Request for Proposals: Monitoring Support for Galveston Bay Flows Restoration

About Texas Water Trade

Over the next thirty years, Texas' population is set to double. While the economic powerhouses of Texas—its cities and industries—are positioned to capture the water they need to enable this growth, the state's agricultural producers, its rural communities, and its environment are predicted to be less water secure than ever before. Avoiding this looming water crisis will require investments that transcend sectors and deploy innovative tools that work in Texas' pro-property rights culture. Texas Water Trade (TWT) was incorporated in 2018 in recognition of the scale of this challenge, with the mission of channeling the power of markets and technological innovation to create a future of clean, flowing water for all Texans.

About The Project

TWT has established its Water Market Makers Program to support freshwater conservation in geographies around Texas. The Galveston Bay Foundation (GBF) is a member of the first class of this program. Additionally, TWT has established the Texas Flows Fund, a fund dedicated to helping further surface and groundwater conservation by enabling entities to purchase environmental water. TWT has awarded a grant to GBF from the Flows Fund to procure water for delivery to both the east and west sides of Galveston Bay. Working with The Nature Conservancy and GBF, TWT is excited to be a part of these projects. While this water will enhance migratory bird habitat, the deployment of water on lands adjacent to a water course will allow for the water to be released if it would benefit the environmental condition of the adjoining body of water.

Acceptance of Flows Fund money comes with the obligation to assess baseline conditions of the bay before the application of environmental water. Examples of this assessment include recording salinity/dissolved oxygen/temperature and other parameters within the water course. This will provide TWT with a solid basis for water quality under normal conditions and will impact our decision making in when to deploy environmental water.

In addition to these metrics, TWT is interested in adding elements to the sampling program. In particular, TWT would like to measure current soil carbon levels to establish a baseline understanding of carbon sequestration. These recordings will be used after the environmental water deployment as a measure of overall impact from water deliveries.

About The Request for Proposals

TWT is seeking a suite of technical support to advance the objectives described above. Those technical support services are presented holistically within this Request for Proposals. Respondents are invited to submit proposals in whole or in part for the services described below.

The grant supporting this work concludes in March 2022. All work under this program must be completed by the end of February. We anticipate the need for follow-up testing for soil carbon sequestration and plan to execute that work via a separate contract.

Service 1: Soil Carbon Sequestration Measurements

- With a perspective on the overall project objectives, and in close coordination with TWT's personnel, plan and implement baseline sampling to:
- Use best available practices to collect and test soil samples for carbon, these practices shall be in accordance with accepted standards of a major carbon registry.
- Provide report synthesizing the study design and findings that clearly identify the amount of carbon currently stored in the locations.

Service 2: Remote Sensing: Bird Diversity and Abundance

- Develop a selection of hardware requirements that vary in cost and performance characteristics to be purchased by TWT to execute remote monitoring to capture imagery of wildlife activity. This selection is requested to give TWT options in weighing system capabilities versus cost.
- Deploy hardware in the field with landowner and TWT support.
- Collect data from hardware (either in person, or remotely, depending on cost).
- Using object detection technology, develop an algorithm for differentiating bird species and counting them and deliver the dashboard to TWT ready to use.
- Competitive bids will include an "end to end" package that features software with a dashboard to facilitate image processing. In addition, audio sampling and identification is desired as is the capability for aerial monitoring.

Service 3: Water Quality Sampling

- Collect water samples within Galveston Bay near water delivery site locations.
- Test samples for various qualities such as: Dissolved Oxygen, Biological Oxygen Demand, salinity, temperature, coliform bacteria, Total Suspended Solids, pH,

Nitrogen, Phosphorus or other water quality parameters to be established via conversations with TWT.
- Share findings with TWT to establish a baseline of environmental conditions.

Competitive proposals will include:
- A clear identification of the service(s) proposed, as numbered above.
- An itemized breakdown of labor, material, travel and other costs, with profits listed separately, for the service(s) proposed.
- A proposed timeline for undertaking the work.
- Examples and professional references of at least 3 projects on which the Contractor has delivered technical services similar to services as described herein.
- Bios of the full contract team.

Proposals will be accepted until November 30, 2021 and can be sent to Christine Rosales at rosales@texaswatertrade.org.

Technical inquiries can be made to Quinn McColly, Conservation Finance Director at mccolly@texaswatertrade.org.