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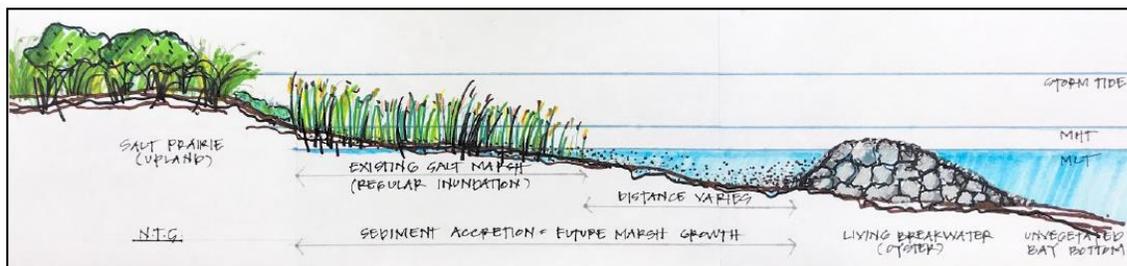
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Texas Coastal Exchange Completes Phase 1 of 1,000 Mile Living Shoreline Project

HOUSTON (April 28, 2022) - Texas Coastal Exchange (TCX), has completed its first phase of the 1,000-mile living shoreline project, producing a written report (attached) and an [online interactive map](#). The purpose of this project is to identify candidate shoreline areas along the Texas coast that are ideal for living shoreline protection that maximize protection of existing salt marshes and the carbon that is stored in the soil of those wetlands.

Announced in February, this project seeks to protect these wetland areas against the erosive force of coastal winds and the ravages of sea level rise resulting from climate change. The results show that the 1,000-mile shoreline project is both financially and physically feasible and is a great opportunity for corporations looking to reduce their carbon footprint, introducing tremendous new economic resources to Texas coastal conservation.

Living shorelines are oyster reef breakwaters constructed immediately offshore of coastal wetlands. These breakwaters begin as rock-filled baskets that offer substrate upon which oyster spat (fertilized eggs) attach and grow, creating a breakwater reef that will protect the marsh behind it from the daily erosive force of coastal winds. This breakwater will become more and more important over time as sea level rises, potentially weakening coastal marshes and making them more susceptible to erosion.



(Living Shoreline illustration by Lalise Whorton Mason for Texas Coastal Exchange)

According to project designer Lalise Whorton Mason, “Oyster breakwaters incorporated into a living shoreline strategy are excellent at erosion protection, and they offer so much more. They create additional habitat for marine life within the breakwater and will benefit local fisheries, avian habitat, water quality, and coastal recreation. It’s a win from several perspectives.”



To identify the best locations along the coast for the construction of living shoreline projects, TCX asked Sustainable Planning and Design (SuPIDes) to conduct a suitability analysis using a Geographic Information System platform that evaluated the entirety of the Texas coast.

According to GIS analyst Emily Fucile of SuPIDes, “Among the factors included in our suitability analysis were the presence of coastal marsh, future sea level rise, oyster habitat suitability, site suitability, and the presence of endangered species habitat. In all, over 1500 miles of shoreline were shown in our analysis as being suitable for living shoreline construction.”

To fund construction of these living shorelines, TCX is proposing the use of carbon credits. Many businesses purchase carbon credits to reduce the amount of carbon dioxide that they emit from their operations, their electrical usage, and their supply chain (e.g., their carbon footprint). To develop carbon credits for the oyster reef itself and for the protected wetlands, TCX is partnering with BCarbon, a Houston based, non-profit, carbon dioxide credit registry created from the work of a Rice University-Baker Institute stakeholder group.

In a case study included in the report, TCX evaluated the financial feasibility of this approach. They found that nine miles of Living Shoreline might cost as much as \$4.5 million. On the other hand, when the income from potential carbon credits were considered for protecting the carbon currently stored in these wetlands, an income stream of almost \$19 million was anticipated at a cost of \$20 per ton of carbon.

“We at BCarbon are excited about the potential role of carbon credits in implementing a living shoreline strategy” said David Valerio, BCarbon’s manager of technical research. “BCarbon has received a grant to study living shoreline design and credit issuance protocols, and we hope to have our credit program underway in early 2023.”

“This project is exciting,” offers Jim Blackburn, a carbon credit expert who is working with both TCX and BCarbon. “It represents a new concept of infrastructure which enables economic activity in several different ways. In many respects, this project defines the creativity needed to address the challenges of climate change.”

About Texas Coastal Exchange

Texas Coastal Exchange (TCX), a 501(c)(3) organization, was formed in 2018 from research at the Severe Storm Prediction, Education and Evacuation from Disaster (SSPEED) Center at Rice University. TCX works with corporations, foundations, churches and civic organizations regarding large-scale, carbon-capture projects along the Texas coast. For more information, please visit www.texascoastalexchange.org.

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