

## Quarterly Report for Matagorda Bay Mitigation Trust September 30, 2021

### **Project:**

Colorado River Delta Ecosystem Assessment: Gathering Key Baseline Data to Guide Future Habitat Restoration in Matagorda Bay

### **Organizations:**

<sup>1</sup>Center for Sportfish Science and Conservation (CSSC) at Harte Research Institute for Gulf of Mexico Studies Texas A&M University at Corpus Christi

<sup>2</sup>BIOWEST, INC.

### **Investigators:**

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**Contract No.:** 0015

**Project Term:** 03/01/2021 – 07/31/2023

**Reporting Period:** 3/1/2021 – 9/30/2021

The contracted project with the Matagorda Bay Mitigation Trust was initiated as of March 1, 2021. After this date, we identified and got approval for a subcontractor with expertise in areas not covered by researchers at Texas A&M University-Corpus Christi. Areas for subcontract expertise include Benthic Habitat Characterization, and a portion of the Hydrological and Ecological Assessment work. The chosen contractor was BIOWEST, Inc. and a subaward was issued to this group in April 2021 (with a start date of March 1) in the amount of \$230,000.

**Task 1 - Benthic Habitat Mapping:** Perform a detailed benthic habitat characterization of the Colorado River Delta study area to provide an updated habitat baseline.

Status: Ongoing

Spring '21

- BIO-WEST conducted project management, internal project team meetings, task coordination, and invoicing.
- BIO-WEST conducted a site reconnaissance with CSSC scientist on May 25<sup>th</sup>, 2021.
- BIO-WEST initiated map preparation and conducted site selection analysis to facilitate ecological sampling.

Summer '21

- BIO-WEST initiated benthic habitat mapping during this quarter, this included
  - 1) an evaluation of existing aerial imagery for the Colorado River Delta project area and
  - 2) field surveys using side-scan sonar to map benthic habitats including oyster reefs, submerged aquatic vegetation and open bay bottom. Benthic habitat field mapping activities will continue to be conducted as the project progresses.

**Task 2 – Ecological Assessment:** Conduct a comprehensive ecological assessment linking the distribution of species and their habitats spatially within the Colorado River Delta study area.

Status: Ongoing

Spring '21

- BIO-WEST conducted the Spring 2021 coastal bird surveys for the six established study sites in the delta on May 26-27, 2021.
- BIO-WEST initiated analysis of species and habitat data collected during Spring 2021 coastal bird surveys.
- CSSC performed first of two sampling events for Spring on June 2<sup>nd</sup>, 2021. Three epibenthic sled samples were taken at six sampling sites. In addition, water quality was taken at two additional sites, see map.
- CSSC performed the second Spring sampling event on June 11<sup>th</sup>, 2021. Three epibenthic sled samples were taken at six sampling sites along with water quality at sentinel sites. At present, CSSC has 36 samples in house representing Spring samples.

Summer '21

- BIO-WEST continued data reduction and analysis for the Avian Survey conducted in Spring '21.
  - Examined acoustic recordings from six sites for the presence of Eastern Black Rails (*Laterallus jamaicensis*), and Whooping Cranes (*Grus americana*).
- CSSC conducted two summer sampling events on August 27<sup>th</sup> and September 8<sup>th</sup>. This included the usual three epibenthic tows at each site except for site 6 which we were unable to reach due to very low water levels typical of the summer months.
- CSSC also deployed three HOBOWare data loggers designed to monitor Temperature and Water Levels at three locations (see map).

**Task 3 – Hydrological Assessment:** Complete a hydrological assessment to better understand water availability, flow paths, and topography in the Colorado Delta.

Status: Not yet begun

Spring '21

- Nothing to report for this quarter.

Summer '21

- Nothing to report for this quarter.

**Task 4 – Data Analysis, Compilation and Reporting:** Collective data analysis, interim/quarterly reporting, input solicitation, and final reporting.

Status: Ongoing

Spring '21

- 06/30/2021 – Quarterly report No. 1 completed for project.

Summer '21

- 09/30/2021 – Quarterly report No. 2 completed for project.
- CSSC has 66 marsh edge epibenthic samples in house.

