONSERVATION ASSISTANCE PROGRAM

Lead: Galveston Bay Foundation

Proposed Amount: $100,000 (Federal)

Description: This project proposal aims to continue support for the Conservation Assistance Program to build upon the GBEP's successful land conservation efforts in the lower Galveston Bay watershed. Project objectives include preservation of coastal wetlands and natural areas, facilitation of a conservation workgroup of local stakeholders for project input, and to provide technical, legal, and grant writing assistance for coastal habitat conservation projects.

Efforts will be prioritized within the West Galveston Bay Conservation Initiative and the East Galveston Bay Conservation initiative in order to maximize return on investment. Land parcels within these two priority areas will help protect habitats critical to the sustainability of native plant and animal populations, protect regional biodiversity, and maintain local water quality.

Notes: Existing project; this funding would constitute year four (funded in FY 2019, 2020, 2021).

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NRU 9. CONSERVATION ASSISTANCE PROGRAM

Alligator Point at Chocolate Bay and West Galveston Bay (Photo courtesy of GBF)

Texas Coneflower at Angleton Prairie (Photo courtesy of GBF)

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NRU 10. THE 7TH/8TH ADDITIONS TO THE COASTAL HERITAGE PRESERVE

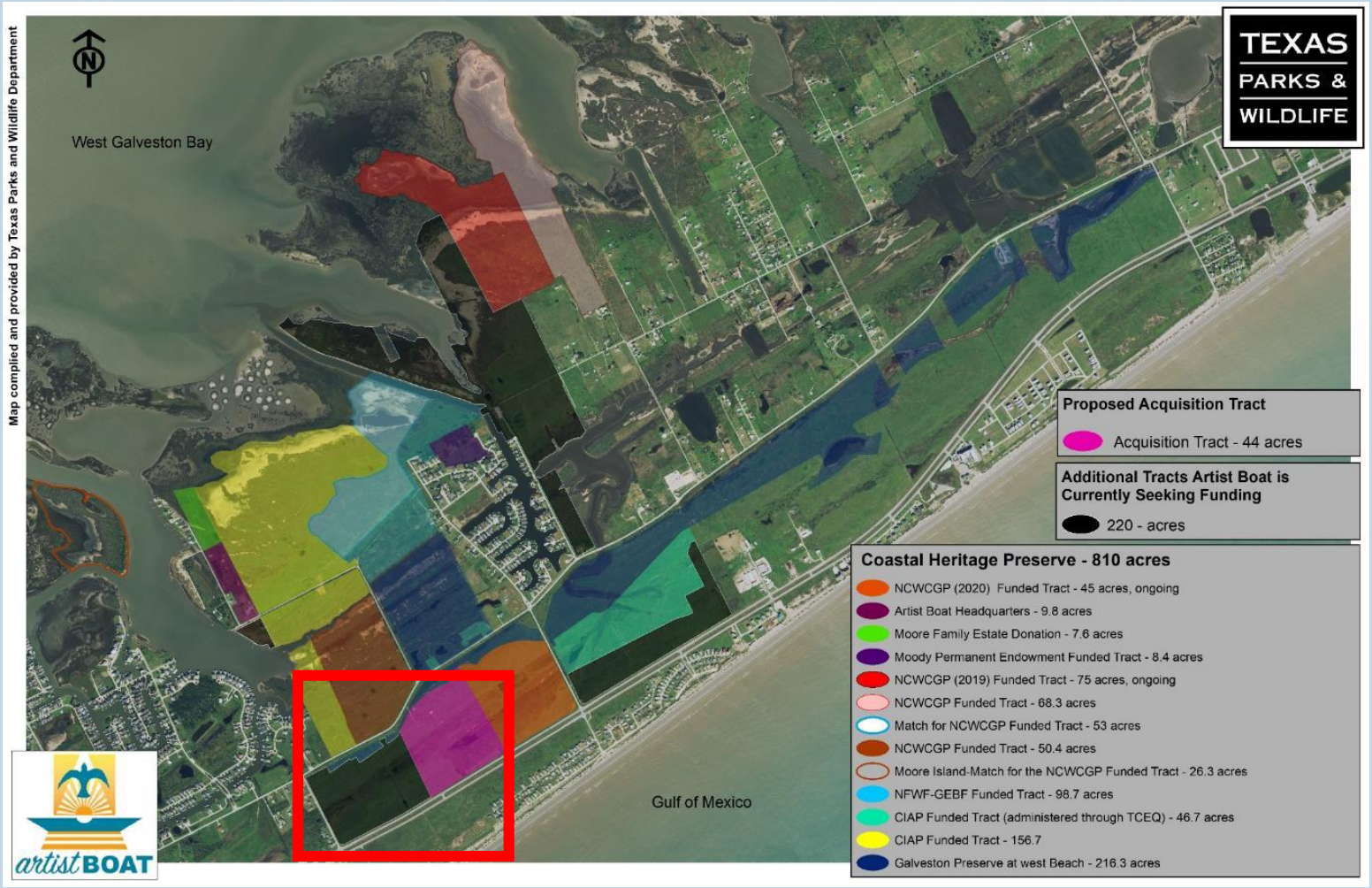
Lead: Texas Parks and Wildlife Department

Proposed Amount: $125,000 (State)

Description: The objective of this proposal is to acquire funds to purchase and conserve approximately 88 acres of coastal habitat. The purchased tracts would be added to and be managed as part of the Coastal Heritage Preserve (Artist Boat). This project will conserve breeding, nesting, foraging, roosting, and wintering habitats that benefit numerous coastal-dependent and migratory bird species and protect coastal habitats that are breeding, nursery, juvenile and foraging habitat to marsh resident fishery species.

Notes: New project; the project will leverage up to $2,599,400 from the USFWS National Coastal Wetlands Grant (CWPPRA). Artist Boat will provide the balance of the required match in cash and currently has commitment letters for a total of $55,000 from stakeholders in the community. CWPPRA funded projects are expected to be announced between January and May 2021.

NRU 10. THE 7TH/8TH ADDITIONS TO THE COASTAL HERITAGE PRESERVE



Map courtesy of Texas Parks and Wildlife Department

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NRU 11. JONES BAY OYSTERCATCHER HABITAT RESTORATION & ENHANCEMENT

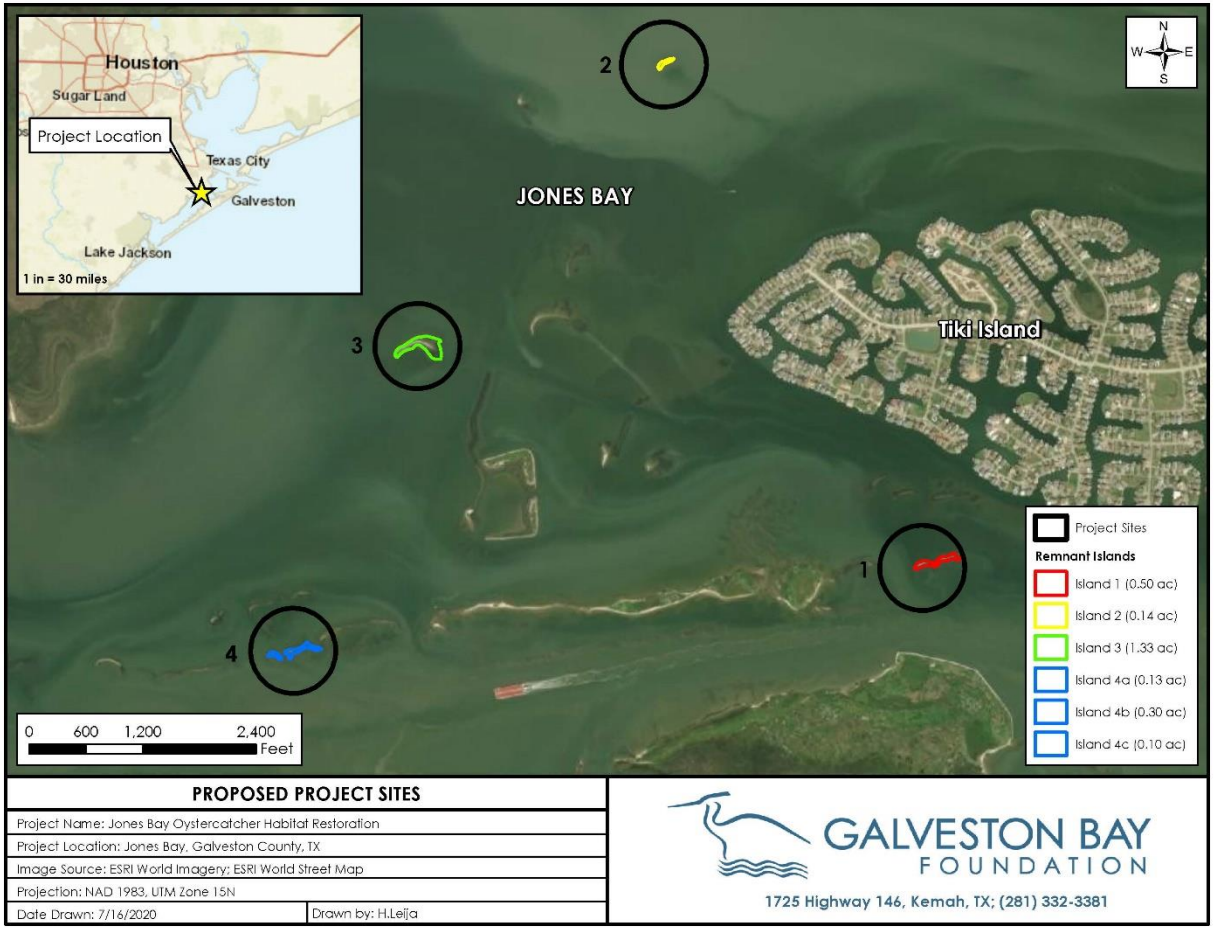
Lead: Galveston Bay Foundation (via Texas Parks and Wildlife Department)

Proposed Amount: $75,000 (State)

Description: The project proposal aims to restore up to four remnant islands in Jones Bay in order to reverse the declines in oystercatcher reproduction success. As documented by GCBO's 10 years of research on the Galveston Bay oystercatcher population, the degradation of small bay islands has led to a significant decrease in their reproduction success. In addition to creating higher elevations to provide more resilient nesting habitat, GBF plans to enhance and/or create up to one-acre of oyster reef complex near each nesting island, thus providing foraging habitat for nesting oystercatchers and their young. It is anticipated that this project will provide ample habitat to support up to eight additional nesting pairs of oystercatchers in Jones Bay.

Notes: New project; the project will leverage $1,729,500 from GLO CEPRA/GOMESA Program, Phillips 66, and in-kind services from GBF.

NRU 11. JONES BAY OYSTERCATCHER HABITAT RESTORATION & ENHANCEMENT



Map courtesy of Galveston Bay Foundation

NRU 11. JONES BAY OYSTERCATCHER HABITAT RESTORATION & ENHANCEMENT

Island 1 (September 2018; photo courtesy of Dr. Susan Heath)

Island 1 at high tide (April 2019; photo courtesy of Dr. Susan Heath)

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NRU 12. ALTERNATIVE: SYLVAN RODRIGUEZ HABITAT RESTORATION PROJECT

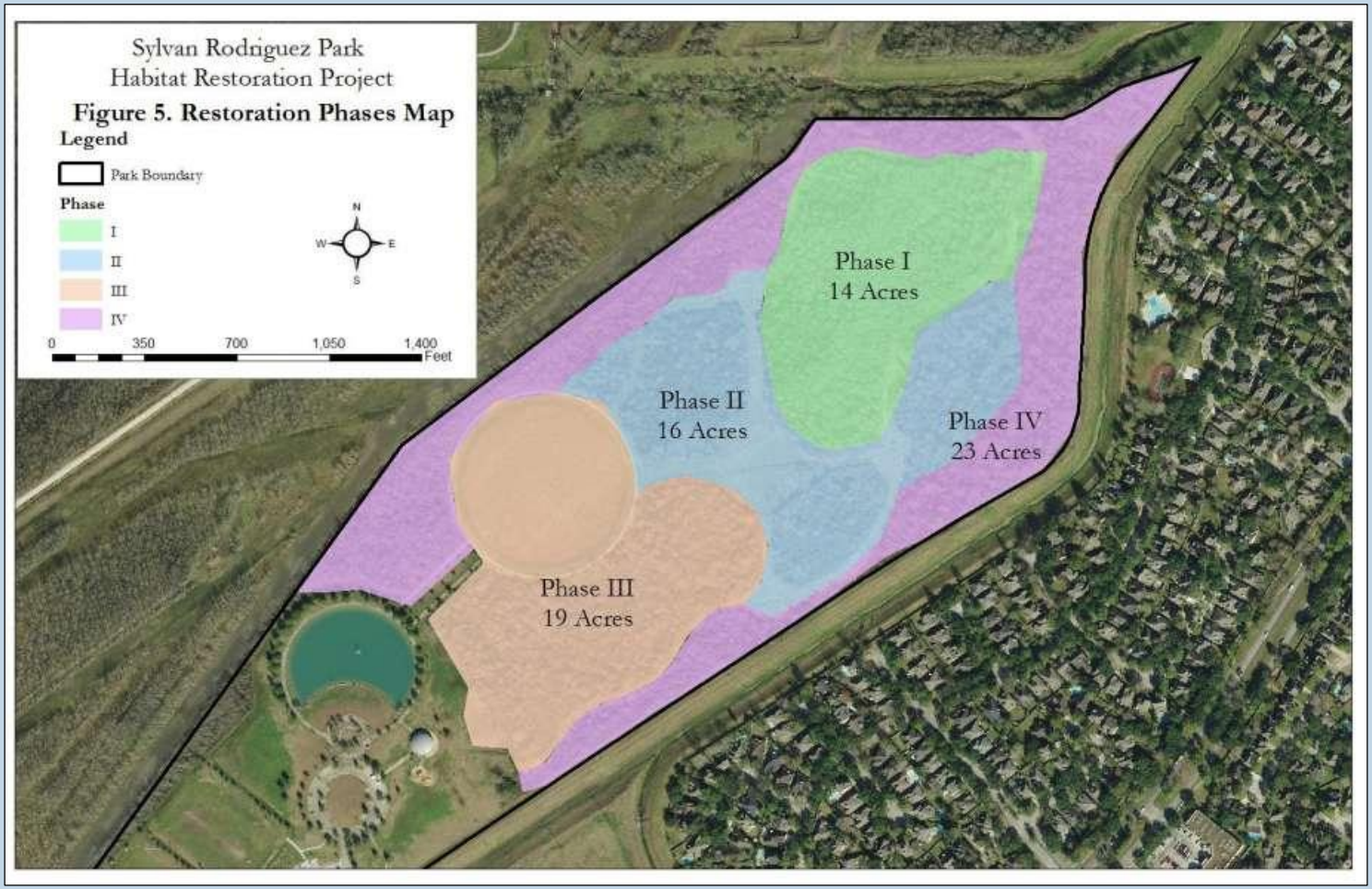
Lead: Houston Parks and Recreation Department

Proposed Amount: $75,300 requested (State)

Description: The project proposal aims to complete the restoration of the final 19 acres of the Sylvan Rodriguez Habitat Restoration Project (72 acres total). This phase (Phase III) of the project will complete the restoration of the final 19 acres of prairie (12.5 acres of which is currently Chinese Tallow forest, and 6.5 of which is currently grassland in need of enhancement). A hydro-axe contractor will chip invasive tree species, leaving a mulch layer that will improve soil quality and provide the basis for a new prairie habitat to form. An herbicide contractor will treat the cut stumps and remove any invasive species that appear at the site after chipping occurs. The site will be seeded with native prairie plant species and will be planted with grasses and forbs propagated by HPARD.

Notes: Alternative project; the project would leverage $485,200 from the GLO Coastal Management Program and the City of Houston.

NRU 12. ALTERNATIVE: SYLVAN RODRIGUEZ HABITAT RESTORATION PROJECT



Map courtesy of Houston Parks and Recreation Department

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FY 2022 PUBLIC PARTICIPATION & EDUCATION (PPE) PROJECTS

GALVESTON BAY ESTUARY PROGRAM

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PPE 13. AUDUBON TERN CITIZEN SCIENCE IN SCHOOLS: STUDENTS AS FIELD RESEARCHERS

Lead: Audubon Texas (via Harris County Department of Education)

Proposed Amount: $40,000 (Federal); $50,000 (Federal) funded in FY 2021

Description: The project aims to engage local, underserved schools and communities within the Galveston Bay watershed in citizen science research concerning colonial waterbird foraging habitats within the school's backyard. Teachers and students will develop an understanding of the scientific method, observational, and problem-solving skills through the study of conservation education and collection of local bird data.

Notes: Existing project.

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PPE 14. MICROPLASTICS IN THE GALVESTON BAY WATERSHED: THE BIG IMPACTS OF TINY POLLUTION

Lead: Turtle Island Restoration Network (with University of Houston Clear Lake)

Proposed Amount: $50,000 (Federal); $64,458 (Federal) funded in FY 2021

Description: This project expands an ongoing Gulf-wide citizen science microplastics project with Florida SeaGrant and Mississippi State University. The funds from this project will expand the program to connect the entire Galveston Bay watershed. The project also includes watershed education opportunities for classrooms with lesson plans connecting students and schools to Galveston Bay throughout the region. Turtle Island Restoration Network will partner with the University of Houston Clear Lake to additionally characterize the spatial distribution of plastic debris along the bay shorelines.

Notes: Existing project.

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PPE 15. MOBILIZING THE ENVIRONMENTAL EDUCATION COMMUNITY THROUGH PRAIRIE EDUCATION

Lead: University of Houston Clear Lake Environmental Institute of Houston (with Citizens Environmental Coalition, EcoRise, and Native Prairies of Texas Association)

Proposed Amount: $51,520 (Federal)

Description: This project will collect regional data from the lower Galveston Bay watershed and add to an existing state-wide environmental education mapping project to identify underserved school districts (and students) that do not currently receive, and could benefit from, informal environmental education programming. The prairie programs will serve as the demonstration case study for how a program can adapt to meet identified needs of the community. Lessons learned and a list of districts that need services will be shared with regional stakeholders.

Notes: New project; one year of funding for a two-year proposed project. Project will leverage $30,000 from Shell Deer Park (secured); $15,000 from TPWD (secured), $20,000 from Centerpoint (secured) for both years.

FY 2022 MONITORING & RESEARCH (M&R) PROJECTS

Sampling for Rangia clams in Trinity Bay

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M&R 16. THE DISTRIBUTION, FATE, AND TRANSPORT OF EMERGING CONTAMINANTS IN GALVESTON BAY

Lead: Texas A&M University

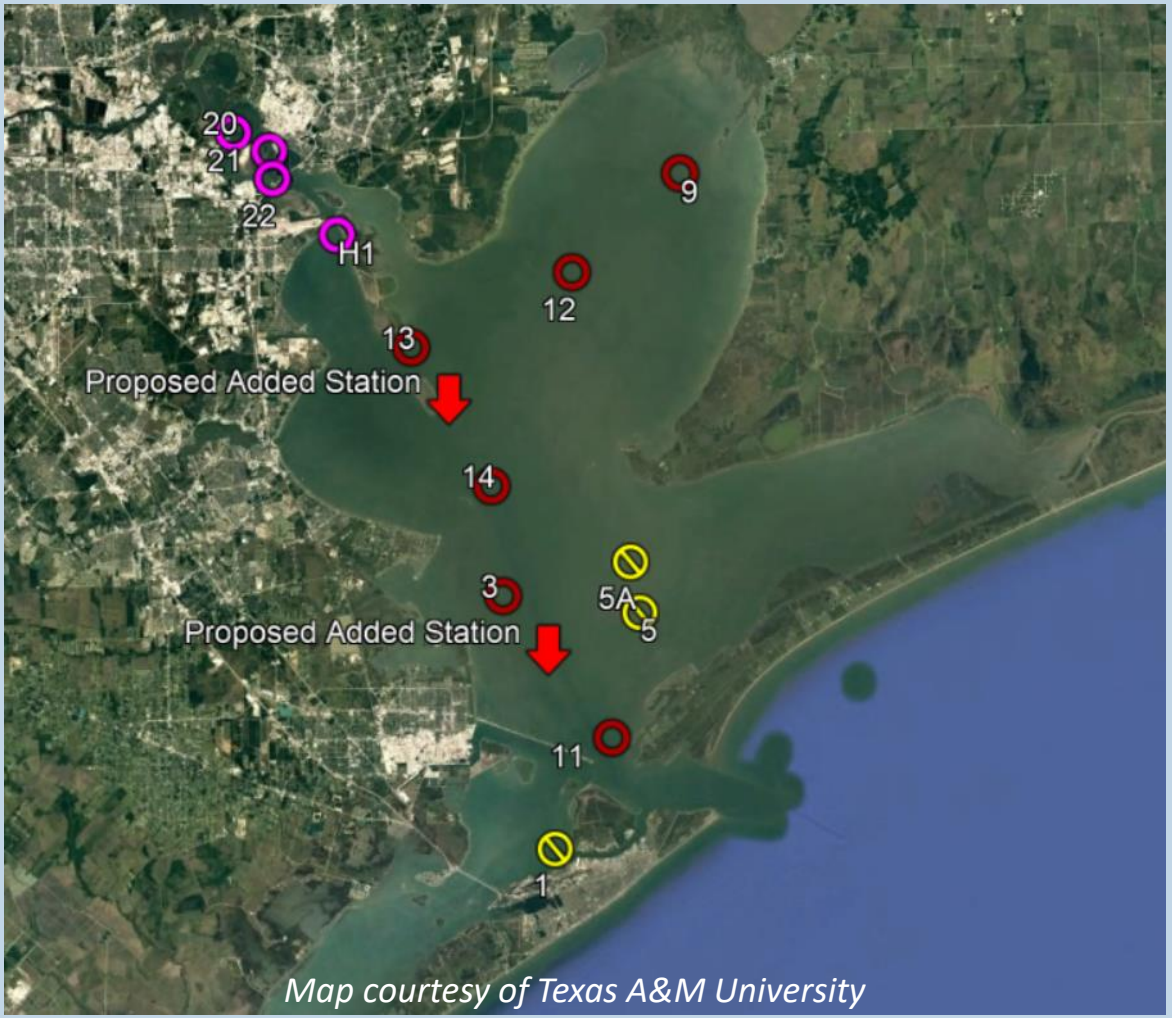
Proposed Amount: $5,490 (Federal); $92,938 (Federal) funded in FY 2021

Description: The project proposal aims to conduct quarterly field observations over two years in Galveston Bay to understand the distributions, fate, and transport of a group of emerging contaminants, including per-and polyfluorinated alkyl substances (PFAS) and pharmaceutical and personal care products (PPCP) in water and sediment. The project leverages the currently funded quarterly observation cruises (June 2017 to March 2020) and will extend the time series to five years.

Notes: Existing project; Year 2 (FY 2022) of funding was approved by B&P and the GBC in FY 2021.

M&R 16. THE DISTRIBUTION, FATE, AND TRANSPORT OF EMERGING CONTAMINANTS IN GALVESTON BAY

- Houston Ship Channel stations added since March 2019
- Quarterly occupied stations since 2017
- Stations to remove for GBEP project
- Proposed stations to add



Map courtesy of Texas A&M University

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M&R 17. EFFECTS OF EROSION CONTROL STRUCTURES ON SHORELINE MARSH SPECIES POPULATIONS

Lead: Texas A&M University at Galveston

Proposed Amount: $69,305 (Federal; $38,165 in FY 2022 and $31,140 in FY2023)

Description: This project will examine whether the presence or absence of erosion control structures (breakwaters) influence species populations in shoreline marsh areas of Galveston Bay. This will be accomplished by surveying nekton and zooplankton in Galveston Bay shoreline marsh areas with and without breakwater or sill structures and examining productivity patterns.

Notes: New project; this project leverages in-kind supplies from TAMUG (research equipment, laboratory space, vessels and vessel maintenance), and in-kind services from TAMUG Co-PIs.

M&R 17. EFFECTS OF EROSION CONTROL STRUCTURES ON SHORELINE MARSH SPECIES POPULATIONS

Measurements:

- Nekton & zooplankton abundances
- Epifauna densities
- Plant & microalgal biomass
- Plant cover
- Sediment cores: biomass, organic content

Map courtesy of Texas A&M University at Galveston

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M&R 18. THE FATE OF EMERGING PFAS POLLUTANTS IN SHELLFISH AND FISH OF GALVESTON BAY

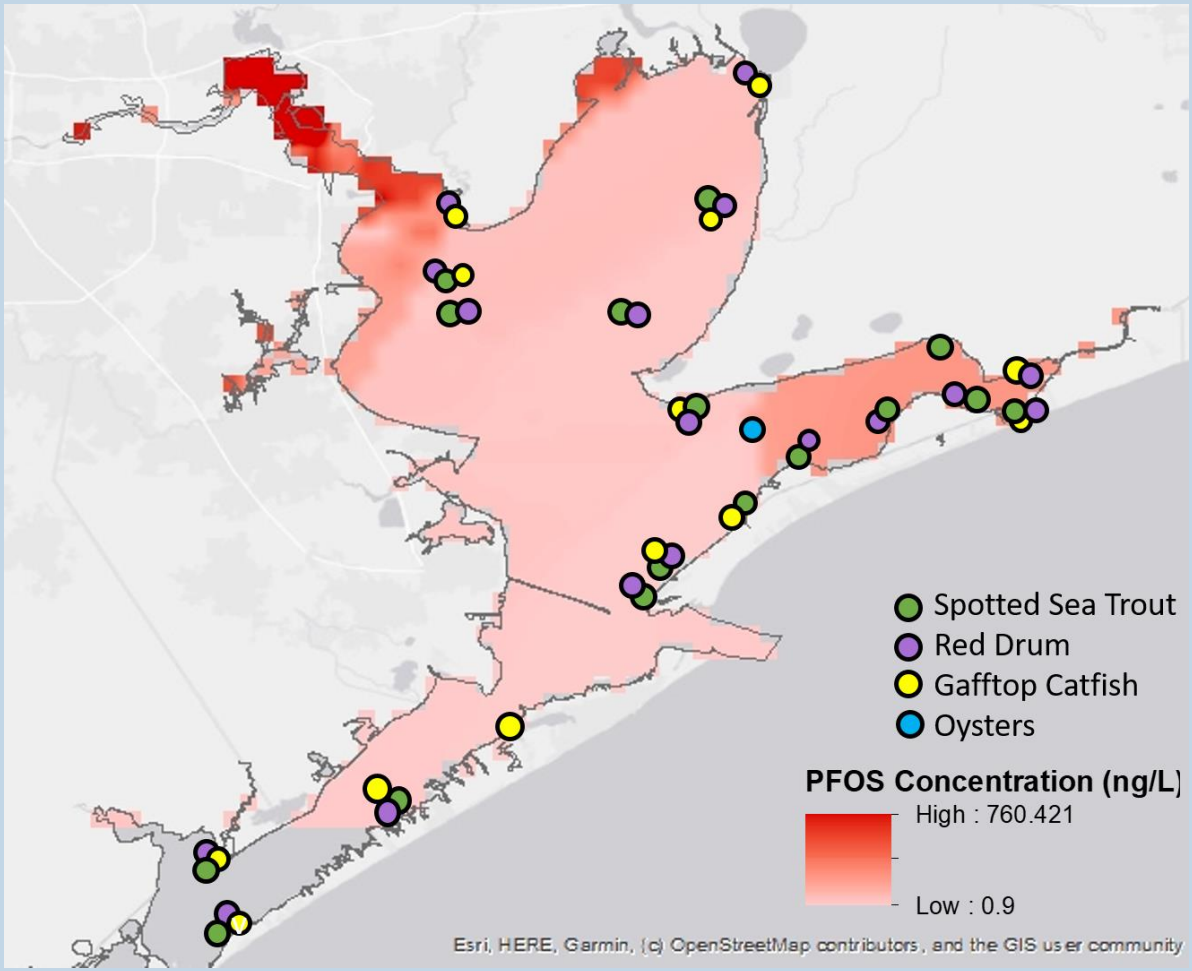
Lead: Texas A&M University at Galveston

Proposed Amount: $105,549 (Federal; $63,549 in FY 2022 and $42,000 in FY 2023)

Description: This project proposes to measure emerging per/ polyfluoroalkylated substances (PFAS) pollutant body-burdens in shellfish and fish from Galveston Bay. In addition, the likely effects of exposure to PFAS pollutants on the fish and shellfish will be assessed by measuring the activities of enzymes that are biomarkers of health or stress. These two measurements will be compared. While not implying causation, any correlation between pollutant concentrations and stress biomarker levels will indicate the association of high pollutant body-burdens and stress response.

New project; this project leverages in-kind services from TPWD (collected fish and shellfish samples), in-kind supplies from TAMUG (research equipment, laboratory space) and in-kind services from TAMUG Co-PIs.

M&R 18. THE FATE OF EMERGING PFAS POLLUTANTS IN SHELLFISH AND FISH OF GALVESTON BAY



Map courtesy of Texas A&M University at Galveston

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