

# CLEAN COAST TEXAS PARTNER COMMUNITIES REPORT (YEAR 3)

August 2023



## PREPARED BY

The Clean Coast Texas Collaborative



**THE MEADOWS CENTER**  
FOR WATER AND THE ENVIRONMENT

TEXAS STATE UNIVERSITY

MEMBER THE TEXAS STATE UNIVERSITY SYSTEM

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Prepared by

The Meadows Center for Water and the Environment

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**TEXAS GENERAL LAND OFFICE  
CLEAN COAST TEXAS**



**THE MEADOWS CENTER  
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TEXAS STATE UNIVERSITY

MEMBER THE TEXAS STATE UNIVERSITY SYSTEM

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The Clean Coast Texas Collaborative would like to acknowledge our partner communities:

- City of Rockport
- Town of Fulton
- Aransas County
- Aransas County Navigation District
- Ingleside on the Bay
- City of Port Lavaca
- City of La Marque
- City of Port Aransas

And all Collaborative members who assisted with this report:

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- Nick Dornak, Doucet & Associates

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# 1 INTRODUCTION

Texas’s coastal communities are faced with a significant risk of flooding, habitat loss, water quality degradation, and damage from natural disasters. Many of these communities are determined to ameliorate these issues by implementing comprehensive approaches to water resource/stormwater management, advancing policies to promote resiliency, and providing stakeholder education. The Clean Coast Texas Collaborative (Clean Coast Texas or CCTC) is an initiative of the Texas Coastal Nonpoint Source Pollution Program that was created to serve and support these communities. Clean Coast Texas partners with coastal communities to find best-fit solutions to solve their local problems, including, technical support for ordinance development, grant funding strategies, education and outreach events, water quality monitoring, stormwater retrofit design and construction, and incentives for smart growth and sustainable stormwater management.

In this report, The Clean Coast Texas Collaborative team will showcase accomplishments in Year 3 of the program (October 2022 – August 2023) and detail plans for future engagement. Indeed, this report is dedicated to our current partner communities (Table 1).

**Table 1. Clean Coast Texas partner communities and collaborative activities.**

COMMUNITY	PARTNERSHIP MOU ESTABLISHED	PROGRAM YEAR	ACTIVITIES
Ingleside on the Bay	July 2023	Year 3	Texas Stream Team trainings, GIFT workshop
City of Port Lavaca	July 2023	Year 3	Green infrastructure projects, GIFT and CHARM workshops, Ordinance assistance, Education and outreach, Funding assistance
City of La Marque	July 2023	Year 3	Texas Stream Team trainings, Green infrastructure projects, GIFT and CHARM workshops, Funding assistance
City of Port Aransas	May 2023	Year 3	Stormwater drainage inlet markers, Education and outreach
City of Rockport	May 2021	Year 1	Green infrastructure projects, Tule Creek Stormwater Retrofit, Ordinance assistance, Texas Stream Team, Education and outreach



Town of Fulton	May 2021	Year 1	Tule Creek Stormwater Retrofit, Ordinance assistance
Aransas County	May 2021	Year 1	Funding assistance, Ordinance/policy assistance
Aransas County Navigation District	June 2021	Year 1	Green infrastructure projects, ordinance/policy assistance

## 1.1 The Development of The Clean Coast Texas Collaborative

Clean Coast Texas officially began in January 2021. With funding made possible by the Gulf of Mexico Energy Security Act of 2006 (GOMESA) through grant Cycle #25 of the Texas Coastal Management Program, Texas State University received a \$1,000,000 Project of Special Merit award to establish the Texas Coastal Collaborative. Now known as the Clean Coast Texas Collaborative, the goal of this program is the effective delivery of a Texas Coastal Nonpoint Source Pollution Control Program initiative at the nexus of water quality, hazard mitigation, and resiliency that builds stronger communities, healthier fisheries and supports ecotourism throughout the Gulf Coast. The Collaborative received a second round of funding for Years 3 and 4 (2022-2024) via the same funding source.

The Clean Coast Texas Collaborative consists of a dynamic team of scientists, educators, engineers, and communication professionals. The Texas General Land Office serves as the lead state agency with program efforts coordinated by The Meadows Center for Water and the Environment at Texas State University in collaboration with Texas A&M AgriLife via Texas Community Watershed Partners, Texas Sea Grant, Doucet & Associates, and Anchor QEA, which joined the Collaborative in Year 3. Collaborators' roles are detailed as follows:

- The Meadows Center utilizes an expansive coastal network to administer grant deliverables, facilitates Clean Coast Texas Collaborative programming, manages the program website, facilitates community relationships, and executes community science programs including Texas Stream Team trainings, partner events, and environmental education.
- Texas A&M AgriLife Extension via Texas Community Watershed Partners is responsible for conducting the regulatory reviews of candidate partner communities, providing technical workshops including Community Health and Resource Management (CHARM) and Green Infrastructure for Texas (GIFT), and supporting community green infrastructure and retrofit assistance, and community planning and outreach to support Sustainable Stormwater Manual adoption.
- Texas Sea Grant enhances the utility, sustainability, and impact of project deliverables through local comprehensive planning and program assistance and partnership development.

- Doucet & Associates and Anchor QEA provide technical guidance and communication via directed engagement with local officials. They also prepare engineering designs, including demonstration-scale and large-scale retrofits, assist in developing ordinances, and introduces communities to the Sustainable Stormwater Manual for adoption consideration.

To accomplish Year 3 objectives, CCTC has held bi-weekly meetings, which include strategic planning followed by a discussion of upcoming deliverables. Bi-weekly meetings will continue through Year 4 as we focus on assisting our current partner communities in green stormwater infrastructure techniques and sustainable stormwater management ordinances.



Figure 1. The Clean Coast Texas Collaborative Team.



Harbor at sunset in Rockport, Texas. © Larry Ditto/Danita Delimont

## 2 ACCOMPLISHMENTS

Clean Coast Texas has been working with the aforementioned partner communities during Year 3 to support their local needs and accomplish project goals. Some partnerships were established in Year 1, while others are more recently established. As such, the level of engagement and accomplishments vary among partner communities. Nonetheless, Clean Coast Texas provides services, staff, and resources to city and county staff, elected officials, homeowners, businesses, residents, and other stakeholders to support best practices for a comprehensive suite of water quality improvements through nonpoint source pollution control management measures.

### 2.1 Technical Assistance

With the assistance of engineering firms Doucet & Associates and Anchor QEA, Clean Coast Texas has provided technical services and assistance to partner communities. Services provided include engineering strategies and engineering design services. All services provided by the engineering firms address Clean Coast Texas partner water quality issues and stormwater management solutions. Specifically, the Tule Creek stormwater retrofit, green stormwater infrastructure projects, and [Sustainable Stormwater Manual](#) assistance.

On February 22, 2023, Clean Coast Texas, Anchor QEA, and Doucet & Associates team hosted a community meeting to formally introduce and assist Rockport in addressing their water quality, stormwater, and ordinance needs.

### 2.1.1 Tule Creek Stormwater Retrofit

Tule Creek is a stream in Rockport, Texas, that outfalls to Little Bay. Tule Creek has been identified by Rockport as a recreation site, as well as a source of pollution for Little Bay. To solve water quality issues in Tule Creek, while retaining the recreational value of the site, engineering firm Anchor QEA has led stakeholder engagement efforts to understand the various potential strategies for enhancing stormwater management and improving water quality in Tule Creek and subsequently Little Bay. During the community engagement meeting, stakeholders identified and discussed eight different project possibilities (Table 2). Progress on this project will continue into Year 4.

**Table 2. Stakeholder-identified options for Tule Creek Stormwater Retrofit.**

STRATEGY	DESCRIPTION
1. Diversion to the South	Diversion to the south, ultimately through Ruby Allen Street drainage
2. Upstream of Memorial Park	Stormwater pond or similar feature to capture drainage from expected new housing developments northwest of Memorial Park
3. Church Properties	Stormwater pond or similar feature
4. Expansion of Tule Lake	Expand existing Tule Lake to increase stormwater capacity and habitat
5. Expansion of Wetlands East of BUS35	Expand existing wetlands
6. Ball Fields	Stormwater pond or similar feature
7. Diversion to the North	7a: Diversion along Traylor Boulevard 7b: Diversion along Henderson Street 7c: Diversion along Mesquite Street All would discharge into Aransas Bay.
8. Henderson Habitat Preserve	Stormwater pond or similar feature



**Figure 2.** Map of possible stormwater retrofit project locations denoted in yellow as described in Table 2. Blue lines on map represent approximate subwatershed boundaries.



Figure 3. Anchor QEA and GLO present Tule Creek retrofit solutions, February 22, 2023.



Figure 4. City of Rockport and local representatives participating in a Clean Coast Texas partner communities meeting, February 22, 2023.



Figure 5. Rockport stakeholders discuss a potential project location with Dan Opdyke (Anchor QEA).

## 2.1.2 Green Stormwater Infrastructure

The City of Rockport has also expressed its need for community education about solutions to water quality and flooding within the city. Engineering firm Doucet & Associates designed green stormwater infrastructure demonstration-scale projects that serve to educate the Rockport community and its visitors about alternative solutions for water quality improvements and flooding reduction. These demonstration-scale projects include a rainwater harvesting system and permeable parking lot spaces. All locations of these features were determined in collaboration with Rockport.



Figure 6. Nick Dornak of Doucet & Associates discusses option for green infrastructure projects in Rockport on February 22, 2023.

Rockport identified a few potential sites for the green infrastructure projects. After the presentation (Figure 6), the CCTC, Rockport city staff, and Aransas County Navigation District Chairman toured several sites, such as the Train Depot (Figure 7). As sites were considered, CCTC's Texas Community Watershed Partners and Doucet & Associates provided site-selection expertise. Parameters considered at the potential sites included topography, soil type, proximity to impervious surfaces such as roads, parking lots, and rooftops, and visibility.



**Figure 6.** The Clean Coast Texas team and others listen to Rockport staff at the Railroad Depot.

Working closely with Rockport staff and the Navigation District, CCTC proposed four sites:

1. Train Depot – Rainwater harvesting demonstration;
2. Rockport Festival Grounds (Chambers and Broadway) – Bioswale;
3. Aquatic Center Parking lot - Permeable pavers; and
4. Memorial Park – Permeable Pavers.

All demonstration-scale projects will be accompanied by educational signage, and construction of these projects is set to begin in Year 4.

### **2.1.3 Planning, Stormwater Retrofit, and Ordinance Criteria**

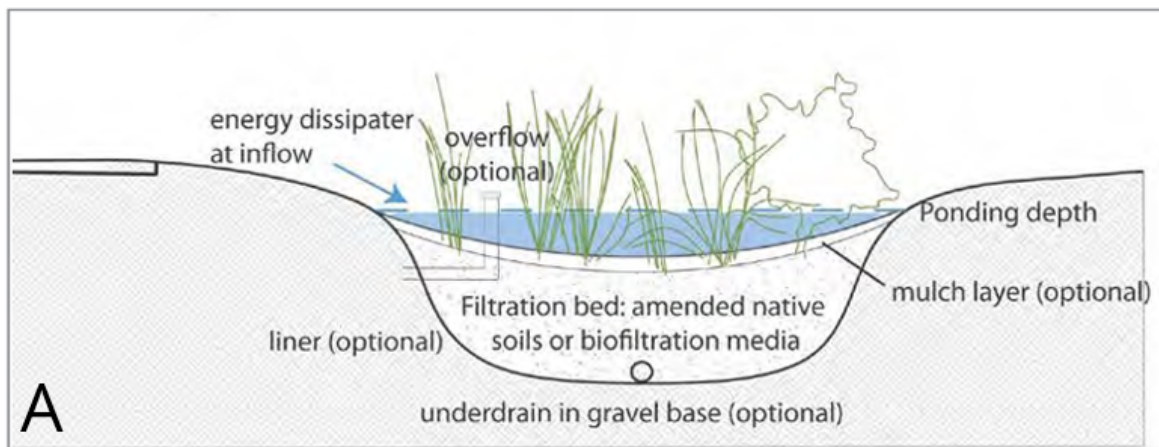
Planning meetings and identifying achievable goals with partner communities is a key component of Clean Coast Texas's process. CCTC has also assisted in organizing meetings with the various entities involved within partner communities to identify common goals. In the past year, CCT has continuously engaged with current and prospective future communities to identify needs and facilitate conversations about opportunities for smart growth. For example,



we offer communities the [Guidance for Sustainable Stormwater Drainage on the Texas Coast: For Nonpoint Source Pollution and Flood Management](#), or [Sustainable Stormwater Manual \(SSM\)](#) for short, as a guide.

The SSM guides green stormwater infrastructure design and management and provides a model ordinance for communities in need of stormwater ordinance criteria (Figure 8). Doucet & Associates and Anchor QEA have utilized guidelines set in the Sustainable Stormwater Manual provided by Clean Coast Texas. CCTC partner communities have also been encouraged to consider using the SSM as a guide to update their stormwater ordinances.

To provide guidance for coastal communities in need of ordinance assistance, each engineering firm and other CCTC team members have helped in creating an ordinance comparison document. This document compares ordinances between partner communities and helps build a framework of understanding for those who are unfamiliar with stormwater ordinance content. A discussion within the document gives a general outlook of each ordinance and analyzes the differences between them. The goal of updating stormwater ordinances is to help partner communities in protecting and improving their local water quality.



**Figure 7.** Section 6.5 of the Sustainable Stormwater Manual showcases the (A) conceptual design for a rain garden and (B) a fully functional rain garden located in the median of a parking lot (p. 88).

## 2.2 Workshops and Trainings

### 2.2.1 Texas Stream Team

Many of Texas's coastal communities have been concerned with water quality, and thus have expressed their need for trained community scientists to provide water quality data for their communities. Under the coordination of the Meadows Center, the Texas Stream Team assists Clean Coast Texas by training community members to test, evaluate, and report the condition of waterways at testing sites along the coast.

Within Year 3, Texas Stream Team conducted three community scientist trainings within the coastal target regions:

1. **Riparian Evaluation training on April 12<sup>th</sup>, 2023, in Houston, Texas.** Training partners included the Bayou Preservation Association, Buffalo Bayou Partnership, and Houston-Galveston Area Council. The purpose of the Riparian Evaluation training is to train community scientists to evaluate the health of a riparian zone, or an area of vegetation within close proximity of the bank of a waterway. During this event, 22 people were trained to conduct riparian evaluation monitoring and one trainer in training session was completed.
2. **Standard Core training on June 23<sup>rd</sup>, 2023, in Ingleside on the Bay, Texas.** The training partner included the Ingleside on the Bay Coastal Watch Association, a local advocacy group. The purpose of the Standard Core training is to train community scientists to perform tests for parameters such as conductivity, dissolved oxygen, pH, and environmental parameters. This event was held exclusively for the partner to sign off a group leader in order to begin the trainer training process.
3. **Standard Core training on June 24<sup>th</sup>, 2023, in Ingleside on the Bay, Texas.** The Ingleside on the Bay Coastal Watch Association hosted the training for their members to be able to monitor in their community. Some participants also attended the training from Texas A&M Corpus Christi and surrounding locations. The Coastal Watch Association plans to start monitoring regularly and also host their own trainings. In total, 13 individuals completed the training, with one individual working towards their trainer certification so they can lead trainings in the future.

In Years 1 & 2 of Clean Coast Texas, Texas Stream Team worked with individuals from Rockport to establish a local Little Bay Stream Team group. After years of monitoring, Texas Stream Team staff generated a Data Summary Report (DSR) to analyze data collected by the

Little Bay Stream Team. DSRs highlight trends, environmental factors, community scientist activities, and more, within the selected watershed.

Texas Stream Team community scientists monitored standard core parameters at 10 sites in Little Bay and Tule Creek in Rockport from October 1997 to March 2023. Of the 10 sites monitored, six sites had 10 or more monitoring events and were included in this DSR. Of the six sites included in the report, two are on Tule Creek while the remaining four sites are on Little Bay. Little Bay is an unclassified segment and Tule Creek is not recognized as either classified or unclassified but serves to convey wastewater and stormwater from Rockport to Little Bay. Collectively, the six sites included in this DSR were monitored for the Texas Stream Team by trained community scientists.

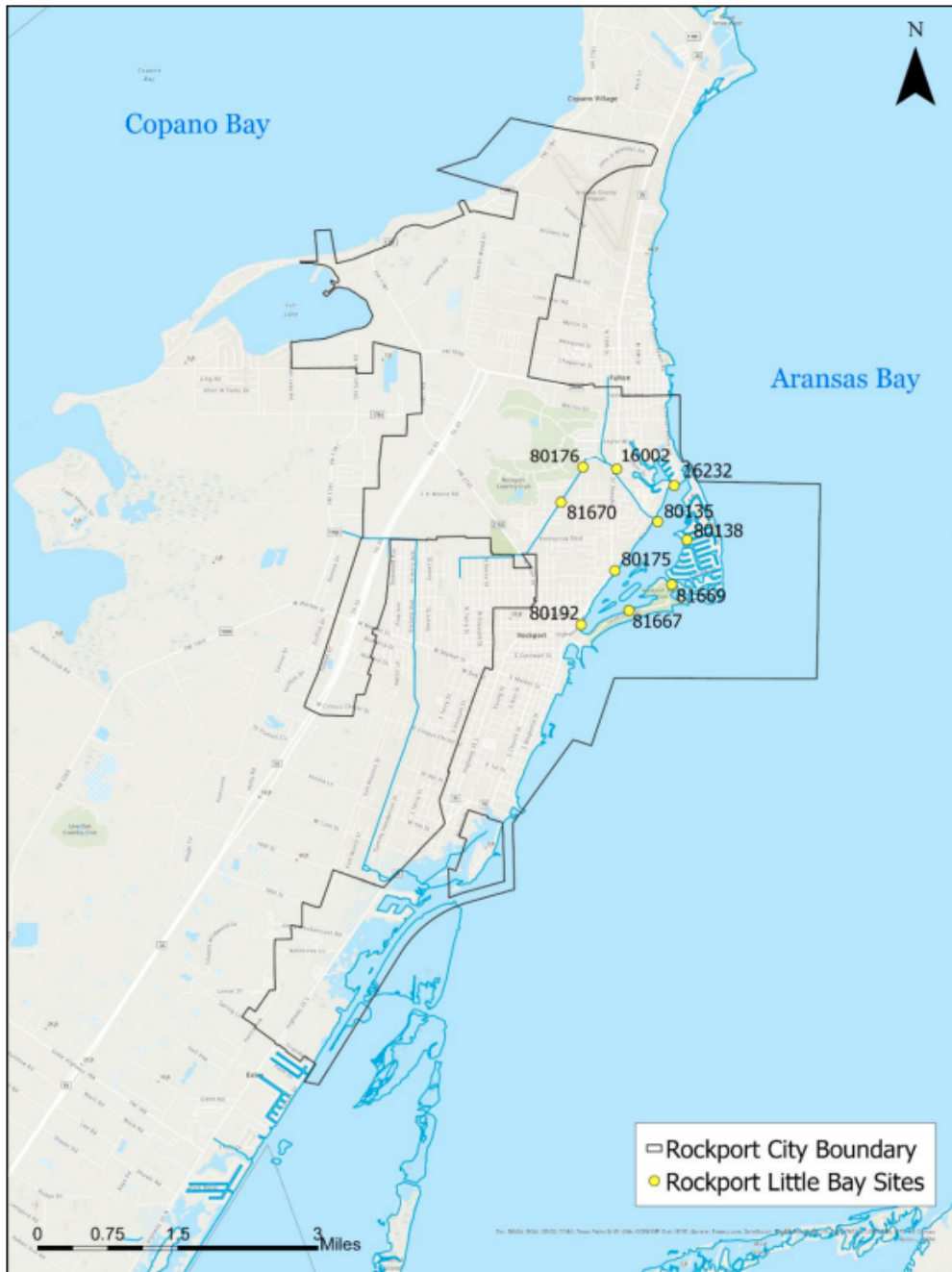
Parameters monitored by Texas Stream Team community scientists included water and air temperature, specific conductance, total dissolved solids, salinity, dissolved oxygen, pH, transparency, and total depth. No advanced nutrient or bacteria parameters were monitored as part of this effort. Available data from the six monitoring sites were analyzed and summarized in this report (Figure 9).

The 2022 Integrated Report (IR) identified a bacteria impairment for the oyster water use in Copano Bay (Segment 2472). Although Copano Bay is adjacent to the project area included in this report, no bacteria data were collected by the community scientists monitoring water quality, and Copano Bay was not in the scope of this report. No impairments were identified in the IR for Little Bay or Tule Creek.

The water quality standard associated with the uses in Little Bay was applied to the results of this analysis to evaluate overall water quality. Discreet water temperature measurements from two sites, one on Tule Creek (site 16002) and one on Little Bay (site 16232), did not meet the water quality standard (35°C) during the period of record for this report. A salinity gradient from freshwater in Tule Creek in the west towards saltier water in Little Bay towards the east was observed. The warmer and saltier water becomes, the less oxygen it is capable of absorbing therefore lower concentrations are measured.

The range of average dissolved oxygen values for all sites in Tule Creek and Little Bay spanned from 4.1 to 7.5 mg/L. The average dissolved oxygen value at the site located at the confluence of Tule Creek and Little Bay (site 80135) did not meet the average water quality standard of 4.0 mg/L. In addition, there were discreet measurements at five of the six sites that fell below the average water quality standard at varying times throughout the period of record of this report. Three of those sites (80176, 80135, and 80175) also had values at or below the minimum water quality standard of 3.0 mg/L at some point during the period of record. Although Little Bay is not listed as impaired for dissolved oxygen, the system is showing signs of concern based on these results. With the growing human population and increased development in the Rockport area, these findings should be of concern to residents and decision-makers alike.

The Texas Stream Team community scientists monitoring standard core water quality parameters in Tule Creek and Little Bay are encouraged to continue monitoring. Continuation of the ongoing monitoring is crucial due to the results presented here and the potential for increased development in Rockport and the surrounding area. Continued water quality monitoring is important for the development of long-term data sets that describe current water quality conditions and for historical and future trends to capture changes in water quality as the area grows. Texas Stream Team will continue to support community scientists by providing technical support, creating new monitoring sites, and re-activating existing sites.



**Figure 8. Texas Stream Team monitoring sites in Little Bay and Tule Creek in Rockport, Aransas County, Texas.**

## 2.3 Outreach and Education

While focusing heavily on community partners, CCTC has also reached a broader audience of stormwater practitioners and stakeholders. Through our various interactions thus far, the Collaborative has connected with over 850 stakeholders, including over 264 people who attended 4 Lunch and Learn events.

### 2.3.1 Water Quality Educational Signs

Water quality educational signage designed in Years 1 and 2 of the program were dispersed to communities along the coast. These signs address the various sources of pollutants that enter waterways and end up in Texas's bays (Figure 10 and Figure 11). Twenty-eight signs have been provided to various communities and interested entities in the Texas Coastal Zone.



Figure 9. "Have you seen these polluters?" sign provided to the Rockport staff at the February 22, 2023 Partner Communities meeting.



Figure 10. “Out of sight, but not out of mind” sign provided to the Rockport staff at the February 22, 2023 Partner Communities meeting.

### 2.3.2 Stormwater Drainage Inlet Markers

Clean Coast Texas can also assist in providing educational tools such as Stormwater Drainage Inlet Markers for our partner communities. In Year 3, the Collaborative worked closely with Port Aransas to design Stormwater Drainage Inlet Markers (Figure 12). As markers are a widely used stormwater awareness technique, most communities choose to involve the public in the installation process. At the time of this report writing, Port Aransas is planning to host a community event on September 30, 2023, to install the markers.



Figure 11. Stormwater drainage inlet markers provided to Port Aransas.

### 2.3.3 Email Updates and Newsletters

Quarterly email updates were sent out to each of our partner communities to showcase progress and development:

- **December** – “Seeking Community Partners!” This email update was intended to reach new potential community partners for Years 3 and 4.
- **April** – “Spring 2023 Program Update.” This email update gave a brief overview of CCT’s progress so far in the spring of Year 3. It also included survey results from our Community Interest Survey.
- **July** – “Summer 2023 Program Update.” This email update gave a brief overview of CCT’s progress so far in the Summer of Year 3. It featured an update on the Rockport green stormwater infrastructure projects and conferences attended.

### 2.3.4 Lunch and Learns

Clean Coast Texas hosts a lunchtime learning series wherein a range of experts share their knowledge on a salient topic around water quality. The series is hosted via Zoom webinar platform with leadership from the Meadows Center for Water and the Environment and the Texas General Land Office. Lunch and Learns attract an average audience size of 75.

#### 2.3.4.1 *Andrew Sullivan*

In October 2022, CCT featured Andrew Sullivan from TCEQ. Andrew is the surface water quality monitoring program team leader at TCEQ and is responsible for compiling and drafting the assessment of water quality for the development of the Integrated Report for Clean Water Act Sections 305(b) and 303(d). During Lunch & Learn, Andrew shared his work on the Texas Integrated Report of Surface water quality, specifically in the Coastal Zone. This feature goes over the process of how the state of Texas identifies impaired waters, as well as which waters are impaired as of 2022. A recording of the event can be viewed [here](#).

#### 2.3.4.2 *Dr. Kathy Jack*

In December 2022, CCT featured Dr. Kathy Jack. Dr. Jack, Texas Climate Program Director at The Nature Conservancy in Texas, shared findings from a study by The Nature Conservancy and Texas A&M AgriLife Extension, in cooperation with the City of Dallas and the Trust for Public Land, that evaluated where green stormwater infrastructure could most effectively enhance urban flood resilience within the City of Dallas. A recording of the event can be viewed [here](#).

#### 2.3.4.3 *Dr. J. Dave Felix*

In February 2023, CCT featured speaker Dr. J. David Felix. Dr. Felix, Associate Professor of Chemistry and the Coastal and Marine System Science Program Coordinator at Texas A&M University-Corpus Christi, shared research conducted by himself and colleagues at the Center



for Water Supply Studies at Texas A&M-Corpus Christi. This research investigates the exchange and interactions of pollutants, specifically nitrogen, across the biosphere, atmosphere, hydrosphere, and geosphere in the Texas Coastal Bend region. Results will inform policy and decision-making along the Texas Coast. A recording of the event can be viewed [here](#).

#### 2.3.4.4 Dr. Lucas Gregory

Our July 2023 Lunch and Learn explored methods and lessons learned that have resulted in greater success in improving water quality with featured speaker Dr. Lucas Gregory, Associate Director of the Texas Water Resources Institute (TWRI). Dr. Gregory discussed ongoing water quality efforts in the Arroyo Colorado and Baffin Bay watersheds. The presentation included accomplishments, challenges faced, and areas for improvement when working to restore surface water quality. A recording of the event can be viewed [here](#).

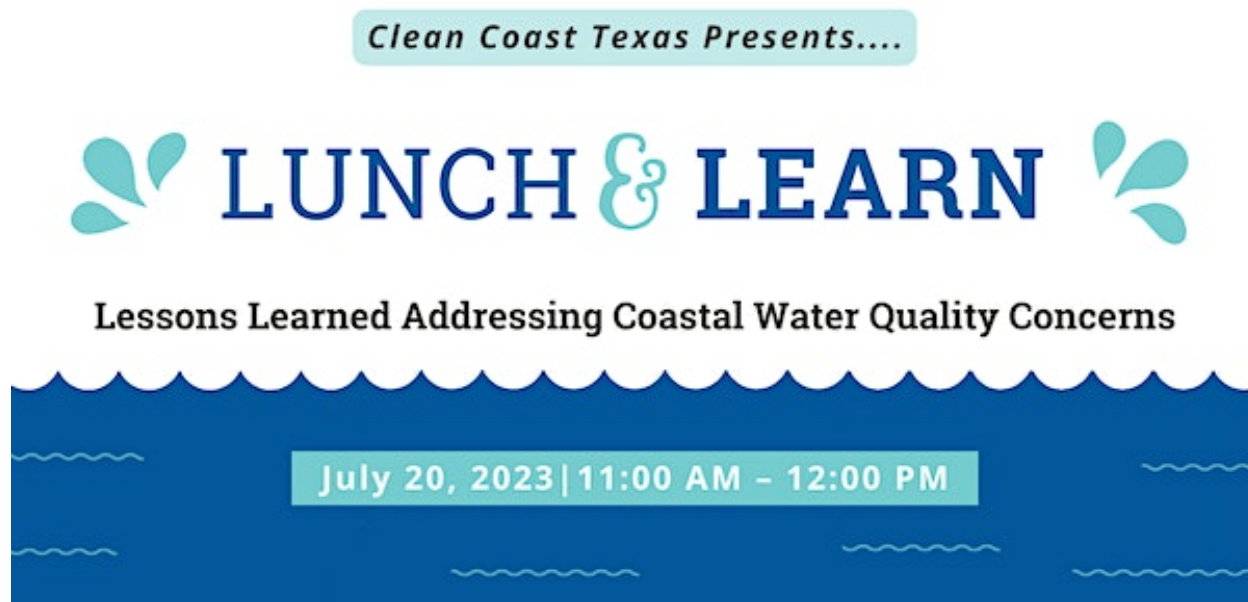


Figure 12. Advertisement for July Lunch and Learn.

## 2.4 Synergistic Activities

The Clean Coast Texas Collaborative has been active in bolstering its connections and sharing information with its partner communities. Attending conferences and participating in stakeholder engagement activities has showcased the achievements of partner communities, and helped raise awareness about the services that Clean Coast Texas can provide.

## 2.4.1 Coastal Bend Alliance for Sustainable Stormwater

While focusing heavily on community partners in Year 3, CCTC has also reached a broader audience of stormwater practitioners and stakeholders. The Meadows Center staff has coordinated monthly meetings for the grassroots group, Coastal Bend Alliance for Sustainable Stormwater (CBASS). CBASS is comprised of academics, engineers, regional governments, river authority staff, and other nonprofit organizations. Monthly meetings include announcements, recent and upcoming events, and funding opportunities. Often, the meetings result in streamlining efforts, cross-collaboration, and information sharing. Indeed, CBASS coordinated a highly successful networking event last year, which introduced local officials in the Coastal Bend region to green infrastructure and the possibility of using grant funds for nature-based infrastructure projects (Figure 14). CCTC benefits from coordination and participation by gaining an understanding of local efforts and reaching a wider audience.



**Figure 13.** CBASS demonstrates the effects of green infrastructure on watershed processes at the Coastal Bend Hurricane Conference Networking Event.

## 2.4.2 2023 Coastal Bend Hurricane Conference

The Collaborative led a co-presentation and panel, which included members of the Coastal Bend Alliance for Sustainable Stormwater (CBASS), at the 2023 Coastal Bend Hurricane Conference in Robstown on May 3, 2023 (Figure 15). We shared information about the Clean Coast Texas Program, described green stormwater infrastructure examples, examined how green stormwater infrastructure can be applied for hazard mitigation, and discussed best practices for working towards resiliency.

Presenters: Christina Lopez (The Meadows Center), Duke Altman (Doucet & Associates), Troy Dorman (Halff), and Nick Dornak (Doucet & Associates).

Panelists: Juan Moya (Stantec), Chris Hale (Harte Research Institute), Charriss York (Texas Community Watershed Partners, AgriLife), Ashley Bennis (Halff), and Duke Altman (Doucet & Associates).



Figure 14. Opening slide of the group presentation, showing all participating entities.

### 2.4.3 Texas Watershed Coordinator Roundtable

The [Texas Watershed Coordinator Roundtables](#) are biannual events for water professionals that serves as both a forum for establishing and maintaining communication among watershed coordinators and an opportunity to gain knowledge and hone expertise. Christina Lopez (Clean Coast Texas Coastal Coordinator, The Meadows Center), Celina Gauthier Lowry (Clean Coast Texas Collaborator, Texas Community Watershed Partners), and Ashley Bennis (Senior Resiliency Planner, Halff) shared the recent work of Clean Coast Texas, with a focus on how we engage communities, and discussed the formation and activities of the Coastal Bend Alliance for Sustainable Stormwater (Figure 16).



**Figure 15.** Christina Lopez (Meadows Center) shares Clean Coast Texas program updates at the Roundtable Event April 19, 2023.

### 2.4.4 Nueces River Basin Summit

Texas Stream Team staff attended the Nueces Basin Summit in Portland, Texas, hosted by the Nueces River Authority on behalf of Clean Coast Texas. The summit served as a platform for water quality professionals and organizations such as the Texas General Land Office, Texas Water Development Board, Coastal Bend Bays and Estuaries Program, etc.) community members, and potential partners within the Nueces River basin to share insights, initiatives, and accomplishments related to the preservation of water resources. Texas Stream Team’s presence at the summit was beneficial because the presentation provided information about our community science program (and how to get involved) to this region. A small portion of the presentation also focused on Clean Coast Texas, and the services that they are able to provide to potential partners within the Texas Coastal Zone.

## 2.4.5 Rockport Water Day

Texas Stream Team Staff attended Rockport-Fulton High School's first ever Water Week on March 22, 2023. The event was organized by a student organization to showcase the importance of water, and highlight careers in water, in the Rockport and Fulton communities. Texas Stream Team was offered a tabling slot during the lunch hour, and staff brought a Standard Core Kit to display, and a few brochures and educational materials to give out. After the lunch period, Texas Stream Team staff was invited to an Aquatic Science class to give a presentation on Texas Stream Team and basic water quality elements.



### 3 LOOKING FORWARD

The Clean Coast Texas Collaborator has much in store for Year 4 (September 2023 to September 2024). We anticipate:

- A regional Green Infrastructure for Texas workshop on September 7, 2023, in Portland.
- A stormwater ordinance revision workshop with Rockport on September 21, 2023.
- Installation of stormwater drainage inlet markers in Port Aransas;
- Engineering designs for the expansion of Tule Lake (Tule Creek Stormwater Retrofit);
- Construction of demonstration-scale green stormwater infrastructure projects in Rockport:
  1. Permeable Pavers at the Community Aquatic Center (2001 Stadium Dr.)
  2. Rainwater Harvesting system at the Railroad Depot (104 N Magnolia St.)
  3. Permeable Pavers at Memorial Park (1601 FM 2165)
  4. Bioswale near the Festival Grounds at Rockport Harbor (Chamber and Broadway)
- Educational signage for all demonstration projects;
- Coastwide virtual tour highlighting green stormwater infrastructure projects; and
- A series of educational workshops.

As we work with partner communities to complete demonstration projects, the Collaborative will continue to provide assistance to communities with their ordinance revisions and/or policy needs. We have created resources tailored to coastal communities, such as the Sustainable Stormwater Drainage Manual, as well as residential and technical resources, all of which are available on our website, [cleancoast.texas.gov](https://cleancoast.texas.gov).



Figure 16. View of Tule Creek.



Finally, Year 4 will bring new partner communities and additional opportunities for educational workshops. Texas Community Watershed Partners, a Clean Coast Texas Collaborative member, anticipates bringing several workshops, such as the Green Infrastructure for Texas (GIFT) or Community Health and Resource Management (CHARM), to coastal communities. GIFT offers multi-level approach to green infrastructure, examining how green infrastructure practices from small to large can work on individual properties, in neighborhoods, or on large undeveloped land. These nature-based solutions are intended to work in conjunction with built drainage systems (gray infrastructure) to reduce flood risk while also reducing stormwater runoff and improving water quality. The CHARM workshop features a participatory mapping application, which gives local officials, stakeholders, and citizens the power to map and analyze growth with real-time feedback. As CHARM includes over three dozen indicators for assessing planning decisions, participants see how planning decisions made today will impact tomorrow's environment and community.

The Clean Coast Texas Collaborative's mission is to help communities protect water quality along the Texas Coast. Accomplishments are only possible because of our partners' willingness to welcome us into their communities. Thank you.