



South Padre Island Dune Restoration

This report was funded by a Texas Coastal Management Program grant approved by the Texas Land Commissioner, providing financial assistance under the Coastal Zone Management Act of 1972, as amended, awarded by the National Oceanic and Atmospheric Administration (NOAA), Office for Coastal Management, pursuant to NOAA Award No. NA19NOS4190106. The views expressed herein are those of the author(s) and do not necessarily reflect the views of NOAA, the U.S. Department of Commerce, or any of their subagencies.



FINAL REPORT #20-255-000-D172

SOUTH PADRE ISLAND DUNE RESTORATION

Overview:

The South Padre Island Dune Restoration project was brought forward addressing the need to provide safer public access from coastal hazards presented along the Gulf Coast. The Texas General Land Office Coastal Management Program awarded and partnered with the City of South Padre Island to restore a mile of coastal corridor along the City's shoreline. Sand fencing was raised to catch wind driven sand common among SPI and plants were placed to reestablish a vegetation dune line.

Task 1: Advertise and Award Contract for Design/Bid

On September 2nd, 2021, the advertisement for the invitation to bid was released to the public. Advertisements ran for two consecutive weeks with a pre-bid conference meeting September 8th, 2021. Two viable bids were received and opened on September 16th, 2021, at 2:00 pm. The bids were reviewed initially by the Shoreline Task Force on October 5th, 2021 then recommended to City Council for the October 6th, 2021 meeting where the bid was awarded to Coastal Transplants. A contract was executed between the City of South Padre Island and Coastal Transplants and was finalized on October 13th, 2021. Coastal Transplants submitted the initial designs for sand fencing use and plant selection for the GLO to review.



Public Notice: Invitation to Bid for South Padre Island Dune Restoration



The City of South Padre Island is soliciting an Invitation to Bid (ITB) until 2:00 pm on Thursday, September 16th, 2021, from experienced contractors to provide services for the restoration of coastal dune sites. The selected contractor will need to provide mitigation proposal, cost estimates, and a timeline. Mitigation sites will include native Texas coastal plants, sand fencing, and signage. The ITB packet is available on the City's website at www.myspi.org. All inquiries regarding the ITB should be directed to Kristina Boburka at 956-761-3837 or via email at kboburka@myspi.org.

ITB's are due by **2:00 pm on September 16th, 2021**, after which all qualified responses will be opened and acknowledged at 4601 Padre Boulevard South Padre Island, Texas 78597. Any bids received after the specified deadline will be returned unopened.

Task 2: Design and Permitting



Figure 1. Initial Sand Fencing

Several meetings were held between the City and Coastal Transplants to ensure effective and practical placement of materials. 20 feet of non-vegetated sand separated the 10 foot sections of sand fencing that were installed at a 45° angle from the line of vegetation. Figure 3, shows the sand fencing and beach designation area for plants.

Figure 4. depicts the initial placement of plants in site area 3. Permitting was sent to the GLO Beach and Dune team for review with approval on the placement of restoration efforts across the approved northern site boundaries. Native vegetation included the use of 80% Bitter Panicum, 10% Sea Oats, 5% Railroad Vine, and 5% Purslane.

Coastal Transplants began the design and permitting for the dune restoration in October 2021. Figure 1 original sand fencing built to GLO guidelines prior to additional rope and plants. Placement Area 4 shows the Beach and Dune Permit site location along the City beachfront marked in Figure 2.



Figure 2. Site 4 Placement Area



Figure 3. Sand Fencing Spacing



Figure 4. Plant Installation

Task 3: Sand Fence and Sign Installation

Sand Fencing was finished with installation by December 2021. Plantings took place between November 2021- January 2022. During this period, sand was aggressively trapped collected around two vertical feet by February 2022 shown in Figure 5. The Rio Grande Valley faced severe droughts during summer 2022, taking water reservations down to 20%. Even with draught conditions, plants were still growing rapidly against the capture sand. A key component being that all plants were native Texas seed and sourced from South Padre Island. Signage is a key part of public information and outreach. Each site area included educational signage explaining the importance of dunes with a variety of beach characters, Figure 6 and 7. Similarly placed, were the award/funding signs placed at each site area for the GLO CMP/NOAA compliance.



Figure 5. Sand Capture



Figure 6. Solamente Cangrejos – Crabs only

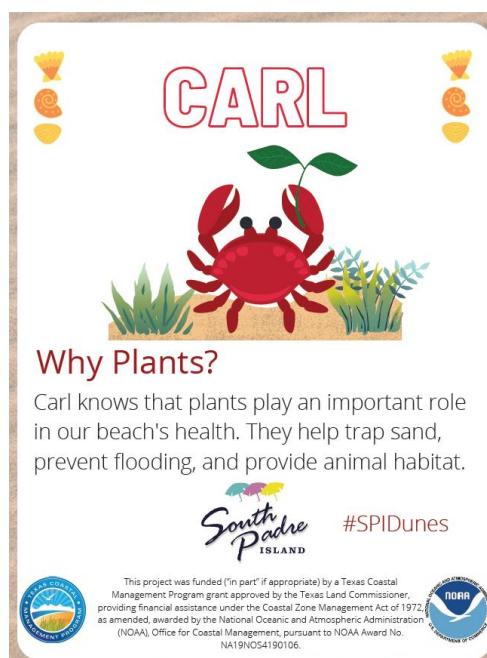
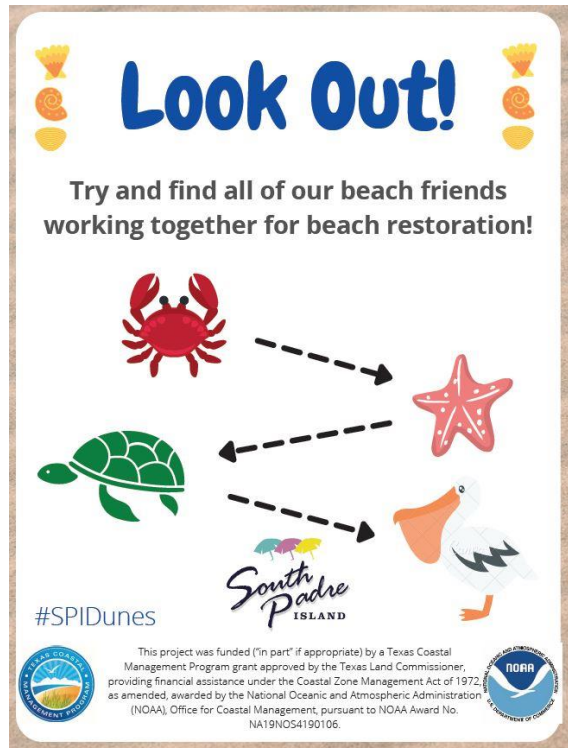


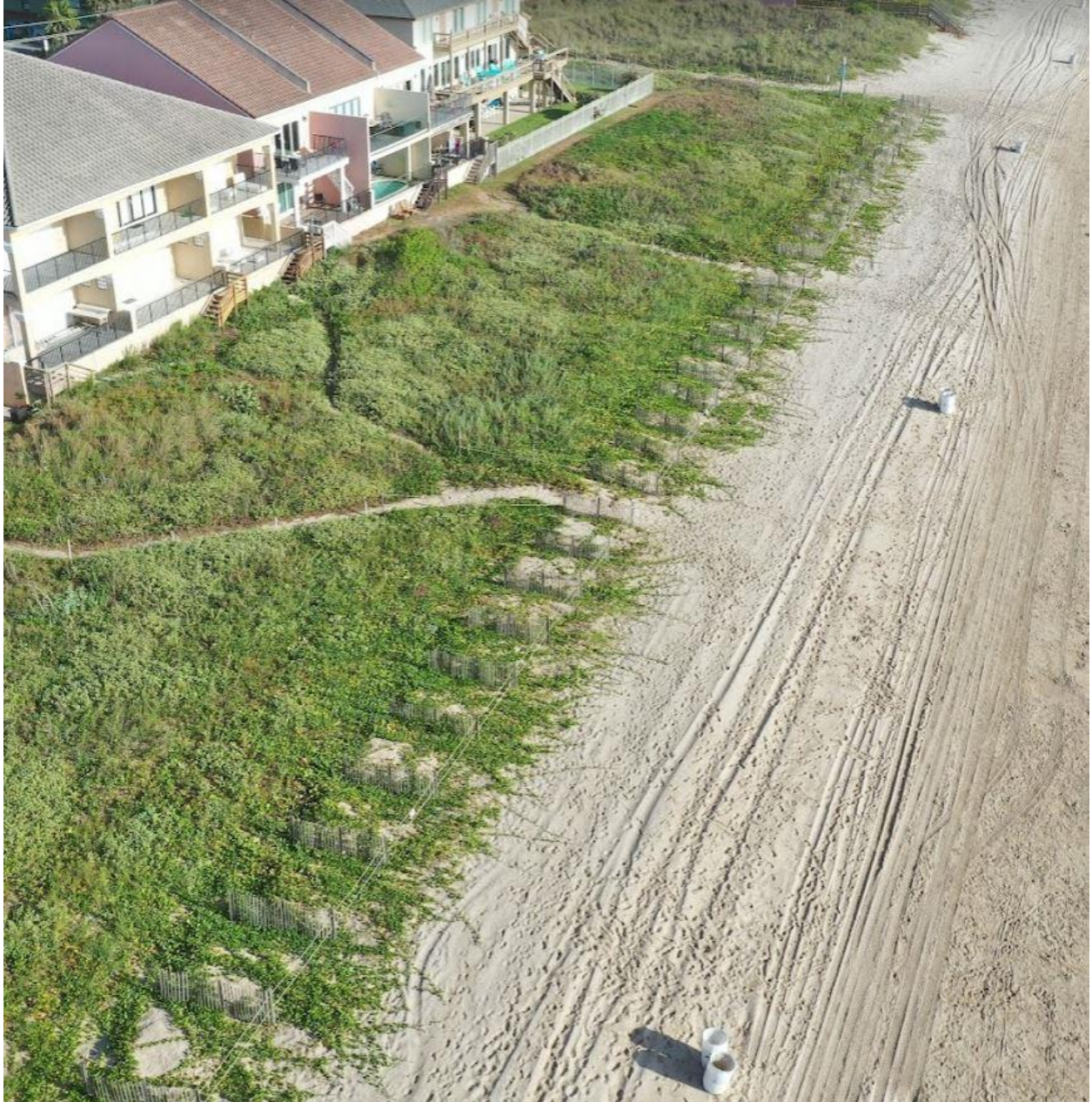
Figure 7. Educational Signage



Final Restoration Areas:

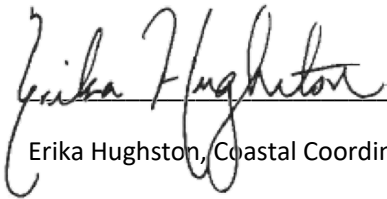






Closeout:

The City of South Padre is excited to set the presedent for the South Texas Coastline and show what is possible with the application of sand fencing and native plantings. Key importance of this project is to allow viable space for a successful dune restoration effort, while maintaining an appropriate public beach. Beneficial material is becoming a more exclusive and expensive commodity and it is time to combat beach erosion organically. The additional of native seed Texas dune plants helped the Dune Restoration project meet its mission. The City would like to thank the CMP team and Coastal Transplants for their work alongside the City throughout the entire project from reporting to ensuring the safety of Texas coastlines. We greatly look forward to working together again soon.



Erika Hughston, Coastal Coordinator

9.23.2022

Date

