

**Galveston Bay Estuary Program**

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October 11, 2021

Dear Galveston Bay Council Members:

The next quarterly meeting of the Galveston Bay Council is scheduled for:

**Wednesday, November 3, 2021**

**9:30AM – 12:30 PM**

**Meeting location:**

**Harris-Galveston Subsidence District**

1660 West Bay Area Blvd,

Friendswood, TX 77546-2640

(281) 486-1105

**Virtually – Microsoft Teams**

Information for the **November 3, 2021** meeting is attached as noted below.

1. Galveston Bay Council Agenda for November 3, 2021
2. Draft July 21, 2021 Galveston Bay Council Meeting Minutes
3. Proposed FY 2023 Work Plan Budget
4. Proposed FY 2023 Project Proposal Summaries
5. Bylaws Acknowledgement Form

Sincerely,

Lisa M. Marshall

Program Manager

Galveston Bay Estuary Program (GBEP)



A PROGRAM OF TCEQ

## **GALVESTON BAY COUNCIL QUARTERLY MEETING**

**Location:** Virtual - Microsoft Teams

**AGENDA: Wednesday, November 3, 2021**

- 9:30 A.M.:**        **Call to Order:** Introduction of Members and Delegates
- Action Item:** Approval of July 21, 2021 Meeting Minutes
- Report of the Program** (Lisa Marshall)
- Announcement:** Introduction of Vanessa Zemke, Technical and Quality Programs Coordinator
- Report of the Chair** (Glenn Clingenpeel)
- Action Item:** Nominations for Galveston Bay Council Chair and Vice Chair
- 9:50 A.M.:**        **Presentations & Discussion:** Fiscal Year 2023 GBEP Work Plan. A series of short presentations by GBEP staff covering the projects and programmatic costs being proposed
- Action Item:** Approval of each item in the proposed work plan
- 11:00 A.M.:**        **Presentation:** *New Tools to Respond to Environmental Justice in the Narragansett Bay Region* – Mike Gerel, Executive Director, Narragansett Bay Estuary Program
- 11:40 A.M.**        **Presentation:** *Target Bacteria Monitoring Project* – Todd Running and Kendall Guidroz, Houston-Galveston Area Council
- 12:15 P.M.:**        **Council Member Roundtable:** News, Announcements and Discussion
- 12:25 P.M.:**        **Public comments**
- 12:30 P.M.:**        **Adjourn**

**Upcoming Galveston Bay Council Meeting Dates:** January 19, 2022; April 20, 2022; July 20, 2022; and October 19, 2022. Meetings are held on the third Wednesday of the quarter from 9:30 A.M. – 12:30 P.M. If there are known conflicts, Council members are welcome to propose alternate dates to the Council.



## **GALVESTON BAY ESTUARY PROGRAM (GBEP)**

### **DRAFT - Galveston Bay Council (GBC) Meeting Minutes – July 21, 2021**

#### **Attendees:**

**Galveston Bay Council Chair:** Glenn Clingenpeel (Trinity River Authority)

**Galveston Bay Council Vice-Chair:** Albert Gonzales (Low Income Communities)

**Galveston Bay Estuary Program (GBEP) Staff Lead:** Lisa Marshall (GBEP)

*Due to issues with COVID-19, the July 21, 2021 quarterly GBC meeting was held through the WebEx conferencing service.*

**Members Present:** Scott Alford, Alan Black, Glenn Clingenpeel, Winfred Colbert, Vance Darr, Bryan Eastham, Albert Gonzales, Elizabeth Fazio Hale, Lori Hamilton, Cruz Hinojosa, Brian Koch, Mike Lee, Garry McMahan, Helen Paige, Nancy Parra, Ana Partin, Pamela Plotkin, Melissa Porter, Lisa Rickards, Hanadi Rifai, Caimee Schoenbaechler, Rusty Senac, Linda Shead, Ronnie Schultz, Shane Simpson, Charrish Stevens, Jeff Taebel, Sue Theiss, Matthew Tiliman, Maria Valdez, Kirk Wiles

**Members Not Present/Delegates:** Andrea Catanzaro, Jeff DellaRosa, Audrey Kuklenz, Kristen Lambrecht, Taylor Rieck, Mary Beth Stengler, Sharron Stewart, Bob Stokes\*, Tracy Woody

(\*=Member designated a proxy)

**Proxies Present (GBC member absent/designated proxy):** Bob Stokes/Genevieve Genest

**Current Vacancies:** None

**Other Attendees:** Amin Kiaghadi, Glenn Laird, Kerry Niemann, Dianna Ramirez, Todd Running, Amy Settemeyer, Cindy Wilems,

**Additional GBEP Staff Present:** Cynthia Clevenger, Wendy Forester, Lindsey Lippert, Kristen McGovern, Stevie Nash, Christian Rines

#### **Call to Order: Introduction of Members and Delegates**

Glenn Clingenpeel brought the meeting to order.

#### **Action Item: Approval of April 21, 2021 Meeting Minutes**

Mr. Clingenpeel opened the meeting with approval of the minutes. A correction from Kerry Neimann on the 1st Bullet; Date was July 28, not July 09. A motion was requested for approval. Nancy Parra moved to approve the minutes, and a second was made by Garry McMahan. Minutes were approved.

#### **Report of the Chair**

Mr. Clingenpeel stated that a Public Participation and Education Chair nominee has been nominated. Cindy Wilems of the Galveston Bay Foundation was introduced and nominated by Nancy Parra. Nancy Parra moved to approve the motion, and a second was made by Garry McMahan. Cindy Wilems was approved as the new Public Participation and Education Chair.

## **Report of the Program**

Lisa Marshall announced that GBEP has filled the Education and Outreach Coordinator position and introduced Wendy Forester as the new coordinator, as well as introducing the GBEP intern, Stevie Nash. Ms. Marshall mentioned that the GBEP office is now open four days a week with the GBEP team being split into two in-office teams and teleworking on Fridays.

Ms. Marshall mentioned that Mr. Clingenpeel and Mr. Gonzales's terms will be expiring in November, and both have agreed to be nominated again upon approval of the GBC. Nominations will be held in the October GBC meeting.

Ms. Marshall requested that the October 20th GBC meeting date be changed because she will be attending the yearly Association of National Estuary Programs tech transfer workshop. A poll will be sent out to all the GBC members after the meeting to vote on three alternative meeting dates.

**Video Presentation:** *Estuary Resilience Assessment Report Update* – Stephanie Glenn, Ph.D., Houston Advanced Research Center

The purpose of the Estuary Resilience Assessment (ERA) is to assess a series of coastal resilience criteria against the goals, objectives, and actions in Galveston Bay Plan (GBP). The ERA is a companion document to the Galveston Bay Plan, 2nd Edition and will provide resiliency adaptation recommendations, and is being developed in coordination with subject matter experts and members of the GBC and its committees through workshops and via existing meeting structures.

The GBC members were shown a video presentation of the Draft ERA by Stephanie Glenn from the Houston Advanced Research Center (HARC), similar to presentations given to all subcommittees at their June meetings. The GBC was presented the history and overview of the process and walked through the elements of the consequence/probability matrices contained in the Draft ERA. After the meeting, the Draft ERA and comment submission sheet will be sent to the GBC and the presentation will be posted on the GBEP website. HARC gave instructions to review for content and not grammatical/editorial errors as this is a draft. All comments are due to HARC by August 11, 2021.

\*No questions were submitted from the GBC at this meeting.

**Presentation:** *Characterization and Modeling of Compound Flooding: Introducing the Texas Integrated Flooding Framework (TIFF) Planning Project* – Caimee Schoenbaechler and Amin Kiaghadi, Ph.D., Texas Water Development Board

Mr. Amin Kiaghadi, a Coastal Flood Modeler with the Texas Water Development Board (TWDB), began his presentation by explaining the differences between storm surge flooding and flooding caused by rain in the Harris County region. Dr. Kiaghadi focused on the areas around the Houston Ship Channel and other waterways that lead to the bay. Dr. Kiaghadi introduced several maps and diagrams that specifically showed the flooding caused in Hurricanes Ike and Harvey to emphasize the significance of compound events. Rainfall runoff compounded with storm surge is the most common compounded event. The GBC was presented with data that demonstrated the importance of the advanced diagrams and models in being able to show all flows and aspects of compound flooding events. Predicting land inundation and water behavior prior to an event is key in damage mitigation and rapid response determination. Most models do not consider flow, and this could result in a huge margin of error. Adding in flow is important to first responders so that they can safely respond when conditions begin returning to normal. No single model can capture compound flooding. Multiple models are needed to develop a framework for prediction and planning efforts. The GBC was also introduced to the Texas Integrated Flooding Framework (TIFF) program by Caimee Schoenbaechler with the TWDB. TIFF will support comprehensive flood planning and mitigation in Hurricane Harvey impacted areas. The team will include representatives from the TWDB, United States Geological Survey, and U.S. Army Corp of Engineers-Galveston. The three-million-dollar project will include a four-component study including: data and monitoring gap analysis, data management and visualization, integrated flood modeling framework, and planning and outreach. The project aims to: focus on compound flooding; facilitate access to compound flood-related information for decision makers at all levels; utilize quality data, robust models, and sound science; develop a collaborative planning approach; build trusted relationships among agencies; enable reliable coastal compound flooding risk planning and minimize duplicative efforts. Ms. Schoenbaechler spoke about how this program will be able to advance modeling capabilities, help Texans better understand coastal flooding, and allow for our region to become more resilient to these flooding events. The GBC was presented with the TIFF goals, teams, budget, timeframe, and technical advisory teams.

\*No questions were submitted from the Council at this meeting.

**Presentation:** *Public Perception Assessment of Galveston Bay* - Savannah Sipole, Research Associate, Hobby School of Public Affairs University of Houston

Ms. Sipole presented the report of the evaluation conducted by the University of Houston's Hobby School of Public Affairs on behalf of the HARC and GBEP. The goal of the evaluation was to learn more about citizens' awareness of and engagement with Galveston Bay (GB). The evaluation asked questions about respondents' knowledge of GB, how often they visited GB, the value of GB to their communities, as well as respondents' awareness of environmental issues surrounding the area's bays, lakes, and bayous. The evaluation was fielded online September 1 and December 9, 2020. It surveyed 1,015 respondents aged 18 and above living in six counties in the Galveston Bay Watershed: Brazoria, Galveston, Harris, Liberty, Chambers, and Montgomery counties, with the majority of the respondents coming from Harris County.

**Presentation:** *An Introduction to the GBEP Implementation Tracking Viewer* - Kristen McGovern, Ph.D., GBEP

The GBEP Implementation Tracking Viewer was demonstrated, which displays GBEP projects in addition to projects led by GBEP's local, state, and regional partners. Users can access details on how individual projects implement the actions found in *The Galveston Bay Plan, 2nd Edition* and filter the projects displayed on the map based on the action(s) implemented. Users can also explore approximate project locations in relation to data sets such as legislative districts and land cover. Currently displayed in the viewer are 40 GBEP projects from 2018-2021 that implement 207 actions and 241 GBEP partner projects that implement 483 actions from *The Galveston Bay Plan, 2nd Edition*.

Presentations will be uploaded and available on the GBEP [website](#).

### **Subcommittee Updates**

*Monitoring and Research (M&R):* An overview was given on the evolution of GBEP's research and monitoring priorities between 1995, when the original GBP was released, and the present. The individual actions under the "Inform Science-Based Decision Making" priority in *The Galveston Bay Plan, 2nd Edition* were reviewed and current and recent GBEP projects implementing these actions were briefly described. Two M&R projects have recently closed. The Galveston Bay Intertidal Oyster Reef Mapping and Analysis Project (University of Houston in partnership with Black Cat GIS and the Gulf Coast Bird Observatory) created a GIS database of intertidal oyster reefs in West Bay, determined oyster health and population characteristics, identified the benthic macrofauna associated with these reefs, and observed how birds are using the reefs. The Nutrient and Sediment Monitoring of the Lower San Jacinto River project (USGS) installed an acoustic doppler velocity meter to collect velocity and backscatter data. They also collected nutrient, suspended sediment and isotope samples over a range of hydrological conditions. The data collected through this project will be used to develop an index-velocity rating to provide 5-minute streamflow data and will be included in future efforts to develop a model to estimate suspended sediment concentrations in real time. Current and upcoming M&R projects include projects monitoring contaminants such as polychlorinated biphenyls (PCBs), dioxins, heavy metals, per and polyfluoroalkyl substances (PFAS), pharmaceutical and personal care products, and microplastics, as well as the Regional Monitoring Database and a project studying the effects of erosion control structures such as breakwaters on shoreline marsh species populations. Information needs and gaps that have been identified by the subcommittee include projects addressing species of special concern and invasive species, contaminant monitoring in biota, water, and sediments, the estimation of spatial and temporal trends in point source and nonpoint source loading, larval transport within the estuary, marine and waterway debris, the impacts of coastal spine structures on the movement of species, best management practices for and potential impacts of oyster cultch plantings, and performance monitoring of low impact development and green infrastructure projects.

### **Subcommittee Priorities for Fiscal Year 2023**

- Biological stressor monitoring and research
- Physical stressor monitoring and research

- Estimation of spatial and temporal trends in point source and/or nonpoint source loading and compliance with effluent standards

*Natural Resource Uses (NRU):* The NRU Subcommittee met on June 11th to develop its priorities for the upcoming fiscal year. Members felt that the priorities selected for FY22 were still applicable to FY 23, with some additional language for clarification. An additional priority was added for project urgency. projects most aligned with these priorities, and projects that can meet multiple priorities will be prioritized during the selection process in the September meeting.

### **Subcommittee Priorities for Fiscal Year 2023**

- Habitat Acquisition
- Enhancement of Existing or Ongoing Restoration/Conservation Efforts
- Benefit to Native Fish and Wildlife, including Federal and State Listed Species, Species of Greatest Conservation Need, or Nongame Wildlife
- Brings Funding, Work Leverage, or Multiple Goal Benefits to the Subcommittee
- Project Urgency: Project must be completed in next 24 months or opportunity is lost

*Public Participation and Education (PPE):* Members were reminded about the Quality Assurance requirements from the EPA for any projects collecting data and were given a brief overview of the Quality Assurance Project Plan development. Cindy Wilems, the new PPE Chair, gave a presentation with examples of program evaluations with local project examples, and the group discussed how to incorporate evaluation into GBEP funded projects for PPE in the future. The Subcommittee then discussed the priorities for the next fiscal year.

### **Subcommittee Priorities for Fiscal Year 2023**

- Programs building capacity to target and partner with underrepresented communities that encourage diversity, equity, and addresses language barriers.
- Programs that address careers in the environmental field targeting high school-aged youth, young adults in college, and young professionals.

*Water and Sediment Quality (WSQ):* The WSQ Subcommittee last met on June 9<sup>th</sup> to develop its priorities for the upcoming fiscal year. Members felt that the selected priorities align with the goals of the group by continuing to support ongoing projects but also allow for new projects and ideas. As in years past, projects most aligned with these priorities will be prioritized during the selection process in the September meeting. This meeting will be held on September 8<sup>th</sup> from 1:30-3:30 pm. It is not known



if there will be an in-person option at this time, but more information will be made available closer to the meeting date.

### **Subcommittee Priorities for Fiscal Year 2023**

- Supporting management measures and watershed-based plans
- Soil health studies, workshops, and green infrastructure
- Targeted/Direct Monitoring

For Subcommittee meeting dates, times, and more information, visit the GBEP [website](#).

### **Council Members Roundtable: News and Announcements**

**Cruz Hinojosa (Underserved Communities)** – Galena Park will be hosting a virtual community meeting, “What’s that smell?”, in partnership with Air Alliance Houston (and others) on July 22, 2021 to discuss local air odor issues being reported. What is known about the release and follow-up actions will be discussed, as well as documenting health and other impacts.

**Caimee Schoenbaechler (Texas Water Development Board)** – The Texas Water Development Board is hosting (in-person, full capacity) the Water for Texas 2021 Conference, September 27<sup>th</sup>-29<sup>th</sup>. Registration is open.

**Genevieve Genest (Galveston Bay Foundation)** – Galveston Bay Foundation is working in coordination with HARC for the annual release of the Galveston Bay Report Card in September 2021. The two-day bike event, Bike Around the Bay will be held in October 2021. GBF currently has several large-scale land conservation efforts in progress and recently completed summer education programs. GBF’s annual gala will be held November 12<sup>th</sup>.

**Glenn Laird (Harris County Flood Control District)** – The Harris County Flood Control District is currently moving forward with several bond projects, including continuing acquisition initiatives within floodplains. HCFCD is currently working through issues with the GLO related to matching funds for bond properties.

**Linda Shead (Shead Conservation Solutions)** – The Bayou Preservation Association will be virtually holding its annual BPA Symposium, October 6-7, 2021. The focus of presentations will be on green infrastructure from local partners.

**Lisa Rickards (EPA)** – The EPA received the GBEP Work Plan for FY2022 and are working through the approval process.

**Mike Lee (United States Geological Survey)** – The USGS Texas Coastal Science Website is now up and running and encouraged the GBC to explore.

**Pamela Plotkin (Texas Sea Grant)** – Texas Sea Grant is celebrating its 50th anniversary this year. The George W. Bush Presidential Library and Museum (College Station) is hosting a 4,000-square foot exhibit on the program which will be open through July 2022.

**Rusty Senac (Nature Tourism)** – West Chambers County is continuing to see exponential commercial and industrial growth. He also commended the presenters on their presentations and tools.

**Sue Theiss (Texas Department of Transportation)** – The Texas Department of Transportation is currently working on the Pelican Island Bridge Replacement and is meeting with the GLO and USACE for any concerns. Navigation and environmental studies will occur in the future.

**Todd Running (Houston-Galveston Area Council)** – The Houston-Galveston Area Council will soon begin public engagement for the Clear Creek Watershed Protection Plan. They are currently working on the technical analysis to prepare. The Regional Conservation Framework is beginning its second phase to provide technical support to projects and build capacity within local government.

**Glenn Clingenpeel (Trinity River Authority)** – The Region 3 Flood Planning group will hold its next public meeting in person on August 19 at 10:00am in Arlington, Texas.

**Brian Koch (Texas State Soil and Water Conservation Board)** – The Texas State Soil and Water Conservation Board will release its 319 Request for Proposals in the next few weeks. Information will be provided to GBEP staff for distribution.

**Kerry Niemann (Texas Commission on Environmental Quality)** – Regarding the TMDL Program:

- Two TMDLs for indicator bacteria at Corpus Christi Beaches, Cole Park and Ropes Park are scheduled to go to Agenda for adoption on July 28th.
- One TMDL and one Implementation Plan for indicator bacteria in Arenosa Creek are scheduled to go to Agenda for adoption and approval respectively on August 11th.
- One TMDL for indicator bacteria in Hillebrandt Bayou is scheduled to go to Agenda for adoption on August 11th.
- Two TMDLs for indicator bacteria in Caney Creek are scheduled to go to Agenda for adoption on August 11th.

Regarding the NPS Program: The annual Request for Grant Applications (RFGA) closed on July 16, 2021. The RFGA provides instructions and guidance for applicants seeking funding under the CWA Section 319(h) grant program in Texas. The RFGA is a competitive process which solicits applications for grant funding.

Regarding the Integrated Report of Surface Water Quality: EPA approved the 2020 Integrated Report on May 12, 2020. The 2022 Integrated Report is under development and the public comment period is anticipated in late 2021.

Regarding Water Quality Standards: The Surface Water Quality Standards Advisory Work Group held two half-day meetings on June 29 and June 30, 2020. The agenda and handouts are available on the TCEQ website.

**Public Comment:** None

**Adjourn:** The meeting was adjourned at 12:21 p.m.

**Upcoming Galveston Bay Council Meeting Dates:** October 20, 2021 (updated meeting date pending); and January 19, 2022. Meetings are held on the third Wednesday of the quarter from 9:30 a.m.-12:30 p.m.

FY 2023 GBEP Project Budget -- Subcommittee Recommendations						
Category	Grantee	Proposal Request	FY 2023 SC Recommendation		FY 2024	NOTES:
			State Funding	Federal Funding		
<b>Baseline Costs</b>						
Salaries, Fringe, and Indirect	N/A	\$ 641,515.00	\$83,028.95*	\$ 641,514.52		OPERATING BUDGET AND STAFF SUPPORT _ NO CHANGES *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	\$ 40,158.00	\$ 32,113.00	\$ 8,045.00		
<b>Programmatic Costs</b>						
1. Annual Website Hosting & Maintenance (2 websites)	Wilkins Group	\$ 5,868.00		\$ 5,868.00		
2. Mickey Leland Environmental Internship Program	Workquest	\$ 7,500.00		\$ 7,500.00		
3. Regional Monitoring Database	HARC/GTRI	\$ 100,000.00		\$ 35,931.00	\$ 80,277.00	PRIOR APPROVAL FROM GBC _ NO CHANGES
<b>WSQ</b>						
4. Watershed Protection Plan Development for Clear Creek	H-GAC	\$ 30,000.00	\$ 30,000.00			
5. Supporting the Use of Green Infrastructure in the Lower Galveston Bay Watershed – Part Two	H-GAC	\$ 15,000.00		\$ 15,000.00		
6. Targeted Bacteria Monitoring (Phase III)	BPA thru H-GAC	\$ 40,000.00		\$ 40,000.00		
7. Houston Parks and Recreation Department Water Management Plan	HPARD	\$ 50,000.00		\$ 50,000.00		
8. <i>WSQ ALTERNATIVE: Promoting Healthy Soils and Green Infrastructure for Improved Water Quality in the Lower Galveston Bay Watershed</i>	TX A&M AgriLife	\$ 49,286.00				Selected as alternative pending reworking of SOW to better fit WSQ goals
<b>NRU</b>						
9. Conservation Assistance Program (5/5)	GBF	\$ 100,000.00		\$ 100,000.00		
10. Baytown Nature Center Oyster Reef Restoration and Shoreline Protection	GBF/Baytown	\$ 100,000.00	\$ 70,000.00			Any balance in state funds would go to this project(s)
11. Blackhawk Park Habitat Restoration Project	HPARD	\$ 83,000.00		\$ 50,000.00		
12. The Impact of Cold-Stunning Events as Physical Stressors on Sea Turtle Movement and Behavior in Galveston Bay	TAMUG	\$ 96,453.00		\$ 80,000.00	\$ 16,453.00	
13. <i>NRU Alternative: Add more funding to above projects</i>						
<b>PPE</b>						
14. Water Quality Outreach Implementation for Vulnerable Rural Populations	H-GAC	\$ 40,000.00		\$ 40,000.00		
15. Trash Bash	H-GAC	\$ 10,000.00		\$ 10,000.00		
16. Galveston Bay Report Card Vietnamese Outreach	HARC	\$ 65,000.00		\$ 65,000.00		
17. <i>PPE Alternative 1: Engaging Diverse Communities in Conservation</i>	BPA thru HCDE	\$ 58,140.00				
18. <i>PPE Alternative 2: Exploring the Education Connections at Exploration Green Year 1</i>	TX A&M AgriLife	\$ 65,000.00				
<b>M&amp;R</b>						
19. Long-term Monitoring of Living Shorelines for Restoring Shoreline Stability and Habitat Efficacy	Lee College	\$ 127,791.00		\$ 127,791.00		can be split 70/30 into two years
20. FY 2022 Project: Effects of Erosion Control Structures on Shoreline Marsh Species Populations	TAMUG	\$ 31,140.00		\$ 31,140.00		PRIOR APPROVAL FROM GBC _ NO CHANGES
21. FY 2022 Project: The Fate of Emerging PFAS Pollutants in Shellfish and Fish of Galveston Bay	TAMUG	\$ 37,093.00		\$ 37,093.00		PRIOR APPROVAL FROM GBC _ NO CHANGES
22. <i>M&amp;R Alternative: Monitoring Ecosystem Indicators for Science-Based Restoration and Enhancement of Pelagic Habitats of Galveston Bay</i>	TAMUG	\$ 130,663.00				can be split 50/50 into two years
<b>FY 2023 Funding Requests</b>		\$ 1,923,607.00	\$ 132,113.00	\$ 1,344,882.52	\$ 96,730.00	
<b>FY 2023 Anticipated Funding Allocation (Federal and State)</b>		\$ 1,632,112.52	\$ 232,113.00	\$ 1,399,999.52		
<b>Difference</b>		\$ 155,117.00	\$ 100,000.00	\$ 55,117.00		
<b>EPA Section 320 Funds:</b>		\$ 699,999.76				
<b>TCEQ State Funds:</b>				\$ 932,112.76		

**FY 2023 GBEP Proposed Budget (Budget A: \$700,000 EPA) -- Staff Recommendation**

Category	Grantee	Proposal Request	FY 2023 Staff Recommendation		FY 2024	NOTES:
			State Funding	Federal Funding		
<b>Baseline Costs</b>						
Salaries, Fringe, and Indirect	N/A	\$ 641,515.00	\$83,028.95*	\$ 641,514.52		OPERATING BUDGET AND STAFF SUPPORT _ NO CHANGES *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	\$ 40,158.00	\$ 32,113.00	\$ 8,045.00		
<b>Programmatic Costs</b>						
1. Annual Website Hosting & Maintenance (2 websites)	Wilkins Group	\$ 5,868.00		\$ 5,868.00		
2. Mickey Leland Environmental Internship Program	Workquest	\$ 7,500.00		\$ 7,500.00		
3. Regional Monitoring Database	HARC/GTRI	\$ 100,000.00		\$ 35,931.00	\$ 80,277.00	PRIOR APPROVAL FROM GBC _ NO CHANGES
<b>WSQ</b>						
4. Watershed Protection Plan Development for Clear Creek	H-GAC	\$ 30,000.00	\$ 30,000.00			
5. Supporting the Use of Green Infrastructure in the Lower Galveston Bay Watershed – Part Two	H-GAC	\$ 15,000.00	\$ 15,000.00			
6. Targeted Bacteria Monitoring (Phase III)	BPA thru H-GAC	\$ 40,000.00		\$ 40,000.00		
7. Houston Parks and Recreation Department Water Management Plan	HPARD	\$ 50,000.00		\$ 50,000.00		
8. WSQ ALTERNATIVE: Promoting Healthy Soils and Green Infrastructure for Improved Water Quality in the Lower Galveston Bay Watershed	TX A&M AgriLife	\$ 92,309.00				Selected as alternative pending reworking of SOW to better fit WSQ goals
<b>NRU</b>						
9. Conservation Assistance Program (5/5)	GBF	\$ 100,000.00		\$ 100,000.00		
10. Baytown Nature Center Oyster Reef Restoration and Shoreline Protection	GBF/Baytown	\$ 100,000.00	\$ 70,000.00			Any balance in state funds would go to this project(s)
11. Blackhawk Park Habitat Restoration Project	HPARD	\$ 83,000.00	\$ 50,000.00			
12. The Impact of Cold-Stunning Events as Physical Stressors on Sea Turtle Movement and Behavior in Galveston Bay	TAMUG	\$ 96,453.00		\$ 80,000.00	\$ 16,453.00	can be split into two years
13. NRU Alternative: Add more funding to above projects						
<b>PPE</b>						
14. Water Quality Outreach Implementation for Vulnerable Rural Populations	H-GAC	\$ 40,000.00		\$ 40,000.00		
15. Trash Bash	H-GAC	\$ 10,000.00		\$ 10,000.00		
16. Galveston Bay Report Card Vietnamese Outreach	HARC	\$ 65,000.00		\$ 65,000.00		
17. PPE Alternative 1: Engaging Diverse Communities in Conservation	BPA thru HCDE	\$ 58,140.00		\$ 58,140.00		
18. PPE Alternative 2: Exploring the Education Connections at Exploration Green Year 1	TX A&M AgriLife	\$ 65,000.00				
<b>M&amp;R</b>						
19. Long-term Monitoring of Living Shorelines for Restoring Shoreline Stability and Habitat Efficacy	Lee College	\$ 127,791.00		\$ 127,791.00		can be split 70/30 into two years
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22. M&R Alternative: Monitoring Ecosystem Indicators for Science-Based Restoration and Enhancement of Pelagic Habitats of Galveston Bay	TAMUG	\$ 130,663.00		\$ 61,977.00	\$ 68,686.00	can be split 50/50 into two years
<b>FY 2023 Funding Requests</b>		\$ 1,835,967.00	\$ 197,113.00	\$ 1,399,999.52	\$ 96,730.00	
<b>FY 2023 Anticipated Funding Allocation</b>		\$ 1,632,112.52	\$ 232,113.00	\$ 1,399,999.52		
<b>Difference</b>		\$ 35,000.00	\$ 35,000.00	\$ 0.00		
<b>EPA Section 320 Funds:</b>		\$ 699,999.76				
<b>TCEQ State Funds:</b>				\$ 932,112.76		

**FY 2023 GBEP Proposed Budget (Budget A: \$750,000 EPA) -- Staff Recommendation**

Category	Grantee	Proposal Request	FY 2023 Staff Recommendation		FY 2024	NOTES:
			State Funding	Federal Funding		
<b>Baseline Costs</b>						
Salaries, Fringe, and Indirect	N/A	\$ 641,515.00	\$83,028.95*	\$ 641,514.52		OPERATING BUDGET AND STAFF SUPPORT _ NO CHANGES *State funding for salary is from a different department (index) outside of GBEP and is not calculated as part of the GBEP budget.
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2. Mickey Leland Environmental Internship Program	Workquest	\$ 7,500.00		\$ 7,500.00		
3. Regional Monitoring Database	HARC/GTRI	\$ 100,000.00		\$ 35,931.00	\$ 80,277.00	PRIOR APPROVAL FROM GBC _ NO CHANGES
<b>WSQ</b>						
4. Watershed Protection Plan Development for Clear Creek	H-GAC	\$ 30,000.00	\$ 30,000.00			
5. Supporting the Use of Green Infrastructure in the Lower Galveston Bay Watershed – Part Two	H-GAC	\$ 15,000.00	\$ 15,000.00			
6. Targeted Bacteria Monitoring (Phase III)	BPA thru H-GAC	\$ 40,000.00		\$ 40,000.00		
7. Houston Parks and Recreation Department Water Management Plan	HPARD	\$ 50,000.00		\$ 50,000.00		
8. WSQ ALTERNATIVE: Promoting Healthy Soils and Green Infrastructure for Improved Water Quality in the Lower Galveston Bay Watershed	TX A&M AgriLife	\$ 92,309.00				Selected as alternative pending reworking of SOW to better fit WSQ goals
<b>NRU</b>						
9. Conservation Assistance Program (5/5)	GBF	\$ 100,000.00		\$ 100,000.00		
10. Baytown Nature Center Oyster Reef Restoration and Shoreline Protection	GBF/Baytown	\$ 100,000.00	\$ 70,000.00			Any balance in state funds would go to this project(s)
11. Blackhawk Park Habitat Restoration Project	HPARD	\$ 83,000.00		\$ 50,000.00		
12. The Impact of Cold-Stunning Events as Physical Stressors on Sea Turtle Movement and Behavior in Galveston Bay	TAMUG	\$ 96,453.00		\$ 96,453.00		can be split into two years
13. NRU Alternative: Add more funding to above projects						
<b>PPE</b>						
14. Water Quality Outreach Implementation for Vulnerable Rural Populations	H-GAC	\$ 40,000.00		\$ 40,000.00		
15. Trash Bash	H-GAC	\$ 10,000.00		\$ 10,000.00		
16. Galveston Bay Report Card Vietnamese Outreach	HARC	\$ 65,000.00		\$ 65,000.00		
17. PPE Alternative 1: Engaging Diverse Communities in Conservation	BPA thru HCDE	\$ 58,140.00		\$ 58,140.00		
18. PPE Alternative 2: Exploring the Education Connections at Exploration Green Year 1	TX A&M AgriLife	\$ 65,000.00				
<b>M&amp;R</b>						
19. Long-term Monitoring of Living Shorelines for Restoring Shoreline Stability and Habitat Efficacy	Lee College	\$ 127,791.00		\$ 127,791.00		can be split 70/30 into two years
20. FY 2022 Project: Effects of Erosion Control Structures on Shoreline Marsh Species Populations	TAMUG	\$ 31,140.00		\$ 31,140.00		PRIOR APPROVAL FROM GBC _ NO CHANGES
21. FY 2022 Project: The Fate of Emerging PFAS Pollutants in Shellfish and Fish of Galveston Bay	TAMUG	\$ 37,093.00		\$ 37,093.00		PRIOR APPROVAL FROM GBC _ NO CHANGES
22. M&R Alternative: Monitoring Ecosystem Indicators for Science-Based Restoration and Enhancement of Pelagic Habitats of Galveston Bay	TAMUG	\$ 130,663.00		\$ 95,524.00	\$ 35,139.00	can be split 50/50 into two years
<b>FY 2023 Funding Requests</b>		\$ 1,835,967.00	\$ 147,113.00	\$ 1,499,999.52	\$ 80,277.00	
<b>FY 2023 Anticipated Funding Allocation</b>		\$ 1,649,999.76	\$ 150,000.24	\$ 1,499,999.52		
<b>Difference</b>		\$ 2,887.24	\$ 2,887.24	\$ 0.00		
<b>EPA Section 320 Funds:</b>		\$ 749,999.76				
<b>TCEQ State Funds:</b>				\$ 900,000.00		

**GALVESTON BAY ESTUARY PROGRAM (GBEP) PROJECT PROPOSALS  
FISCAL YEAR 2023 WORK PLAN**

<b><u>GBEP Programmatic Proposals</u></b>	
1.	GBEP Website Hosting and Maintenance
2.	Mickey Leland Environmental Internship Program
3.	Regional Monitoring Database
<b><u>Water/Sediment Quality (WSQ) Subcommittee Proposals</u></b>	
4.	Watershed Protection Plan Development for Clear Creek
5.	Supporting the Use of Green Infrastructure in the Lower Galveston Bay Watershed - Part Two
6.	Targeted Bacteria Monitoring (Phase III)
7.	Houston Parks and Recreation Department Water Management Plan
8.	<i>Alternative: Promoting Healthy Soils and Green Infrastructure for Improved Water Quality in the Lower Galveston Bay Watershed</i>
<b><u>Natural Resources Uses (NRU) Subcommittee Proposals</u></b>	
9.	Conservation Assistance Program
10.	Baytown Nature Center Oyster Reef Restoration and Shoreline Protection
11.	Blackhawk Park Habitat Restoration Project
12.	The Impact of Cold-Stunning Events as Physical Stressors on Sea Turtle Movement and Behavior in Galveston Bay
13.	<i>Alternative: Add more funding to Recommended projects</i>
<b><u>Public Participation and Education (PPE) Subcommittee Proposals</u></b>	
14.	Water Quality Outreach Implementation for Vulnerable Rural Populations
15.	Trash Bash
16.	Galveston Bay Report Card Vietnamese Outreach
17.	<i>Alternative 1: Engaging Diverse Communities in Conservation</i>
18.	<i>Alternative 2: Exploring the Education Connections at Exploration Green Year 1</i>
<b><u>Monitoring and Research (M&amp;R) Subcommittee Proposals</u></b>	
19.	Long-term Monitoring of Living Shorelines for Restoring Shoreline Stability and Habitat Efficacy
20.	Effects of Erosion Control Structures on Shoreline Marsh Species Populations
21.	The Fate of Emerging PFAS Pollutants in Shellfish and Fish of Galveston
22.	<i>Alternative: Monitoring Ecosystem Indicators for Science-Based Restoration and Enhancement of Pelagic Habitats of Galveston Bay</i>

## **GBEP Programmatic Summaries**

### **1. GBEP Website Hosting and Maintenance**

Project Lead: Wilkins Group

Proposed Funding: \$5,868 (Federal)

Project Description: This project provides support for two websites maintained by the GBEP:

- [www.gbep.texas.gov](http://www.gbep.texas.gov): Tasks for the GBEP website include maintenance and updates as needed throughout the year, hosting, and domain name registration.
- [www.backthebay.org](http://www.backthebay.org): Tasks for the Back the Bay website include maintenance and updates as needed throughout the year, hosting, and domain name registration.

### **2. Mickey Leland Environmental Internship Program**

Project Lead: TBD; TCEQ selected staffing management firm.

Proposed Funding: \$7,500 (Federal)

Project Description: The GBEP Mickey Leland Intern for summer 2023 will intern for up to 12 weeks and work directly with the GBEP Program Manager to complete a project that implements the Galveston Bay Plan. The intern will learn about the Clean Water Act Section 320 National Estuary Program, and the local, stakeholder-based program designed to implement a comprehensive conservation and management plan and its' strategic action plan. The GBEP program areas, as identified in The Galveston Bay Plan are WSQ, M&R, PPE, and NRU. In addition to interacting with the entities and groups that represent the GBEP's stakeholders, the intern will have the opportunity to participate in summer field site visits, attend GBEP staff meetings, Galveston Bay Council meetings, and subcommittee meetings dependent upon timing of the internship. It is anticipated that 90% of the internship will be desk work, with approximately 10% field opportunities, such as boat tours or marsh planting. The project will result in a short white paper written by the summer intern and at least one power point presentation.

Notes: Annual Project; funding provides approximately 12 weeks of full-time funding for one university level junior, senior or graduate summer intern.

### **3. Regional Monitoring Database**

Project Lead: Houston Advanced Research Center

Proposed Funding: \$35,931 (Federal); \$130,001 (Federal) funded in FY 2021 and \$104,018 (Federal) funded in FY 2022 -- \$80,277 (Federal) is set aside for funding in FY 2024

Project 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. Years 1-3 (FY2021-2023) of funding were previously approved by B&P and the GBC; FY 2024 funding (\$80,277) is also being sought for approval in FY 2023.

## WSQ Project Summaries

### **4. Watershed Protection Plan Development for Clear Creek**

Project Lead: Houston-Galveston Area Council

Proposed Funding: \$30,000 (State)

Project Description: H-GAC is currently working with TCEQ on a Clean Water Act Section 319 watershed protection plan (WPP) development project for Clear Creek, initiated in 2021 and continuing through FY 2024. The effort will produce an EPA 9-Element watershed-based plan and conduct NPS education and outreach elements during the project. Preliminary work was completed as part of a TMDL project, during which strong local support for full development specific to this watershed was expressed. Water quality issues impacting recreation, local economies, public health, and the environment persist in this subsidiary watershed of the greater Galveston Bay Watershed.

Funding under this project would be used to support the existing federal funding and local match for the project, as supplemental local match. The intended use of the funds will be to cover staff time and related allocation expenses (fringe, indirect, travel, meeting, and office supplies, etc.) for:

- Stakeholder facilitation and WPP development (other than modeling and data assessment tasks requiring a QAPP)
- Outreach and education in the watershed, including NPS-oriented H-GAC workshops, outreach presence at local events, and support and coordination with partner agencies on joint outreach events.
- Supplemental outreach efforts in coordination with GBEP or GBEP partners to forward Galveston Bay Plan goals in this watershed.

Notes: New Project. Funding requested will serve as match to a larger TCEQ Section 319 Grant (\$150,468). An additional \$100,312 will be leveraged through external match.

### **5. Supporting the Use of Green Infrastructure in the Lower Galveston Bay Watershed – Part Two**

Project Lead: Houston-Galveston Area Council

Proposed Funding: \$15,000 (Federal)

Project Description: Encouraging the use of nonpoint source best management practices (BMPs), often called low impact development (LID) and/or green infrastructure practices, is important as the region continues to see significant growth. These practices can serve to accommodate growth in both new development and in infill areas that includes redevelopment, e.g., brownfields. This proposal is for the second part of the project selected for FY 2022: Supporting the Use of Green



Infrastructure in the Lower Galveston Bay Watershed. H-GAC received \$45,000 of the \$60,000 requested to fully fund the project. The remaining \$15,000, if awarded, will be used to conduct the outreach portion of the original project proposed last year. Project results, from part one, will be shared with local governments, consultants, resource agencies, NGOs, and other target audiences through:

- a minimum of one nonpoint source workshop;
- one-on-one meetings; and
- an update to H-GAC's current website - Low Impact Development | Houston-Galveston Area Council.

These will not be the only preferred outreach options. As part of part one, H-GAC will convene a project team. One of the team's responsibilities will be development of a project distribution and outreach plan with the project's final report. H-GAC will follow that plan to engage stakeholders within the H-GAC 13-county planning area. As with part one, H-GAC will support part two with \$10,000 in in-kind salary.

Notes: Existing Project; \$45,000 was funded in FY 2022.

## **6. Targeted Bacteria Monitoring (Phase III)**

Project Lead: Bayou Preservation Association thru Houston-Galveston Area Council  
Proposed Funding: \$40,000 (Federal)

**Project Description:** In Phases I and II of the Targeted Bacteria Monitoring project, the Houston-Galveston Area Council (H-GAC), in partnership with Bayou Preservation Association and using information from the Bacteria Implementation Group (BIG), has worked to reduce bacteria concentrations in some of the most impaired streams in the BIG project area through: (1) conducting targeted bacteria monitoring; (2) reporting of identified potential sources to local jurisdictions for corrective action; and (3) engaging the surrounding communities with nonpoint source outreach, best management practice information, and training on source identification.

This project will build on the work of the two previously funded phases of the Targeted Monitoring Project with the continued goal to significantly reduce bacteria levels within the Top10 most impaired stream segments in the BIG I-Plan area. This phase of the project will accomplish this by: (1) continuing to work with local jurisdictions to reduce or eliminate identified bacteria sources; (2) conducting follow up monitoring on any corrective actions stemming from previous monitoring; and (3) working with local communities for focused outreach in areas with high occurrences of SSOs or where jurisdictions determined high bacteria levels originated from sources other than failing infrastructure.

Notes: Existing Project; \$40,000 was funded in both FY 2020 and FY 2021 for a total of \$80,000. Phase I and II have engaged local jurisdictions in the project and beginning Phase III in FY2023 will allow time for jurisdictions to address identified problems and for follow up monitoring and community engagement to take place, without too large a break in between the efforts in the first two phases and this new Phase III monitoring.

## **7. Houston Parks and Recreation Department Water Management Plan**

Project Lead: Houston Parks and Recreation Department

Proposed Funding: \$50,000 (Federal)

Project Description: The City of Houston Parks and Recreation Department (HPARD) owns and/or manages 380 parks throughout Houston with a footprint of over 25,000 acres. The parks fall within numerous watersheds and over 70 are immediately adjacent to a major bayou or tributary that flows into Galveston Bay. HPARD's Natural Resources Management Program is tasked with delivering solutions to water quality and quantity problems for the department in the form of nature-based and green infrastructure projects.

To support increasing numbers of green stormwater infrastructure features throughout Houston's park system, HPARD has identified the need for a Water Management Plan to establish overarching policy stances for impacts to water quality and quantity throughout the park system and rights-of-way in Houston.

The planning document would help to establish the following:

- Nature-based infrastructure goals for preservation, enhancement, and acquisition of natural habitat throughout the City of Houston
- Strategies targeting management methods for invasive species adjacent to waterways
- An analysis of green stormwater infrastructure features that could be associated with future project developments to improve water quality of impervious features added to park projects
- Recommendations for achieving consistency in irrigation practices to reduce water consumption associated with landscaping and tree planting projects throughout the city
- Detailed analysis of fertilizer and pesticide use within the department to reduce sediment and nutrient loads into Houston's waterways
- Analyze Best Management Practices throughout the department to create specific standard operating procedures to be followed by departmental staff
- Recommendations for actions to reduce water loss and water waste
- Drought contingency planning including prescribed burns and wildfire planning

Notes: New Project; the project will leverage in-kind through the HPARD Planning Committee made up of City of Houston staff and partners.

## **8. *ALTERNATIVE: Promoting Healthy Soils and Green Infrastructure for Improved Water Quality in the Lower Galveston Bay Watershed***

Project Lead: Texas A&M AgriLife (Texas Community Watershed Partners)

Proposed Funding: *Up to \$92,309 (Federal)*

Project Description: To support green infrastructure and healthy soil practices in the Galveston Bay watershed, the Texas Community Watershed Partners proposes soil health workshops for both the east and west sides of Galveston Bay and continuity of effort to plan and coordinate planting the final phases of the Exploration Green Stormwater Wetland demonstration project.

TCWP proposes up to 4 half-day workshops on soil health with guidance from existing soil health courses materials and guidance from advisory group professionals. Up to 2 workshops held on the east side of Galveston Bay and up to 2 workshops on the west side of Galveston Bay. Workshops will focus on improving soil health, the effects on water quality and infiltration to reduce overland flow. We will consider inviting USDA-NRCS soil health demonstration trailer in place of field trips.

TCWP proposes the design and implementation of the stormwater wetland planting in phases 3b and 5 of Exploration Green. With the assistance of Texas Master Naturalist mentors, we propose growing our team of volunteers to collect and propagate plants in the wetland nursery at its current and future locations to complete the planting of all phases of Exploration Green Stormwater Wetlands. TCWP would coordinate 4-5 large group planting events supplemented by weekly wetland workdays. We would monitor the current phases' vegetation establishment through photo point plots in phases 2, 3a, and 4.

Notes: *Alternative Project. Should funding become available, GBEP will work with the grantee to develop a scope that implements Plan objectives for the available amount of funding.*

## **NRU Project Summaries:**

### **9. Conservation Assistance Program**

Project Lead: Galveston Bay Foundation  
Proposed Funding: \$100,000 (Federal)

Project 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 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 five.

### **10. Baytown Nature Center Oyster Reef Restoration and Shoreline Protection**

Project Lead: Galveston Bay Foundation thru the City of Baytown  
Proposed Funding: \$70,000 (State); up to \$100,000

Project Description: The City of Baytown converted the subsided Brownwood subdivision into what is now a valuable public resource for education and recreation, the Baytown Nature Center (BNC). This unique peninsula has been restored to hardwood uplands, intertidal marsh, and freshwater wetlands. Based on an analysis of

aerial photography and multiple site assessments, it appears the 300-foot length of shoreline at the proposed project site has lost approximately 40 feet of land over the last 20 to 30 years. To address these issues, the proposed project will involve the construction of linear oyster reefs parallel to the shoreline to provide wave attenuation as well as oyster habitat. Upon completion of construction, smooth cordgrass will be planted shoreward of the oyster reefs to restore estuarine marsh and establish a living shoreline.

In 2019, the NRDA Trustees executed an agreement with the City of Baytown (with GBF as a subrecipient) to initiate this project with the goal of restoring 0.10-acre of oyster habitat and 0.30-acre of intertidal marsh. While the \$80,000.00 provided by NRDA will support a portion of the construction, additional funds are needed to support professional engineering and design services as well as contractor-based construction to reach the goal of 0.10-acre of oyster reef and more substantial shoreline protection.

Notes: New Project; the project will leverage up to \$180,000 from the Natural Resource Damage Assessment (NRDA) and Coastal Erosion Planning, Protection and Restoration Act (CEPRA) programs. The project is scalable up to \$100,000 should additional state funding become available. For the \$70,000, full engineering and design will be completed. Additional funding will be allocated to construction.

### **11. Blackhawk Park Habitat Restoration Project**

Project Lead: Houston Parks and Recreation Department

Proposed Funding: \$50,000 (State or Federal); up to \$83,000

Project Description: The Blackhawk Park Habitat Restoration Project will restore over 30 acres of coastal prairie and riparian forest in a City of Houston Park. Historic aerial imagery dating back to 1944 shows Blackhawk Park and the surrounding areas contained coastal prairie pothole habitat, a critically endangered ecosystem. Residential development now surrounds the park, and the historic prairie ecosystem has been converted to non-native forest dominated by Chinese Tallow (*Triadica sebifera*) and Privet species (*Ligustrum sp.*). The eastern edge of the park borders a drainage feature that flows downstream into Clear Creek.

Notes: New Project; the project will leverage \$21,000 from HPARD staff project coordination, staff labor, volunteer hours, and approximately 3,000 HPARD Native Plants. The project is scalable up to \$83,000 should additional funding become available. For the \$50,000, HPARD will hire a hydro ax contractor to remove non-native trees throughout the project area. Additional funding will allow the prairie site to be seeded with a coastal prairie mix and staff and volunteers will install one-gallon pots of a diverse mix of native grasses and forbs into the prairie at two community planting events.

## **12. The Impact of Cold-Stunning Events as Physical Stressors on Sea Turtle Movement and Behavior in Galveston Bay**

Project Lead: Texas A&M University at Galveston

Proposed Funding: \$80,000 (Federal); \$16,453 (Federal) is set aside for funding in FY 2024

Project Description: The Houston-Galveston region experienced a historic winter storm that resulted in a “cold-stunning” event that resulted in a widespread kill of numerous marine species. In total, approximately 13,500 sea turtles in Texas were impacted by the sudden and extended drop in air and water temperatures from winter storm Uri. Such cold events are common physical and biological stressor in the Galveston Bay Estuary System (GBES) that occurs almost every year. These events appear to be increasing in intensity, duration, and frequency, as demonstrated this year.

To further explore how sea turtles respond to these annual stressors, we plan to (1) deploy satellite tags that collect geolocation but also temperature and depth sensors onto sea turtles of varying life history stages in GBES. Our goal is to characterize the physical and biological stressors related to cold-stun events that drive sea turtle movement patterns using Generalized Additive Mixing Models (GAMMs). This proposal requests funds for satellite tags, satellite data acquisition (Argos), graduate student support and vessel costs to deploy these tags.

The objectives are:

- to characterize the physical stressors related to cold-stunning events that drive sea turtle movement using Generalized Additive Mixing Models (GAMMs) and Bayesian Switching State Space Modeling (SSSM), and
- synergistically continue a newly established long-term mark and recapture program that provides data on population demographics and sea turtle health.

Notes: New Project; FY 2024 funding (\$16,453) is also being sought for approval in FY 2023.

## **13. ALTERNATIVE: Add Funding to Recommended Projects**

Project Lead: Houston Parks and Recreation Department or Galveston Bay Foundation

Proposed Funding: *Up to \$63,000 requested*

Project Description: Should additional funding become available, the NRU subcommittee would like to supplement projects to Blackhawk Park and Baytown Nature Center reduced during recommendation development. Additional funding for Blackhawk Park will allow the prairie site to be seeded with a coastal prairie mix and staff and volunteers will install one-gallon pots of a diverse mix of native grasses and forbs into the prairie at two community planting events. Additional funding for Baytown Nature Center will be allocated to construction.

Notes: *Alternative should additional funding become available*

## PPE Project Summaries

### 14. Water Quality Outreach Implementation for Vulnerable Rural Populations

Project Lead: Houston-Galveston Area Council

Proposed Funding: \$40,000 (Federal)

**Project Description:** The Coastal Communities water quality outreach project was designed to support implementation of management measures and outreach requirements in watershed-based plans. This proposed project aims to identify more underserved populations and test different engagement strategies to determine what barriers prevented engagement. Resources would then be adapted or developed to specifically address those barriers, whether they are language limitations, lack of reliable internet or transportation, etc. Engagement with these populations will provide information on all focus topics of the Coastal Communities project. However, residents will be targeted primarily based on low-income levels and high risk of On-Site Sewage Facilities in need of repair or replacement, which can have detrimental effects on resident and public health, and local waterways. Partnerships with local organizations and institutions will assist with identifying audiences and developing or testing engagement strategies. In this proposed project, H-GAC will expand the Coastal Communities support of watershed-based plan implementation by:

- Determining the vulnerable populations located in areas of failing or insufficient wastewater treatment utilizing the Regional Equity Tool and water quality and OSSF regional data.
- Identifying community groups and non-profits to partner within these vulnerable areas
- Holding training and informational workshops with community partners to get them the information and educational materials needed to assist the vulnerable populations
- Working with the local governments and community partners to help identify barriers to engagement with these vulnerable populations
- Continuing to update the Coastal Communities toolkit and resources to address the identified barriers
- Holding Homeowner OSSF Education workshops adapted to fit the needs identified in the vulnerable communities
- Working with community leaders in identified areas to determine their ability to request and access grant funds to help address wastewater needs on a community level
- Develop and hold workshops with leaders and staff of identified communities to help them understand how to navigate the grant application process with the Texas Water Development Board, USDA, and other grantor agencies.

Notes: New Project; project activities will be supplemented with H-GAC watershed-based plan, TMDL, Clean Rivers Program, and Water Quality Management Plan funding and resources as appropriate.

## **15. Trash Bash**

Project Lead: Houston-Galveston Area Council

Proposed Funding: \$10,000 (Federal)

Project Description: The River, Lakes, Bays 'N Bayous Trash Bash® - the largest, single day volunteer-based waterway cleanup - is set to celebrate its 29th annual event in 2023. This proposal seeks support for coordination of the event to allow for continuation of its award-winning cleanup efforts in the lower Galveston Bay watershed and its efforts to reach more audiences through the event and its educational materials. For Trash Bash® to grow and prosper, consistent and responsive coordination and organizational support is vital. The Texas Conservation Fund manages Trash Bash. Gulf Coast Authority and Houston-Galveston Area Council staff provide the “backbone” of leadership, financial management, and regional coordination for Trash Bash. Supporting the personnel costs of the H-GAC regional coordinator for Trash Bash® ensures continuity throughout the process and consistency in planning and execution from year to year. Trash Bash planning is a year-round process and requires ongoing planning, maintenance, and attention every month.

Notes: New project; GBEP has fiscally supported Trash Bash for over a decade.

## **16. Galveston Bay Report Card Vietnamese Outreach**

Project Lead: Houston Advanced Research Center

Proposed Funding: \$65,000 (Federal)

Project Description: This project will strengthen and advance the Galveston Bay Report Card (GBRC) - a community-driven, scientific analysis of the health of Galveston Bay. Twenty-two indicators across six categories (habitat, water quality, human health risk, pollution events and sources, wildlife, and coastal change) are graded to identify areas for improvement within the bay's ecosystem. The GBRC provides learning opportunities for the general public and scientific guidance on the direction of environmental work in the area. These outreach efforts connect approximately 5,700 people to the GBRC each year and the program serves as the model for watershed report cards. In this project, outreach and engagement activities will be targeted to the Vietnamese community surrounding Galveston Bay - known users of the Bay that are historically underserved.

This project will use the GBRC to engage underserved and underrepresented communities to ensure a healthy bay for generations to come by translating the GBRC into Vietnamese and engaging with the local Southeast Asian community. Community members will become aware of the proximity and importance of the bay and implement scientifically backed behavior changes, resulting in long-term improvements in the health of the bay and a larger number and greater diversity of environmental advocates.

Notes: New Project

### **17. ALTERNATIVE 1: Engaging Diverse Communities in Conservation**

Project Lead: Bayou Preservation Association thru the Harris County Department of Education

Proposed Funding: *Up to \$58,140 (Federal)*

Project Description: Bayou Land Conservancy, Armand Bayou Nature Center, Harris County Department of Education, and Katy Prairie Conservancy, under the coordination of Bayou Preservation Association, have formed a cooperative partnership to provide more effective stewardship and volunteer activities for underrepresented communities across the Houston region to Galveston Bay. The partnership will create equitable opportunities for deeper and broader interorganizational collaboration with nonprofits and community groups led by black, indigenous, and other people of color (BIPOC) communities, as well as educational institutions and agencies that serve historically underrepresented communities. The partnership will provide for the extension of community members' roles from passive participant to active facilitator through an interpretive guide training program and recruitment strategy.

Notes: *Alternative Project. Should funding become available, GBEP will work with the grantee to develop a scope that implements Plan objectives for the available amount of funding.*

### **18. ALTERNATIVE 2: Exploring the Education Connections at Exploration Green Year 1**

Project Lead: Texas A&M AgriLife (Texas Community Watershed Partners)

Proposed Funding: *Up to \$65,000 (Federal)*

Project Description: TCWP is proposing to promote K-12 environmental education in the areas of green infrastructure based around the stormwater wetland best management practices at Exploration Green. With support from Exploration Green Conservancy and Clear Lake City Water Authority, TCWP will coordinate with our local scout councils to host 3 Scouting the Green STEM merit badge events. The events will work with existing scout curricula and volunteer merit badge counselors at the Exploration Green Conservancy Park and wetland nursery. Additionally, we would like to host a day camp style event for 3-4 days during Spring Break or Summer Break.

TCWP is also requesting support for our High School Career Development Internship Program in Green Infrastructure. We will select 2 high school students per semester for 12-week internship program. During the program they will learn about wetland plant propagation from collection and seed, planting techniques, project design, communication skills, photography skills, nursery maintenance and management. During the program students will design and carry out a small-scale green infrastructure project and present the project outcomes to a mentor board at a capstone presentation event. With successful completion of the 12-week program student will earn a \$500 scholarship award to further their education in green infrastructure.

Notes: *Alternative Project. Should funding become available, GBEP will work with the grantee to develop a scope that implements Plan objectives for the available amount of funding.*



## M&R Project Summaries

### **19. Long-term Monitoring of Living Shorelines for Restoring Shoreline Stability and Habitat Efficacy**

Project Lead: Lee College

Proposed Funding: \$127,191 (Federal)

Project Description: Lee College (LC), partnering with the University of Houston-Clear Lake (UHCL) and the Galveston Bay Foundation (GBF), proposes to collect comprehensive data at Living Shorelines sites throughout the Galveston Bay system to attempt to assess the resiliency and functional aspects (biotic and abiotic) of these small-scale restoration projects on private properties over an extended timeframe. Data would be compared across time to assess observable change and trends across metrics. Data would be distributed for the purpose of informing science-based decision making and adaptive management approaches for living shorelines within Galveston Bay and similar locations.

The project would be carried out by students at Lee College and UHCL, working alongside professionals in the respective fields above from LC, UHCL, GBF, and others. This type of long-term data is notably lacking for Living Shorelines sites in Texas and elsewhere, increasing the importance and urgency of acquiring this data for the restoration and coastal management community. Thus, Lee College and its partners are working to collect and analyze data to inform science-based decision making and to aid in the implementation of elements of the Galveston Bay Plan as it is applied to these important shoreline habitat restoration efforts.

Notes: New Project; this project will leverage CMP Grant Program Cycle 24 funding (\$100K) supporting a \$173,000 project titled The Efficacy of Living Shorelines for Restoring Shoreline Habitat and Stability.

### **20. Effects of Erosion Control Structures on Shoreline Marsh Species Populations**

Project Lead: Texas A&M University at Galveston

Proposed Funding: \$31,140 (Federal); FY 2023 funding was approved by the GBC in FY 2022

Project 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: Existing Project; \$38,165 funded in FY 2022. This project leverages in-kind supplies from TAMUG (research equipment, laboratory space, vessels, and vessel maintenance), and in-kind services from TAMUG Co-PIs.

## **21. The Fate of Emerging PFAS Pollutants in Shellfish and Fish of Galveston Bay**

Project Lead: Texas A&M University at Galveston

Proposed Funding: \$37,093 (Federal); FY 2023 funding was approved by the GBC in FY 2022

Project Description: This project aims to increase the current understanding of the fate of emerging pollutants in Galveston Bay biota. This project will generate data on the body-burdens of per- and polyfluoroalkylated substances (PFAS) in fish and shellfish collected from Galveston Bay. Biomarkers of stress will also be measured in these organisms to determine the effect(s) of PFAS exposure on Galveston Bay fish and shellfish health.

Notes: Existing Project; \$68,456 funded in FY 2022. FY 2023 funding was approved by the GBC in FY 2022.

## **22. *ALTERNATIVE: Monitoring Ecosystem Indicators for Science-Based Restoration and Enhancement of Pelagic Habitats of Galveston Bay***

Project Lead: Texas A&M University at Galveston

Proposed Funding: *Up to \$130,663 (Federal)*

Project Description: Zooplankton are ecosystem health indicators of water quality and provide the principal conduits for energy transfer from phytoplankton to higher trophic levels. To date, only a few studies to examine interactions between zooplankton and environmental factors and fisheries have been conducted. This project will conduct monthly sampling of zooplankton in Galveston Bay over two years to determine spatial and temporal variations in the abundance and distribution of eastern oyster larvae. The data generated will be used to estimate larval dispersal and recruitment success and will be used to validate a population model for Galveston Bay. The project data will fill an information gap needed for science-based ecosystem assessments of Galveston Bay.

Expected outcomes include:

- monthly abundance and distribution of zooplankton in Galveston Bay;
- spatial distribution of transport and vitality of oyster larvae in terms of water properties during the oyster spawning seasons; and
- project reports to GBEP and presentations at the GBEP meetings, state, and national conferences.

Notes: *Alternative Project. Should funding become available, GBEP will work with the grantee to develop a scope that implements Plan objectives for the available amount of funding.*

## **GALVESTON BAY COUNCIL BYLAWS ACKNOWLEDGEMENT FORM**

### **ARTICLE IX. CONDUCT AND CONFLICTS OF INTEREST**

Council members may not use or allow the use of, for other than official council purposes, information obtained through or in connection with their council affiliation that has not been made available to the general public.

In no case shall a Council member represent individual opinions as those of the Council, the Galveston Bay Estuary Program (GBEP), or the Texas Commission on Environmental Quality (TCEQ).

In order to make GBEP business transparent, any Council member or proxy that has an interest (financial, personal or business interest including a contract, subcontract, or grant) in any matter before the Council or a subcommittee or working group shall identify such interest prior to discussion and voting on such matter. No Council member or proxy shall cast a vote or seek to influence any decision on any matter that would provide a direct financial benefit to that member or proxy, or otherwise give the appearance of a conflict of interest under State, Federal, or local law. The Council member shall recuse themselves after identifying any conflict of interest and refrain from any deliberations on that matter.

All Council members are expected to conduct themselves in a civil manner, showing courtesy and respect to other Council members, GBEP staff, and any other individuals present at the meeting.

### **ARTICLE XI. ANNUAL ACKNOWLEDGEMENT OF BYLAWS**

Each Council member will sign a form each year that acknowledges these Bylaws. That form shall include a reprint of Article IX, Conduct and Conflicts of Interest. Failure to sign this acknowledgement will prevent that member or proxy from voting at Council or subcommittee meetings.

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Signature of Council member or Proxy

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Printed Name of Council member or Proxy

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Date Bylaws Acknowledged