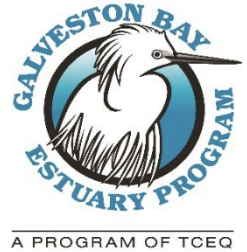


Monitoring & Research (M&R) Subcommittee Fiscal 2028 Proposal Summaries Part 1

Project	Lead Implementer
1. Connecting Galveston Bay Communities to Conservation Through Birds and Stewardship	American Bird Conservancy
2. Avian Bioacoustic Assessment Across Armand Bayou Nature Center	Armand Bayou Nature Center
3. Galveston Bay Monitoring and Research Project Database: Spatial and Metric Visualization for M&R	Houston Advanced Research Center
4. Development of a Comprehensive and Updated Regional Wetlands Database, Economic Valuation of Ecosystem Services, and Wetland Cover Forecasting	Houston-Galveston Area Council
5. Eastern Black Rail genomics and acoustic density assessment in the Galveston Bay watershed	Texas A&M University
6. A Coast of Thorns and Roses: Autonomous Detection and Treatment of Invasive Macartney Rose in the Coastal Prairies of the Lower Galveston Bay Watershed	Texas A&M University at Galveston

Galveston Bay Estuary Program Fiscal 2028 Project Proposal



Please complete this proposal form and submit to the appropriate Subcommittee Coordinator (end of form) by **July 24, 2026**. No late submittals will be considered for funding.

This Call for Project Proposals complies with 30 Texas Administrative Code (TAC) § 14.7, which lays out requirements for a competitive solicitation by TCEQ for grant awards. For convenience, specific citations to 30 TAC § 14.7 are identified in the text.

SECTION ONE: INTRODUCTION

Purpose [required by 30 TAC § 14.7(1)]: The purpose of the proposed grant from the Galveston Bay Estuary Program (GBEP), a program of the Texas Commission on Environmental Quality (TCEQ), is to implement *The Galveston Bay Plan, 2nd Edition* (the Plan), a comprehensive conservation and management plan falling under Section 320, of the Federal Water Pollution Control Act (33 U.S.C. Section 1330), for a designated national estuary in the State of Texas.

Objective and Allowable Activities [see 30 TAC § 14.7(4)]: The objective of this grant is to implement the GBEP stakeholder developed priorities for fiscal 2028 (FY 2028) Priority Area Actions that were developed by GBEP subcommittees for FY 2028 at the June 2026 meetings. Any proposal implementing the Plan may be submitted, but proposals implementing the FY 2028 Priority Area Actions will be considered above others.

Authority [see 30 TAC § 14.7(2)]: Grants issued by GBEP under this solicitation are authorized by: the Federal Water Pollution Control Act (Clean Water Act) § 320 (33 UNITED STATES CODE § 1330), commonly referred to as the National Estuary Program; TEX. WATER CODE § 5.124; and 30 TAC ch. 14.

Match Requirement [see 30 TAC § 14.7(10) and 30 TAC § 14.7(11)]: No matching funds are required. Therefore, there is no need to adjust or waive any matching funds requirement.

Multiple Awards [see 30 TAC § 14.7(7)]: GBEP anticipates awarding funds for multiple proposals. GBEP intends to award grants to that combination of proposals which best implements the Plan, factoring in all criteria identified in this Call for Project Proposals, the availability of funds, and the most effective division of funds between awards.

Timeline of Proposals:

Task	Date Due
Release of Request for Proposals	June 22, 2026
Proposals Due	July 24, 2026
Send Proposals to Subcommittees Members for Review	August 12, 2026
Present Proposals to Subcommittees for Council Recommendation	September 2, 2026 (NRU and PPE) September 9, 2026 (M&R and WSQ)
Present Proposals to B&P Subcommittee for Final Recommendation	September 30, 2026
Present Proposals to Galveston Bay Council for Approval	October 14, 2026

SECTION TWO: SUBMITTAL – GENERAL INFORMATION

Primary Subcommittee: Public Participation and Education (PPE)
Secondary Subcommittee (if applicable): Monitoring and Research (M&R)
Tertiary Subcommittee (if applicable): Choose an item.

Project Name:

Connecting Galveston Bay Communities to Conservation Through Birds and Stewardship
--

Project Previously Funded by GBEP? Yes ☐ No ☒

Lead Implementer / Categories of Eligible Recipients [see 30 TAC § 14.7(3)]:

American Bird Conservancy

The lead implementer must be in one of the following categories of eligible recipients. Please indicate which category applies to your entity. If the proposing party is not already paired with a lead implementer in one of the categories listed below, the proposing party will need to partner with an eligible recipient in one of these categories to be selected for funding. Please reach out to GBEP staff with any questions.

☐ Federal, State, or Local Government ☐ Council of Government ☐ Public ISDs or Universities
☒ Nonprofit ☐ Other*

[If other, please identify pass-through partner.]

Unique Entity ID (UEI) Number:	WMLKDK8WBKR9
Vendor Identification Number (VIN) or Tax ID:	52-1501259

Contact Information:

Project Representative Name	Anna Deichmann
Project Representative Phone	(409) 932-2699
Project Representative Email	adeichmann@abcbirds.org

Project Dates / Duration (beginning no earlier than September 1, 2027 – ending no later than May 31, 2030) [see 30 TAC § 14.7(5)]:

September 1, 2027 – May 31, 2030

Amount Requested from GBEP:

[\$] 445,438

Federal ☐ State ☒ No Preference ☐

Is the project scalable? ☒

Amount Requested per year (if applicable):

FY 2028 (09/01/2027-08/31/2028)	\$173,988.00
FY 2029 (09/01/2028-08/31/2029)	\$176,537.00
FY 2030 (09/01/2029-05/31/2030)	\$94,913.00
Total	\$445,438.00

Total Project Cost (including Leveraging Amounts, if any; provide leveraging information where indicated below):

\$ 463,508

Is this an estimate? ☒

Leveraging (in-kind and/or cash):

In-kind Volunteer Hours: 500 hours at \$36.14 Independent Sector rate totaling \$18,070

SECTION THREE: GALVESTON BAY PLAN, 2ND EDITION IMPLEMENTATION

Grant recipient activities to be funded must implement the Plan, but proposals implementing the FY 2028 Subcommittee Priorities (Section Four) will be considered above others. This selection criteria provides for the selection of multiple recipients as needed.

The *Galveston Bay Plan, 2nd Edition* Action Plans are found at:
<https://gbep.texas.gov/ensure-safe-human-and-aquatic-life-use/>
<https://gbep.texas.gov/protect-and-sustain-living-resources/>
<https://gbep.texas.gov/engage-communities/>
<https://gbep.texas.gov/inform-science-based-decision-making/>

Galveston Bay Plan Priority Area Actions Addressed:

Plan Priority 1: Ensure Safe Human and Aquatic Life Use

NPS-1 ☐ NPS-2 ☒ NPS-3 ☐ NPS-4 ☐
PS-1 ☐ PS-2 ☐ PS-3 ☐
PHA-1 ☐ PHA-2 ☐ PHA-3 ☐ PHA-4 ☐ PHA-5 ☐

Plan Priority 2: Protect and Sustain Living Resources

HC-1 ☐ HC-2 ☒ HC-3 ☐
SC-1 ☐ SC-2 ☐
FWI-1 ☐ FWI-2 ☐ FWI-3 ☐

Plan Priority 3: Engage Communities

SPO-1 ☒ SPO-2 ☒ SPO-3 ☒ SPO-4 ☐
PEA-1 ☒ PEA-2 ☒ PEA-3 ☒

Plan Priority 4: Inform Science-based Decision Making

RES-1 ☐ RES-2 ☐ RES-3 ☒ RES-4 ☐
RES-5 ☐ RES-6 ☐ RES-7 ☐ RES-8 ☐
ACS-1 ☐ ACS-2 ☒ ACS-3 ☐

Plan Priority Area Actions Detail:

NPS-2: Support Nonpoint Source Education and Outreach Campaigns

- The project will expand SPLASH's education program through the Gulf Advocates (GA) Program, a TEKS-aligned, environmental literacy curricula aimed at developing deep connections to the birds that call Galveston Bay and the Upper Texas Coast home. Through interactive lessons, field experiences, and action projects students will better understand the value of their local habitats, impacts of nonpoint source pollution, and develop effective solutions and sustainable mindsets that benefit their communities and natural spaces beyond the program.
- SPLASH educates the public on the impacts of trash pollution through various outreach strategies including community engagement at public events, presentations, volunteer opportunities, and implementing awareness and action campaigns on social media platforms such as highlighting Plastic Free July and America Recycles Day.

NPS Outputs: Over the span of the project, SPLASH will partner with up to six schools within the Region 4 Education Service Center area to implement the Gulf Advocates Program. Project outputs will include the number of schools participating, students and educators engaged, and community members engaged through outreach activities. SPLASH will collect student behavior change assessments and educator evaluations and interviews to evaluate program effectiveness and measure changes in environmental knowledge, stewardship, and pollution-reducing behaviors. Outreach activities will engage community members in stewardship action and bird conservation while assessing impact through behavior change assessments and participation in the One Less Plastic Pledge. SPLASH will report the number of students, educators, and community members reached, as well as findings from assessment efforts.

HC-2: Habitat Restoration

- With a proven track record of success, SPLASH has removed more than 85,000 pounds of trash from Houston-Galveston area waterways and shorelines since 2020. This project will build upon these efforts by further enhancing and restoring freshwater and estuarine habitats within the Lower

Galveston Bay Watershed (LGBW), reducing harmful pollutants that threaten ecosystem health through chemical leaching, wildlife ingestion, and entanglement.

- SPLASH will conduct quarterly monitoring at up to four locations within the LGBW. The monitoring cleanups will include trash data collection and trash removal. These monitoring cleanups will improve the environmental health of each site, reduce the amount of trash available for downstream transport, and provide important data to better understand the patterns of trash pollution and flow.

HC Outputs: SPLASH will host quarterly monitoring cleanups at up to four locations within the Lower Galveston Bay Watershed over the project's duration. SPLASH will report pounds of trash removed, average pounds of trash removed per site, and enter all data into the Texas Litter Database, an open-access statewide trash monitoring database.

SPO-1: Stewardship Program & Volunteer Opportunities

- The SPLASH Program has engaged more than 6,000 volunteers since 2020 in efforts to remove pollution, restore habitats, and collect standardized trash data. This project will continue to engage community members through volunteer cleanup and monitoring opportunities, outreach to local organizations and community groups, and collaboration with our extensive partner network. These efforts will increase awareness of Texas' trash pollution challenges while providing meaningful opportunities for residents to participate in long-term pollution reduction and prevention efforts, including specialized trash data collection training.
- American Bird Conservancy (ABC) and Keep Texas Beautiful (KTB) will train committed volunteers in the STOP (Study, Track, Remove, Prevent) trash data collection protocol, expanding community capacity to collect standardized environmental data. By providing volunteers with specialized skills and meaningful roles in community science efforts, the project will strengthen volunteer engagement, encourage continued participation, and enhance the long-term impact of cleanup and monitoring activities.

SPO-2: Workshops & Events

- To date, SPLASH has engaged with Houston-Galveston region communities and organizations at 135 outreach events including festivals, markets, organizational meetings, virtual presentations, and other outreach functions. ABC and project partners will continue outreach throughout the Lower Galveston Bay Watershed to increase awareness of trash pollution, promote sustainable behaviors, and encourage participation in stewardship activities such as cleanup and trash monitoring events.
- ABC will partner with KTB to train volunteers on STOP data protocol expanding community capacity to collect standardized trash data. Training will also deepen volunteers' connection and sense of responsibility to protect the LGBW. Multiple training sessions will be scheduled and reported on throughout the project period. These opportunities will provide volunteers with specialized skills and strengthen their role in long-term trash mitigation efforts within the Lower Galveston Bay Watershed.
- The GA Program will include educator training focused on environmental education best practices and data collection methodologies, including bird surveys and trash monitoring protocols. Participating educators will receive hands-on training and earn Continuing Professional Education (CPE) credits to support their ability to incorporate conservation-based learning and community science opportunities into their classrooms.

SPO-3: Support Regional Initiatives

- ABC will support regional outreach initiatives by expanding and improving SPLASH educational and outreach resources to better engage diverse communities throughout the Lower Galveston Bay Watershed. Existing materials will be reviewed and updated to improve accessibility, including Spanish-language translations and additional language translations, such as Vietnamese, as funding allows. New educational resources will be developed as needed to support regional trash reduction and stewardship efforts.

SPO Outputs: The project will expand community capacity for long-term trash mitigation through volunteer engagement, specialized training, educational programming, and accessible outreach resources. Outputs will include community members engaged, volunteers trained in the STOP (Study, Track, Remove, Prevent) trash data collection protocol, educators trained, and sharing of new or updated educational and outreach materials developed to increase accessibility and engagement throughout the Lower Galveston Bay Watershed.

PEA-1: Key Issue Engagement

- ABC, in partnership with Gulf Coast Bird Observatory (GCBO), will engage communities throughout the LGBW through outreach activities designed to increase awareness of trash pollution impacts on wildlife, habitats, and community health. Through outreach events, educational materials, and engagement with community partners, SPLASh will connect residents with knowledge and actionable opportunities to reduce pollution, protect wildlife, and support long-term stewardship of the Lower Galveston Bay Watershed.

PEA-2: Adult Education

- ABC and GCBO offer educational presentations to local community groups and members covering trash pollution impacts on ecosystems, wildlife, and communities of Galveston Bay. Through this action, the project will increase public awareness of regional pollution challenges while connecting community members with opportunities to participate in stewardship activities, including volunteer cleanups and data training.
- SPLASh and KTB will provide trash data training for members of the community who want to increase their understanding of standardized trash monitoring methods and become dedicated volunteers. This will build capacity for community science data collection throughout the Lower Galveston Bay Watershed. SPLASh will host teacher workshops, preparing educators to implement place-based conservation education while providing training in community science methodologies, including trash and wildlife data collection. These workshops will increase educator capacity to engage students in local environmental issues and stewardship actions.

PEA-3: K-12 Education Efforts

- ABC and GCBO will expand the SPLASh education program through implementation of the Gulf Advocates Program, a year-long educational partnership with select schools designed to engage youth in environmental stewardship through the lens of bird conservation and plastic pollution mitigation. The program will directly engage up to six Region 4 schools (grades 9–12) throughout the project period by providing students and educators with place-based educational resources, hands-on learning experiences, and opportunities to participate in community science and conservation actions that address local environmental challenges within the Lower Galveston Bay Watershed.
- To evaluate program effectiveness and measure change in environmental knowledge, stewardship perspectives, and pollution-reducing behaviors, SPLASh will administer student behavior change assessments, educator evaluations, and educator interviews throughout the project period. Evaluation results will be used to assess program impact and inform future improvements to the Gulf Advocates Program.

PEA Outputs: SPLASh will report the number of community members reached through public education and outreach efforts, volunteers trained, students and schools engaged through the Gulf Advocates Program, and evaluation data collected through student assessments and educator feedback.

RES-3: Conduct Physical Stressor Monitoring and Research

- The project will establish a targeted trash monitoring program at up to four sites within the Lower Galveston Bay Watershed where trash pollution impacts wildlife habitat and recreational areas. Monitoring sites will represent key locations along the watershed, from urban bayous upstream to downstream estuarine environments near Galveston Bay, to better understand patterns of trash movement, accumulation, and material composition. SPLASh has successfully collected trash pollution data through 269 cleanups and 103 trash transect surveys from Houston-Galveston area waterways, bays, and coastlines. This project will expand these efforts by implementing consistent monitoring at targeted locations throughout the project period to generate comparable data over time.
- SPLASh will utilize the Texas Litter Database to document and share all collected trash monitoring data. The Texas Litter Database is a statewide, open-access resource that enables organizations, community members, researchers, and decision-makers to better understand trash pollution trends and inform targeted pollution prevention and mitigation strategies. Data collected through this project will contribute to a broader understanding of trash movement within the Lower Galveston Bay Watershed and support regionally relevant solutions.

RES Outputs: SPLASh will implement standardized trash monitoring at up to four sites within the Lower Galveston Bay Watershed, collecting data on trash quantities, types, and trends over the project period. Monitoring data will be entered into the Texas Litter Database to contribute to statewide trash pollution database. SPLASh will report monitoring locations, pounds of trash removed, and top five items found at each site.

ACS-2: Provide Access to Monitoring and Research Data

- SPLASh utilizes a customized Story Map to increase public access to trash pollution data and visualize monitoring results throughout the Lower Galveston Bay Watershed. The interactive map provides information on trash types collected, quantities removed, and site-specific monitoring details, allowing community members, educators, stakeholders, and decision-makers to better understand local trash pollution trends and impacts.
- SPLASh also contributes standardized trash monitoring data to the Texas Litter Database, a statewide open-access resource that supports improved understanding of trash pollution patterns and informs reduction, prevention, and removal strategies throughout Texas.

ACS Outputs: SPLASh will continue to share our data on our StoryMap and Texas Litter Database so stakeholders, educators, students, and members of the public can better understand the trash pollution problem in their region.

SECTION FOUR: SUBCOMMITTEE PRIORITIES / FACTORS TO BE USED TO SELECT AWARDS [see 30 TAC § 14.7(6)]

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority. This selection criteria provides for the selection of multiple recipients as needed.

Subcommittee Identified Priorities:

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

- ☐ WSQ: Supporting management measures and watershed-based plans through adaptive management, workforce development, and technical assistance.
- ☐ WSQ: Improve knowledge and accessibility of pollution reporting tools to empower the community.
- ☐ WSQ: Implementation and/or evaluation of best management practices that address point and nonpoint source pollution.
- ☐ NRU: Habitat Acquisition.
- ☐ NRU: Enhancement of existing or ongoing restoration-conservation efforts. Special emphasis on:
 - ☐ Adaptive management for previously completed projects; and
 - ☐ Projects that may have lost/delayed funding from other federal sources.
- ☐ NRU: Benefit to native fish and wildlife, including federal and state listed species, Species of Greatest Conservation Need, or nongame wildlife.
- ☐ NRU: Project urgency: Project must be completed in next 24 months or opportunity is lost.
- ☒ PPE: Connecting new audiences to existing/completed on-the-ground projects in the watershed.
- ☒ PPE: Empowering K-12 students and/or adults to positively impact their local environment through increased scientific literacy and community projects.
- ☒ PPE: Opportunities to host workshops/networking events to provide technical assistance for local leadership (local governments, MUDs, schoolboards, the public) on key topics.
- ☒ PPE: Conservation and environmental workforce development.
- ☒ M&R: Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).
- ☐ M&R: Baseline assessments for large-scale, man-made changes to Galveston Bay at an adequate timeline and spatial range to provide useful information.
- ☐ M&R: Assessment, Exposure, and Response to stressors, including but not limited to:
 - ☐ Species of greatest conservation need;
 - ☐ Contact recreation standards;
 - ☐ Environmental parameters;
 - ☐ Emerging contaminants; and
 - ☐ Legacy contaminants.

Subcommittee Priority Detail:

The project directly supports the selected Public Participation and Engagement (PPE) and Monitoring & Research (M&R) priorities by connecting communities to local conservation efforts, increasing environmental literacy, building technical skills, and generating valuable watershed data. Project partners will connect new audiences to existing conservation efforts throughout the LGBW through volunteer cleanups, outreach events, community science trainings, and the Gulf Advocates Program. Building on more than 269 cleanups, 103 trash surveys, and over 85,000 pounds of trash removed since 2020, the project will engage students, educators, and community members in meaningful stewardship activities.

Through the Gulf Advocates Program and volunteer training opportunities, SPLASh will empower youth and adults to positively impact their local environment by increasing scientific literacy and providing hands-on experiences in bird conservation, plastic pollution mitigation, and community science monitoring. Educators will receive training in environmental education and data collection while volunteers receive training in STOP (Study, Track, Remove, Prevent) trash monitoring protocol. These outputs support workforce development while creating a sustainable regional network of STOP-certified volunteers that partner organizations can leverage for standardized monitoring and community science efforts.

The project will expand community capacity by equipping volunteers with the skills needed to monitor and address pollution within the watershed. Trained volunteers will also become a shared resource for the

region, with opportunities to support additional cleanup events hosted by community organizations and contribute standardized trash data collection efforts beyond the project's monitoring sites. This approach strengthens collaboration among local partners and increases long-term capacity for watershed-wide trash mitigation.

To support Monitoring & Research priorities, SPLASH will conduct standardized trash monitoring at up to four locations throughout the LGBW to better understand trash trends, material composition, and movement through the watershed. Data collected will be entered into the Texas Litter Database and shared through SPLASH's Story Map, increasing access to environmental information and supporting science-informed decision-making.

Does the Project align with any EPA Areas of Special Interest?

- ☐ Reduce Nutrient Pollution to Protect Water Quality and Public Health
- ☐ Make Investments that Address Coastal Resiliency
- ☒ Reduce Trash

The project aligns directly with the EPA's Area of Special Interest to prevent and reduce trash, particularly plastic waste, entering inland and coastal waterways. The project uses a community-based approach to address trash pollution within the Lower Galveston Bay Watershed through coordinated monitoring, pollution prevention, education, outreach, and stewardship activities.

The project will conduct trash monitoring at up to four locations within the project period of performance to better understand trash trends within the region. Monitoring locations will follow the flow of water from the Houston Ship Channel to the mouth of the Gulf, providing valuable insight into how trash accumulates and moves through connected freshwater and estuarine systems. Through the Gulf Advocates Program, community outreach, and volunteer training, the project will increase environmental literacy and build community capacity to address trash pollution. Participants will gain the knowledge and skills needed to reduce plastic use, partake in stewardship activities, and support long-term solutions to prevent trash from entering waterways.

The project also advances the goals of EPA's Trash Free Waters program by supporting data-driven approaches to reducing aquatic debris. SPLASH will collect standardized trash data using the STOP (Study, Track, Remove, Prevent) protocol and contribute findings to the Texas Litter Database. This data can support informed decision-making and collaborative efforts to reduce trash pollution throughout the Lower Galveston Bay Watershed.

SECTION FIVE: PROPOSAL DETAILS

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

Project Summary:

SPLASh will address trash pollution in the Lower Galveston Bay Watershed through environmental education, cleanup events, standardized monitoring, and community training opportunities. By implementing SPLASh's Gulf Advocates Program, establishing a long-term trash monitoring framework, and training volunteers and educators in community science methods, the project will increase stewardship, build regional capacity, and support data-informed solutions to protect birds, wildlife, habitats, and communities.

Full Project Description (1,000 words or less):

Texas faces a trash problem that impacts ecosystem quality for wildlife and millions of people throughout the Lower Galveston Bay Watershed (LGBW). According to a report from the National Oceanic and Atmospheric Administration and the Ocean Conservancy, Texas has the highest average weight of trash per mile surveyed of any state in the nation.¹ The project area is home to about 5.4 million people who live within the five counties surrounding Galveston Bay.² Due to the high amounts of litter in the state and the population density, this area faces a significant trash pollution problem as waste flows downstream and accumulates along the diverse habitats of the watershed. As plastics persist in these habitats chemical leaching degrades the air, soil, and water quality, and trash generated from household, construction, and recreational activities threatens wildlife, including many bird species, through ingestion and entanglement. Using bird conservation as a gateway to environmental stewardship, the Stopping Plastics and Litter Along Shorelines Program (SPLASh) engages communities throughout the LGBW and schools within Region 4—the seven-county education service area encompassing Waller, Harris, Liberty, Chambers, Fort Bend, Brazoria, and Galveston counties—in trash pollution mitigation and habitat conservation.

The founding partners of SPLASh, American Bird Conservancy (ABC), Gulf Coast Bird Observatory (GCBO), and Black Cat GIS are partnering with Keep Texas Beautiful (KTB) to expand SPLASh's impact in the LGBW through education, trash monitoring, and workforce development. Project activities include piloting the Gulf Advocates Program and trash monitoring project, and certifying volunteers in the STOP trash data collection method. Collectively, the project will strengthen regional capacity for long-term pollution prevention and monitoring, improve workforce skills, and restore habitat throughout the LGBW.

The Gulf Advocates (GA) Program: The year-long Gulf Advocates Program engages students through interactive lessons, field experiences, and action projects focused on bird conservation and plastic pollution. Using birds as a unique entry point to local conservation issues, the program helps students develop an appreciation for nature while building the knowledge, skills, and confidence needed to become environmental stewards within their communities. The program includes TEKS-aligned lessons and field experiences designed to immerse students in their local habitats while learning about a significant environmental challenge and building an identity in environmental stewardship. Field experiences reinforce classroom lessons and demonstrate how everyday actions influence watershed health.

A key component of the program is educator professional development. Educators will participate in summer professional development covering outdoor education, place-based learning, bird conservation, and community science, including bird surveys and trash monitoring. Participants will earn Continuing Professional Education (CPE) credits and receive curriculum resources and ongoing support.

During the first six months of the project, ABC and GCBO will finalize curriculum and program logistics, recruit participating schools from Region 4, and conduct educator outreach. The pilot cohort will launch in August 2028, with educators completing an application, onboarding process, and summer workshop prior to the start of the school year. Student behavior assessments, educator evaluations, and interviews will measure program effectiveness and guide future improvements. Two annual cohorts of the Gulf Advocates Program will be implemented during the project period.

Trash Monitoring: The project will establish a standardized trash monitoring program to improve understanding of trash movement, accumulation, and composition throughout the LGBW. As Phase 1 of a long-term monitoring strategy, the project will establish up to four monitoring sites extending from north of the Houston Ship Channel to the Gulf. Quarterly monitoring will generate consistent data to identify pollution trends and inform watershed management. Selected monitoring events will include public

cleanups and community science opportunities, while Gulf Advocate students will participate in age-appropriate monitoring field experiences. All data will be submitted to the Texas Litter Database. Monitoring activities will be conducted by trained staff and volunteers certified in the STOP (Study, Track, Remove, Prevent) data collection method to ensure consistent, high-quality data collection across monitoring locations. Through the development of standardized methods and trained community capacity, this project will establish the foundation needed for long-term monitoring and evidence-based strategies to reduce trash pollution within the LGBW.

Black Cat GIS will develop a Quality Assurance Project Plan (QAPP) during the first six months to ensure standardized data collection, quality control, and data management. American Bird Conservancy will coordinate quarterly monitoring with volunteers and partners.

Volunteer Training & Skill Building: KTB will collaborate with ABC to train and certify Houston-Galveston region volunteers in the Texas Litter Database's standardized trash data collection protocol, STOP (Study, Track, Remove, Prevent). This training will equip volunteers with the skills needed to systematically monitor, identify, and assess debris types and quantities using a consistent scientific framework. Trainings will be conducted at monitoring sites prior to and throughout the monitoring period to ensure volunteers are prepared to support standardized data collection efforts.

STOP-certified volunteers will gain practical skills in environmental monitoring and data collection while contributing to community science and the Texas Litter Database. This training program builds a sustainable network of certified volunteers that strengthens regional monitoring capacity and supports ongoing conservation efforts beyond the life of the grant.

SPLASH will report on pounds of trash removed, trained volunteers and volunteer participants, students and community members reached, schools and educators reached, and behavior change assessments. (See Appendix B). Expected outcomes include increased environmental literacy, stewardship, and community capacity to address trash pollution throughout the LGBW. Through the Gulf Advocates (GA) Program, STOP volunteer trainings, and outreach activities, students, educators, and community members will gain the knowledge and skills needed to participate in long-term conservation efforts. STOP-certified volunteers will become a shared regional resource, supporting partner organizations with standardized data collection and monitoring while strengthening the long-term capacity for community science and watershed stewardship beyond the grant period.

Project Urgency:

Funding during this cycle is critical to initiate the next phase of SPLASH's long-term strategy to address trash pollution within the LGBW. Without timely funding, the project would face delays in launching the Gulf Advocates Program, limiting opportunities to engage students and educators in environmental stewardship and community science. Additionally, this funding is essential to establish Phase 1 of a trash monitoring program, including development of monitoring protocols, volunteer training, and baseline data collection needed to understand trash movement and inform future mitigation strategies. Delaying implementation would result in a missed opportunity to establish long-term datasets and build regional capacity for addressing trash pollution through coordinated education, monitoring, and community action.

Other Plans Implemented:

This project advances goals outlined in the Texas Coastal Resiliency Master Plan, the Texas Coastal Nonpoint Source Pollution Control Program, and the EPA's Trash Free Waters Program by reducing trash pollution and restoring riparian, wetland, and estuarine habitats within the LGBW. Through trash monitoring and cleanups, the Gulf Advocates Program, and volunteer training in standardized data collection protocols, SPLASH fosters environmental stewardship, mitigates nonpoint source pollution, and improves water quality in vulnerable coastal ecosystems. By generating community-science data of trash, the project supports data-driven management decisions and long-term behavior change, aligning with these plans' priorities for habitat restoration, pollution prevention, community engagement, and resilience.

Partners¹ and Their Roles:

Gulf Coast Bird Observatory

¹ If partners are subgrantees completing work reimbursable under GBEP funding, a letter of commitment from the partner must be submitted as an appendix with the application.

Gulf Coast Bird Observatory (GCBO) is an independent nonprofit dedicated to the protection of birds and their habitats along the Gulf Coast and beyond. As a founding member of SPLASH, GCBO aims to protect bird species and others from consuming or becoming entangled in trash. As a committed project partner, Gulf Coast Bird Observatory will support the goals and objectives of this project through aiding in school visits, field trips, general program management, and outreach.

Black Cat GIS

Black Cat GIS is a founding member of SPLASH with a mission to provide logical, fact-based, biology-driven solutions to enable efficient and innovative conservation programs. They focus on delivering high-quality GIS analyses, endangered species monitoring, and marine debris modeling to businesses, non-profits, and government agencies. Black Cat will assist with QAPP writing and editing and as a consult to ensure data collection is scientifically sound. In later phases of the project (outside the scope of this proposal) Black Cat will complete statistical and spatial analysis on collected data.

Keep Texas Beautiful

Keep Texas Beautiful (KTB) was founded in 1967, with a mission to inspire and empower Texans to keep our communities clean and beautiful. KTB maintains the Texas Litter Database, launched in 2021. It is a public data source for litter data that can be leveraged by communities for decision-making, policy implementation, and research. It is the first statewide litter repository of its kind.

KTB will provide a targeted volunteer training program focused on equipping actively engaged participants with the skills needed to conduct litter monitoring at project sites. Through a combination of virtual training sessions and in-person litter sample demonstrations, volunteers would receive instruction on standardized litter data collection methods, sampling protocols, and best practices for collecting consistent, high-quality data. This blended training approach would provide volunteers with both foundational knowledge and hands-on experience, ensuring they are prepared to effectively support site-monitoring efforts throughout the project period.

Does the Project work with new, smaller communities/partnerships?

☒ Yes

☐ No

The project, in part, will target new locations within Greens or Halls Bayou to conduct quarterly monitoring cleanups where SPLASH has not conducted cleanups or worked with community members before. By collaborating with known partners in the area, such as Keep2Clean and the Greater Northside Management District, the project will make connections, conduct outreach, and invite local groups and individuals to partake in cleanups, data training, and school programming.

Is the project subject to Title VI requirements?

To meet federal nondiscrimination guidance and laws (Title VI), TCEQ requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English-speaking ability (LEP). If 5% or more of the population within your project area is LEP and share a common language, then you are required to provide outreach in the alternative language. For statewide projects, Spanish language outreach is required. As Title VI compliance could impact the project budget, please reach out to the primary subcommittee coordinator for this application with questions on determining applicability.

☒ Yes

☐ No

The SPLASH Program offers resources, materials, and lessons in English and Spanish. We will request funding to translate our Gulf Advocates Program curriculum and new outreach materials to Spanish to ensure all SPLASH materials meet Title VI requirements. If funding is available, we will also translate materials to Vietnamese.

Latitude/Longitude (Optional):

[degrees, minutes, and seconds format]

Location:

This project focuses on the Lower Galveston Bay Watershed (LGBW), encompassing the tributaries and shorelines that drain into the lower portion of Galveston Bay. The watershed includes a diverse mix of densely developed urban landscapes, industrial corridors, suburban communities, and agricultural areas, all

of which contribute varying sources of trash and debris to local waterways. Project activities will take place at representative sites across the watershed, including up to two locations along Halls or Greens Bayou, Monument Inn Beach at the confluence of the Houston Ship Channel and Galveston Bay, Texas City Dike or a nearby shoreline south of the Houston Ship Channel, and East End Lagoon, a bayside beach near the mouth of Galveston Bay before waters enter the Gulf of Mexico. Additional sites within Houston-area bayous and bays may be selected for educator field experiences to accommodate school travel requirements while expanding geographic coverage and community science data collection throughout the watershed.

Projects Map

[\[Insert Map Here or Attach as an Appendix if Applicable\]](#)

See Appendices

Supplemental Photos/Graphics (Optional):

[\[Insert Here or Attach as an Appendix\]](#)

See Appendices

SECTION SIX: BUDGET DETAILS

Grant Payments [see 30 TAC § 14.7(12)]: All grant payments will be made on the basis of reimbursement for allowable costs (as defined in 2 CFR Part 200, Subpart E). All payments for awarded proposals will be reimbursements of allowable costs incurred after both parties have entered (signed) a grant agreement for the project.

Budget. Authorized budgeted expenditures for work performed are as follows:

a. Direct Costs

Budget Category	Cost for Work to be Performed
Salary / Wages	\$183,072.00
Fringe Benefits (38.85%) ²	\$71,123.00
Travel	\$5,365.00
Supplies	\$5,085.00
Equipment	\$0.00
Contractual	\$3,910.00
Construction	\$0.00
Other	\$92,855.00
Total Direct Cost	\$361,410.00

b. Indirect Costs³

Distribution Base Amount (<i>identify Base type below</i>)	\$ 361,410
Indirect Cost Rate for Reimbursement	% 23.25
Total Indirect Costs	\$ 84,028

c. Maximum Authorized Reimbursement

Maximum Authorized Reimbursement (Direct and Indirect Costs)	\$ 445,438
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Indirect Cost Distribution Base. The Distribution Base above is (check one):

☐ direct salary/wages and fringe benefits

² If fringe is not a single rate, please attach calculation or explanation as an appendix.

³ Please attach Indirect Cost Agreement as an appendix if applicable

☒ modified total direct costs

☐ other direct cost Base

If other direct cost Base, identify:

The indirect cost rate is (check one):

☐ **Predetermined Rate**— an indirect rate that is negotiated between the Performing Party and its federal cognizant agency and supported by a current Negotiated Indirect Cost Rate Agreement (NICRA) letter. A Predetermined Rate is not subject to adjustment except as provided by 2 Code of Federal Regulations (CFR) § 200.411.

☐ **De Minimis Rate**— if Performing Party does not have a current negotiated indirect rate, Performing Party may use a standard rate of 15 percent of Modified Total Direct Costs (MTDC) in lieu of determining the actual indirect costs of the service. Costs must be consistently charged as either indirect or direct costs.

☐ **Partial Reimbursement Rate** — a reimbursement rate agreed to between TCEQ and Performing Party that is less than the rate authorized under TxGMS or, where applicable, 2 CFR Part 200. Performing Party contributes all of its unreimbursed indirect costs to the successful performance of the project or projects funded under this Contract, in accordance with Article 9 of this section.

☒ **Other: Provisional Rate.** [Examples: De Minimis Rate with a base of direct salary and wages (less than or equal to actual indirect costs) or Provisional Rate. If this is a Provisional Rate, include the following language: Provisional Rate: **The subsequent adjustment of the indirect cost rate is subject to the requirements of Article 9 of this (Cost Budget) section.**]

Other. If Budget Category “Other” is greater than \$25,000 or more than 10% of budget total, identify the main constituents:

The “Other” category consists of two subawards to partners: \$21,921 for Keep Texas Beautiful, and \$50,571 for Gulf Coast Bird Observatory to deliver their elements of the project. It also includes funds for subscriptions, translation service, teacher honoraria, and advertising, for a total amount of \$20,363.

Travel. In order to be reimbursable, travel costs must be specifically authorized in advance of the travel. Travel costs will be reimbursed only in the amount of actual costs, up to the maximum allowed by law for employees of the State of Texas at the time the cost is incurred.

Budget Categories. The Budget Categories above are representative of the items of cost found in TxGMS and 2 CFR Part 200, and have the definitions, requirements, and limitations found therein. Construction costs are not reimbursable without prior, specific written authorization from TCEQ.

SECTION SEVEN: CONTRACT REQUIREMENT [see 30 TAC § 14.7(15)]:

- By submitting this Project Proposal, you acknowledge that, if you become a successful grant recipient selected for a grant award, you must enter into a signed grant agreement or contract with TCEQ following the announcement of that award.

SECTION EIGHT: ACKNOWLEDGMENTS

Please read and understand the following:

- By submitting this Project Proposal, you acknowledge that information on how grant payments will be made is contained in the Budget Details section describing direct and possibly indirect costs. You further acknowledge that grant payments will be reimbursements on the basis of allowable costs incurred and that selected recipients will receive contract documents addressing allowable costs, unallowable costs, and reimbursement.
- By submitting this Project Proposal, you acknowledge your understanding that Project Proposals do not require matching funds and that a TCEQ director does not need to adjust or waive any matching funds requirement.
- By submitting this Project Proposal, you acknowledge that, if GBEP elects to hold a pre-submittal meeting relating to this Project Proposal, GBEP will post notification of the meeting's time and location indicating whether attendance is mandatory.

SECTION NINE: QUESTIONS AND PRE-SUBMITTAL MEETINGS [see 30 TAC § 14.7(13) and 30 TAC § 14.7(14)]:

- There are no pre-submittal meetings scheduled.
- For requests for additional, pre-submittal information [see 30 TAC § 14.7(13)], please contact the corresponding Subcommittee Coordinator listed on this page.

SECTION TEN: ADDITIONAL INSTRUCTIONS

In submitting your Project Proposal, please refer and adhere to the following instructions and guidelines concerning materials and information required to be submitted by potential grant recipients:

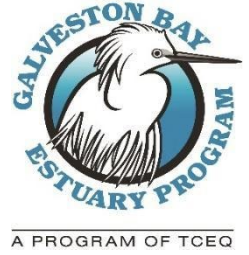
- GBEP intends to accept only complete Projected Proposals in a layout and format constituting a filled version of this proposal document with all applicable sections therein addressed; however, GBEP may, in its sole discretion, consider and accept nonconforming Project Proposals in the best interest of the state.
- Unless otherwise specified by GBEP, formal signatures are not required on Project Proposals.
- Unless otherwise communicated or implied, GBEP requires 1 (one) completed copy of your Project Proposal per corresponding Subcommittee Coordinator.
- Project Proposals must be received electronically, through the email address of the relevant Subcommittee Coordinator listed on this page, by the deadline listed on both this page and the first page of this Project Proposal document.

Submittal Process and Deadline [see 30 TAC § 14.7(8) and 30 TAC § 14.7(9)]:

Please Submit Project Proposals (Microsoft Word Only – No PDFs) by **July 24, 2026 to the relevant Subcommittee Coordinators below:**

WSQ Subcommittee: Christian.Rines@tceq.texas.gov
NRU Subcommittee: Lindsey.Lippert@tceq.texas.gov
PPE Subcommittee: Zoe.Gapayao@tceq.texas.gov
M&R Subcommittee: Jenelle.Estrada@tceq.texas.gov
Programmatic Projects: Lisa.Marshall@tceq.texas.gov

Galveston Bay Estuary Program Fiscal 2028 Project Proposal



Please complete this proposal form and submit to the appropriate Subcommittee Coordinator (end of form) by **July 24, 2026**. No late submittals will be considered for funding.

This Call for Project Proposals complies with 30 Texas Administrative Code (TAC) § 14.7, which lays out requirements for a competitive solicitation by TCEQ for grant awards. For convenience, specific citations to 30 TAC § 14.7 are identified in the text.

SECTION ONE: INTRODUCTION

Purpose [required by 30 TAC § 14.7(1)]: The purpose of the proposed grant from the Galveston Bay Estuary Program (GBEP), a program of the Texas Commission on Environmental Quality (TCEQ), is to implement *The Galveston Bay Plan, 2nd Edition* (the Plan), a comprehensive conservation and management plan falling under Section 320, of the Federal Water Pollution Control Act (33 U.S.C. Section 1330), for a designated national estuary in the State of Texas.

Objective and Allowable Activities [see 30 TAC § 14.7(4)]: The objective of this grant is to implement the GBEP stakeholder developed priorities for fiscal 2028 (FY 2028) Priority Area Actions that were developed by GBEP subcommittees for FY 2028 at the June 2026 meetings. Any proposal implementing the Plan may be submitted, but proposals implementing the FY 2028 Priority Area Actions will be considered above others.

Authority [see 30 TAC § 14.7(2)]: Grants issued by GBEP under this solicitation are authorized by: the Federal Water Pollution Control Act (Clean Water Act) § 320 (33 UNITED STATES CODE § 1330), commonly referred to as the National Estuary Program; TEX. WATER CODE § 5.124; and 30 TAC ch. 14.

Match Requirement [see 30 TAC § 14.7(10) and 30 TAC § 14.7(11)]: No matching funds are required. Therefore, there is no need to adjust or waive any matching funds requirement.

Multiple Awards [see 30 TAC § 14.7(7)]: GBEP anticipates awarding funds for multiple proposals. GBEP intends to award grants to that combination of proposals which best implements the Plan, factoring in all criteria identified in this Call for Project Proposals, the availability of funds, and the most effective division of funds between awards.

Timeline of Proposals:

Task	Date Due
Release of Request for Proposals	June 22, 2026
Proposals Due	July 24, 2026
Send Proposals to Subcommittees Members for Review	August 12, 2026
Present Proposals to Subcommittees for Council Recommendation	September 2, 2026 (NRU and PPE) September 9, 2026 (M&R and WSQ)
Present Proposals to B&P Subcommittee for Final Recommendation	September 30, 2026
Present Proposals to Galveston Bay Council for Approval	October 14, 2026

SECTION TWO: SUBMITTAL – GENERAL INFORMATION

Primary Subcommittee: Monitoring and Research (M&R).
Secondary Subcommittee (if applicable): Natural Resource Uses (NRU).
Tertiary Subcommittee (if applicable): Public Participation and Education (PPE).

Project Name:

Avian Bioacoustic Assessment Across Armand Bayou Nature Center
Project Previously Funded by GBEP? Yes ☐ No ☒

Lead Implementer / Categories of Eligible Recipients [see 30 TAC § 14.7(3)]:

Armand Bayou Nature Center (ABNC)

The lead implementer must be in one of the following categories of eligible recipients. Please indicate which category applies to your entity. If the proposing party is not already paired with a lead implementer in one of the categories listed below, the proposing party will need to partner with an eligible recipient in one of these categories to be selected for funding. Please reach out to GBEP staff with any questions.

☐ Federal, State, or Local Government ☐ Council of Government ☐ Public ISDs or Universities
☒ Nonprofit ☐ Other*

[If other, please identify pass-through partner.]

Unique Entity ID (UEI) Number:	CTBHH28PCJB8
Vendor Identification Number (VIN) or Tax ID:	23-7403757

Contact Information:

Project Representative Name	Jennifer Bock, Stewardship Coordinator
Project Representative Phone	(850)445-8065
Project Representative Email	jen@abnc.org

Project Dates / Duration (beginning no earlier than September 1, 2027 – ending no later than May 31, 2030) [see 30 TAC § 14.7(5)]:

24 Months (September 1, 2027 – August 31, 2029)

Amount Requested from GBEP:

\$ 78,312.50

Federal ☐ State ☐ No Preference ☒

Is the project scalable? ☒

Amount Requested per year (if applicable):

FY 2028 (09/01/2027-08/31/2028)	\$63,212.50
FY 2029 (09/01/2028-08/31/2029)	\$15,000.00
FY 2030 (09/01/2029-05/31/2030)	\$0.00
Total	\$78,312.50

Total Project Cost (including Leveraging Amounts, if any; provide leveraging information where indicated below):

\$78,312.50

Is this an estimate? ☒

Leveraging (in-kind and/or cash):

Armand Bayou Nature Center: In-kind staff time for land access, volunteer coordination, and adaptive management integration (Secured).
American Bird Conservancy: Technical support and bioacoustic pipeline access (Secured).

SECTION THREE: GALVESTON BAY PLAN, 2ND EDITION IMPLEMENTATION

Grant recipient activities to be funded must implement the Plan, but proposals implementing the FY 2028 Subcommittee Priorities (Section Four) will be considered above others. This selection criteria provides for the selection of multiple recipients as needed.

The *Galveston Bay Plan, 2nd Edition* Action Plans are found at:
<https://gbep.texas.gov/ensure-safe-human-and-aquatic-life-use/>
<https://gbep.texas.gov/protect-and-sustain-living-resources/>
<https://gbep.texas.gov/engage-communities/>
<https://gbep.texas.gov/inform-science-based-decision-making/>

Galveston Bay Plan Priority Area Actions Addressed:

Plan Priority 1: Ensure Safe Human and Aquatic Life Use

NPS-1 ☐ NPS-2 ☐ NPS-3 ☐ NPS-4 ☐
PS-1 ☐ PS-2 ☐ PS-3 ☐
PHA-1 ☐ PHA-2 ☐ PHA-3 ☐ PHA-4 ☐ PHA-5 ☐

Plan Priority 2: Protect and Sustain Living Resources

HC-1 ☒ HC-2 ☐ HC-3 ☐
SC-1 ☒ SC-2 ☐
FWI-1 ☒ FWI-2 ☐ FWI-3 ☐

Plan Priority 3: Engage Communities

SPO-1 ☐ SPO-2 ☐ SPO-3 ☐ SPO-4 ☐
PEA-1 ☒ PEA-2 ☐ PEA-3 ☐

Plan Priority 4: Inform Science-based Decision Making

RES-1 ☒ RES-2 ☒ RES-3 ☐ RES-4 ☐
RES-5 ☐ RES-6 ☐ RES-7 ☐ RES-8 ☐
ACS-1 ☐ ACS-2 ☐ ACS-3 ☐

Plan Priority Area Actions Detail:

This project implements the goals and actions outlined in the **Galveston Bay Plan, 2nd Edition (GBP)**, leveraging past GBEP investments:

Priority 2: Protect and Sustain Living Resources (HC-1, SC-1, FWI-1): Building on GBEP's landmark \$340,000 investment toward ABNC's acquisition of 1,147 acres of the former ExxonMobil tract, this project establishes automated acoustic tracking across both legacy sanctuary lands and the newly integrated parcel. It targets native wildlife species, including federal and state listed Species of Greatest Conservation Need (SGCN), evaluating ecological health across coastal tallgrass prairie, riparian forest, fresh/saltwater marsh, and riparian bayou habitats.

Priority 4: Inform Science-Based Decision Making (RES-1, RES-2): By establishing continuous, standardized bioacoustic monitoring, this project fills critical data gaps on species distributions and delivers actionable baseline assessments of urban-wilderness interface dynamics. Specifically, the study quantifies how multi-year coastal tallgrass prairie restoration influences avian community structure across grassland, riparian forest, and coastal marsh habitats, while evaluating key shifts in avian biodiversity along a gradient from restored preserve lands to adjacent urban corridors.

Priority 3: Engage Communities (PEA-1): This project advances conservation and environmental workforce development by training ABNC staff, early-career researchers, university students, and community partners in state-of-the-art bioacoustic hardware deployment, machine-learning identification pipelines, and spatial ecological data analysis.

SECTION FOUR: SUBCOMMITTEE PRIORITIES / FACTORS TO BE USED TO SELECT AWARDS [see 30 TAC § 14.7(6)]

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority. This selection criteria provides for the selection of multiple recipients as needed.

Subcommittee Identified Priorities:

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

- ☐ WSQ: Supporting management measures and watershed-based plans through adaptive management, workforce development, and technical assistance.
- ☐ WSQ: Improve knowledge and accessibility of pollution reporting tools to empower the community.
- ☐ WSQ: Implementation and/or evaluation of best management practices that address point and nonpoint source pollution.
- ☐ NRU: Habitat Acquisition.
- ☒ NRU: Enhancement of existing or ongoing restoration-conservation efforts. Special emphasis on:
 - ☒ Adaptive management for previously completed projects; and
 - ☐ Projects that may have lost/delayed funding from other federal sources.
- ☒ NRU: Benefit to native fish and wildlife, including federal and state listed species, Species of Greatest Conservation Need, or nongame wildlife.
- ☐ NRU: Project urgency: Project must be completed in next 24 months or opportunity is lost.
- ☐ PPE: Connecting new audiences to existing/completed on-the-ground projects in the watershed.
- ☐ PPE: Empowering K-12 students and/or adults to positively impact their local environment through increased scientific literacy and community projects.
- ☐ PPE: Opportunities to host workshops/networking events to provide technical assistance for local leadership (local governments, MUDs, schoolboards, the public) on key topics.
- ☒ PPE: Conservation and environmental workforce development.
- ☐ M&R: Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).
- ☒ M&R: Baseline assessments for large-scale, man-made changes to Galveston Bay at an adequate timeline and spatial range to provide useful information.
- ☒ M&R: Assessment, Exposure, and Response to stressors, including but not limited to:
 - ☒ Species of greatest conservation need;
 - ☐ Contact recreation standards;
 - ☐ Environmental parameters;
 - ☐ Emerging contaminants; and
 - ☐ Legacy contaminants.

Subcommittee Priority Detail:

Monitoring and Research (M&R) Priority: This project addresses the M&R mandate for baseline assessments of large-scale, man-made changes along Galveston Bay. By utilizing continuous acoustic sampling across 50 deployment sites (or 24 under the modular scale-down), it measures how vocal species communities and overall biodiversity metrics adapt or degrade along the urban-wilderness transition zone.

Natural Resource Uses (NRU) Priority: The project directly benefits native wildlife and SGCN species by assigning site-level conservation weights to acoustic detections. It evaluates the success of multi-year coastal tallgrass prairie restoration efforts compared to surrounding urban corridors. Following GBEP's land acquisition funding for the 1,147-acre ExxonMobil tract, establishing this baseline provides critical data to evaluate restoration outcomes amidst surrounding regional urbanization. Furthermore, ABNC will retain all ARU hardware post-grant, ensuring long-term adaptive management and tracking across the North Property.

Public Participation and Education (PPE) Priority: This project advances conservation and environmental workforce development by training ABNC interns, early-career researchers, and university students in state-of-the-art bioacoustic hardware deployment, automated machine-learning identification pipelines, and spatial ecological data analysis.

Does the Project align with any EPA Areas of Special Interest?

- ☐ Reduce Nutrient Pollution to Protect Water Quality and Public Health
- ☒ Make Investments that Address Coastal Resiliency
- ☐ Reduce Trash

High-resolution bioacoustic monitoring across coastal tallgrass prairie, riparian forest, and tidal marsh habitats provides essential baseline data to measure ecosystem resilience against climate drivers and surrounding urban expansion.

SECTION FIVE: PROPOSAL DETAILS

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

Project Summary:

To implement an automated bioacoustic monitoring framework across four core habitat types at Armand Bayou Nature Center, evaluating the impact of long-term coastal tallgrass prairie restoration on bird communities relative to urban areas and establishing a quantifiable site-level biodiversity accounting index (BirdsPlus) to direct adaptive land management.

Full Project Description (1,000 words or less):

Introduction & Ecological Need

Migratory birds and vocal wildlife communities across North America face severe population declines. As documented in the *American Bird Conservancy (ABC) BirdsPlus Index Technical Overview*, over 2.5 billion native migratory birds have been lost from breeding populations since 1970, representing a 30% reduction driven primarily by habitat fragmentation and anthropogenic stressors.

As a crucial ecological refuge within the Houston-Galveston urban landscape, ABNC provides essential habitat for resident and migratory species, including numerous federal and state-listed Species of Greatest Conservation Need (SGCN). Following GBEP's pivotal \$340,000 grant supporting the acquisition of 1,147 acres of the former ExxonMobil tract, ABNC has expanded its protected footprint. However, evaluating wildlife usage and assessing the ecological returns of multi-year prairie restoration across these newly protected lands and along urban perimeter zones has traditionally been limited by surveyor bias, field safety constraints, weather variability, and high financial overhead.

To overcome these barriers, ABNC and ABC will deploy an innovative bioacoustic monitoring infrastructure utilizing the BirdsPlus Index platform.

Project Methodology & Technical Framework

The BirdsPlus platform utilizes a standardized four-stage bioacoustic pipeline:

1. **Acoustic Data Capture:** Autonomous Recording Units (ARUs) are deployed in key biological windows (e.g., spring/fall migration) across coastal tallgrass prairie, riparian forest, fresh/saltwater marsh, and riparian bayou systems.
2. **Automated Species Identification:** Raw audio files are passed through cloud-based automated classification models (machine-learning algorithms) to catalog species presence without human observer bias.
3. **Conservation Tier Weighting:** Detected species are assigned conservation values based on rarity, state/federal listing, and SGCN status, generating a customized raw Site-Level Index Score.
4. **Remote Sensing Integration:** The site score is integrated with remote sensing metrics to generate a normalized, relative BirdsPlus Index score comparing local ecological performance against regional expectations and urban baselines.

Study Design & Scalability

Primary Ask (Extensive Sampling Scenario - \$78,312.50): Structured under the 'Higher Intensity' sampling configuration, this design deploys **50 sampling locations** distributed across core habitats, prairie restoration zones, urban transition perimeters, and the newly acquired 1,147-acre tract. This spatial density enables high-resolution mapping of avian communities across restored vs. urbanized areas.

Alternative Ask (Minimal Sampling Scenario - \$28,590.00): Structured under the 'Lower Intensity' sampling configuration, this design scales down to **24 sampling locations** focused on core interior natural habitats, maintaining core methodology and scientific validity.

Project Urgency:

With grant funding beginning in FY2028 (September 2027), immediate deployment upon award execution is critical. Installing the bioacoustic hardware in tandem with the initial rollout of conservation and land management activities on the newly acquired 1,147-acre North Property ensures operational efficiency and allows ABNC to capture unrepeatable baseline ecological data before active prairie restoration and surrounding urban development progress further.

Other Plans Implemented:

The Galveston Bay Plan, 2nd Edition: Directly implements Priorities 2 and 4 by establishing continuous bioacoustic monitoring across ABNC's legacy sanctuary lands and newly acquired acreage.

GLO Coastal Resiliency Master Plan: Supports GLO Tier One priorities by tracking ecological health and biodiversity resilience across critical coastal prairie and wetland buffers.

Texas Conservation Action Plan (TCAP): Advances TPWD priority monitoring directives for state-listed species and Species of Greatest Conservation Need (SGCN) across coastal prairie, marsh, and forest habitats

Partners¹ and Their Roles:

Armand Bayou Nature Center (ABNC): Responsible for overall project management, field deployment/retrieval of ARU hardware, spatial design execution, and integration of findings into local land management plans. ABNC will retain all ARU hardware post-grant to conduct long-term monitoring across the 1,147-acre North Property.

American Bird Conservancy (ABC): Responsible for technical study design oversight, cloud storage hosting, running automated classification pipelines, remote sensing integration, and generating BirdsPlus validation reports.

Does the Project work with new, smaller communities/partnerships?

☒ Yes

☐ No

ABNC will partner with university students, early-career environmental practitioners, and community science volunteers to assist with hardware maintenance, field sampling protocols, and data outreach.

Is the project subject to Title VI requirements?

To meet federal nondiscrimination guidance and laws (Title VI), TCEQ requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English-speaking ability (LEP). If 5% or more of the population within your project area is LEP and share a common language, then you are required to provide outreach in the alternative language. For statewide projects, Spanish language outreach is required. As Title VI compliance could impact the project budget, please reach out to the primary subcommittee coordinator for this application with questions on determining applicability.

☐ Yes

☒ No

[TBD.]

Latitude/Longitude (Optional):

29°36'15" N / 95°04'45" W (Preserve Centroid / Headquarters reference point; sampling grid spans 50 distributed sites across ABNC acreage)

Location:

Armand Bayou Nature Center (including legacy preserve acreage and the newly acquired 1,147-acre tract). ABNC is located in the lower Galveston Bay watershed with Armand Bayou flowing into Lake Mark Kramer (formerly known as Mud Lake), then into Clear Lake and directly into Galveston Bay.

Projects Map

[\[Insert Map Here or Attach as an Appendix if Applicable\]](#)

Supplemental Photos/Graphics (Optional):

[\[Insert Here or Attach as an Appendix\]](#)

¹ If partners are subgrantees completing work reimbursable under GBEP funding, a letter of commitment from the partner must be submitted as an appendix with the application.

SECTION SIX: BUDGET DETAILS

Grant Payments [see 30 TAC § 14.7(12)]: All grant payments will be made on the basis of reimbursement for allowable costs (as defined in 2 CFR Part 200, Subpart E). All payments for awarded proposals will be reimbursements of allowable costs incurred after both parties have entered (signed) a grant agreement for the project.

Budget. Authorized budgeted expenditures for work performed are as follows:

a. Direct Costs

Budget Category	Cost for Work to be Performed
Salary / Wages	\$0.00
Fringe Benefits (###)% ²	\$0.00
Travel	\$2,500.00
Supplies	\$11,812.50
Equipment	\$0.00
Contractual	\$50,000.00
Construction	\$0.00
Other	\$14,000.00
Total Direct Cost	\$78,312.50

b. Indirect Costs³

Distribution Base Amount (<i>identify Base type below</i>)	\$
Indirect Cost Rate for Reimbursement	%
Total Indirect Costs	\$

c. Maximum Authorized Reimbursement

Maximum Authorized Reimbursement (Direct and Indirect Costs)	\$ 78,312.50
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Indirect Cost Distribution Base. The Distribution Base above is (check one):

- ☐ direct salary/wages and fringe benefits
☐ modified total direct costs
☐ other direct cost Base

If other direct cost Base, identify:

The indirect cost rate is (check one):

- ☐ **Predetermined Rate**— an indirect rate that is negotiated between the Performing Party and its federal cognizant agency and supported by a current Negotiated Indirect Cost Rate Agreement (NICRA) letter. A Predetermined Rate is not subject to adjustment except as provided by 2 Code of Federal Regulations (CFR) § 200.411.
- ☐ **De Minimis Rate**— if Performing Party does not have a current negotiated indirect rate, Performing Party may use a standard rate of 15 percent of Modified Total Direct Costs (MTDC) in lieu of determining the actual indirect costs of the service. Costs must be consistently charged as either indirect or direct costs.

² If fringe is not a single rate, please attach calculation or explanation as an appendix.

³ Please attach Indirect Cost Agreement as an appendix if applicable

☐ **Partial Reimbursement Rate** — a reimbursement rate agreed to between TCEQ and Performing Party that is less than the rate authorized under TxGMS or, where applicable, 2 CFR Part 200. Performing Party contributes all of its unreimbursed indirect costs to the successful performance of the project or projects funded under this Contract, in accordance with Article 9 of this section.

☐ **Other:** [Examples: De Minimis Rate with a base of direct salary and wages (less than or equal to actual indirect costs) or Provisional Rate. If this is a Provisional Rate, include the following language: Provisional Rate: The subsequent adjustment of the indirect cost rate is subject to the requirements of Article 9 of this (Cost Budget) section.]

Other. If Budget Category “Other” is greater than \$25,000 or more than 10% of budget total, identify the main constituents:

Supplies (\$11,812.50): Total ARU hardware purchase (initial hardware plus additional units/accessories for attrition as needed) for 50 field units.

Travel (\$2,500.00): Travel expenses for technical project staff for initial deployment set-up and field auditing.

Contractual (\$50,000.00): Technical services provided by American Bird Conservancy (ABC) for study design, automated classification algorithm execution, data validation, remote sensing integration, and final BirdsPlus Index reporting.

Other (\$14,000.00): Direct operational expenses including field ARU deployment (\$2,000), ARU retrieval (\$2,000), and cloud data storage/processing (\$10,000).

Modular Scale-Down Option (Option B - \$38,090.00 Breakdown):

If full funding is unavailable, the project can be scaled down to 24 sites: Supplies (\$5,670), Travel (\$2,500), Contractual (\$23,000), Other (\$6,920: \$960 deployment, \$960 retrieval, \$5,000 storage).

Travel. In order to be reimbursable, travel costs must be specifically authorized in advance of the travel. Travel costs will be reimbursed only in the amount of actual costs, up to the maximum allowed by law for employees of the State of Texas at the time the cost is incurred.

Budget Categories. The Budget Categories above are representative of the items of cost found in TxGMS and 2 CFR Part 200, and have the definitions, requirements, and limitations found therein. Construction costs are not reimbursable without prior, specific written authorization from TCEQ.

SECTION SEVEN: CONTRACT REQUIREMENT [see 30 TAC § 14.7(15)]:

- By submitting this Project Proposal, you acknowledge that, if you become a successful grant recipient selected for a grant award, you must enter into a signed grant agreement or contract with TCEQ following the announcement of that award.

SECTION EIGHT: ACKNOWLEDGMENTS

Please read and understand the following:

- By submitting this Project Proposal, you acknowledge that information on how grant payments will be made is contained in the Budget Details section describing direct and possibly indirect costs. You further acknowledge that grant payments will be reimbursements on the basis of allowable costs incurred and that selected recipients will receive contract documents addressing allowable costs, unallowable costs, and reimbursement.
- By submitting this Project Proposal, you acknowledge your understanding that Project Proposals do not require matching funds and that a TCEQ director does not need to adjust or waive any matching funds requirement.
- By submitting this Project Proposal, you acknowledge that, if GBEP elects to hold a pre-submittal meeting relating to this Project Proposal, GBEP will post notification of the meeting's time and location indicating whether attendance is mandatory.

SECTION NINE: QUESTIONS AND PRE-SUBMITTAL MEETINGS [see 30 TAC § 14.7(13) and 30 TAC § 14.7(14)]:

- There are no pre-submittal meetings scheduled.
- For requests for additional, pre-submittal information [see 30 TAC § 14.7(13)], please contact the corresponding Subcommittee Coordinator listed on this page.

SECTION TEN: ADDITIONAL INSTRUCTIONS

In submitting your Project Proposal, please refer and adhere to the following instructions and guidelines concerning materials and information required to be submitted by potential grant recipients:

- GBEP intends to accept only complete Projected Proposals in a layout and format constituting a filled version of this proposal document with all applicable sections therein addressed; however, GBEP may, in its sole discretion, consider and accept nonconforming Project Proposals in the best interest of the state.
- Unless otherwise specified by GBEP, formal signatures are not required on Project Proposals.
- Unless otherwise communicated or implied, GBEP requires 1 (one) completed copy of your Project Proposal per corresponding Subcommittee Coordinator.
- Project Proposals must be received electronically, through the email address of the relevant Subcommittee Coordinator listed on this page, by the deadline listed on both this page and the first page of this Project Proposal document.

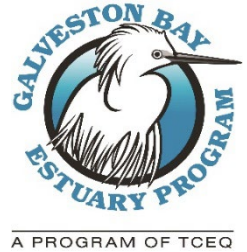
Submittal Process and Deadline [see 30 TAC § 14.7(8) and 30 TAC § 14.7(9)]:

Please Submit Project Proposals (Microsoft Word Only – No PDFs) by **July 24, 2026 to the relevant Subcommittee Coordinators below:**

WSQ Subcommittee: Christian.Rines@tceq.texas.gov
NRU Subcommittee: Lindsey.Lippert@tceq.texas.gov
PPE Subcommittee: Zoe.Gapayao@tceq.texas.gov
M&R Subcommittee: Jenelle.Estrada@tceq.texas.gov
Programmatic Projects: Lisa.Marshall@tceq.texas.gov

Galveston Bay Estuary Program

Fiscal 2028 Project Proposal



Please complete this proposal form and submit to the appropriate Subcommittee Coordinator (end of form) by **July 24, 2026**. No late submittals will be considered for funding.

This Call for Project Proposals complies with 30 Texas Administrative Code (TAC) § 14.7, which lays out requirements for a competitive solicitation by TCEQ for grant awards. For convenience, specific citations to 30 TAC § 14.7 are identified in the text.

SECTION ONE: INTRODUCTION

Purpose [required by 30 TAC § 14.7(1)]: The purpose of the proposed grant from the Galveston Bay Estuary Program (GBEP), a program of the Texas Commission on Environmental Quality (TCEQ), is to implement *The Galveston Bay Plan, 2nd Edition* (the Plan), a comprehensive conservation and management plan falling under Section 320, of the Federal Water Pollution Control Act (33 U.S.C. Section 1330), for a designated national estuary in the State of Texas.

Objective and Allowable Activities [see 30 TAC § 14.7(4)]: The objective of this grant is to implement the GBEP stakeholder developed priorities for fiscal 2028 (FY 2028) Priority Area Actions that were developed by GBEP subcommittees for FY 2028 at the June 2026 meetings. Any proposal implementing the Plan may be submitted, but proposals implementing the FY 2028 Priority Area Actions will be considered above others.

Authority [see 30 TAC § 14.7(2)]: Grants issued by GBEP under this solicitation are authorized by: the Federal Water Pollution Control Act (Clean Water Act) § 320 (33 UNITED STATES CODE § 1330), commonly referred to as the National Estuary Program; TEX. WATER CODE § 5.124; and 30 TAC ch. 14.

Match Requirement [see 30 TAC § 14.7(10) and 30 TAC § 14.7(11)]: No matching funds are required. Therefore, there is no need to adjust or waive any matching funds requirement.

Multiple Awards [see 30 TAC § 14.7(7)]: GBEP anticipates awarding funds for multiple proposals. GBEP intends to award grants to that combination of proposals which best implements the Plan, factoring in all criteria identified in this Call for Project Proposals, the availability of funds, and the most effective division of funds between awards.

Timeline of Proposals:

Task	Date Due
Release of Request for Proposals	June 22, 2026
Proposals Due	July 24, 2026
Send Proposals to Subcommittees Members for Review	August 12, 2026
Present Proposals to Subcommittees for Council Recommendation	September 2, 2026 (NRU and PPE) September 9, 2026 (M&R and WSQ)
Present Proposals to B&P Subcommittee for Final Recommendation	September 30, 2026
Present Proposals to Galveston Bay Council for Approval	October 14, 2026

SECTION TWO: SUBMITTAL – GENERAL INFORMATION

Primary Subcommittee: Monitoring and Research (M&R)
Secondary Subcommittee (if applicable): Water and Sediment Quality (WSQ)
Tertiary Subcommittee (if applicable): Choose an item.

Project Name:

Galveston Bay Monitoring and Research Project Database: Spatial and Metric Visualization for M&R
--

Project Previously Funded by GBEP? Yes ☒ No ☐

Lead Implementer / Categories of Eligible Recipients [see 30 TAC § 14.7(3)]:

Houston Advanced Research Center/GTRI

The lead implementer must be in one of the following categories of eligible recipients. Please indicate which category applies to your entity. If the proposing party is not already paired with a lead implementer in one of the categories listed below, the proposing party will need to partner with an eligible recipient in one of these categories to be selected for funding. Please reach out to GBEP staff with any questions.

☐ Federal, State, or Local Government ☐ Council of Government ☐ Public ISDs or Universities
☒ Nonprofit ☐ Other*

--

Unique Entity ID (UEI) Number:	MLKKJ9MNDN6
Vendor Identification Number (VIN) or Tax ID:	17600383156

Contact Information:

Project Representative Name	Erin Kinney
Project Representative Phone	281-364-6040
Project Representative Email	Ekinney@harcresearch.org

Project Dates / Duration (beginning no earlier than September 1, 2027 – ending no later than May 31, 2030) [see 30 TAC § 14.7(5)]:

September 1, 2027 – August 31, 2029

Amount Requested from GBEP:

\$195,871

Federal ☐ State ☐ No Preference ☒

Is the project scalable? ☐

Amount Requested per year (if applicable):

FY 2028 (09/01/2027-08/31/2028)	\$109,154.00
FY 2029 (09/01/2028-08/31/2029)	\$86,717.00
Total	\$195,871

Total Project Cost (including Leveraging Amounts, if any; provide leveraging information where indicated below):

\$195,871

Is this an estimate? ☐

Leveraging (in-kind and/or cash):

N/A

SECTION THREE: GALVESTON BAY PLAN, 2ND EDITION IMPLEMENTATION

Grant recipient activities to be funded must implement the Plan, but proposals implementing the FY 2028 Subcommittee Priorities (Section Four) will be considered above others. This selection criteria provides for the selection of multiple recipients as needed.

The *Galveston Bay Plan, 2nd Edition* Action Plans are found at:

<https://gbep.texas.gov/ensure-safe-human-and-aquatic-life-use/>

<https://gbep.texas.gov/protect-and-sustain-living-resources/>

<https://gbep.texas.gov/engage-communities/>

<https://gbep.texas.gov/inform-science-based-decision-making/>

Galveston Bay Plan Priority Area Actions Addressed:

Plan Priority 1: Ensure Safe Human and Aquatic Life Use

NPS-1 ☐ NPS-2 ☐ NPS-3 ☐ NPS-4 ☐
PS-1 ☐ PS-2 ☐ PS-3 ☐
PHA-1 ☐ PHA-2 ☐ PHA-3 ☐ PHA-4 ☐ PHA-5 ☐

Plan Priority 2: Protect and Sustain Living Resources

HC-1 ☐ HC-2 ☐ HC-3 ☐
SC-1 ☐ SC-2 ☐
FWI-1 ☐ FWI-2 ☐ FWI-3 ☐

Plan Priority 3: Engage Communities

SPO-1 ☐ SPO-2 ☐ SPO-3 ☐ SPO-4 ☐
PEA-1 ☐ PEA-2 ☐ PEA-3 ☐

Plan Priority 4: Inform Science-based Decision Making

RES-1 ☐ RES-2 ☐ RES-3 ☐ RES-4 ☐
RES-5 ☐ RES-6 ☐ RES-7 ☐ RES-8 ☐
ACS-1 ☒ ACS-2 ☒ ACS-3 ☒

Plan Priority Area Actions Detail:

Expansion of the GBEP Implementation Tracking Viewer to include spatial components and metric visualizations like those created for the NRU subcommittee in the [Galveston Bay Habitat Project Database](#).

The database for M&R will be tailored to the needs of GBEP and the M&R subcommittee.

As a visualization and decision support tool, the project databases will either directly or indirectly support all the priority areas for Plan Priority 4.

Specifically, the database could support **tracking ecosystem health indicators (ACS-1)** either as a graph or spatially with a map, and **facilitate access to monitoring and research data** by making projects and project links easier to find and view spatially (ACS-2).

The database would **assist in tracking Galveston Bay Plan Implementation (ACS-3)** by making it possible to see how many projects address which Galveston Bay Plan Priorities and Action Plans, where there is overlap and where there may be gaps.

SECTION FOUR: SUBCOMMITTEE PRIORITIES / FACTORS TO BE USED TO SELECT AWARDS [see 30 TAC § 14.7(6)]

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority. This selection criteria provides for the selection of multiple recipients as needed.

Subcommittee Identified Priorities:

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

- ☐ WSQ: Supporting management measures and watershed-based plans through adaptive management, workforce development, and technical assistance.
- ☐ WSQ: Improve knowledge and accessibility of pollution reporting tools to empower the community.
- ☐ WSQ: Implementation and/or evaluation of best management practices that address point and nonpoint source pollution.
- ☐ NRU: Habitat Acquisition.
- ☐ NRU: Enhancement of existing or ongoing restoration-conservation efforts. Special emphasis on:
 - ☐ Adaptive management for previously completed projects; and
 - ☐ Projects that may have lost/delayed funding from other federal sources.
- ☐ NRU: Benefit to native fish and wildlife, including federal and state listed species, Species of Greatest Conservation Need, or nongame wildlife.
- ☐ NRU: Project urgency: Project must be completed in next 24 months or opportunity is lost.
- ☐ PPE: Connecting new audiences to existing/completed on-the-ground projects in the watershed.
- ☐ PPE: Empowering K-12 students and/or adults to positively impact their local environment through increased scientific literacy and community projects.
- ☐ PPE: Opportunities to host workshops/networking events to provide technical assistance for local leadership (local governments, MUDs, schoolboards, the public) on key topics.
- ☐ PPE: Conservation and environmental workforce development.
- ☒ M&R: Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).
- ☐ M&R: Baseline assessments for large-scale, man-made changes to Galveston Bay at an adequate timeline and spatial range to provide useful information.
- ☒ M&R: Assessment, Exposure, and Response to stressors, including but not limited to:
 - ☐ Species of greatest conservation need;
 - ☐ Contact recreation standards;
 - ☐ Environmental parameters;
 - ☐ Emerging contaminants; and
 - ☐ Legacy contaminants.

Subcommittee Priority Detail:

By integrating M&R project details with interactive maps, visualizations, and searchable project information, the dashboard, supports the following priorities:

Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).

This project could geospatially render the M&R monitoring projects so that they are visible alongside the NRU habitat restoration and acquisition projects, allowing for side-by-side comparisons and improved capacity for capturing existing data and identifying data gaps.

The database could make the projects visible spatially and add information so that stakeholders can synthesize the data more easily and use it to make informed project-based decisions.

Assessment, Exposure, and Response to stressors, including but not limited to: species of greatest conservation need, contact recreation standards, environmental parameters, emerging contaminants, and legacy contaminants.

The database could make it possible to filter and view past projects that have addressed any or all these issues. One example: Legacy contaminants- an interactive map can show where they've been detected, what was measured and monitored, when the monitoring took place, and where those data can be found.

Does the Project align with any EPA Areas of Special Interest?

- ☒ Reduce Nutrient Pollution to Protect Water Quality and Public Health
- ☒ Make Investments that Address Coastal Resiliency
- ☒ Reduce Trash

The project database could be used to support any of these EPA areas of special interest if they are prioritized by the stakeholders by including filters and maps to illustrate projects that reduce nutrient

pollution, invest or address coastal resiliency by supporting the Estuary Resilience Action Plan, or reduce trash through litter abatement or other programs.

SECTION FIVE: PROPOSAL DETAILS

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

Project Summary:

HARC and Black Cat GIS propose building an interactive Monitoring & Research (M&R) project database and dashboard, modeled on their existing Galveston Bay Habitat Project Database (GBHPD).

The current Implementation Tracking Viewer makes it hard to find project reports, spot data gaps, compare strategies across projects, or evaluate overall progress — limiting trend analysis and priority-setting.

We propose using the GBHPD's existing structure, branding, and Survey123-based data collection framework to keep the new database consistent with the existing NRU GBHPD and let GBEP staff update both efficiently in real time.

The database will be developed through three main tasks: stakeholder needs assessment, database development and completion, and building the database pages. The completed project will provide GBEP with a sustainable, easy-to-maintain platform that turns project data into a shared, searchable knowledge resource, helping GBEP track implementation, spot trends, and plan future priorities strategically.

Full Project Description (1,000 words or less):

Need:

The Galveston Bay Estuary Program (GBEP) has funded or supported hundreds of projects in the Lower Galveston Bay Watershed. The success of GBEP is dependent on the work that supports and executes the Galveston Bay Plan. GBEP's existing Implementation Tracking Viewer (ITV) provides a record of these investments, however GBEP's ability to identify project and data gaps, recognize successful implementation strategies, synthesize information across projects, and evaluate collective progress is limited. Project reports are not always easy to find, and may not include GIS files that other projects can leverage and build upon. Enhancing these capabilities through an interactive project database will better inform stakeholder decision making and annual priority setting, ensuring that subcommittees will continue to grow GBEP's reach intentionally and in-sync across subcommittees.

This project supports M&R's annual priorities of meaningful and effective monitoring of existing, past, and new projects and assessment, exposure, and response to priority stressors by improving how monitoring and research information is organized, accessed, and synthesized across the Galveston Bay watershed. While this project will not conduct new monitoring, it will increase the value of existing monitoring investments by integrating project information into an interactive implementation dashboard that enables users to visualize monitoring activities across space and time, summarize projects by research focus and stressor category, and identify geographic and thematic gaps in current knowledge. By providing a regional perspective on GBEP-funded monitoring and research activities, the database will support more strategic planning of future monitoring efforts, facilitate synthesis across related projects, and improve the ability of stakeholders to evaluate progress toward addressing priority stressors, including species of greatest conservation need, contact recreation, environmental parameters, emerging contaminants, and legacy contaminants.

Methods:

This project will leverage the structure and design of the recently completed Galveston Bay Habitat Project Database (GBHPD) and many of the processes, graphs, and branding elements created for that project. The GBHPD integrates project details with spatial information, supporting datasets and documents, financial and partner information, Plan Priorities supported, and complimentary datasets that provide additional context. The data are maintained and updated easily by GBEP staff through a custom questionnaire supported by ESRI's Survey 123. The GBHPD and the new M&R database will use the same Survey 123

framework, allowing GBEP staff to update project information efficiently and keep the databases current in real-time.

The exact features and visualizations provided by the new portals would be customized to the needs and priorities of the M&R subcommittee and GBEP staff. As an ESRI-based platform, the databases will support interactive maps, geospatial datasets, summary statistics, graphs and figures of project overlaps and trends, and fully searchable project details with links to supporting documents and resources.

Task 1: GBEP and Stakeholder Needs Assessment

The dashboard will be designed around stakeholder information needs to ensure the resulting tools directly support subcommittee planning, implementation tracking, and decision making. The team will meet with GBEP stakeholders at subcommittee meetings or in an open virtual setting to identify how they want to use the database with questions like:

- What metrics are most important (datasets collected, areas monitored, # species monitored, # habitats monitored, etc) and what questions do they want to answer?
- What data will help M&R better understand how they are meeting GBEP priorities?
- What data visualizations will help explain the value of the M&R projects?

Task 2: Development of the Database

The team will begin with ITV data, coordinating with GBEP staff to obtain additional project and spatial information and then reaching out to project leads to request missing data, reports, maps, or images. As needed, project files will be converted or updated, back to 2005. Key steps include:

- Gathering project files back to 2005 and completing records as needed
- Identifying which project details will answer the questions most valued by M&R
- Building a Survey 123 form that will standardize project details to support the maps and visualizations that address the questions from M&R

Task 3: Building the Database and Dashboard

The team will build a multi-page database framework that supports the information most valued by M&R subcommittee stakeholders. The database will utilize the same structure and design elements of the GBHPD to facilitate a cohesive user experience and quality of data. The database will be hosted and accessible through the Regional Monitoring Database. Pages will be tailored to the needs of M&R using the stakeholder suggestions and key questions. Potential pages could include:

- Landing page - including summary statistics of all M&R projects, a map with M&R specific features, and some visualizations of the most important metrics (Figure 2)
- Facts and Figures - graphs/charts specific to M&R and with an annual filter option (Figure 3)
 - Example graph - breakdown of projects by plan priority and lead organization (Figure 4)
- Explore Map - including M&R monitoring projects (Figure 5), possibly including GBEP habitat conservation and restoration areas or watershed-based plans
- Search Projects - fully searchable list of all projects with specific M&R key-words available for filtering and downloading in multiple formats (Figure 6)
- FAQ - including virtual tours of each page, downloading instructions, definitions, additional resources, and a contact link to GBEP

Benefits:

The proposed implementation dashboard will provide GBEP with a sustainable, user-friendly platform for organizing, maintaining, and communicating project information. Building on the proven framework of the Galveston Bay Habitat Project Database, the portal will improve implementation tracking, increase access to project information, and enable stakeholders to more easily identify trends, synthesize information across projects, and support future planning and priority setting. The standardized Survey123 workflow will allow GBEP staff to efficiently maintain project information over time while preserving institutional knowledge

and ensuring the database remains a valuable decision-support resource for partners, researchers, and stakeholders. Ultimately, the M&R database will transform individual monitoring projects into a shared knowledge resource that supports adaptive management, strengthens scientific collaboration, and informs future research priorities across the Galveston Bay watershed.

Project Urgency:

Currently, it is difficult to show off the project accomplishments of GBEP and the subcommittees. Summary statistics, changes over time, and integration of plan priorities, metrics, and project area are difficult, if not impossible, to display with current tools. GBEP and the stakeholders' abilities to visually show and explain the impacts of their work will benefit all GBEP stakeholders.

Other Plans Implemented:

N/A

Partners¹ and Their Roles:

HARC will manage the grant, budget, subcontract, communications with GBEP, and reporting. HARC will host the complete database on the Regional Monitoring Database website where the current NRU Galveston Bay Habitat Project Database is hosted. HARC will create and host the virtual tours on their Vimeo channel. **Black Cat GIS** will gather project information from GBEP and stakeholders, identify and fill data gaps through further research, creation of GIS files, and standardization of metrics. They will create project information forms in Survey 123, and build the database and figures, graphs, and maps. **Both organizations** will gather information on stakeholder and GBEP needs and preferences, review designs for data visualizations, troubleshoot the final database, identify and gather supplemental information for visualizations, and optimize the user experience.

Does the Project work with new, smaller communities/partnerships?

☐ Yes

☒ No

Is the project subject to Title VI requirements?

To meet federal nondiscrimination guidance and laws (Title VI), TCEQ requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English-speaking ability (LEP). If 5% or more of the population within your project area is LEP and share a common language, then you are required to provide outreach in the alternative language. For statewide projects, Spanish language outreach is required. As Title VI compliance could impact the project budget, please reach out to the primary subcommittee coordinator for this application with questions on determining applicability.

☐ Yes

☒ No

Latitude/Longitude (Optional):

N/A

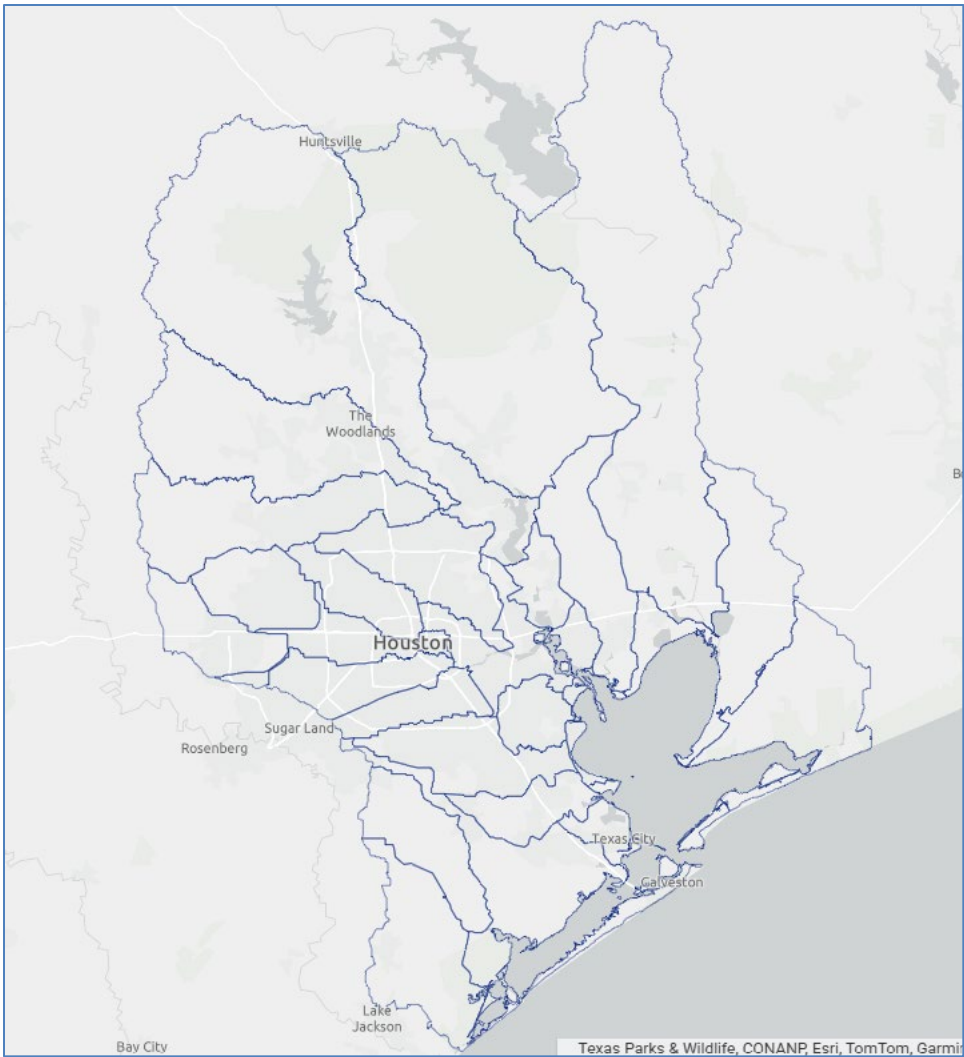
Location:

All GBEP service area: Lower Galveston Bay Watershed

Projects Map

Map 1. The Lower Galveston Bay Watershed with GBEP subwatersheds.

¹ If partners are subgrantees completing work reimbursable under GBEP funding, a letter of commitment from the partner must be submitted as an appendix with the application.



Supplemental Photos/Graphics (Optional):

Figure 1. Screen shot of GBEP Implementation Tracking Viewer and its features. The project locations are displayed as dots over the GBEP subwatersheds map, and a dialog box with project title and brief summary can be viewed.

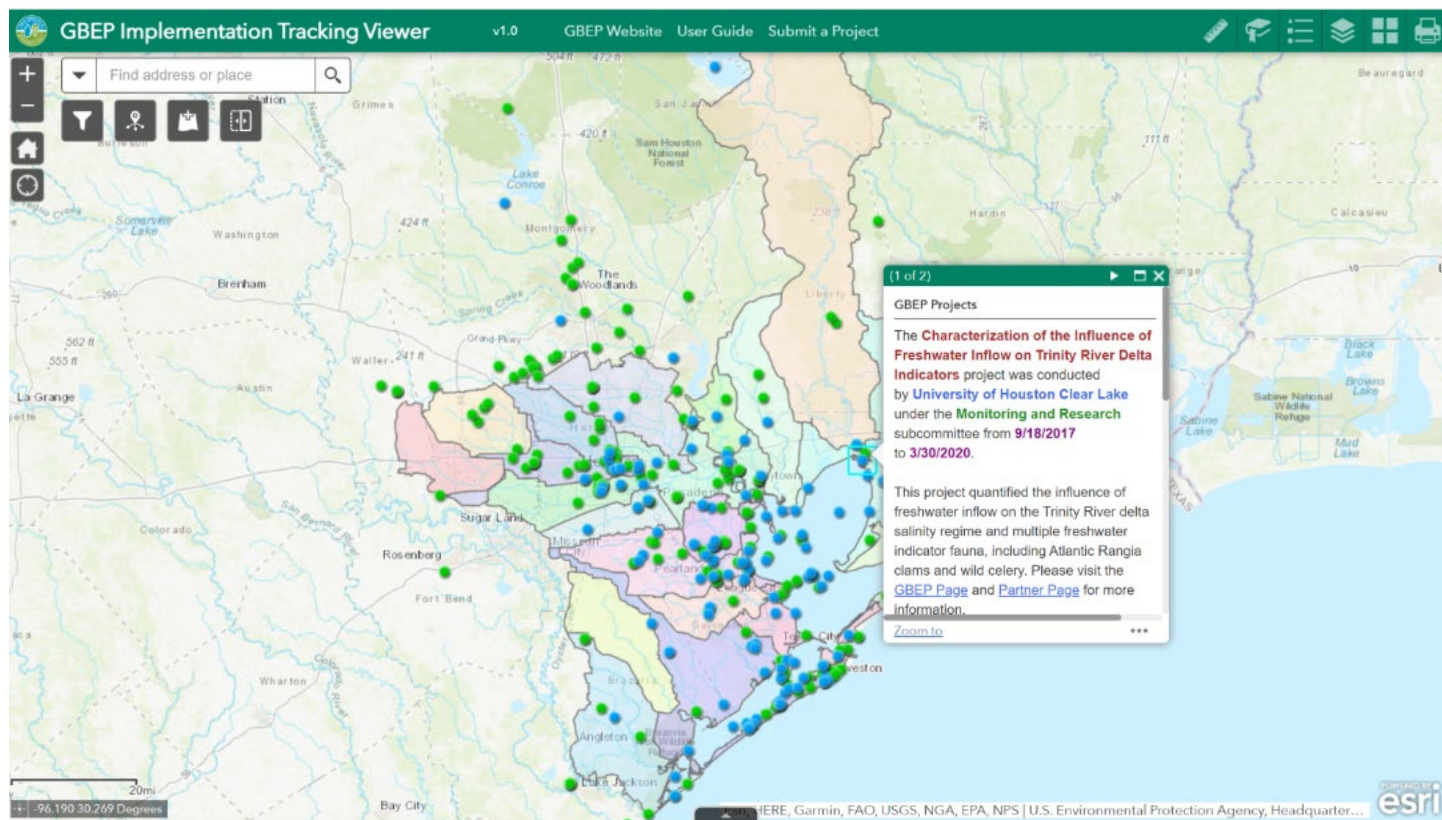


Figure 2. Screen shot of Home page of Habitat Project Database created for and with the NRU Subcommittee. This page includes features and metrics that were most important to the NRU subcommittee stakeholders, including acres impacted, focal species, and number of projects by subwatershed.

58

PROJECTS FUNDED
GBEP award

\$8.3M

TOTAL GBEP AWARDED
All funded projects

19.2K ac

ACRES IMPACTED
Approximate project size

17

LEAD ORGANIZATIONS
Distinct funded orgs

ABOUT THIS DATABASE

The Natural Resource Uses (NRU) Subcommittee advises the Galveston Bay Estuary Program Council on habitat conservation and balanced human uses, selecting projects for annual funding. This database represents all GBEP-funded NRU projects from 2005 to present.

Use the navigation above to explore projects by map, browse the full database, or view facts and figures.

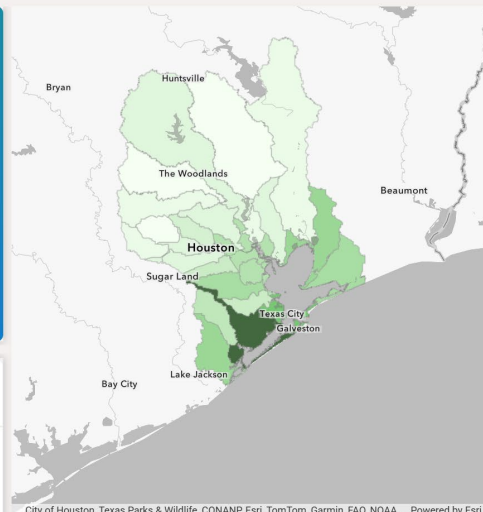
22 YEARS OF
NRU PROJECTS
2005 – 2026

221

AVG ACRES
PER PROJECT
Excl. land acquisition

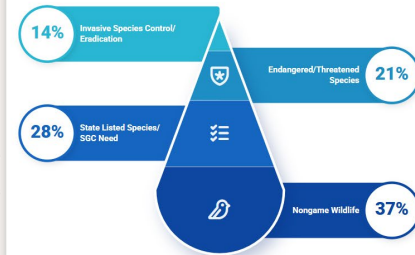
\$116K

AVG GBEP
AWARD
Excl. land acquisition



Projects by Focal Species

Each band represents the share of funded projects targeting that focal species. Hover for details.



Acres by Project Goal

Physical project acres by broad goal. Projects with multiple goals counted in each.

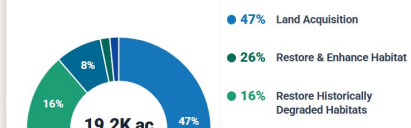


Figure 3. Screen shot of the NRU Facts and Figures page. The years displayed can be adjusted at the top and there are currently eight graphs/figures covering a range of NRU-specific metrics. This graph shows how many projects involved different combinations of habitat types. It could be altered to fit M&R specific metrics.

Facts & Figures

Interactive visualizations of GBEP project funding, habitat types, lead organizations, and conservation outcomes from 2005 to present

Filter by Fiscal Year: From 2026

Habitat Types

Projects by Site

Projects by Organization

Plan Priorities

Projects by Fiscal Year

Org × Priority

Habitat Share

Funding by Site

Project Habitat Type Combinations

How to read: Each column represents a unique set of habitat types. The bar height above shows how many projects have that exact combination. Filled dots show which habitats are included. The green bars on the right show each habitat's total project count across all combinations. Scroll to zoom, drag to pan.

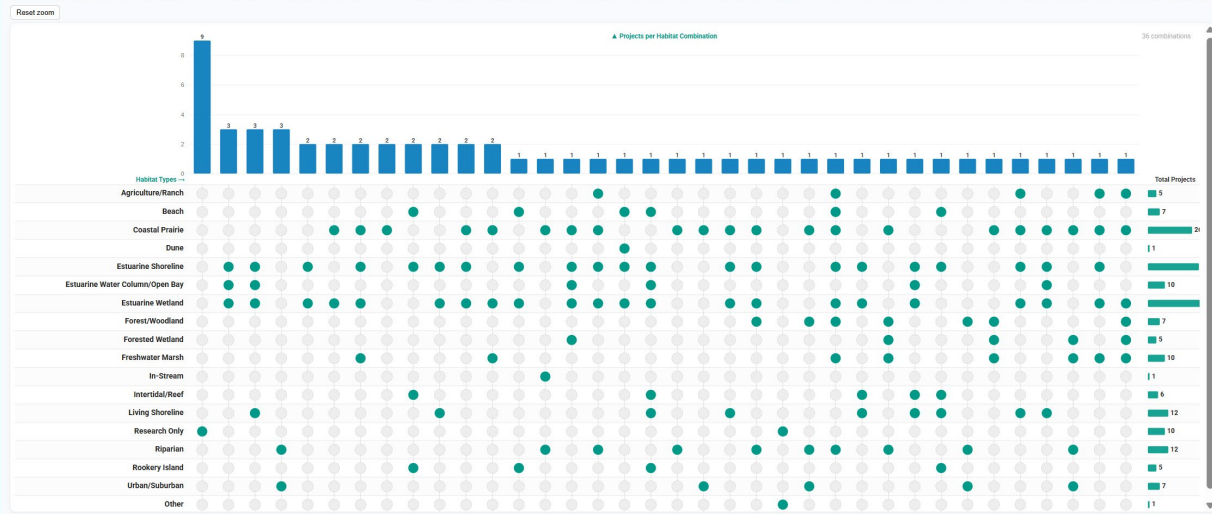


Figure 4. Screen shot of the Plan Priorities figure from the Facts and Figures page of Habitat Project Database created for and with the NRU Subcommittee. This graphic identifies how many of each of four Plan Priorities and ten Action Plans were supported by NRU projects between 2005 and 2026.

Facts & Figures

Interactive visualizations of GBEP project funding, habitat types, lead organizations, and conservation outcomes from 2005 to present.

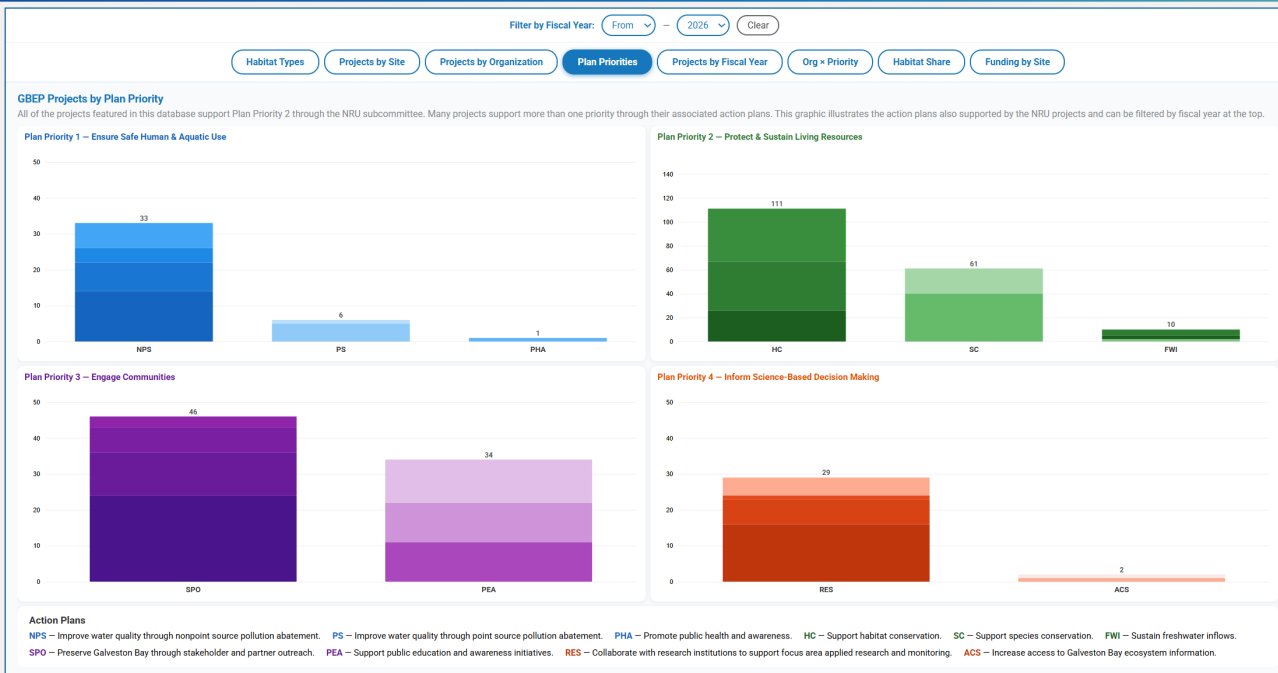


Figure 5. Screen shot of the Explore page, which shows a map of NRU projects along with complimentary datasets like restored oyster reefs and parkland. This would be customized with M&R projects and supporting datasets.

Explore

Click and drag to pan across the bay, scroll to zoom in and out, and use the layer controls to filter by watershed, project type, or funding status.

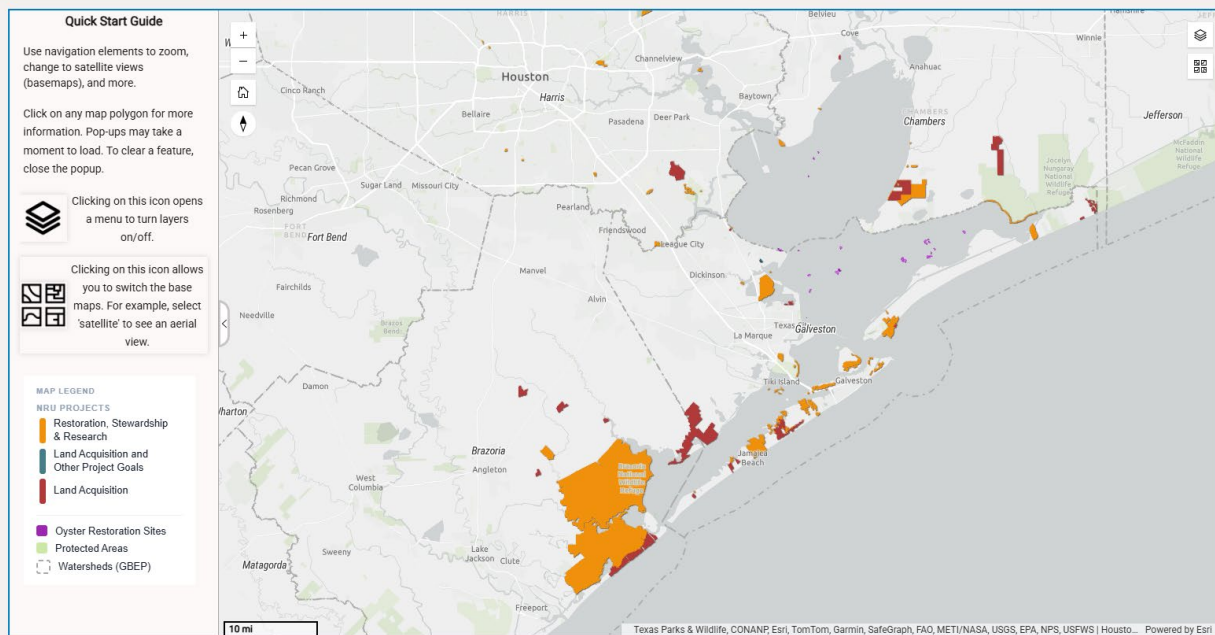


Figure 6. Screen shot of the NRU Search Projects page, which shows all NRU projects back to 2005. Project details have been added from the original GBEP files along with additional information including supplemental documents, GIS files, and custom keywords. From this page, the projects can be filtered, sorted, and searched by keyword, including: habitat types, project type, phase of completion, and GBP Plan Priorities and Action Plans supported. It also includes a reflections and outcomes sections for easy reference to lessons learned.

Home

Explore

Facts and Figures

Search Projects

FAQ

Search Projects

Browse, filter, and download all GBEP-funded NRU projects. Search by organization, habitat type, fiscal year, or project goal.

Search by name or organization...

Search

Clear all

58 projects

Sort: Award

CSV

GeoJSON

North Deer Island Protection and Restoration Project Phase II

Texas Parks and Wildlife Department

\$650K FY 2006 75 ac

awarded year area

Beach Estuarine Shoreline Estuarine Wetland

Rookery Island Physical Project Galveston

Conservation Assistance Program

Galveston Bay Foundation

\$600K FY 2011 10K ac

awarded year area

Agriculture/Ranch Beach Coastal Prairie

Estuarine Shoreline Estuarine Wetland

Forest/Woodland Freshwater Marsh Riparian

Physical Project Land Acquisition Brazoria

Chambers Galveston

9th Addition to the Coastal Heritage Preserve

Texas Parks and Wildlife Department

\$576K FY 2024 148 ac

awarded year area

Coastal Prairie Estuarine Shoreline

Estuarine Wetland Freshwater Marsh

Physical Project Land Acquisition Galveston

Middle Armand Bayou Protection Project

Armand Bayou Nature Center

\$500K FY 2022 1K ac

awarded year area

Coastal Prairie Forest/Woodland

Forested Wetland Freshwater Marsh Riparian

Physical Project Land Acquisition Harris

Salt Bayou Acquisition and Restoration Project

Galveston Bay Foundation

\$390K FY 2022 25 ac

awarded year area

Coastal Prairie Physical Project

Land Acquisition Galveston

Herman Brown Park Riparian Restoration and Community Engagement Project

Galveston Bay Foundation

\$390K FY 2022 25 ac

awarded year area

Coastal Prairie Physical Project

Land Acquisition Galveston

North Deer Island Protection and Restoration Project Phase II

North Deer Island

\$650K

GBEP AWARD

\$2.3M

TOTAL PROJECT COST

FY 2006

FISCAL YEAR

75 ac

APPROX. ACRES

Beach Estuarine Shoreline Estuarine Wetland Rookery Island Physical Project Completed

ACTION PLANS: HC-1 HC-2 HC-3 SC-1 SPO-1 RES-1

PROJECT ABSTRACT

This was the final phase of a larger effort to the entire perimeter of North Deer Island, the most important colonial waterbird rookery in the Galveston Bay System, through a system of onshore and offshore breakwater structures. Partners barged in 24,100 tons of rock from a quarry in Missouri using the Mississippi River and the Intracoastal Waterway as a route to create 6,450 feet of stone breakwater and armored shoreline. The planning, engineering, and construction costs for the eight-year endeavor totaled more than \$3.2 million dollars. The partners worked for nine years to armor approximately 1.7 miles of North Deer Island's rapidly eroding shoreline. Erosion was destroying highly-productive habitat for up to 30,000 nesting pairs of birds using this island, including the brown pelican, and two priority-bird species the threatened reddish egret and white-faced ibis- plus 16 other bird species on the Audubon Society's bird island sanctuary.

PROJECT DETAILS

Counties impacted

Galveston

General location

West Bay, Galveston County

Lead organization

Texas Parks and Wildlife Department

Lead implementer type

Federal, State, or Local Government

Organization link

Open link

Current stage

Completed

GBEP contract number

582-06-77782

FUNDING

GBEP award

\$650K

Total project cost

\$2.3M

Cash leveraging

\$683,300

Leveraging notes

\$653,300 - USACE Coastal Wetlands Planning, Protection and Restoration Act \$30,000 - USFWS Texas Coastal Program

CONSERVATION FOCUS

Broad project goals

Restore/Enhance Habitat

Landscape / habitat type

Beach, Estuarine Shoreline, Estuarine Wetland, Rookery Island

Project scale

Physical Project

Approx. project size

75 ac

Focal species targeted

Endangered/Threatened Species, State Listed Species/Species of Greatest Conservation Need, Nongame Wildlife

IMPLEMENTATION

Key design elements

Placed 24,100 tons of limestone to create 1.7 miles of durable erosion control structures. 40 Volunteers planted smooth cordgrass during Marsh Mania. Erosion along the steep northwestern shoreline will be stanchied by a rock revetment built directly on the bank. Along the northern shoreline, seven rock "groins," jetties protruding perpendicular to the shore, will lessen erosion by disrupting parallel longshore currents. The southern and southwestern shorelines will be protected by continuation of the breakwaters constructed during Phase I, totaling 4,600 and 3,600 feet of protection, respectively. In addition to erosion mitigation, these rock structures also provide substrate for oyster spat and other encrusting organisms, leading to further reef development. Along the southwestern shoreline, sediments leftover from dredging of the breakwater channel will be deposited between the breakwater and the island shoreline and graded to an elevation suitable for marsh development.

PARTNERS

Figure 7. Screen shot of the NRU FAQ page, which includes links to virtual tours for each page of the Habitat Database, downloading instructions, information on GBEP, definitions, and contact information for questions.

Home

Explore

Facts and Figures

Search Projects

FAQ

Frequently Asked Questions (FAQ)

Answers to common questions about Galveston Bay Estuary Program projects, funding, and how to use this site.

Virtual tour

HARC has prepared several virtual tour videos to highlight the features of the Galveston Bay Habitat Project Database. Click on the page name below to get a brief explanation of features and how-to tips.

Home Page and Frequently Asked Questions (FAQs)

Explore Page

Facts and Figures Page

Search Projects

Exporting data

How do I export data?

I just want an Excel file - how do I download that?

SECTION SIX: BUDGET DETAILS

Grant Payments [see 30 TAC § 14.7(12)]: All grant payments will be made on the basis of reimbursement for allowable costs (as defined in 2 CFR Part 200, Subpart E). All payments for awarded proposals will be reimbursements of allowable costs incurred after both parties have entered (signed) a grant agreement for the project.

Budget. Authorized budgeted expenditures for work performed are as follows:

a. Direct Costs

Budget Category	Cost for Work to be Performed
Salary / Wages	\$44,4486.00
Fringe Benefits (48%) ²	\$21,353.00
Travel	\$377.00
Supplies	\$0.00
Equipment	\$0.00
Contractual	\$58,650.00
Construction	\$0.00
Other	\$6150.00
Total Direct Cost	\$131,017.00

b. Indirect Costs³

Distribution Base Amount (<i>identify Base type below</i>)	\$ 122,367.00
Indirect Cost Rate for Reimbursement	% 53
Total Indirect Costs	\$ 64,854.00

c. Maximum Authorized Reimbursement

Maximum Authorized Reimbursement (Direct and Indirect Costs)	\$195,871
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Indirect Cost Distribution Base. The Distribution Base above is (check one):

- ☐ direct salary/wages and fringe benefits
☒ modified total direct costs
☐ other direct cost Base

If other direct cost Base, identify:

The indirect cost rate is (check one):

☒ **Predetermined Rate**— an indirect rate that is negotiated between the Performing Party and its federal cognizant agency and supported by a current Negotiated Indirect Cost Rate Agreement (NICRA) letter. A Predetermined Rate is not subject to adjustment except as provided by 2 Code of Federal Regulations (CFR) § 200.411.

☐ **De Minimis Rate**— if Performing Party does not have a current negotiated indirect rate, Performing Party may use a standard rate of 15 percent of Modified Total Direct Costs (MTDC) in lieu of determining the actual indirect costs of the service. Costs must be consistently charged as either indirect or direct costs.

☐ **Partial Reimbursement Rate** — a reimbursement rate agreed to between TCEQ and Performing Party that is less than the rate authorized under TxGMS or, where applicable, 2 CFR Part 200. Performing Party contributes

² If fringe is not a single rate, please attach calculation or explanation as an appendix.

³ Please attach Indirect Cost Agreement as an appendix if applicable

all of its unreimbursed indirect costs to the successful performance of the project or projects funded under this Contract, in accordance with Article 9 of this section.

☒ Other: **Modified Total Direct Cost (MTDC)** means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$50,000 of each subaward (regardless of the period of performance of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs, and the portion of each subaward in excess of \$50,000.

Other. If Budget Category “Other” is greater than \$25,000 or more than 10% of budget total, identify the main constituents:

N/A

Travel. In order to be reimbursable, travel costs must be specifically authorized in advance of the travel. Travel costs will be reimbursed only in the amount of actual costs, up to the maximum allowed by law for employees of the State of Texas at the time the cost is incurred.

Budget Categories. The Budget Categories above are representative of the items of cost found in TxGMS and 2 CFR Part 200, and have the definitions, requirements, and limitations found therein. Construction costs are not reimbursable without prior, specific written authorization from TCEQ.

SECTION SEVEN: CONTRACT REQUIREMENT [see 30 TAC § 14.7(15)]:

- By submitting this Project Proposal, you acknowledge that, if you become a successful grant recipient selected for a grant award, you must enter into a signed grant agreement or contract with TCEQ following the announcement of that award.

SECTION EIGHT: ACKNOWLEDGMENTS

Please read and understand the following:

- By submitting this Project Proposal, you acknowledge that information on how grant payments will be made is contained in the Budget Details section describing direct and possibly indirect costs. You further acknowledge that grant payments will be reimbursements on the basis of allowable costs incurred and that selected recipients will receive contract documents addressing allowable costs, unallowable costs, and reimbursement.
- By submitting this Project Proposal, you acknowledge your understanding that Project Proposals do not require matching funds and that a TCEQ director does not need to adjust or waive any matching funds requirement.
- By submitting this Project Proposal, you acknowledge that, if GBEP elects to hold a pre-submittal meeting relating to this Project Proposal, GBEP will post notification of the meeting's time and location indicating whether attendance is mandatory.

SECTION NINE: QUESTIONS AND PRE-SUBMITTAL MEETINGS [see 30 TAC § 14.7(13) and 30 TAC § 14.7(14)]:

- There are no pre-submittal meetings scheduled.
- For requests for additional, pre-submittal information [see 30 TAC § 14.7(13)], please contact the corresponding Subcommittee Coordinator listed on this page.

SECTION TEN: ADDITIONAL INSTRUCTIONS

In submitting your Project Proposal, please refer and adhere to the following instructions and guidelines concerning materials and information required to be submitted by potential grant recipients:

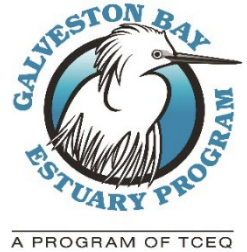
- GBEP intends to accept only complete Projected Proposals in a layout and format constituting a filled version of this proposal document with all applicable sections therein addressed; however, GBEP may, in its sole discretion, consider and accept nonconforming Project Proposals in the best interest of the state.
- Unless otherwise specified by GBEP, formal signatures are not required on Project Proposals.
- Unless otherwise communicated or implied, GBEP requires 1 (one) completed copy of your Project Proposal per corresponding Subcommittee Coordinator.
- Project Proposals must be received electronically, through the email address of the relevant Subcommittee Coordinator listed on this page, by the deadline listed on both this page and the first page of this Project Proposal document.

Submittal Process and Deadline [see 30 TAC § 14.7(8) and 30 TAC § 14.7(9)]:

Please Submit Project Proposals (Microsoft Word Only – No PDFs) by **July 24, 2026 to the relevant Subcommittee Coordinators below:**

WSQ Subcommittee: Christian.Rines@tceq.texas.gov
NRU Subcommittee: Lindsey.Lippert@tceq.texas.gov
PPE Subcommittee: Zoe.Gapayao@tceq.texas.gov
M&R Subcommittee: Jenelle.Estrada@tceq.texas.gov
Programmatic Projects: Lisa.Marshall@tceq.texas.gov

Galveston Bay Estuary Program Fiscal 2028 Project Proposal



Please complete this proposal form and submit to the appropriate Subcommittee Coordinator (end of form) by **July 24, 2026**. No late submittals will be considered for funding.

This Call for Project Proposals complies with 30 Texas Administrative Code (TAC) § 14.7, which lays out requirements for a competitive solicitation by TCEQ for grant awards. For convenience, specific citations to 30 TAC § 14.7 are identified in the text.

SECTION ONE: INTRODUCTION

Purpose [required by 30 TAC § 14.7(1)]: The purpose of the proposed grant from the Galveston Bay Estuary Program (GBEP), a program of the Texas Commission on Environmental Quality (TCEQ), is to implement *The Galveston Bay Plan, 2nd Edition* (the Plan), a comprehensive conservation and management plan falling under Section 320, of the Federal Water Pollution Control Act (33 U.S.C. Section 1330), for a designated national estuary in the State of Texas.

Objective and Allowable Activities [see 30 TAC § 14.7(4)]: The objective of this grant is to implement the GBEP stakeholder developed priorities for fiscal 2028 (FY 2028) Priority Area Actions that were developed by GBEP subcommittees for FY 2028 at the June 2026 meetings. Any proposal implementing the Plan may be submitted, but proposals implementing the FY 2028 Priority Area Actions will be considered above others.

Authority [see 30 TAC § 14.7(2)]: Grants issued by GBEP under this solicitation are authorized by: the Federal Water Pollution Control Act (Clean Water Act) § 320 (33 UNITED STATES CODE § 1330), commonly referred to as the National Estuary Program; TEX. WATER CODE § 5.124; and 30 TAC ch. 14.

Match Requirement [see 30 TAC § 14.7(10) and 30 TAC § 14.7(11)]: No matching funds are required. Therefore, there is no need to adjust or waive any matching funds requirement.

Multiple Awards [see 30 TAC § 14.7(7)]: GBEP anticipates awarding funds for multiple proposals. GBEP intends to award grants to that combination of proposals which best implements the Plan, factoring in all criteria identified in this Call for Project Proposals, the availability of funds, and the most effective division of funds between awards.

Timeline of Proposals:

Task	Date Due
Release of Request for Proposals	June 22, 2026
Proposals Due	July 24, 2026
Send Proposals to Subcommittees Members for Review	August 12, 2026
Present Proposals to Subcommittees for Council Recommendation	September 2, 2026 (NRU and PPE) September 9, 2026 (M&R and WSQ)
Present Proposals to B&P Subcommittee for Final Recommendation	September 30, 2026
Present Proposals to Galveston Bay Council for Approval	October 14, 2026

SECTION TWO: SUBMITTAL – GENERAL INFORMATION

Primary Subcommittee: Monitoring and Research (M&R)

Secondary Subcommittee (if applicable): Choose an item.

Tertiary Subcommittee (if applicable): Choose an item.

Project Name:

Development of a Comprehensive and Updated Regional Wetlands Database, Economic Valuation of Ecosystem Services, and Wetland Cover Forecasting
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Project Previously Funded by GBEP? Yes ☐ No ☒

Lead Implementer / Categories of Eligible Recipients [see 30 TAC § 14.7(3)]:

Houston-Galveston Area Council

The lead implementer must be in one of the following categories of eligible recipients. Please indicate which category applies to your entity. If the proposing party is not already paired with a lead implementer in one of the categories listed below, the proposing party will need to partner with an eligible recipient in one of these categories to be selected for funding. Please reach out to GBEP staff with any questions.

- ☐ Federal, State, or Local Government ☒ Council of Government ☐ Public ISDs or Universities
☐ Nonprofit ☐ Other*

[If other, please identify pass-through partner.]

Unique Entity ID (UEI) Number:	VZFJDZCKG8C7
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Vendor Identification Number (VIN) or Tax ID:	1-741557575-6
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Contact Information:

Project Representative Name	Thushara Ranatunga, PhD, GISP
Project Representative Phone	832-681-2551
Project Representative Email	Thushara.Ranatunga@h-gac.com

Project Dates / Duration (beginning no earlier than September 1, 2027 – ending no later than May 31, 2030) [see 30 TAC § 14.7(5)]:

September 1, 2027 – September 30, 2029
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Amount Requested from GBEP:

[\$]84,544.74

Federal ☐ State ☐ No Preference ☒

Is the project scalable? ☒

Amount Requested per year (if applicable):

FY 2028 (09/01/2027-08/31/2028)	\$44,544.74
FY 2029 (09/01/2028-08/31/2029)	\$40,000
FY 2030 (09/01/2029-05/31/2030)	\$0.00
Total	\$84,544.74

Total Project Cost (including Leveraging Amounts, if any; provide leveraging information where indicated below):

[\$]955,544.74

Is this an estimate? ☐

Leveraging (in-kind and/or cash):

2024 and 2026 acquired Remote Sensing data and computing resources will be available at no cost for this project. Their total cost for the Lower Galveston Bay Watershed area is \$871K.
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- 2024 Lidar point cloud: \$800K
- 2026 Natural color and Color Infrared Aerial imagery: \$49K
- Computing resources and GIS and Remote Sensing data analysis software packages - \$22K

SECTION THREE: GALVESTON BAY PLAN, 2ND EDITION IMPLEMENTATION

Grant recipient activities to be funded must implement the Plan, but proposals implementing the FY 2028 Subcommittee Priorities (Section Four) will be considered above others. This selection criteria provides for the selection of multiple recipients as needed.

The *Galveston Bay Plan, 2nd Edition* Action Plans are found at:
<https://gbep.texas.gov/ensure-safe-human-and-aquatic-life-use/>
<https://gbep.texas.gov/protect-and-sustain-living-resources/>
<https://gbep.texas.gov/engage-communities/>
<https://gbep.texas.gov/inform-science-based-decision-making/>

Galveston Bay Plan Priority Area Actions Addressed:

Plan Priority 1: Ensure Safe Human and Aquatic Life Use

NPS-1 ☐ NPS-2 ☐ NPS-3 ☐ NPS-4 ☐
PS-1 ☐ PS-2 ☐ PS-3 ☐
PHA-1 ☐ PHA-2 ☐ PHA-3 ☐ PHA-4 ☐ PHA-5 ☐

Plan Priority 2: Protect and Sustain Living Resources

HC-1 ☐ HC-2 ☐ HC-3 ☐
SC-1 ☐ SC-2 ☐
FWI-1 ☐ FWI-2 ☐ FWI-3 ☐

Plan Priority 3: Engage Communities

SPO-1 ☐ SPO-2 ☐ SPO-3 ☐ SPO-4 ☐
PEA-1 ☐ PEA-2 ☐ PEA-3 ☐

Plan Priority 4: Inform Science-based Decision Making

RES-1 ☐ RES-2 ☐ RES-3 ☐ RES-4 ☐
RES-5 ☐ RES-6 ☐ RES-7 ☒ RES-8 ☐
ACS-1 ☐ ACS-2 ☒ ACS-3 ☐

Plan Priority Area Actions Detail:

Implementation of RES-7 and ACS-2

RES-7: Evaluate Ecosystem Services and Determine Economic Valuation

- **Objective:** Conduct research on ecosystem services and determine an economic valuation of bay resources
- **Implementation:** The project will present the findings related to wetland classification, identified ecosystem services, and their economic valuation. This will help disseminate valuable research outcomes to stakeholders and the public. Additionally, the updated wetland inventory maps with forecasted wetland areas and economic valuation data from the project can be shared on the GBEP website, making this information accessible to stakeholders and the public. The results of the wetland classification and economic valuation studies can also be integrated into the State of the Bay Report. This ensures that the report includes the latest research and data, enhancing its relevance and impact.

ACS-2: Providing Access to Monitoring and Research Data (ACS-2):

- **Objective:** Expand the dissemination of easy-to-access Galveston Bay monitoring and research data.
- **Implementation:** The project will make the newly acquired wetland data readily accessible through the Regional Monitoring Database and other outreach tools. The high-resolution maps and classification data with forecasted wetlands will be shared with GBEP partners, decision-makers, and the public, ensuring that the latest information is available for informed decision-making.

SECTION FOUR: SUBCOMMITTEE PRIORITIES / FACTORS TO BE USED TO SELECT AWARDS [see 30 TAC § 14.7(6)]

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority. This selection criteria provides for the selection of multiple recipients as needed.

Subcommittee Identified Priorities:

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

- ☒ WSQ: Supporting management measures and watershed-based plans through adaptive management, workforce development, and technical assistance.
- ☐ WSQ: Improve knowledge and accessibility of pollution reporting tools to empower the community.
- ☐ WSQ: Implementation and/or evaluation of best management practices that address point and nonpoint source pollution.
- ☐ NRU: Habitat Acquisition.
- ☐ NRU: Enhancement of existing or ongoing restoration-conservation efforts. Special emphasis on:
 - ☐ Adaptive management for previously completed projects; and
 - ☐ Projects that may have lost/delayed funding from other federal sources.
- ☐ NRU: Benefit to native fish and wildlife, including federal and state listed species, Species of Greatest Conservation Need, or nongame wildlife.
- ☐ NRU: Project urgency: Project must be completed in next 24 months or opportunity is lost.
- ☐ PPE: Connecting new audiences to existing/completed on-the-ground projects in the watershed.
- ☐ PPE: Empowering K-12 students and/or adults to positively impact their local environment through increased scientific literacy and community projects.
- ☐ PPE: Opportunities to host workshops/networking events to provide technical assistance for local leadership (local governments, MUDs, schoolboards, the public) on key topics.
- ☐ PPE: Conservation and environmental workforce development.
- ☐ M&R: Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).
- ☐ M&R: Baseline assessments for large-scale, man-made changes to Galveston Bay at an adequate timeline and spatial range to provide useful information.
- ☐ M&R: Assessment, Exposure, and Response to stressors, including but not limited to:
 - ☐ Species of greatest conservation need;
 - ☐ Contact recreation standards;
 - ☐ Environmental parameters;
 - ☐ Emerging contaminants; and
 - ☐ Legacy contaminants.

Subcommittee Priority Detail:

The results of this project will help provide valuable insights for stakeholders, local governments, non-profits, and others interested in wetlands, wetland functions, and their benefits to water quality, wildlife, and greenspace preservation. Direct accounting will assist the NRU Action Plan: Support Habitat Conservation by updating the location and trends of all wetland types within the GBEP watershed, informing decision-makers and resource managers about critical risks to migratory and resident populations of waterfowl and other wildlife. The project will also benefit WSQ Action Plans by supporting NPS-1 implementation goals, as the website will enable stakeholders to conduct detailed watershed-level analyses, enhancing implementation efforts. Natural wetlands are known to act as biological filters (Forbes, 2010) and are natural carbon sinks. The economic evaluation trends of such wetlands will support NPS-2: Support Nonpoint Source Education and Outreach Campaigns, by providing information about the impact of different non-point source stressors and build an economic case for sustaining and restoring these habitats. The project will include at least one workshop and one training event to share the results and make the data and methods more accessible, in support of SPO-2 (Workshops and Events) and SPO-4 (Local Government Outreach).

Forbes, Margaret, et. Al, 2010, Freshwater Wetland Functional Assessment Study. GBEP Final Report - 582-7-77820. May 2010. <https://gbep.texas.gov/completed-projects/>.

Does the Project align with any EPA Areas of Special Interest?

- ☐ Reduce Nutrient Pollution to Protect Water Quality and Public Health
- ☒ Make Investments that Address Coastal Resiliency
- ☐ Reduce Trash

This project directly aligns with the EPA Area of Special Interest – Make Investments that Address Coastal Resiliency. The project aims to develop information and analytical tools needed to protect and restore wetlands in the Lower Galveston Bay by identifying areas vulnerable to wetland loss and degradation by evaluating factors such as shoreline exposure, elevation, hydrologic connectivity, development pressure, fragmentation, and proximity to critical infrastructure. The updated wetland inventory, restoration and conservation prioritization framework, ecosystem-service valuation, and wetland-cover forecasts will help identify locations where protection or restoration could provide the greatest resilience benefits. Although the project will not directly implement restoration activities, it will provide the technical foundation and decision-support tools needed to guide future coastal restoration, conservation, infrastructure planning, and funding investments. Project results will also be shared through interactive geospatial tools, reports, public presentations, and regional data platforms to support coordination among local governments, resource managers, community organizations, and other stakeholders.

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SECTION FIVE: PROPOSAL DETAILS

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

Project Summary:

This project aims to address the urgent need for updated wetland information using advanced AI methodologies, including convolutional neural networks (CNN) and vision transformer (ViT) models, coupled with updated geospatial data including LiDAR, Aerial, Satellite imageries, and ancillary environmental datasets. The resulting wetland maps will be used to evaluate habitat condition, vulnerability, ecosystem-service benefits, and restoration opportunities through a transparent spatial prioritization process. Priority areas will then be analyzed using TerrSet to forecast future wetland cover and potential habitat transitions under selected development and environmental scenarios. Economic impact analysis will compare present and projected future ecosystem-service values to support conservation investment, restoration planning, and regional resilience decision-making. The findings will be disseminated through the GBEP website, interactive geospatial web tools, white papers, and public presentations to raise awareness and influence policy for effective estuary preservation.

Full Project Description (1,000 words or less):

Overview

Wetlands and associated coastal habitats in the Lower Galveston Bay area provide critical benefits. However, existing wetland datasets vary in age, resolution, classification structure, and accuracy, limiting their usefulness.

This project will develop an AI-enhanced framework for wetland identification and classification, restoration prioritization, wetland-cover forecasting, and ecosystem-service valuation. High-resolution aerial imagery, LiDAR, satellite imagery, existing wetland inventories, and ancillary datasets will be integrated with CNN and ViT models to produce an updated wetland inventory for the Lower Galveston Bay area. The results will be used to identify priority restoration and conservation areas, forecast potential future wetland change, and compare ecosystem-service and economic values under current and projected future conditions.

Outdated Wetlands Classification

Available wetlands data for the Lower Galveston Bay Watershed is outdated, inconsistent, and limited in classification and resolution, including NOAA C-CAP, NWI, and GBEP-funded delineation completed in 2005. The current limitations hinder effective management and conservation efforts of these crucial habitats. Therefore, updating wetland delineations and classifications is essential to preserve these ecosystems and maintain their valuable services.

High-Resolution Aerial/Satellite Images, LiDAR and Ancillary Data

High-resolution imagery provides detailed true-color and color-infrared information, allowing for the detection of fine-scale features. LiDAR offers precise elevation data and vegetation density information, which is crucial for understanding the topography, hydrography, and environmental health of wetlands. Satellite imagery is critical for assessing seasonal and long-term information related to vegetation, surface water, moisture, inundation, and land-cover. Combining these technologies enables a comprehensive analysis of wetland characteristics, leading to more accurate classification. H-GAC's collection of high-resolution aerial images and LiDAR data in early 2024 and 2026 present timely opportunity to apply these datasets. Ancillary datasets may include soils, floodplains, hydrography, shoreline information, tidal influence, protected lands, and development patterns. These variables will enhance model performance by providing environmental and hydrologic context.

Utilizing AI and Deep Learning for Wetland Classification

Recent advancements in AI and deep learning algorithms offer powerful tools for updating and classifying wetlands. Deep learning-based models, such as CNN and ViT, can analyze complex spatial, spectral, and contextual patterns in imagery to identify vegetation characteristics, wetland boundaries, fine-scale habitat features and landscape relationships. The most suitable model or combination of models will be selected based on performance accuracy, computational requirements, and project objectives. Training and validation data will be developed from existing wetland datasets, expert interpretation, manually reviewed reference areas, and field information where available. The classification will focus on wetland and coastal habitat types that can be reliably identified from the available data

Restoration and Conservation Prioritization

GIS-based framework will prioritize areas using indicators of wetland conditions, vulnerability, ecological function, restoration feasibility, and ecosystem-service potential.

Indicators may include wetland loss, fragmentation, hydrologic connectivity, elevation, shoreline exposure, development pressure, water-quality benefit, carbon storage, flood protection, habitat connectivity, and infrastructure resilience. The framework will identify areas with high restoration need and conservation value. Results will be used to further evaluate its economic valuation and potential wetland cover changes.

Conducting Economic Analysis of Ecosystem Services within Wetlands

Wetlands offer numerous ecosystem benefits/services that are vital to both environmental health and human well-being. Understanding the economic value of these services is vital for informed decision-making and garnering public support for conservation initiatives which require detailed analysis and robust methodologies. This project will use the InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) model that allows for the quantification of ecosystem services in monetary terms. Additionally, the project will incorporate literature-based valuation methods previously used by H-GAC.

Wetland-Cover Forecasting

TerrSet's Land Change Modeler (LCM) will be used to forecast potential wetland change. Historical wetland and land-cover maps will be analyzed to identify patterns and drivers of wetland change. Potential explanatory variables may include proximity to development, roads, waterways, shorelines, and protected lands, elevation and slope and hydrologic position.

Forecasting will focus on priority areas while maintaining sufficient regional context to understand broader landscape change. The results will identify wetlands at risk of future loss or fragmentation and locations where restoration or conservation may reduce future impacts.

Project Methodology

Deep Learning Algorithms: The project will utilize deep learning algorithms, CNN and ViT models, to analyze high-resolution Aerial and Satellite images, and LiDAR data for wetland identification and classification combined with ancillary dataset.

GIS-Based Prioritization: The project will develop a GIS-based prioritization framework by integrating wetland condition, historical change, vulnerability, connectivity, restoration feasibility, and ecosystem-service indicators into a transparent spatial scoring model.

Economic Evaluation: For the economic evaluation of ecosystem services such as water filtration, flood/surge protection, carbon sequestration, and habitat provision, the project will employ the InVEST model alongside literature-based valuation methods previously used by H-GAC

Wetland-Cover Forecasting: Priority areas will be evaluated using TerrSet's LCM to forecast wetland loss, gain, conversion, and fragmentation under selected scenarios.

Expected Outcomes

- Updated Wetland Classification:
 - Accurate, up-to-date, and detailed maps of the wetlands inventory in the Lower Galveston Bay area, classified using advanced AI techniques and high-resolution remote sensing data. The output is expected to include all major wetlands classes.
- Restoration and Conservation Prioritization:
 - GIS-based priority maps identifying areas with high restoration need conservation value, ecological vulnerability, restoration feasibility, and potential to provide multiple ecosystem services.
- Economic Valuation:
 - Comprehensive economic valuation of key ecosystem services provided by wetlands, using the InVEST model and valuation methods used by H-GAC.
- Future Wetland-Cover Forecasting:
 - TerrSet LCM forecasts showing potential future wetland change under selected development, conservation, and restoration scenarios.
- Informed Decision-Making:
 - Enhanced data to support informed decision-making and policy development for wetland conservation and management.
- Public Awareness:

- Increased public awareness of the importance of wetlands and the economic value of their ecosystem services, disseminating through the GBEP website, interactive geospatial web tools, H-GAC's Geospatial Data Hub Gateway, white papers, and public presentations.

Conclusion

This project will provide a comprehensive and forward-looking assessment of wetlands in the Lower Galveston Bay area.

The final framework will help identify current wetland conditions, prioritize restoration opportunities, evaluate past and future changes, and demonstrate the ecological and economic benefits of protecting and restoring wetlands.

Project Urgency:

The importance of this project is underscored by several critical factors. Firstly, the wetlands in the Houston-Galveston region, including the Lower Galveston Bay watershed, have not been updated or accurately classified locally in detail in a significant amount of time for analysis (Jacob and Lopez, 2005). The age, varying resolution, and inconsistent classification of existing datasets limit their usefulness for evaluating wetland condition, monitoring change, and guiding conservation and restoration activities. Recent advances in artificial intelligence and remote sensing, combined with H-GAC's 2024 LiDAR and 2026 high-resolution aerial imagery data and available satellite imagery such as Landsat, Sentinel, and SMAP products, provide an important opportunity to develop an updated wetland geospatial database and inventory. CNN and ViT models, tailored to the Houston-Galveston region's unique landscape, climate, hydrology, vegetation, and environmental conditions, enhanced with LiDAR-derived terrain and vegetation variables and other ancillary data, will produce more accurate and detailed wetland identification and classification results.

Second, updated wetland information is needed to identify where conservation and restoration actions can provide the greatest benefits. The project will use a GIS-based prioritization framework to evaluate wetland condition, historical change, ecological vulnerability, connectivity, restoration feasibility, and ecosystem-service potential. This analysis will identify areas with high restoration need, high conservation value, or strong potential to provide benefits such as water-quality improvement, flood and storm-surge protection, shoreline stabilization, carbon storage, and habitat connectivity.

Third, understanding the ecosystem services provided by wetlands is essential for informed decision-making and public support. Wetlands contribute to water filtration, nutrient cycling, soil conservation, climate regulation, carbon sequestration, flood and storm-surge protection, shoreline stabilization, hydrologic maintenance, and habitat provision. The project will assess the economic value of these services under current conditions and projected future scenarios, allowing decision-makers to compare the potential costs of wetland loss with the benefits of conservation and restoration.

Finally, understanding how wetlands may change in the future is necessary for long-term planning. TerrSet's LCM will be used to evaluate historical land-cover transitions and forecast potential future wetland loss, gain, conversion, and fragmentation under selected development, conservation, and restoration scenarios. These forecasts will help identify wetlands at risk and locations where target intervention could reduce future ecological and economic losses for the future.

By integrating advanced wetland classification, GIS-based prioritization, ecosystem-service valuation, and future land-cover forecasting, the project will provide a comprehensive decision-support framework for protecting and enhancing wetlands in the Lower Galveston Bay area.

Reference: Jacob, J.S. and Lopez, R. Wetland Loss - Lower Galveston Bay Watershed 1992 - 2002, A rapid assessment method using GIS and Aerial Photography. Contract Report No 582-3-53336 for the Galveston Bay Estuary Program.

Other Plans Implemented:

Project results can be used by local and regional stakeholders implementing watershed protection plans (WPP) and Total Maximum Daily Load (TMDL) implementation plans, (e.g., Upper Gulf Coast Oyster Waters TMDL, Double Bayou WPP, Clear Creek WPP, Bacteria Implementation Group, Highland and Marsh Bayou WPP).

Partners¹ and Their Roles:

¹ If partners are subgrantees completing work reimbursable under GBEP funding, a letter of commitment from the partner must be submitted as an appendix with the application.

[Please identify project partners and detail what roles they will play in project implementation.]

Does the Project work with new, smaller communities/partnerships?

☐ Yes

☒ No

[TBD.]

Is the project subject to Title VI requirements?

To meet federal nondiscrimination guidance and laws (Title VI), TCEQ requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English-speaking ability (LEP). If 5% or more of the population within your project area is LEP and share a common language, then you are required to provide outreach in the alternative language. For statewide projects, Spanish language outreach is required. As Title VI compliance could impact the project budget, please reach out to the primary subcommittee coordinator for this application with questions on determining applicability.

☐ Yes

☒ No

[TBD.]

Latitude/Longitude (Optional):

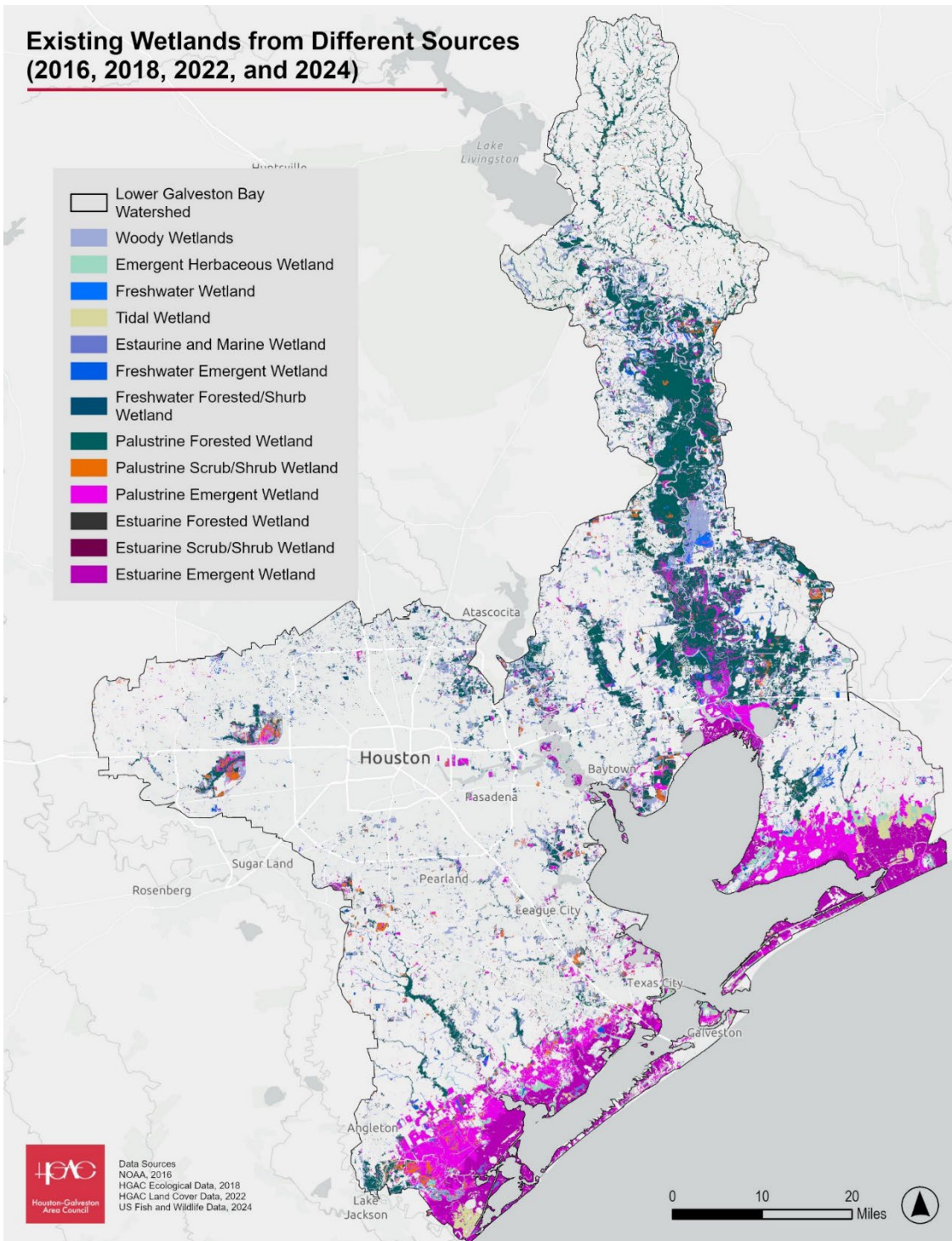
29°40'47.5"N 94°58'22.3"W

Location:

Galveston Bay Estuary Program Watershed area

Projects Map

Existing Wetlands from Different Sources (2016, 2018, 2022, and 2024)



Supplemental Photos/Graphics (Optional):
[\[Insert Here or Attach as an Appendix\]](#)

SECTION SIX: BUDGET DETAILS

Grant Payments [see 30 TAC § 14.7(12)]: All grant payments will be made on the basis of reimbursement for allowable costs (as defined in 2 CFR Part 200, Subpart E). All payments for awarded proposals will be reimbursements of allowable costs incurred after both parties have entered (signed) a grant agreement for the project.

Budget. Authorized budgeted expenditures for work performed are as follows:

a. Direct Costs

Budget Category	Cost for Work to be Performed
Salary / Wages	\$42,724.00
Fringe Benefits (46.94%) ²	\$20,054.65
Travel	\$250.00
Supplies	\$0.00
Equipment	\$0.00
Contractual	\$0.00
Construction	\$0.00
Other: Rent (\$2.4373 per hr)	\$2,217.94
Total Direct Cost	\$65,246.59

b. Indirect Costs³

Distribution Base Amount (<i>identify Base type below</i>)	\$ 62,778.65
Indirect Cost Rate for Reimbursement	30.74%
Total Indirect Costs	\$ 19,298.16

c. Maximum Authorized Reimbursement

Maximum Authorized Reimbursement (Direct and Indirect Costs)	\$ 84,544.74
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Indirect Cost Distribution Base. The Distribution Base above is (check one):

- ☒ direct salary/wages and fringe benefits
☐ modified total direct costs
☐ other direct cost Base

If other direct cost Base, identify: Rent

The indirect cost rate is (check one):

☒ **Predetermined Rate**— an indirect rate that is negotiated between the Performing Party and its federal cognizant agency and supported by a current Negotiated Indirect Cost Rate Agreement (NICRA) letter. A Predetermined Rate is not subject to adjustment except as provided by 2 Code of Federal Regulations (CFR) § 200.411.

☐ **De Minimis Rate**— if Performing Party does not have a current negotiated indirect rate, Performing Party may use a standard rate of 15 percent of Modified Total Direct Costs (MTDC) in lieu of determining the actual indirect costs of the service. Costs must be consistently charged as either indirect or direct costs.

☐ **Partial Reimbursement Rate** — a reimbursement rate agreed to between TCEQ and Performing Party that is less than the rate authorized under TxGMS or, where applicable, 2 CFR Part 200. Performing Party contributes

² If fringe is not a single rate, please attach calculation or explanation as an appendix.

³ Please attach Indirect Cost Agreement as an appendix if applicable

all of its unreimbursed indirect costs to the successful performance of the project or projects funded under this Contract, in accordance with Article 9 of this section.

☐ **Other:** [Examples: De Minimis Rate with a base of direct salary and wages (less than or equal to actual indirect costs) or Provisional Rate. If this is a Provisional Rate, include the following language: Provisional Rate: The subsequent adjustment of the indirect cost rate is subject to the requirements of Article 9 of this (Cost Budget) section.]

Other. If Budget Category “Other” is greater than \$25,000 or more than 10% of budget total, identify the main constituents:

[Description of costs associated with “Other” budget category.]

Travel. In order to be reimbursable, travel costs must be specifically authorized in advance of the travel. Travel costs will be reimbursed only in the amount of actual costs, up to the maximum allowed by law for employees of the State of Texas at the time the cost is incurred.

Budget Categories. The Budget Categories above are representative of the items of cost found in TxGMS and 2 CFR Part 200, and have the definitions, requirements, and limitations found therein. Construction costs are not reimbursable without prior, specific written authorization from TCEQ.

SECTION SEVEN: CONTRACT REQUIREMENT [see 30 TAC § 14.7(15)]:

- By submitting this Project Proposal, you acknowledge that, if you become a successful grant recipient selected for a grant award, you must enter into a signed grant agreement or contract with TCEQ following the announcement of that award.

SECTION EIGHT: ACKNOWLEDGMENTS

Please read and understand the following:

- By submitting this Project Proposal, you acknowledge that information on how grant payments will be made is contained in the Budget Details section describing direct and possibly indirect costs. You further acknowledge that grant payments will be reimbursements on the basis of allowable costs incurred and that selected recipients will receive contract documents addressing allowable costs, unallowable costs, and reimbursement.
- By submitting this Project Proposal, you acknowledge your understanding that Project Proposals do not require matching funds and that a TCEQ director does not need to adjust or waive any matching funds requirement.
- By submitting this Project Proposal, you acknowledge that, if GBEP elects to hold a pre-submittal meeting relating to this Project Proposal, GBEP will post notification of the meeting's time and location indicating whether attendance is mandatory.

SECTION NINE: QUESTIONS AND PRE-SUBMITTAL MEETINGS [see 30 TAC § 14.7(13) and 30 TAC § 14.7(14)]:

- There are no pre-submittal meetings scheduled.
- For requests for additional, pre-submittal information [see 30 TAC § 14.7(13)], please contact the corresponding Subcommittee Coordinator listed on this page.

SECTION TEN: ADDITIONAL INSTRUCTIONS

In submitting your Project Proposal, please refer and adhere to the following instructions and guidelines concerning materials and information required to be submitted by potential grant recipients:

- GBEP intends to accept only complete Projected Proposals in a layout and format constituting a filled version of this proposal document with all applicable sections therein addressed; however, GBEP may, in its sole discretion, consider and accept nonconforming Project Proposals in the best interest of the state.
- Unless otherwise specified by GBEP, formal signatures are not required on Project Proposals.
- Unless otherwise communicated or implied, GBEP requires 1 (one) completed copy of your Project Proposal per corresponding Subcommittee Coordinator.
- Project Proposals must be received electronically, through the email address of the relevant Subcommittee Coordinator listed on this page, by the deadline listed on both this page and the first page of this Project Proposal document.

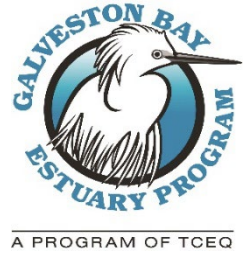
Submittal Process and Deadline [see 30 TAC § 14.7(8) and 30 TAC § 14.7(9)]:

Please Submit Project Proposals (Microsoft Word Only – No PDFs) by **July 24, 2026 to the relevant Subcommittee Coordinators below:**

WSQ Subcommittee: Christian.Rines@tceq.texas.gov
NRU Subcommittee: Lindsey.Lippert@tceq.texas.gov
PPE Subcommittee: Zoe.Gapayao@tceq.texas.gov
M&R Subcommittee: Jenelle.Estrada@tceq.texas.gov
Programmatic Projects: Lisa.Marshall@tceq.texas.gov

Galveston Bay Estuary Program

Fiscal 2028 Project Proposal



Please complete this proposal form and submit to the appropriate Subcommittee Coordinator (end of form) by **July 24, 2026**. No late submittals will be considered for funding.

This Call for Project Proposals complies with 30 Texas Administrative Code (TAC) § 14.7, which lays out requirements for a competitive solicitation by TCEQ for grant awards. For convenience, specific citations to 30 TAC § 14.7 are identified in the text.

SECTION ONE: INTRODUCTION

Purpose [required by 30 TAC § 14.7(1)]: The purpose of the proposed grant from the Galveston Bay Estuary Program (GBEP), a program of the Texas Commission on Environmental Quality (TCEQ), is to implement *The Galveston Bay Plan, 2nd Edition* (the Plan), a comprehensive conservation and management plan falling under Section 320, of the Federal Water Pollution Control Act (33 U.S.C. Section 1330), for a designated national estuary in the State of Texas.

Objective and Allowable Activities [see 30 TAC § 14.7(4)]: The objective of this grant is to implement the GBEP stakeholder developed priorities for fiscal 2028 (FY 2028) Priority Area Actions that were developed by GBEP subcommittees for FY 2028 at the June 2026 meetings. Any proposal implementing the Plan may be submitted, but proposals implementing the FY 2028 Priority Area Actions will be considered above others.

Authority [see 30 TAC § 14.7(2)]: Grants issued by GBEP under this solicitation are authorized by: the Federal Water Pollution Control Act (Clean Water Act) § 320 (33 UNITED STATES CODE § 1330), commonly referred to as the National Estuary Program; TEX. WATER CODE § 5.124; and 30 TAC ch. 14.

Match Requirement [see 30 TAC § 14.7(10) and 30 TAC § 14.7(11)]: No matching funds are required. Therefore, there is no need to adjust or waive any matching funds requirement.

Multiple Awards [see 30 TAC § 14.7(7)]: GBEP anticipates awarding funds for multiple proposals. GBEP intends to award grants to that combination of proposals which best implements the Plan, factoring in all criteria identified in this Call for Project Proposals, the availability of funds, and the most effective division of funds between awards.

Timeline of Proposals:

Task	Date Due
Release of Request for Proposals	June 22, 2026
Proposals Due	July 24, 2026
Send Proposals to Subcommittees Members for Review	August 12, 2026
Present Proposals to Subcommittees for Council Recommendation	September 2, 2026 (NRU and PPE) September 9, 2026 (M&R and WSQ)
Present Proposals to B&P Subcommittee for Final Recommendation	September 30, 2026
Present Proposals to Galveston Bay Council for Approval	October 14, 2026

SECTION TWO: SUBMITTAL – GENERAL INFORMATION

Primary Subcommittee: Monitoring and Research (M&R)
Secondary Subcommittee (if applicable): Natural Resource Uses (NRU)
Tertiary Subcommittee (if applicable): Choose an item.

Project Name:

Eastern Black Rail genomics and acoustic density assessment in the Galveston Bay watershed
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Project Previously Funded by GBEP? Yes ☒ No ☐

Lead Implementer / Categories of Eligible Recipients [see 30 TAC § 14.7(3)]:

Dr. Chris Butler, Texas A&M University
--

The lead implementer must be in one of the following categories of eligible recipients. Please indicate which category applies to your entity. If the proposing party is not already paired with a lead implementer in one of the categories listed below, the proposing party will need to partner with an eligible recipient in one of these categories to be selected for funding. Please reach out to GBEP staff with any questions.

☐ Federal, State, or Local Government ☐ Council of Government ☒ Public ISDs or Universities
☐ Nonprofit ☐ Other*

Unique Entity ID (UEI) Number:	JF6XLNB4CDJ5
Vendor Identification Number (VIN) or Tax ID:	3-711-711-711-1016

Contact Information:

Project Representative Name	Dr. Chris Butler
Project Representative Phone	405-215-5806
Project Representative Email	Chris.butler@tamu.edu

Project Dates / Duration (beginning no earlier than September 1, 2027 – ending no later than May 31, 2030) [see 30 TAC § 14.7(5)]:

September 1, 2027 – May 31, 2030

Amount Requested from GBEP:

\$248,936

Federal ☐ State ☐ No Preference ☒

Is the project scalable? ☒

Amount Requested per year (if applicable):

FY 2028 (09/01/2027-08/31/2028)	\$65,844
FY 2029 (09/01/2028-08/31/2029)	\$141,921
FY 2030 (09/01/2029-05/31/2030)	\$41,171
Total	\$248,936

Total Project Cost (including Leveraging Amounts, if any; provide leveraging information where indicated below):

\$275,029 (\$248,936+\$26,093)

Is this an estimate? ☒

Leveraging (in-kind and/or cash):

USGS Western Ecological Research Center — \$26,093 in-kind (geneticist analysis/writing hours and bioinformatics time contributed by Dr. Laurie Hall and Dr. Amy Vandergast) — secured, committed via subcontract Texas A&M University - Related federal and state funding leveraged (not GBEP-funded, but providing equipment, sites, and complementary data): USFWS ("Assessing the response of Black Rail populations to management actions in coastal Texas marshes"); NOAA RESTORE Firebird ("Fire Effects in Coastal High Marshes"); CBBEP (Black Rails and Nocturnal Flight Calls: Bioacoustical Monitoring at PINS) — secured
--

SECTION THREE: GALVESTON BAY PLAN, 2ND EDITION IMPLEMENTATION

Grant recipient activities to be funded must implement the Plan, but proposals implementing the FY 2028 Subcommittee Priorities (Section Four) will be considered above others. This selection criteria provides for the selection of multiple recipients as needed.

The *Galveston Bay Plan, 2nd Edition* Action Plans are found at:
<https://gbep.texas.gov/ensure-safe-human-and-aquatic-life-use/>
<https://gbep.texas.gov/protect-and-sustain-living-resources/>
<https://gbep.texas.gov/engage-communities/>
<https://gbep.texas.gov/inform-science-based-decision-making/>

Galveston Bay Plan Priority Area Actions Addressed:

Plan Priority 1: Ensure Safe Human and Aquatic Life Use

NPS-1 ☐ NPS-2 ☐ NPS-3 ☐ NPS-4 ☐
PS-1 ☐ PS-2 ☐ PS-3 ☐
PHA-1 ☐ PHA-2 ☐ PHA-3 ☐ PHA-4 ☐ PHA-5 ☐

Plan Priority 2: Protect and Sustain Living Resources

HC-1 ☐ HC-2 ☐ HC-3 ☐
SC-1 ☒ SC-2 ☐
FWI-1 ☐ FWI-2 ☐ FWI-3 ☐

Plan Priority 3: Engage Communities

SPO-1 ☐ SPO-2 ☐ SPO-3 ☐ SPO-4 ☐
PEA-1 ☐ PEA-2 ☐ PEA-3 ☐

Plan Priority 4: Inform Science-based Decision Making

RES-1 ☒ RES-2 ☐ RES-3 ☐ RES-4 ☐
RES-5 ☐ RES-6 ☐ RES-7 ☐ RES-8 ☐
ACS-1 ☒ ACS-2 ☒ ACS-3 ☐

Plan Priority Area Actions Detail:

This project implements four Action Plan items of The Galveston Bay Plan, 2nd Edition, spanning two Plan Priorities.

Under **Protect and Sustain Living Resources**, the project addresses SC-1 (Support Species Conservation) by advancing the conservation of a native, federally and state-threatened species, the Eastern Black Rail (*Laterallus jamaicensis jamaicensis*), within the Galveston Bay watershed. The genomic component will characterize population structure, gene flow, effective population size, and local adaptation of Galveston Bay black rails, providing resource managers with the population-genetic information needed to sustain this species at viable levels.

Under **Inform Science-based Decision Making**, the project addresses RES-1 (Conduct Biological Stressor Monitoring and Research) as its central action item. Both the genomic assessment and the proof-of-concept acoustic-localization approach to estimating black rail density generate primary biological monitoring and research data on a threatened, biologically stressed wetland species, directly fulfilling the RES-1 focus on species of special concern. The project also addresses ACS-1 (Tracking Ecosystem Health Indicators), as the black rail is a sensitive indicator of high-marsh condition and its genetic and demographic status serves as a measurable indicator of estuary health, and ACS-2 (Access to Monitoring and Research Data), as all genomic and acoustic data will be shared with USFWS, TPWD, and other regional resource managers. Additionally, USGS typically make all data publicly available through a USGS data release after analysis and completion of any products and they plan to include a data release as one of their products.

SECTION FOUR: SUBCOMMITTEE PRIORITIES / FACTORS TO BE USED TO SELECT AWARDS [see 30 TAC § 14.7(6)]

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority. This selection criteria provides for the selection of multiple recipients as needed.

Subcommittee Identified Priorities:

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

- ☐ WSQ: Supporting management measures and watershed-based plans through adaptive management, workforce development, and technical assistance.
- ☐ WSQ: Improve knowledge and accessibility of pollution reporting tools to empower the community.
- ☐ WSQ: Implementation and/or evaluation of best management practices that address point and nonpoint source pollution.
- ☐ NRU: Habitat Acquisition.
- ☐ NRU: Enhancement of existing or ongoing restoration-conservation efforts. Special emphasis on:
 - ☐ Adaptive management for previously completed projects; and
 - ☐ Projects that may have lost/delayed funding from other federal sources.
- ☒ NRU: Benefit to native fish and wildlife, including federal and state listed species, Species of Greatest Conservation Need, or nongame wildlife.
- ☐ NRU: Project urgency: Project must be completed in next 24 months or opportunity is lost.
- ☐ PPE: Connecting new audiences to existing/completed on-the-ground projects in the watershed.
- ☐ PPE: Empowering K-12 students and/or adults to positively impact their local environment through increased scientific literacy and community projects.
- ☐ PPE: Opportunities to host workshops/networking events to provide technical assistance for local leadership (local governments, MUDs, schoolboards, the public) on key topics.
- ☐ PPE: Conservation and environmental workforce development.
- ☒ M&R: Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).
- ☐ M&R: Baseline assessments for large-scale, man-made changes to Galveston Bay at an adequate timeline and spatial range to provide useful information.
- ☒ M&R: Assessment, Exposure, and Response to stressors, including but not limited to:
 - ☒ Species of greatest conservation need;
 - ☐ Contact recreation standards;
 - ☐ Environmental parameters;
 - ☐ Emerging contaminants; and
 - ☐ Legacy contaminants.

Subcommittee Priority Detail:

This project directly addresses the NRU Subcommittee priority to benefit native fish and wildlife, including federal- and state-listed species. The focal species, the Eastern Black Rail (*Laterallus jamaicensis jamaicensis*), is listed as Threatened under the U.S. Endangered Species Act (2020) and as Threatened in Texas and is a Species of Greatest Conservation Need in the Texas Conservation Action Plan. The Galveston Bay watershed represents one of the last strongholds for this secretive, declining marsh bird. By generating the first population-genomic data for black rails in the Galveston Bay area, characterizing population structure, gene flow, effective population size, and local adaptation, and by piloting an acoustic-localization approach to estimating density, the project delivers information that resource managers currently lack for conserving this listed species.

The project also addresses two M&R Subcommittee priorities. Under Assessment, Exposure, and Response to Stressors, it targets a Species of Greatest Conservation Need, quantifying the black rail's genetic status and population density as direct measures of the species' condition and vulnerability within the estuary. This work fills a monitoring and research information gap that the M&R Subcommittee has specifically identified under RES-1 (Biological Stressor Monitoring and Research), projects addressing species of special concern, a gap not currently addressed for birds in the Galveston Bay watershed. Under Meaningful and Effective Monitoring, the project establishes new, transferable monitoring capacity (a whole-genome

reference-based genomic assessment and a proof-of-concept acoustic density method) while complementing and extending the PI's existing federal and state black rail monitoring efforts in the same region. This proposal is intentionally structured as a collaboration spanning the NRU and M&R Subcommittees: it pairs species conservation of a listed species (NRU) with applied biological monitoring and research that generates transferable, management-relevant data (M&R). The genomic component is conducted in partnership with the U.S. Geological Survey Western Ecological Research Center, whose scientists published the black rail reference genome and have led black rail genomics in Colorado and California, contributing in-kind analytical time. The project further leverages the PI's ongoing regional black rail research funded by USFWS, TPWD, NOAA RESTORE, and the National Park Service, including outreach and stakeholder engagement conducted through the NOAA RESTORE ("Firebird") project, and an existing array of autonomous recording units provided as in-kind support. All resulting genomic and acoustic data will be deposited in approved public repositories for use by USFWS, TPWD, and other regional resource managers.

Does the Project align with any EPA Areas of Special Interest?

- ☐ Reduce Nutrient Pollution to Protect Water Quality and Public Health
- ☐ Make Investments that Address Coastal Resiliency
- ☐ Reduce Trash

SECTION FIVE: PROPOSAL DETAILS

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

Project Summary:

This project pairs the first population-genomic assessment of Eastern Black Rails in the Galveston Bay watershed with a proof-of-concept acoustic method for estimating black rail density, delivering conservation-relevant information on the genetic status and abundance of this federally and state threatened species in one of its last strongholds.

Full Project Description (1,000 words or less):

Populations of the Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) have declined dramatically in coastal and inland areas of the United States (Watts 2022), leading to its listing as Threatened by the U.S. Fish and Wildlife Service in 2020 and as Threatened in Texas. Despite increased effort since listing, it remains one of the most understudied North American birds. The Galveston Bay watershed is one of its last strongholds: surveys on the Texas mid-Coast National Wildlife Refuge Complex detected roughly 130 vocalizing individuals during 2021–2022, with additional birds around Galveston Island, the Bolivar Peninsula, and adjacent marshes. However, translating these detections into effective recovery strategies is hindered by two critical knowledge gaps. First, Black Rails are rarely captured, so little genetic data exist for the eastern subspecies and no phylogenetic comparisons have been made to other subspecies. Second, we lack efficient methods to estimate how many birds occupy a given area. This project addresses both gaps through complementary genomic and acoustic components, the first delivered in partnership with the U.S. Geological Survey (USGS).

Component 1: Population genomics. The proposed research will use genomic data to answer several questions relevant to conservation and recovery in the Galveston Bay watershed and more broadly along the Gulf Coast. Specifically, we will: (1) conduct a phylogenetic comparison between migratory and resident Black Rails of the eastern subspecies (*L. j. jamaicensis*) and the California subspecies (*L. j. coturniculus*); (2) evaluate patterns of population substructure and gene flow in Texas Black Rails; (3) estimate genetic effective size of the Galveston Bay Black Rail population; and (4) assess evidence for local adaptation in Texas Black Rails.

This collaborative component leverages skills and data from partners at the USGS Western Ecological Research Center (Dr. Susan De La Cruz, Dr. Amy Vandergast, and Dr. Laurie Hall), who have previously conducted genomics work on Black Rails in Colorado and California (Hall et al. 2023; Hall and Beissinger 2017). Rails will be captured at night during the non-breeding season using spotlights and lightly weighted drag lines to flush birds, which are taken with hand nets (Hall and Beissinger 2017; Tsao et al. 2009). Upon capture, all birds will be banded with USGS stainless steel bands, and morphometric and molt data will be collected. Approximately 20 µl of blood will be collected by venipuncture of the brachial vein and transferred to blood cards using capillary tubes. We will also collect a feather in a paper envelope from each bird for stable isotope analysis. Because Galveston Bay supports both resident breeders and possible migrants from interior populations, feather hydrogen isotope ($\delta^2\text{H}$) values, which record the isotopic signature of precipitation where the feather was grown (Hobson 2005; Bowen et al. 2005), will be used simply to screen sampled birds for residency, so that individuals used in population-genomic analyses can be confirmed as local rather than non-Gulf origin. Following methods developed by the PI (Butler et al., in prep.), birds inconsistent with a Gulf origin will be flagged using a two-standard-deviation criterion on laboratory-corrected $\delta^2\text{H}$.

Blood samples will be sent to the USGS Western Ecological Research Center San Diego Field Station Genetics Laboratory for DNA extraction and library preparation. We will generate a large set of single nucleotide polymorphisms (SNPs) for analysis using high-throughput sequencing (Toews et al. 2015). Population and phylogenetic analyses will be performed to (1) determine phylogenetic relationships of Black Rails (DeSaix et al. 2014); (2) estimate levels of genetic exchange among regions (Wang 2022); (3) estimate genetic effective size of the Galveston Bay Black Rail population (Waples et al. 2016); and (4) determine whether Texas Black Rails have unique genetic diversity associated with climatic and habitat conditions (Chambers et al. 2024). These data provide a baseline for measuring future population change and adaptive potential in Texas Black Rails. Upon completion of the study, any remaining tissue will be archived in an academic museum for future use by the scientific community.

Component 2: Acoustic density assessment. Standard autonomous recording units (ARUs) confirm Black Rail presence but cannot distinguish one calling bird from several, so they cannot produce abundance or density estimates. As a proof of concept, we will deploy a spatially coordinated grid of AudioMoth ARUs,

already owned by the project and contributed as in-kind support, at Black Rail sites in the watershed. Synchronized recordings, automated species identification (BirdNET; Kahl et al. 2021), and acoustic localization will let us distinguish and locate individual calling birds and generate call-rate-adjusted density estimates. Because management-induced vegetation change can alter calling behavior independently of true abundance, we will quantify call rates across sites so that density indices reflect bird numbers rather than differences in vocal activity. This tests whether affordable, non-invasive arrays can yield defensible density estimates for a threatened marsh bird; information presence/absence surveys cannot provide, and managers need to evaluate responses to marsh management.

Study area. Fieldwork will occur at Black Rail sites within and adjacent to the Galveston Bay watershed, including the Texas mid-Coast National Wildlife Refuge Complex (Brazoria, San Bernard, and Big Boggy NWRs) and nearby marshes where the PI has ongoing research and established land-manager relationships. USGS will perform genomic laboratory and bioinformatic work under a subaward and contribute in-kind analytical time; feather isotope analyses will be run at an established stable isotope laboratory under a service contract.

Deliverables and data access. The project will deliver population-genomic results addressing the four objectives above, a tested acoustic protocol with density estimates for Black Rails in the Galveston Bay area, a comprehensive final report, and at least one peer-reviewed publication. All genomic and acoustic data will be made available to the USFWS, Texas Parks and Wildlife Department, and other regional resource managers and the USGS will also provide a publicly-available data product. By pairing the first genomic assessment of Galveston Bay Black Rails with a scalable method for estimating their density, the project delivers science-based information essential to sustaining one of the last strongholds of this threatened species.

Project Urgency:

The Eastern Black Rail is federally and state threatened and continues to decline across its range. The Galveston Bay watershed supports one of the species' last population strongholds, yet no population-genetic baseline exists for these birds and no efficient density-estimation method is available to managers. Establishing this genomic baseline now, while a capturable population persists and while the project can leverage an existing USGS reference genome, established collaborations, and the PI's ongoing regional black rail fieldwork and equipment, maximizes scientific return and provides resource managers with information needed for timely conservation decisions.

Other Plans Implemented:

Texas Conservation Action Plan (the Eastern Black Rail is a Species of Greatest Conservation Need); U.S. Fish and Wildlife Service Eastern Black Rail listing and recovery activities under the Endangered Species Act.

Partners¹ and Their Roles:

Texas A&M University (Dr. Chris Butler, PI) — Lead implementer; project management, black rail capture, banding, blood-sample and acoustic data collection, ARU array deployment and analysis, and reporting.

USGS Western Ecological Research Center — Genomics subaward partner. Dr. Susan De La Cruz has more than 30 years of experience in avian ecology with a focus on migratory connectivity. Dr. Amy Vandergast is a research geneticist with extensive experience in rail genomics and will conduct the genomics laboratory work and bioinformatic analyses. Dr. Laurie Hall completed her doctoral research on California black rails and published the black rail reference genome (Hall et al. 2023). USGS will perform laboratory and bioinformatic work under a subaward and contribute in-kind analytical and writing time.

Does the Project work with new, smaller communities/partnerships?

☐ Yes

☒ No

[TBD.]

Is the project subject to Title VI requirements?

To meet federal nondiscrimination guidance and laws (Title VI), TCEQ requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English-

¹ If partners are subgrantees completing work reimbursable under GBEP funding, a letter of commitment from the partner must be submitted as an appendix with the application.

speaking ability (LEP). If 5% or more of the population within your project area is LEP and share a common language, then you are required to provide outreach in the alternative language. For statewide projects, Spanish language outreach is required. As Title VI compliance could impact the project budget, please reach out to the primary subcommittee coordinator for this application with questions on determining applicability.

☐ Yes

☒ No

[TBD.]

Latitude/Longitude (Optional):

Brazoria National Wildlife Refuge: 29°08'33.5"N, 95°14'06.7"W
Artist Boat Coastal Heritage Preserve: 29°13'21.6"N, 94°55'23.3"W
Virginia Point: 29°19'37.9"N, 94°54'28.7"W
Bolivar Flats Shorebird Sanctuary: 29°22'55.2"N, 94°43'58.8"W
Mundy Marsh Bird Sanctuary: 29°31'28.4"N, 94°28'51.3"W

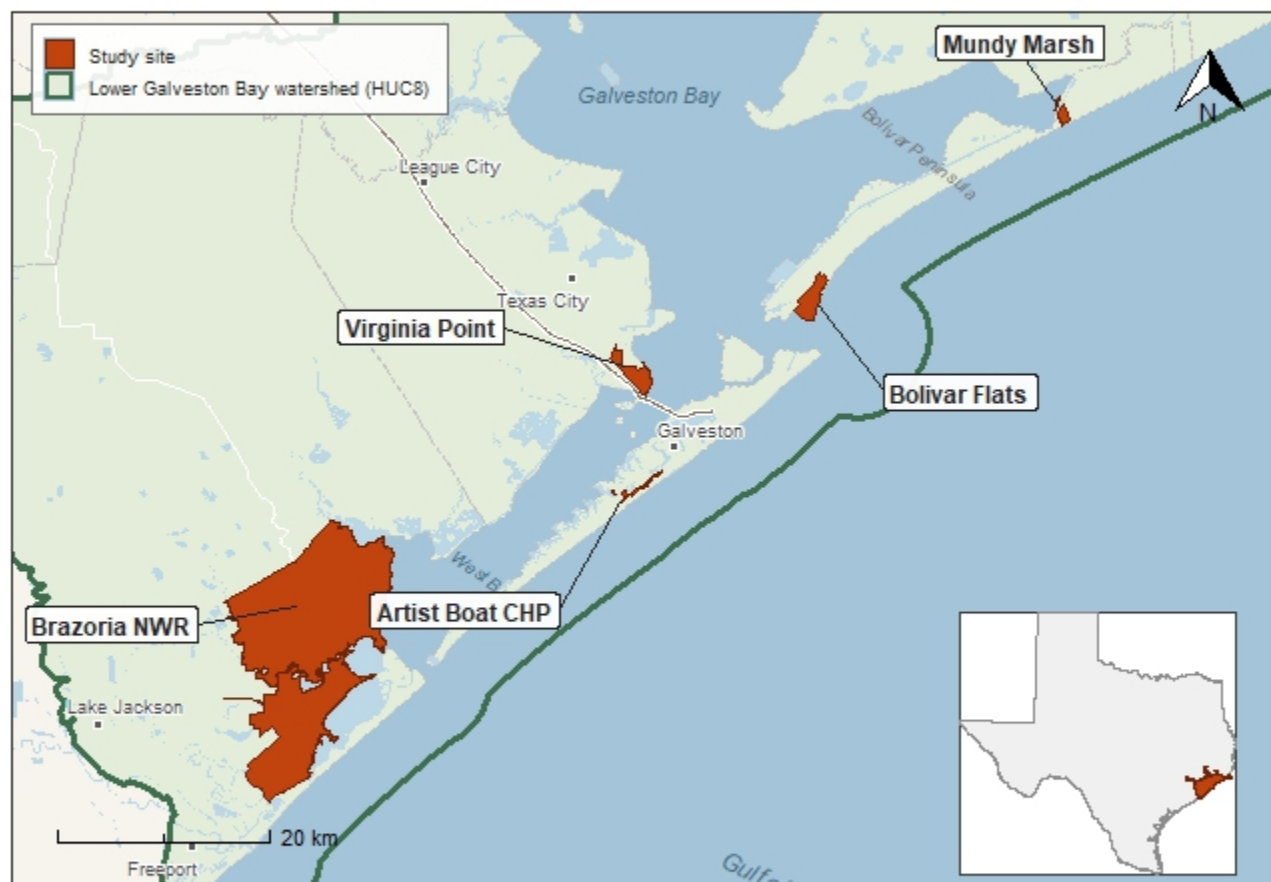
Location:

Fieldwork will be conducted at five high-marsh sites distributed around the lower bay and its barrier shorelines. Brazoria National Wildlife Refuge (U.S. Fish and Wildlife Service) lies on the western side of the lower bay system in Brazoria County. Virginia Point (Scenic Galveston, Inc.) occupies the mainland shore immediately north of the Galveston causeway, and Artist Boat Coastal Heritage Preserve (Artist Boat, Inc.) lies on the bay side of west Galveston Island. Bolivar Flats Shorebird Sanctuary and Mundy Marsh Bird Sanctuary, both managed by the Houston Audubon Society, are located on the Bolivar Peninsula on the eastern side of the bay mouth.

Together these sites encompass approximately 55,900 acres of conserved coastal marsh, prairie, and associated habitats, and span the range of high-marsh conditions in which Eastern Black Rails occur in the Galveston Bay system, from extensive refuge marsh on the western shore to smaller conserved parcels on the barrier peninsula and island. All five are managed by federal or non-governmental conservation partners with whom the PI has established working relationships, and all support or adjoin marsh habitat suitable for Eastern Black Rails.

Projects Map

Eastern Black Rail study sites, Lower Galveston Bay watershed



Watershed boundary: USGS Watershed Boundary Dataset (HUC8 12040202-12040205). Hydrography, roads, places and county boundaries: US Census Bureau TIGER/Line 2023. Protected area boundaries: USGS Protected Areas Database (PAD-US). Projection: NAD83 / Texas South Central (EPSG 32039).

Supplemental Photos/Graphics (Optional):

This Black Rail was banded at the Texas mid-Coast NWR by the PI as part of a previous project.



SECTION SIX: BUDGET DETAILS

Grant Payments [see 30 TAC § 14.7(12)]: All grant payments will be made on the basis of reimbursement for allowable costs (as defined in 2 CFR Part 200, Subpart E). All payments for awarded proposals will be reimbursements of allowable costs incurred after both parties have entered (signed) a grant agreement for the project.

Budget. Authorized budgeted expenditures for work performed are as follows:

a. Direct Costs

Budget Category	Cost for Work to be Performed
Salary / Wages	\$43,771.00
Fringe Benefits (###%) ²	\$11,938.00
Travel	\$8,400.00
Supplies	\$24,827
Equipment	\$0.00
Contractual	\$73,721.00
Construction	\$0.00
Other	\$8,337.00
Total Direct Cost	\$170,994.00

b. Indirect Costs³

Distribution Base Amount (<i>identify Base type below</i>)	\$ 144,336
Indirect Cost Rate for Reimbursement	% 54
Total Indirect Costs	\$ 77,942

c. Maximum Authorized Reimbursement

Maximum Authorized Reimbursement (Direct and Indirect Costs)	\$ 248,936
--	------------

Indirect Cost Distribution Base. The Distribution Base above is (check one):

- ☐ direct salary/wages and fringe benefits
☒ modified total direct costs
☐ other direct cost Base

If other direct cost Base, identify:

The indirect cost rate is (check one):

☒ **Predetermined Rate**— an indirect rate that is negotiated between the Performing Party and its federal cognizant agency and supported by a current Negotiated Indirect Cost Rate Agreement (NICRA) letter. A Predetermined Rate is not subject to adjustment except as provided by 2 Code of Federal Regulations (CFR) § 200.411.

☐ **De Minimis Rate**— if Performing Party does not have a current negotiated indirect rate, Performing Party may use a standard rate of 15 percent of Modified Total Direct Costs (MTDC) in lieu of determining the actual indirect costs of the service. Costs must be consistently charged as either indirect or direct costs.

☐ **Partial Reimbursement Rate** — a reimbursement rate agreed to between TCEQ and Performing Party that is less than the rate authorized under TxGMS or, where applicable, 2 CFR Part 200. Performing Party contributes

² If fringe is not a single rate, please attach calculation or explanation as an appendix.

³ Please attach Indirect Cost Agreement as an appendix if applicable

all of its unreimbursed indirect costs to the successful performance of the project or projects funded under this Contract, in accordance with Article 9 of this section.

☐ **Other:** [Examples: De Minimis Rate with a base of direct salary and wages (less than or equal to actual indirect costs) or Provisional Rate. If this is a Provisional Rate, include the following language: Provisional Rate: The subsequent adjustment of the indirect cost rate is subject to the requirements of Article 9 of this (Cost Budget) section.]

Other. If Budget Category “Other” is greater than \$25,000 or more than 10% of budget total, identify the main constituents:

[Description of costs associated with “Other” budget category.]

Travel. In order to be reimbursable, travel costs must be specifically authorized in advance of the travel. Travel costs will be reimbursed only in the amount of actual costs, up to the maximum allowed by law for employees of the State of Texas at the time the cost is incurred.

Budget Categories. The Budget Categories above are representative of the items of cost found in TxGMS and 2 CFR Part 200, and have the definitions, requirements, and limitations found therein. Construction costs are not reimbursable without prior, specific written authorization from TCEQ.

SECTION SEVEN: CONTRACT REQUIREMENT [see 30 TAC § 14.7(15)]:

- By submitting this Project Proposal, you acknowledge that, if you become a successful grant recipient selected for a grant award, you must enter into a signed grant agreement or contract with TCEQ following the announcement of that award.

SECTION EIGHT: ACKNOWLEDGMENTS

Please read and understand the following:

- By submitting this Project Proposal, you acknowledge that information on how grant payments will be made is contained in the Budget Details section describing direct and possibly indirect costs. You further acknowledge that grant payments will be reimbursements on the basis of allowable costs incurred and that selected recipients will receive contract documents addressing allowable costs, unallowable costs, and reimbursement.
- By submitting this Project Proposal, you acknowledge your understanding that Project Proposals do not require matching funds and that a TCEQ director does not need to adjust or waive any matching funds requirement.
- By submitting this Project Proposal, you acknowledge that, if GBEP elects to hold a pre-submittal meeting relating to this Project Proposal, GBEP will post notification of the meeting's time and location indicating whether attendance is mandatory.

SECTION NINE: QUESTIONS AND PRE-SUBMITTAL MEETINGS [see 30 TAC § 14.7(13) and 30 TAC § 14.7(14)]:

- There are no pre-submittal meetings scheduled.
- For requests for additional, pre-submittal information [see 30 TAC § 14.7(13)], please contact the corresponding Subcommittee Coordinator listed on this page.

SECTION TEN: ADDITIONAL INSTRUCTIONS

In submitting your Project Proposal, please refer and adhere to the following instructions and guidelines concerning materials and information required to be submitted by potential grant recipients:

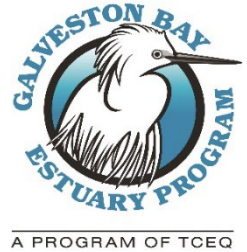
- GBEP intends to accept only complete Projected Proposals in a layout and format constituting a filled version of this proposal document with all applicable sections therein addressed; however, GBEP may, in its sole discretion, consider and accept nonconforming Project Proposals in the best interest of the state.
- Unless otherwise specified by GBEP, formal signatures are not required on Project Proposals.
- Unless otherwise communicated or implied, GBEP requires 1 (one) completed copy of your Project Proposal per corresponding Subcommittee Coordinator.
- Project Proposals must be received electronically, through the email address of the relevant Subcommittee Coordinator listed on this page, by the deadline listed on both this page and the first page of this Project Proposal document.

Submittal Process and Deadline [see 30 TAC § 14.7(8) and 30 TAC § 14.7(9)]:

Please Submit Project Proposals (Microsoft Word Only – No PDFs) by **July 24, 2026 to the relevant Subcommittee Coordinators below:**

WSQ Subcommittee: Christian.Rines@tceq.texas.gov
NRU Subcommittee: Lindsey.Lippert@tceq.texas.gov
PPE Subcommittee: Zoe.Gapayao@tceq.texas.gov
M&R Subcommittee: Jenelle.Estrada@tceq.texas.gov
Programmatic Projects: Lisa.Marshall@tceq.texas.gov

Galveston Bay Estuary Program Fiscal 2028 Project Proposal



Please complete this proposal form and submit to the appropriate Subcommittee Coordinator (end of form) by **July 24, 2026**. No late submittals will be considered for funding.

This Call for Project Proposals complies with 30 Texas Administrative Code (TAC) § 14.7, which lays out requirements for a competitive solicitation by TCEQ for grant awards. For convenience, specific citations to 30 TAC § 14.7 are identified in the text.

SECTION ONE: INTRODUCTION

Purpose [required by 30 TAC § 14.7(1)]: The purpose of the proposed grant from the Galveston Bay Estuary Program (GBEP), a program of the Texas Commission on Environmental Quality (TCEQ), is to implement *The Galveston Bay Plan, 2nd Edition* (the Plan), a comprehensive conservation and management plan falling under Section 320, of the Federal Water Pollution Control Act (33 U.S.C. Section 1330), for a designated national estuary in the State of Texas.

Objective and Allowable Activities [see 30 TAC § 14.7(4)]: The objective of this grant is to implement the GBEP stakeholder developed priorities for fiscal 2028 (FY 2028) Priority Area Actions that were developed by GBEP subcommittees for FY 2028 at the June 2026 meetings. Any proposal implementing the Plan may be submitted, but proposals implementing the FY 2028 Priority Area Actions will be considered above others.

Authority [see 30 TAC § 14.7(2)]: Grants issued by GBEP under this solicitation are authorized by: the Federal Water Pollution Control Act (Clean Water Act) § 320 (33 UNITED STATES CODE § 1330), commonly referred to as the National Estuary Program; TEX. WATER CODE § 5.124; and 30 TAC ch. 14.

Match Requirement [see 30 TAC § 14.7(10) and 30 TAC § 14.7(11)]: No matching funds are required. Therefore, there is no need to adjust or waive any matching funds requirement.

Multiple Awards [see 30 TAC § 14.7(7)]: GBEP anticipates awarding funds for multiple proposals. GBEP intends to award grants to that combination of proposals which best implements the Plan, factoring in all criteria identified in this Call for Project Proposals, the availability of funds, and the most effective division of funds between awards.

Timeline of Proposals:

Task	Date Due
Release of Request for Proposals	June 22, 2026
Proposals Due	July 24, 2026
Send Proposals to Subcommittees Members for Review	August 12, 2026
Present Proposals to Subcommittees for Council Recommendation	September 2, 2026 (NRU and PPE) September 9, 2026 (M&R and WSQ)
Present Proposals to B&P Subcommittee for Final Recommendation	September 30, 2026
Present Proposals to Galveston Bay Council for Approval	October 14, 2026

SECTION TWO: SUBMITTAL – GENERAL INFORMATION

Primary Subcommittee: Monitoring and Research (M&R)
Secondary Subcommittee (if applicable): Natural Resource Uses (NRU)
Tertiary Subcommittee (if applicable): Choose an item.

Project Name:

A Coast of Thorns and Roses: Autonomous Detection and Treatment of Invasive Macartney Rose in the Coastal Prairies of the Lower Galveston Bay Watershed

Project Previously Funded by GBEP? Yes ☐ No ☒

Lead Implementer / Categories of Eligible Recipients [see 30 TAC § 14.7(3)]:

Texas A&M University / Galveston – Institute for a Disaster Resilient Texas (IDRT)

The lead implementer must be in one of the following categories of eligible recipients. Please indicate which category applies to your entity. If the proposing party is not already paired with a lead implementer in one of the categories listed below, the proposing party will need to partner with an eligible recipient in one of these categories to be selected for funding. Please reach out to GBEP staff with any questions.

☐ Federal, State, or Local Government ☐ Council of Government ☒ Public ISDs or Universities
☐ Nonprofit ☐ Other*

[If other, please identify pass-through partner.]

Unique Entity ID (UED) Number:	JF6XLNB4CDJ5
Vendor Identification Number (VIN) or Tax ID:	17460005311

Contact Information:

Project Representative Name	Nicholas Hoskins
Project Representative Phone	512-422-9491
Project Representative Email	hoskinsn@tamu.edu

Project Dates / Duration (beginning no earlier than September 1, 2027 – ending no later than May 31, 2030) [see 30 TAC § 14.7(5)]:

24 months (September 1, 2027 – August 31, 2029)

Amount Requested from GBEP:

[\$] 240,845

Federal ☐ State ☐ No Preference ☒

Is the project scalable? ☒

Amount Requested per year (if applicable):

FY 2028 (09/01/2027-08/31/2028)	\$118,751.00
FY 2029 (09/01/2028-08/31/2029)	\$122,0940.00
FY 2030 (09/01/2029-05/31/2030)	\$0.00
Total	\$240,845.00

Total Project Cost (including Leveraging Amounts, if any; provide leveraging information where indicated below):

\$315,845.00

Is this an estimate? ☐

Leveraging (in-kind and/or cash):

In-kind project equipment provided by Texas A&M University's Disaster Data Reconnaissance Center (DDRC). The center will provide \$75,000 (based on asset replacement value and depreciation) via two cutting-edge, National Defense Authorization Act (NDAA)-compliant drone platforms. Platforms will be used to perform aerial mapping and monitoring as well as treat invasive plant species. Further leveraging this equipment enhances project scalability both during and beyond project timeline.

SECTION THREE: GALVESTON BAY PLAN, 2ND EDITION IMPLEMENTATION

Grant recipient activities to be funded must implement the Plan, but proposals implementing the FY 2028 Subcommittee Priorities (Section Four) will be considered above others. This selection criteria provides for the selection of multiple recipients as needed.

The *Galveston Bay Plan, 2nd Edition* Action Plans are found at:
<https://gbep.texas.gov/ensure-safe-human-and-aquatic-life-use/>
<https://gbep.texas.gov/protect-and-sustain-living-resources/>
<https://gbep.texas.gov/engage-communities/>
<https://gbep.texas.gov/inform-science-based-decision-making/>

Galveston Bay Plan Priority Area Actions Addressed:

Plan Priority 1: Ensure Safe Human and Aquatic Life Use

NPS-1 ☐ NPS-2 ☐ NPS-3 ☐ NPS-4 ☐
PS-1 ☐ PS-2 ☐ PS-3 ☐
PHA-1 ☐ PHA-2 ☐ PHA-3 ☐ PHA-4 ☐ PHA-5 ☐

Plan Priority 2: Protect and Sustain Living Resources

HC-1 ☐ HC-2 ☒ HC-3 ☒
SC-1 ☒ SC-2 ☒
FWI-1 ☐ FWI-2 ☒ FWI-3 ☐

Plan Priority 3: Engage Communities

SPO-1 ☒ SPO-2 ☐ SPO-3 ☐ SPO-4 ☒
PEA-1 ☒ PEA-2 ☐ PEA-3 ☐

Plan Priority 4: Inform Science-based Decision Making

RES-1 ☒ RES-2 ☒ RES-3 ☒ RES-4 ☐
RES-5 ☐ RES-6 ☒ RES-7 ☐ RES-8 ☐
ACS-1 ☐ ACS-2 ☐ ACS-3 ☐

Plan Priority Area Actions Detail:

This project implements the Galveston Bay Plan by advancing conservation of coastal habitats, supporting science-based decision making, and improving management strategies for invasive plant species. Through drone-based remote sensing, artificial intelligence (AI), field validation, and ecological monitoring, this project will generate actionable spatial data and management tools to support restoration practitioners and resource managers. The project directly contributes to protecting coastal prairie habitats, enhancing biodiversity, and developing innovative approaches for long-term ecosystem resilience within the Galveston Bay watershed.

SECTION FOUR: SUBCOMMITTEE PRIORITIES / FACTORS TO BE USED TO SELECT AWARDS [see 30 TAC § 14.7(6)]

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority. This selection criteria provides for the selection of multiple recipients as needed.

Subcommittee Identified Priorities:

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

- ☐ WSQ: Supporting management measures and watershed-based plans through adaptive management, workforce development, and technical assistance.
- ☐ WSQ: Improve knowledge and accessibility of pollution reporting tools to empower the community.
- ☐ WSQ: Implementation and/or evaluation of best management practices that address point and nonpoint source pollution.
- ☐ NRU: Habitat Acquisition.
- ☒ NRU: Enhancement of existing or ongoing restoration-conservation efforts. Special emphasis on:
 - ☐ Adaptive management for previously completed projects; and
 - ☐ Projects that may have lost/delayed funding from other federal sources.
- ☒ NRU: Benefit to native fish and wildlife, including federal and state listed species, Species of Greatest Conservation Need, or nongame wildlife.
- ☒ NRU: Project urgency: Project must be completed in next 24 months or opportunity is lost.
- ☒ PPE: Connecting new audiences to existing/completed on-the-ground projects in the watershed.
- ☐ PPE: Empowering K-12 students and/or adults to positively impact their local environment through increased scientific literacy and community projects.
- ☒ PPE: Opportunities to host workshops/networking events to provide technical assistance for local leadership (local governments, MUDs, schoolboards, the public) on key topics.
- ☒ PPE: Conservation and environmental workforce development.
- ☒ M&R: Meaningful and effective monitoring of existing, past, and new projects (NRU: especially research and monitoring for diamondback terrapin and best management projects, WSQ, PPE).
- ☒ M&R: Baseline assessments for large-scale, man-made changes to Galveston Bay at an adequate timeline and spatial range to provide useful information.
- ☒ M&R: Assessment, Exposure, and Response to stressors, including but not limited to:
 - ☒ Species of greatest conservation need;
 - ☐ Contact recreation standards;
 - ☒ Environmental parameters;
 - ☐ Emerging contaminants; and
 - ☐ Legacy contaminants.

Subcommittee Priority Detail:

This project addresses Monitoring and Research (M&R) priorities by establishing baseline assessments of Macartney rose distribution, developing innovative detect and treat methods, and evaluating management effectiveness through field validation and long-term monitoring. The project supports Natural Resource Uses (NRU) priorities by enhancing ongoing coastal prairie restoration efforts at Artist Boat's Coastal Heritage Preserve and protecting native habitats from invasive species encroachment. Existing programs at the Institute for a Disaster Resilient Texas (IDRT) and Artist Boat will also be leveraged to engage communities and provide technical assistance supporting priorities of the public participation and engagement (PPE). The resulting automated detection framework and spatial datasets will provide transferable tools for conservation practitioners throughout the Galveston Bay watershed.

Does the Project align with any EPA Areas of Special Interest?

- ☒ Reduce Nutrient Pollution to Protect Water Quality and Public Health
- ☒ Make Investments that Address Coastal Resiliency
- ☐ Reduce Trash

This project supports coastal resiliency by protecting and restoring coastal prairie ecosystems that provide wildlife habitat, improve ecosystem function, and contribute to natural coastal defenses. By developing improved invasive species detection and management strategies, this project will strengthen the ability of

conservation partners to maintain healthy and resilient coastal landscapes within the Galveston Bay watershed.

SECTION FIVE: PROPOSAL DETAILS

Grant recipient activities must implement the Plan. Additional recipient selection criteria includes whether a project addresses a subcommittee priority.

Project Summary:

This project seeks to develop and evaluate an AI-assisted drone mapping and management framework to detect, prioritize, and treat invasive Macartney rose (*Rosa bracteata*) in the Galveston Bay watershed. Macartney rose has the ability to rapidly colonize coastal prairies, forming dense monocultures that displace native plant communities, reduce biodiversity, and impact restoration efforts. While not replacing traditional treatment approaches, rather a combined enhancing approach through emerging technologies such as drones and AI. By leveraging more autonomous platforms and software, increased targeted management and ecological monitoring efficiency and effectiveness of invasive species management occurs, reducing costs and improving prioritization of limited restoration resources.

Full Project Description (1,000 words or less):

This project will develop and evaluate an innovative, technology-driven approach for detecting, mapping, and managing invasive Macartney rose (*Rosa bracteata*) across the Houston-Galveston Coastal Prairie region. Macartney rose is a highly invasive woody shrub that forms dense, thorny thickets, reduces native plant diversity, alters habitat structure, and threatens the ecological integrity of coastal prairie and adjacent wetland ecosystems within the Galveston Bay watershed. Effective management of this species is challenging due to its rapid spread, difficult field detection, and the substantial labor required for traditional monitoring and treatment methods. This project will address these challenges by combining and comparing traditional treatment and drone-based artificial intelligence (AI) approaches through field validation, and targeted management.

The project will compare traditional field-based invasive species management approaches with an AI-assisted workflow that uses unmanned aerial systems (UAS/drone imagery) to identify and prioritize infestations. By combining high-resolution aerial imagery with machine learning techniques and ecological field assessments, this project will establish a repeatable methodology for identifying invasive vegetation across coastal prairie landscapes and guiding targeted management actions. An open-source, sharable AI-assisted analysis will improve the speed and accuracy of invasive species detection, allowing land managers to prioritize treatment efforts, allocate resources more efficiently, and improve restoration outcomes.

The project will be conducted through a paired-site approach using two comparable coastal prairie areas within Artist Boat managed lands, representative of the Houston-Galveston coastal prairie landscape. One site will serve as a traditional management comparison, utilizing existing manual and mechanical treatment approaches, while the second site will incorporate the AI-assisted drone detection workflow to guide treatment prioritization and implementation. Baseline assessments will document existing Macartney rose distribution, vegetation conditions, and habitat characteristics. Drone imagery and field surveys will then be used to train and refine an AI model capable of auto-identifying Macartney rose locations and producing spatially plot management maps.

Following model development, targeted management treatments will be implemented based on infestation severity and accessibility. Treatment areas will be monitored over time to evaluate effectiveness, reductions in invasive cover, vegetation recovery, and differences in management efficiency between traditional and technology-assisted approaches. All these field methods and testing result in a best management practices (BMP) containing management recommendations, and a decision-support framework that can be adapted by land managers, conservation organizations, and resource agencies throughout the Galveston Bay watershed. Additional outcomes include an open-source, base code AI model that can be adapted to other plant species or drone platforms, raw high-resolution geospatial data for future time-series workflows, and geospatial information system (GIS)-based maps of invasive species distributions.

This project directly addresses GBEP priorities by advancing invasive species management, protecting coastal habitats, and supporting science-based conservation practices. Coastal prairies are among the most threatened ecosystems in Texas, providing critical wildlife habitat, supporting biodiversity, improving watershed function, and contributing to coastal resilience. Invasive plant species such as Macartney rose threaten these ecosystems by displacing native vegetation and reducing habitat quality. Improving early detection and targeted treatment methods is essential for maintaining healthy coastal landscapes and preventing further degradation.

Additionally, this project supports GBEP's emphasis on collaborative, innovative, and transferable solutions. The project team will work with regional conservation partners to ensure that research outcomes are directly applicable to land management needs. Simultaneous to sharing managing practices, Artist Boat and IDRT programs will be leveraged to amplify the sharing of the project key issue and findings, mapping products, and management recommendations with local residents, under resourced communities, conservation organizations, land managers, and restoration practitioners to enhance participation and public engagement (PPE) and support broader adoption of invasive species management strategies.

By combining emerging technologies with ecological expertise and on-the-ground restoration practices, this project will demonstrate a scalable approach for addressing invasive species challenges across the Galveston Bay watershed. The outcomes will strengthen regional capacity for invasive species monitoring, enhance coastal prairie restoration efforts, and provide a foundation for integrating more autonomous workflows, such as AI and drones, into future conservation and natural resource management initiatives.

Project Urgency:

Coastal Prairies often are neglected compared to other surrounding natural resources. To the general public there is nothing eye-catching about these spaces. However, these fragmented lands provide so many natural benefits. Invasive plant species, such as Macartney rose, continue to expand throughout coastal prairie and adjacent habitats within the Galveston Bay watershed, threatening native plant communities, habitat quality, and ongoing restoration efforts. Ongoing traditional approaches are laborious and costly with limited capacity, especially confined to a seasonal treatment timeframe. Timely investment is needed to develop improved detection and management strategies before infestations become unmanageable. Current management approaches rely heavily on manual surveys and treatment methods that are difficult to scale across large landscapes. Funding during this cycle will provide a critical opportunity to develop and evaluate an AI-assisted monitoring and management framework during an active period of coastal habitat restoration and invasive species response. The project will generate transferable tools and management recommendations that can immediately support conservation partners, land managers, and resource agencies throughout the Galveston Bay watershed.

Other Plans Implemented:

This project supports and implements priorities identified in the Texas Coastal Management Program (CMP), the Texas Coastal Resiliency Master Plan, and regional coastal habitat conservation initiatives by addressing invasive species management, coastal habitat protection, and ecosystem resilience. By improving the detection, mapping, and management of Macartney rose (*Rosa bracteata*) within the Galveston Bay watershed, this project directly supports efforts to conserve native coastal prairie communities, maintain biodiversity, and enhance the resilience of coastal ecosystems. The project also aligns with watershed-based conservation goals by providing science-based tools and spatial data products that can support land managers, restoration practitioners, and conservation partners in prioritizing invasive species response and habitat restoration actions.

Partners¹ and Their Roles:

Texas A&M University – Institute for a Disaster Resilient Texas (IDRT), Disaster Data Reconnaissance Center (DDRC): Texas A&M University will serve as the lead organization for project implementation, providing project management, research coordination, remote sensing and GIS expertise, AI model development, data analysis, and evaluation of project outcomes. The DDRC team will oversee drone-based data collection, spatial analysis, field validation efforts, and development of the AI-assisted decision-support framework for Macartney rose detection and management.

Artist Boat: Artist Boat will serve as a project partner and sub awardee, providing regional conservation expertise, coastal prairie knowledge, field implementation support, and stakeholder engagement. Artist Boat will assist with identifying priority management areas, supporting field assessments and restoration activities, and helping ensure project outcomes are applicable to local conservation needs. Artist Boat's experience with coastal ecosystem restoration and community-based conservation will support translation of project findings into practical management strategies for the Galveston Bay watershed.

Regional Conservation and Land Management Partners: Additional collaboration with regional conservation organizations, land managers, and resource agencies will support knowledge exchange, dissemination of project outcomes, and adoption of project tools and recommendations. These partnerships will help ensure that the resulting AI-assisted monitoring framework and management

¹ If partners are subgrantees completing work reimbursable under GBEP funding, a letter of commitment from the partner must be submitted as an appendix with the application.

recommendations can be applied broadly to invasive species management and coastal habitat restoration efforts throughout the Galveston Bay watershed.

Does the Project work with new, smaller communities/partnerships?

- ☒ Yes
☐ No

Yes. This project builds upon collaboration between Texas A&M University and Artist Boat, a regional nonprofit conservation organization. The partnership expands technical capacity by connecting advanced remote sensing and artificial intelligence tools with on-the-ground restoration expertise. This collaboration will support smaller conservation organizations by providing improved tools, data products, and management approaches that can be applied to coastal habitat restoration efforts. **Appendix A – Artist Boat Letter of Commitment – shown after Section Ten.**

Is the project subject to Title VI requirements?

To meet federal nondiscrimination guidance and laws (Title VI), TCEQ requires information and services to be provided in languages other than English when significant numbers of beneficiaries are of limited English-speaking ability (LEP). If 5% or more of the population within your project area is LEP and share a common language, then you are required to provide outreach in the alternative language. For statewide projects, Spanish language outreach is required. As Title VI compliance could impact the project budget, please reach out to the primary subcommittee coordinator for this application with questions on determining applicability.

- ☐ Yes
☒ No

The project is not anticipated to meet Title VI language access requirements because activities are focused on research, monitoring, habitat management, and technical implementation rather than direct public services or statewide outreach.

Latitude/Longitude (Optional):

29° 13' 22" N, 94° 55' 56" W

Location:

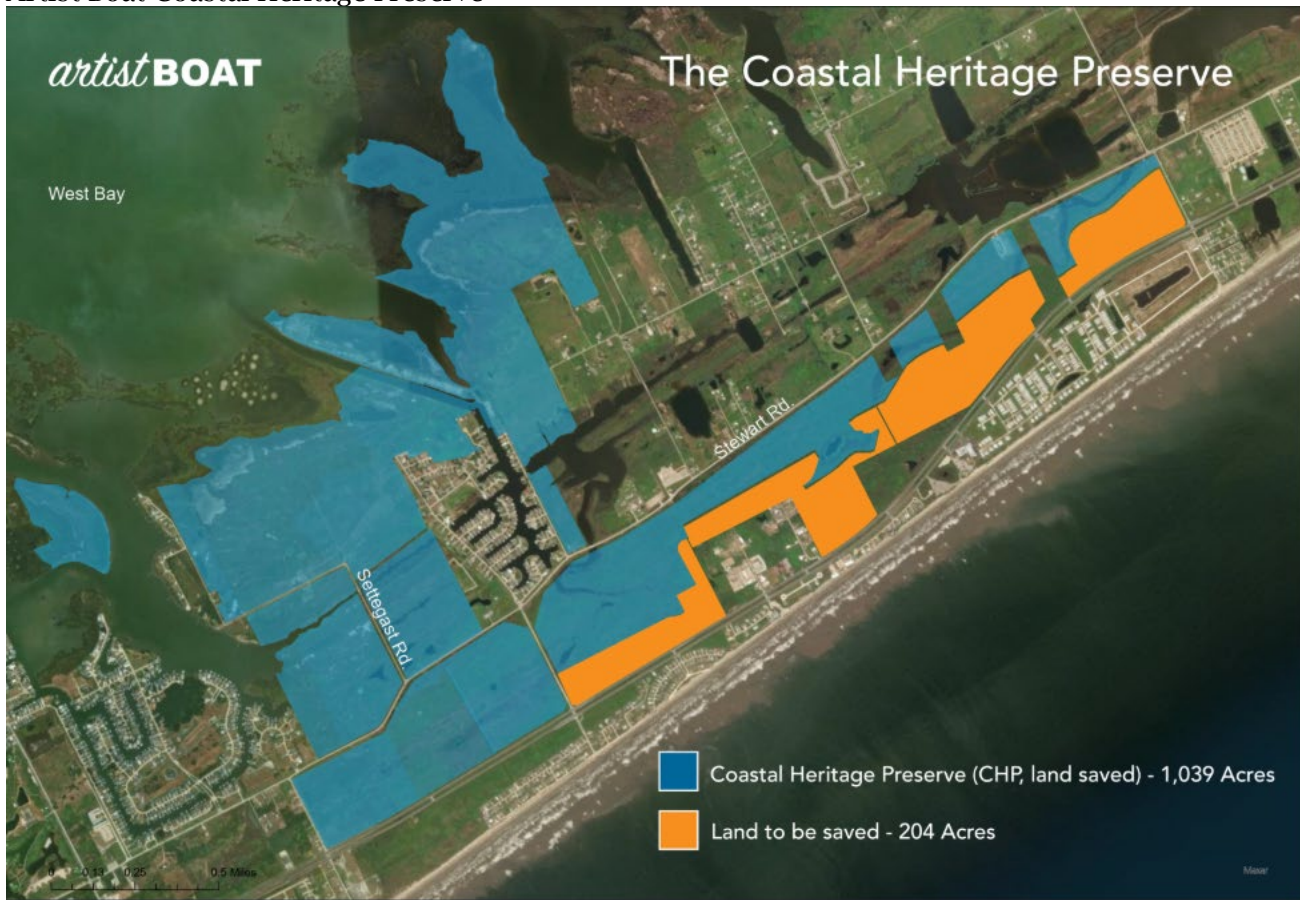
This project will be conducted within the Houston-Galveston Coastal Prairie region of the Galveston Bay watershed, with primary implementation occurring at Artist Boat's Coastal Heritage Preserve on Galveston Island, Texas. The project area encompasses coastal prairie habitats and adjacent wetland systems that provide important ecological functions, including wildlife habitat, biodiversity support, storm resilience, and watershed protection. The Coastal Heritage Preserve represents a critical example of remaining coastal prairie habitat within the Galveston Bay watershed and provides an ideal landscape for evaluating innovative invasive species detection and management strategies. Project activities will focus on identifying, mapping, and managing Macartney rose (*Rosa bracteata*) infestations while developing tools and approaches that can be applied throughout similar coastal prairie and conservation areas across the Galveston Bay region.

Projects Map

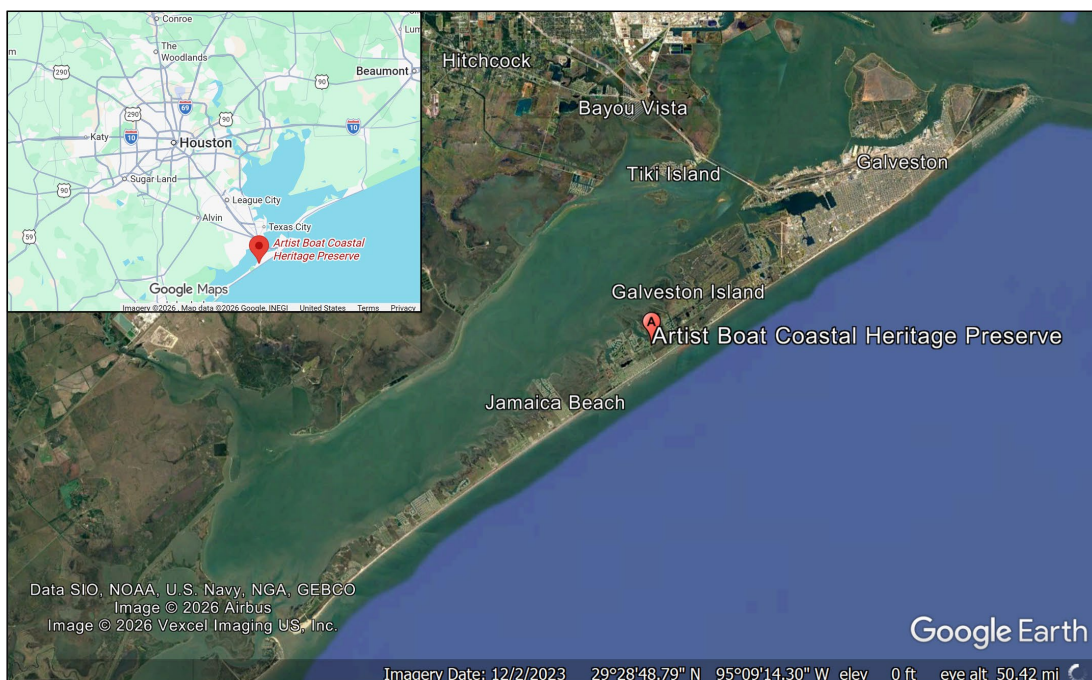
Project is located within the Lower Galveston Bay Watershed. 29.22402785998953, -94.9279485903564

Supplemental Photos/Graphics (Optional):

Artist Boat Coastal Heritage Preserve

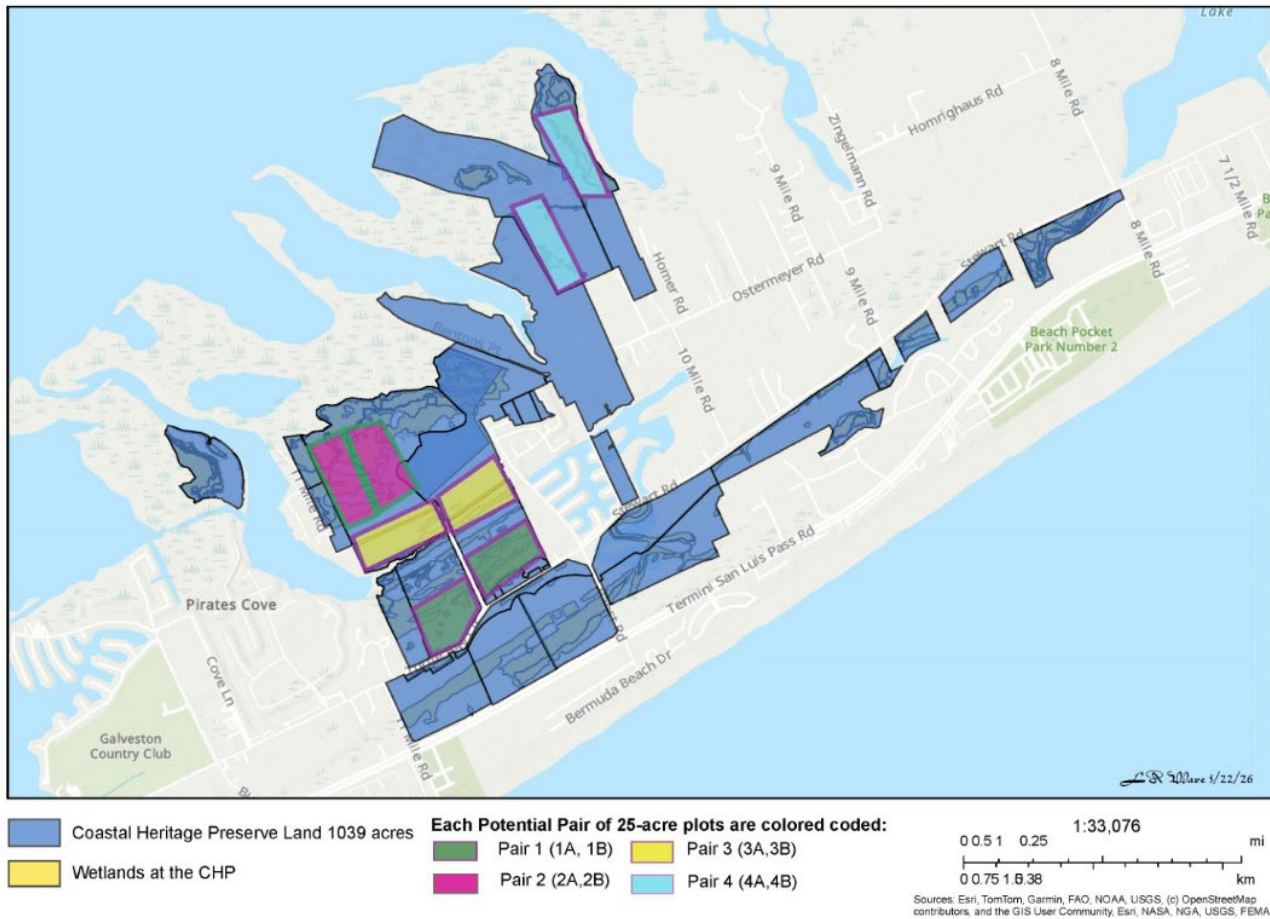


Artist Boat's Coastal Heritage Preserve, located on Galveston Island, is a Texas Coastal Resiliency Master Plan (TCRMP) Tier 1 project (#240) supporting the Preserve's formation and land acquisition. The entire Preserve is designated as Coastal Natural Resource Areas (CNRAs) — including coastal barrier, coastal wetlands, and special hazard areas — and falls within FEMA FIRM Special Flood Hazard Areas (Zones AE and VE), which Texas also recognizes as CNRAs.



Potential plots to be considered for mapping, monitoring, and treatment of Macartney Rose and fulfill project goals.

Macartney Rose Trials at Artist Boat's Coastal Heritage Preserve



Images of Macartney Rose at Artist Boat's Coastal Heritage Preserve on proposed research trial plots.



L.A. Ware - 2026

Images above demonstrate that Macartney Rose exhibits an average of 60% density distribution with stands exceeding 9 feet in several spaces throughout the two 25-acre plots and nearby parcels.



Images above show where Macartney Rose exhibits an overall average density of 55% and inhibits the growth of essential coastal prairie species. Additionally, these plots border salt grass marshes that the Macartney Rose will dominate in the next 1-2 years if not addressed properly.



Images above show where Macartney Rose has been treated previously but not consistently and/or treated inaccurately resulting in increased resistance and inadequate competition. The stands here are 10 feet tall and covering 2-4 acres exhibiting above 65% density distribution. Perhaps due to resistance built up or simply being on the island, many of the Macartney Rose throughout these 50+ acres exhibit early bloom stages during December (when expected to be ending their fruiting stages).



Images above show encroaching Macartney Rose on a Peninsula where Density distribution averages 50% only on the acres that were most often grazed by cattle in previous years (according to a third-generation cattle rancher nearby). The stands can be found mostly along fencelines and in what would have been deemed highly grazable acres (once mostly salt grass).

SECTION SIX: BUDGET DETAILS

Grant Payments [see 30 TAC § 14.7(12)]: All grant payments will be made on the basis of reimbursement for allowable costs (as defined in 2 CFR Part 200, Subpart E). All payments for awarded proposals will be reimbursements of allowable costs incurred after both parties have entered (signed) a grant agreement for the project.

Budget. Authorized budgeted expenditures for work performed are as follows:

a. Direct Costs

Budget Category	Cost for Work to be Performed
Salary / Wages	\$57,137.00
Fringe Benefits (###%) ²	\$21,070.00
Travel	\$8,440.00
Supplies	\$4000.00
Equipment	\$0.00
Contractual	\$99,000.00

² If fringe is not a single rate, please attach calculation or explanation as an appendix. **Appendix C**

Budget Category	Cost for Work to be Performed
Construction	\$0.00
Other	\$1,500.00
Total Direct Cost	\$191,147.00

b. Indirect Costs³

Distribution Base Amount (<i>identify Base type below</i>)	\$ 191,147.00
Indirect Cost Rate for Reimbursement	% 26
Total Indirect Costs	\$ 49,698.00

c. Maximum Authorized Reimbursement

Maximum Authorized Reimbursement (Direct and Indirect Costs)	\$ 240,845.00
--	---------------

Indirect Cost Distribution Base. The Distribution Base above is (check one):

- ☐ direct salary/wages and fringe benefits
☒ modified total direct costs
☐ other direct cost Base

If other direct cost Base, identify:

The indirect cost rate is (check one):

☒ **Predetermined Rate**— an indirect rate that is negotiated between the Performing Party and its federal cognizant agency and supported by a current Negotiated Indirect Cost Rate Agreement (NICRA) letter. A Predetermined Rate is not subject to adjustment except as provided by 2 Code of Federal Regulations (CFR) § 200.411.

☐ **De Minimis Rate**— if Performing Party does not have a current negotiated indirect rate, Performing Party may use a standard rate of 15 percent of Modified Total Direct Costs (MTDC) in lieu of determining the actual indirect costs of the service. Costs must be consistently charged as either indirect or direct costs.

☐ **Partial Reimbursement Rate** — a reimbursement rate agreed to between TCEQ and Performing Party that is less than the rate authorized under TxGMS or, where applicable, 2 CFR Part 200. Performing Party contributes all of its unreimbursed indirect costs to the successful performance of the project or projects funded under this Contract, in accordance with Article 9 of this section.

☐ **Other:** [Examples: De Minimis Rate with a base of direct salary and wages (less than or equal to actual indirect costs) or Provisional Rate. If this is a Provisional Rate, include the following language: Provisional Rate: The subsequent adjustment of the indirect cost rate is subject to the requirements of Article 9 of this (Cost Budget) section.]

Other. If Budget Category “Other” is greater than \$25,000 or more than 10% of budget total, identify the main constituents:

[Description of costs associated with “Other” budget category.]

Travel. In order to be reimbursable, travel costs must be specifically authorized in advance of the travel. Travel costs will be reimbursed only in the amount of actual costs, up to the maximum allowed by law for employees of the State of Texas at the time the cost is incurred.

³ Please attach Indirect Cost Agreement as an appendix if applicable. **Appendix D**

Budget Categories. The Budget Categories above are representative of the items of cost found in TxGMS and 2 CFR Part 200, and have the definitions, requirements, and limitations found therein. Construction costs are not reimbursable without prior, specific written authorization from TCEQ.

Appendices after Section Ten.

SECTION SEVEN: CONTRACT REQUIREMENT [see 30 TAC § 14.7(15)]:

- By submitting this Project Proposal, you acknowledge that, if you become a successful grant recipient selected for a grant award, you must enter into a signed grant agreement or contract with TCEQ following the announcement of that award.

SECTION EIGHT: ACKNOWLEDGMENTS

Please read and understand the following:

- By submitting this Project Proposal, you acknowledge that information on how grant payments will be made is contained in the Budget Details section describing direct and possibly indirect costs. You further acknowledge that grant payments will be reimbursements on the basis of allowable costs incurred and that selected recipients will receive contract documents addressing allowable costs, unallowable costs, and reimbursement.
- By submitting this Project Proposal, you acknowledge your understanding that Project Proposals do not require matching funds and that a TCEQ director does not need to adjust or waive any matching funds requirement.
- By submitting this Project Proposal, you acknowledge that, if GBEP elects to hold a pre-submittal meeting relating to this Project Proposal, GBEP will post notification of the meeting's time and location indicating whether attendance is mandatory.

SECTION NINE: QUESTIONS AND PRE-SUBMITTAL MEETINGS [see 30 TAC § 14.7(13) and 30 TAC § 14.7(14)]:

- There are no pre-submittal meetings scheduled.
- For requests for additional, pre-submittal information [see 30 TAC § 14.7(13)], please contact the corresponding Subcommittee Coordinator listed on this page.

SECTION TEN: ADDITIONAL INSTRUCTIONS

In submitting your Project Proposal, please refer and adhere to the following instructions and guidelines concerning materials and information required to be submitted by potential grant recipients:

- GBEP intends to accept only complete Projected Proposals in a layout and format constituting a filled version of this proposal document with all applicable sections therein addressed; however, GBEP may, in its sole discretion, consider and accept nonconforming Project Proposals in the best interest of the state.
- Unless otherwise specified by GBEP, formal signatures are not required on Project Proposals.
- Unless otherwise communicated or implied, GBEP requires 1 (one) completed copy of your Project Proposal per corresponding Subcommittee Coordinator.
- Project Proposals must be received electronically, through the email address of the relevant Subcommittee Coordinator listed on this page, by the deadline listed on both this page and the first page of this Project Proposal document.

Submittal Process and Deadline [see 30 TAC § 14.7(8) and 30 TAC § 14.7(9)]:

Please Submit Project Proposals (Microsoft Word Only – No PDFs) by **July 24, 2026 to the relevant Subcommittee Coordinators below:**

WSQ Subcommittee: Christian.Rines@tceq.texas.gov
NRU Subcommittee: Lindsey.Lippert@tceq.texas.gov
PPE Subcommittee: Zoe.Gapayao@tceq.texas.gov
M&R Subcommittee: Jenelle.Estrada@tceq.texas.gov
Programmatic Projects: Lisa.Marshall@tceq.texas.gov

APPENDIX A

ARTIST BOAT LETTER OF COMMITMENT



13330 Settegast Road | Galveston, Texas 77554
artistboat.org | info@artistboat.org | 409-632-0388

Inspiration and education through unique coastal experiences

July 23, 2026

Galveston Bay Estuary Program (GBEP)
17041 El Camino Real, Suite 210
Houston, TX 77058

RE: Letter of Commitment for project proposal 'A Coast of Thorns and Roses: Autonomous Detection and Treatment of Invasive Macartney Rose in the Coastal Prairies of the Lower Galveston Bay Watershed'.

Dear GBEP Review Committee:

On behalf of Artist Boat and our Coastal Heritage Preserve (the Preserve), I write to confirm our collaboration with Texas A&M University on the above-referenced proposal, led by Dr. Nicholas Hoskins, Assistant Research Scientist and Director of the Disaster Data Reconnaissance Center (DDRC), Institute for a Disaster Resilient Texas.

Artist Boat has reviewed the project proposal and budget. As Executive Director, I confirm Artist Boat is committed to the successful completion of this project and to the long-term stewardship goals it advances at the Preserve.

We strongly support this proposal and look forward to its implementation upon award. If you have any questions, feel free to contact me at 409-632-0388 or at executive.director@artistboat.org.

Sincerely,

Karla Klay, Executive Director

WORK PLAN AND CONCEPT BEST PRACTICES MANUAL (BMP)

Method Workflow: AI-Assisted Drone Management of Macartney Rose

Study site: Artist Boat Coastal Heritage Preserve (ABCHP)



STUDY DESIGN OVERVIEW

Control Plot (25–50 acres)



Conventional management:
manual + mechanical removal

Treatment Plot (25–50 acres)



AI-assisted drone detection +
targeted herbicide application

Outcomes compared: treatment efficacy, cost, labor, and ecological response

1



1. Baseline Data Collection

- Vegetation surveys: Macartney rose density + native plant composition
- Establish permanent monitoring plots
- Collect high-resolution drone imagery across both sites
- Standardized field and remote sensing methods



Months
1–3

2



2. AI Model Development

- Train AI model using geospatial drone imagery
- Detect individual Macartney rose plants
- Create density and distribution maps
- Estimate biomass and guide herbicide rates



Months
4–8

3



≥75°F



3. Treatment Implementation

- Seasonal application window: mid-February to end of May
- Apply during emergent growth stage, before fruit set
- Delay application until soils reach ≥75°F if needed
- Control plot: conventional management continues
- Treatment plot: AI-guided heavy-lift drone herbicide application



Months
9–14

4



4. Record Operational Inputs

- Track labor, time, and operational effort
- Record equipment and treatment inputs for both approaches



During
treatment

5



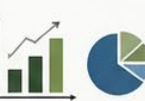
5. Monitoring and Evaluation

- Repeat vegetation surveys
- Measure invasive species cover reduction
- Measure native plant recovery and habitat structure
- Assess possible hydrology and stormwater infiltration effects



Months
15–18

6



6. Data Analysis + Deliverables

Primary metrics compared:

- % reduction in invasive species
- Total cost (labor, time, equipment)
- Ecological outcomes and native species recovery
- Cost-benefit analysis for scalability

Deliverables



BMP
manual



Cost-benefit
analysis



Geospatial
datasets



Replicable
drone-management
framework

PROJECT TIMELINE (MONTHS 1–18)

1

1–3 Baseline

4–8 AI model

9–14 Treatment

15–18 Monitoring + analysis

18



This study compares conventional vs. AI-assisted drone management to deliver effective, efficient, and scalable solutions for controlling Macartney rose and restoring healthy coastal prairie ecosystems.

Goal: Inform best management practices that protect biodiversity, reduce costs, and enhance climate resilience.



Best Management Practices Manual

AI-Assisted Drone Management of Macartney Rose in Texas Coastal Prairies

Draft Concept for Galveston Bay Estuary Program (GBEP)
Artist Boat Coastal Heritage Preserve



Science-driven. Technology-enabled. Habitat-focused.

Restoring Coastal Prairies for Future Generations.



DETECTION

AI-powered mapping identifies Macartney rose with high precision.



TARGETED TREATMENT

Drone-delivered herbicide applications reduce non-target impacts.



MONITORING

Multi-temporal imagery tracks treatment effectiveness and habitat response.



SCALABILITY

Data-driven planning enables efficient, large-scale invasive species management.

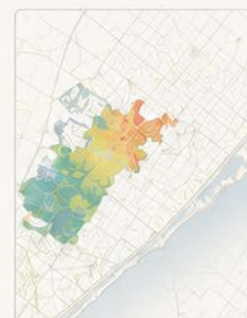
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Best Management Practices Manual

AI-Assisted Drone Management of Macartney Rose in Texas Coastal Prairies

Draft Concept for Galveston Bay Estuary Program (GBEP)

Artist Boat Coastal Heritage Preserve



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A practical guide for detection, treatment, monitoring,
and scalable coastal prairie management.

APPENDIX C

INDIRECT COST (IDC) AND FRINGE BENEFITS EXPLANATION

TEXAS A&M UNIVERSITY

Indirect Costs: Indirect Costs, also known as Facilities & Administrative (F&A) costs, are costs incurred by TAMU to support research activities but are not directly tied to a specific project expense. These costs are recovered through a federally negotiated rate and are applied to eligible direct costs.

Indirect costs cover administrative support, facility use, utilities, IT, compliance, and other shared services required to support research activities.

Indirect = infrastructure and administrative support costs required to conduct research

At TAMU, indirect costs support:

- Facilities (labs, buildings, utilities, maintenance)
- Administrative services (grant management, compliance, HR, IT)
- Institutional infrastructure required for research

Indirect Costs (F&A) breakdown

Indirect Costs (also called F&A – Facilities & Administrative costs): A percentage of the grant budget that the university charges to support the infrastructure behind the research. Indirect costs represent the portion of the grant used to support the university infrastructure required to conduct research. At Texas A&M, these include facilities (labs, utilities, maintenance) and administrative services (grant management, compliance, HR, and IT support). The indirect cost is federally negotiated and applied to direct project expenses. These funds do not go directly to the research project but ensure that the university can provide the resources necessary to support the work.

- *Direct costs = Money spent on the project itself*
- *Indirect costs = Money spent to support the environment that makes the project possible*
- Texas A&M uses indirect costs to cover shared institutional resources, including:

Facilities

- Buildings and lab space
- Utilities (electricity, water, HVAC)
- Maintenance and repairs

Security

- Example: Even if a project pays for equipment, it still needs a building, electricity, and maintenance.

Administrative support

- Grant administration (pre-award & post-award teams)
- Compliance offices (IRB, animal care, safety)
- HR and payroll processing
- IT and systems support

Support services

- Libraries and subscriptions
- Data storage systems
- Research compliance systems
- Shared equipment infrastructure
- Institutional overhead obligations
- Audit and reporting requirements
- Legal and regulatory compliance
- Risk management

Fringe benefits were calculated for TAMU personnel only through Sponsored Research Services (SRS) considering below:

Benefits: Benefits represent employer-paid costs associated with personnel expenses. At Texas A&M University (TAMU), benefits are calculated as part of total compensation and include costs beyond salary that support employees. These are automatically applied to salary expenses based on institutional rates.

Benefits = additional cost on top of salary paid by the institution

Examples:

- Health insurance
- Retirement contributions
- Payroll taxes (FICA, Medicare, etc.)

APPENDIX D

INDIRECT COST (IDC) RATE AGREEMENT

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN: 1746000531A1

DATE:09/02/2022

ORGANIZATION:

FILING REF.: The preceding
agreement was dated
08/07/2019

Texas A & M University - College Station
200 Technology Way
A & M System Bldg, Suite 1281
College Station, TX 77845-3424

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: Facilities And Administrative Cost Rates

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

EFFECTIVE PERIOD

<u>TYPE</u>	<u>FROM</u>	<u>TO</u>	<u>RATE(%)</u>	<u>LOCATION</u>	<u>APPLICABLE TO</u>
PRED.	09/01/2022	08/31/2023	51.50	On Campus	Organized Research & Instruction
PRED.	09/01/2023	08/31/2025	52.50	On Campus	Organized Research & Instruction
PRED.	09/01/2025	08/31/2026	54.00	On Campus	Organized Research & Instruction
PRED.	09/01/2022	08/31/2026	32.00	On Campus	Other Sponsored Activities
PRED.	09/01/2022	08/31/2026	10.50	Off Campus	IPA Programs
PRED.	09/01/2022	08/31/2026	26.00	Off Campus	All Programs

ORGANIZATION: Texas A & M University - College Station

AGREEMENT DATE: 9/2/2022

<u>TYPE</u>	<u>FROM</u>	<u>TO</u>	<u>RATE (%)</u>	<u>LOCATION</u>	<u>APPLICABLE TO</u>
PROV.	09/01/2026	Until Amended			Use same rates and conditions as those cited for fiscal year ending August 31, 2026.

*BASE

Modified total direct costs, consisting of all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel and up to the first \$25,000 of each subaward (regardless of the period of performance of the subawards under the award). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, rental costs of off site facilities, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of \$25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs.

ORGANIZATION: Texas A & M University - College Station

AGREEMENT DATE: 9/2/2022

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

The fringe benefits are specifically identified to each employee and are charged individually as direct costs. The directly claimed fringe benefits are listed below.

TREATMENT OF PAID ABSENCES

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims are not made for the cost of these paid absences.

OFF-CAMPUS DEFINITION: OFF-CAMPUS DEFINITION: For all activities performed in facilities not owned by the institution and to which rent is directly allocated to the project(s) the off-campus rate will apply. Grants or contracts will not be subject to more than one F&A cost rate. If more than 50% of a project is performed off-campus, the off-campus rate will apply to the entire project.

FRINGE BENEFITS:

FICA, Retirement, Worker's Compensation, Life Insurance, Unemployment Insurance, Health Insurance, Accrued Compensated Absences

APPLICABILITY OF RATES: Texas A&M Research Foundation (EIN: 74-1238434), Texas Engineering Experiment Station (EIN: 74-1974733), Texas Engineering Extension Service (EIN: 74-2270626), Texas Agri-Life Research (FKA as Texas Agricultural Experiment Station) (EIN: 74-6000541), Texas Agri-Life Extension (FKA Texas cooperative Extension) (EIN: 74-6000537), Texas Transportation Institute, (EIN: 74-2270624), Texas A&M University at Galveston (EIN: 74-2125225), Texas A&M Health Science Center (EIN: 74-2907553), Texas Forest Service (EIN: 74-6014065), Texas A&M University System (EIN: 74-2648747), Texas Veterinary Medical Diagnostic Laboratory (EIN: 26-3850570), Shared Services Center Commercialization (EIN: 74-2648747), Texas Division of Emergency Management (TDEM), (EIN: 84-1876045).

Your next F&A proposal based on actual costs for the fiscal year ending 08/31/2025, is due in our office by 02/28/2026.

Equipment means tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds \$5,000.

ORGANIZATION: Texas A & M University - College Station

AGREEMENT DATE: 9/2/2022

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted: such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

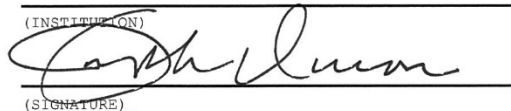
E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs.

BY THE INSTITUTION:

Texas A & M University - College Station

(INSTITUTION)



(SIGNATURE)

Joseph Duron

(NAME)

Chief Administrative Officer

(TITLE)

9-14-2022

(DATE)

ON BEHALF OF THE FEDERAL GOVERNMENT:

DEPARTMENT OF HEALTH AND HUMAN SERVICES

(AGENCY)

Arif M. Karim -S Digitally signed by Arif M. Karim -S
Date: 2022.09.13 13:48:14 -05'00'

(SIGNATURE)

Arif Karim

(NAME)

Director, Cost Allocation Services

(TITLE)

9/02/2022

(DATE) 6554

HHS REPRESENTATIVE:

Denise Shirlee

Telephone:

(214) 767-3261

COMPONENTS OF PUBLISHED F&A COST RATE

INSTITUTION: **Texas A&M University - College Station**

FY COVERED BY RATE: **September 1, 2022 - August 31, 2026**

APPLICABLE TO: **ORGANIZED RESEARCH**

RATE COMPONENT:	ORGANIZED RESEARCH & INSTRUCTION FY 23 ON CAMPUS	ORGANIZED RESEARCH & INSTRUCTION FY 24-25 ON CAMPUS	ORGANIZED RESEARCH & INSTRUCTION FY 26 ON CAMPUS	OTHER SPONSORED ACTIVITIES FY 23-26 ON CAMPUS	ALL PROGRAMS FY 23-26 OFF CAMPUS
Building Depreciation	6.6	6.9	7.3	1.0	
Equipment Depreciation	4.4	4.6	4.9	4.0	
Interest	2.7	2.8	3.0	0.1	
Operation & Maintenance	10.3	10.7	11.3	0.9	
Library	1.5	1.5	1.5		
Administration*	26.0	26.0	26.0	26.0	26.0
TOTAL	51.5	52.5	54.0	32.0	26.0

* Reflects provisions of Appendix III to Part 200 of Uniform Guidance—Indirect (F&A) Costs Identification and Assignment, and Rate Determination for Institutions of Higher Education (IHEs), C.8. dated December 26, 2013.

CONCURRENCE:

Texas A&M University - College Station

(Institution)

(Signature)

(Name)

(Title)

(Date)