

# BENEFICIAL USE

Lisa Finn  
Environmental  
SWD/SWG/ODN  
October 15, 2020



US Army Corps  
of Engineers®

# INTRODUCTION TO THE ENVIRONMENTAL TEAM



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# LISA FINN

As the Environmental Team Lead in the Navigation Branch, Lisa leads the efforts to evaluate effects of maintenance dredging on federal navigation channels the length of the Texas coast as well as activities at Flood Risk Management Projects. She is the District's Ocean Disposal Coordinator and Regional Technical Expert for dredged material testing and evaluation and represents the Southwestern Division for threatened and endangered species in the Gulf of Mexico – most notably sea turtles. She is currently the Operations Manager for the Cedar Bayou Project.

She received her BS in Wildlife and Fisheries from Texas A&M University. A country girl from Central Texas, Lisa is always ready for a domino game and kolaches.





# ASHLEY NEILL

Ashley is a recent Graduate from Texas State University with a B.S. in Biology and minor in Biochemistry. She has lived all over the World. Ashley has been part of the environmental team for about a year and learning quickly!

Ashley has been overseeing the 408/outgrant sediment testing program. She has also been managing and refining the District's DQM program – taking this monitoring initiative it to a whole new level.

She likes sharks, shopping, and Starbucks.





# KRISTIN McKNIGHT (NELSON)



Introduction to our newest member: Kristin received her B.S. In Aquatic Biology from Texas State University and M.S. In Marine Biology from Texas A&M University at Galveston.

She is originally From Austin, Texas and comes from a background in environmental education and animal husbandry. She is a lover of all things that live in the water and can crochet you just about anything you can think up. She’s “grouper” excited to be joining the environmental team!







# EXISTING AGREEMENTS



- Existing Memorandum of Agreement with Texas General Land Office
  - Allows Galveston District & TXGLO to partner in beneficial-use of dredged material (BUDM) projects
  - Support Agreements for each dredging event





# TYPES OF BENEFICIAL USE



- **Beach Nourishment**
- **Near Shore Berms**
- **Bird Island Creation**
- **Marsh Restoration**







# BENEFITS OF BENEFICIAL USE



- **Maintain Federal Placement Area Capacity**
- **Reduce cost for levee and dike raises and repairs.**
- **Added storm protection for coastal communities**
- **Restore Essential Fish Habitat**
- **Restore coastal marsh ecosystems**
- **Increased the real estate value of the surrounding community**

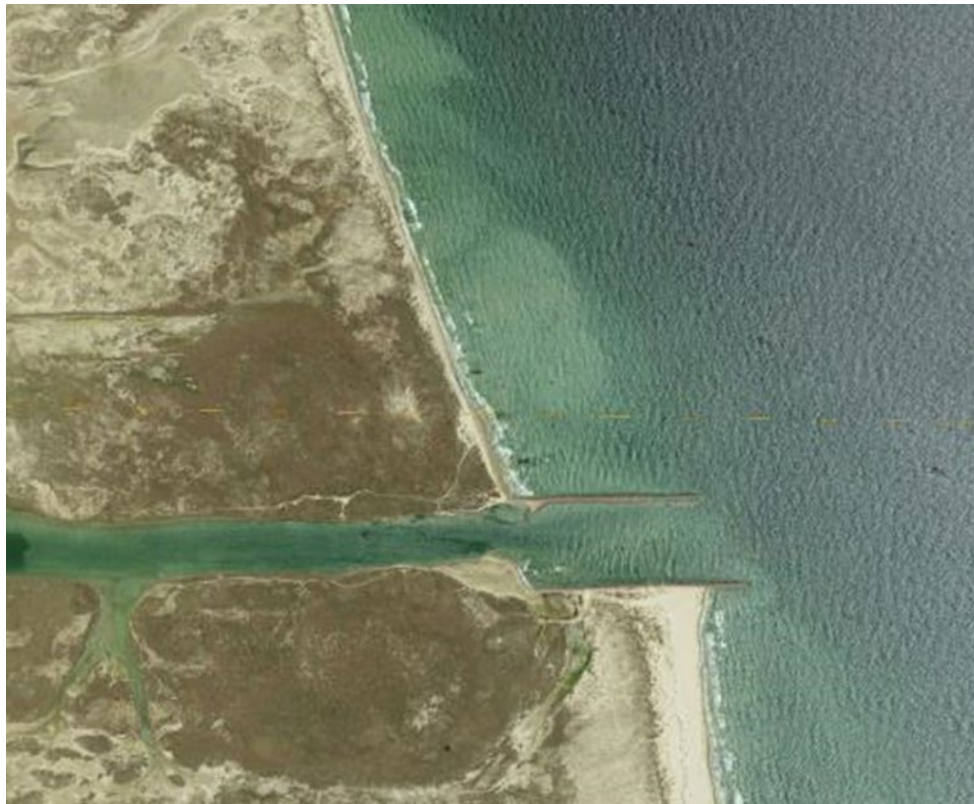




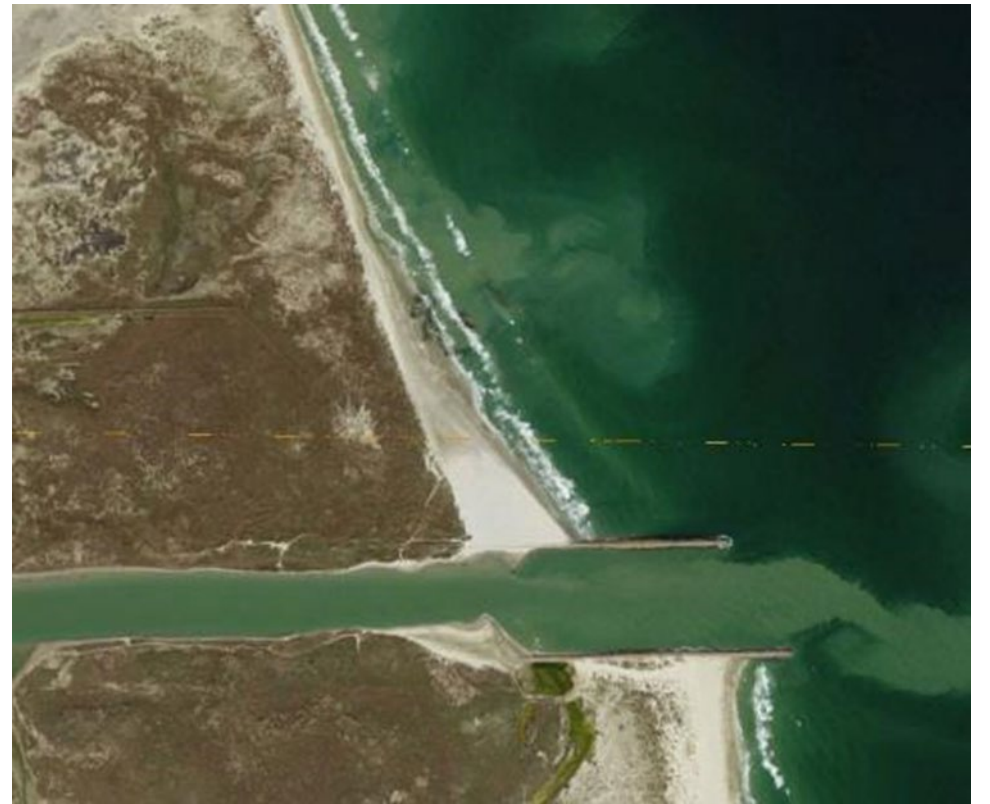
# 2011 PORT MANSFIELD MAINTENANCE DREDGING



**Before Beach placement on Port Mansfield**



**After Beach placement on Port Mansfield**





# NOTABLE BU PROJECTS ACROSS THE GALVESTON DISTRICT



**Houston Ship Channel – marsh restoration Atkinson Island**



**Brazos Island Harbor – 3,000 ft beach nourishment S Padre Island**



**Port Mansfield Channel – 3 ac beach nourishment**



**Texas City Channel –1,000 ac marsh Lower Galveston Bay**



**Sabine-Neches Waterway– Bessie Heights Marsh**



**Houston Ship Channel – Evia Island – 6 ac bird habitat**





# RECENT BENEFICIAL USE PROJECTS



## Galveston—Babe’s Beach, 2015 and 2019

- Partnered w/GLO, City of Galveston, Galveston Park Board of Trustees
- Approximately 4500’ beach constructed each event





# BABE'S BEACH



**Before**



**After**





# EXAMPLE OF SUCCESS: PIERCE MARSH



## Key Take-Aways

The collaboration between agencies restored 80 acres of estuarine marsh. This cooperation allowed for the placement of material and seeding while avoiding environmental windows in the surrounding areas.

## Strategic Initiatives

Collaboration from federal, state, and local agencies such as:

- The Texas General Land Office
- Texas Park and Wildlife
- The Galveston Bay Foundation
- NRDA
- NOAA
- TCEQ
- NRCS
- U.S. Fish and Wildlife



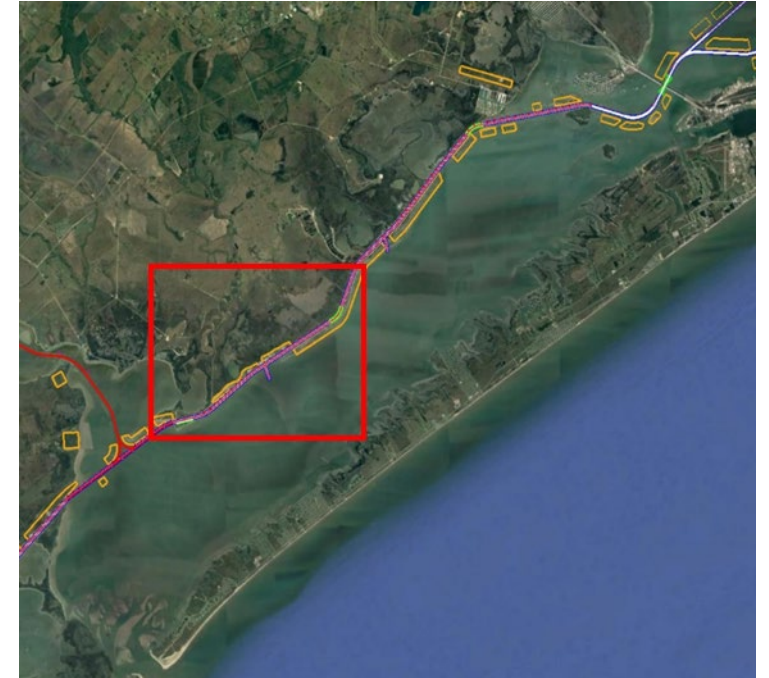
# UPCOMING BENEFICIAL USE PROJECTS



- **FY20 GIWW: Mouth of the Colorado - beach nourishment**
  
- **FY 20 Matagorda Ship Channel: Sundown Island restoration of nesting colonial water bird habitat**
  
- ✓ **FY20 Port Mansfield Bird Island Breakwater completed**
  
- **FY20 Port Mansfield Maintenance Dredging began construction**
  - **950, 000 CY sand for beach nourishment at Padre Island National Seashore**
  - **Continued bird island creation for critical colonial water bird nesting habitat**
  
- **FY 21 BIH potential beach nourishment at South Padre winter 2020**
  
- **FY 21 Galveston Entrance Babe's Beach nourishment summer 2021**



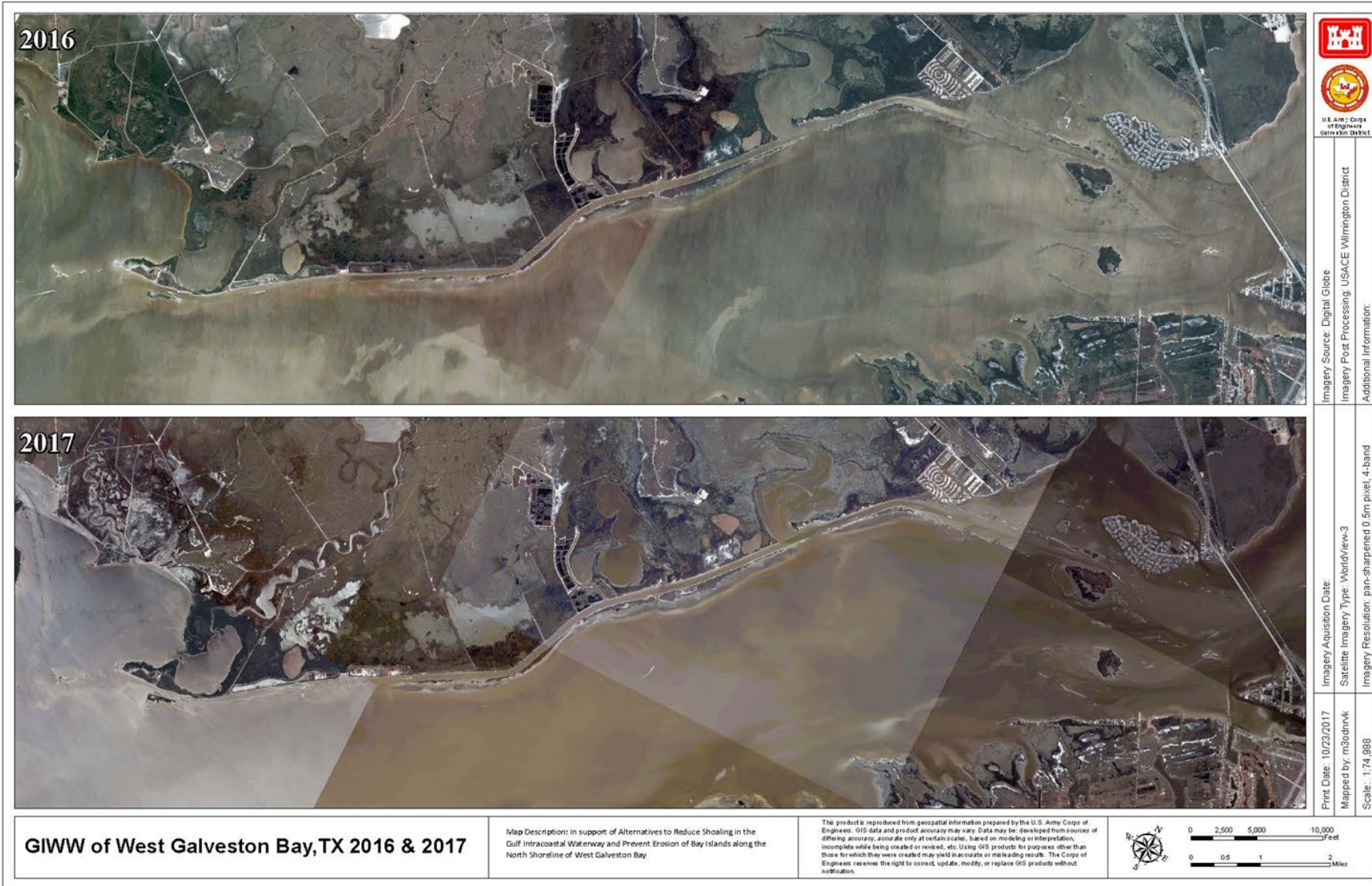
- **RSM Study December 2015**  
*“Alternatives to Reduce Shoaling in the Gulf Intracoastal Waterway and Prevent Erosion of Bay Islands along the North Shoreline of West Galveston Bay”*
- **Shoreline Analysis**  
Mapping Sea-grasses with Aerial Imagery, monitoring erosion/accretion of shoreline







# FUTURE BU GIWW WEST GALVESTON BAY BARRIER ISLAND RESTORATION

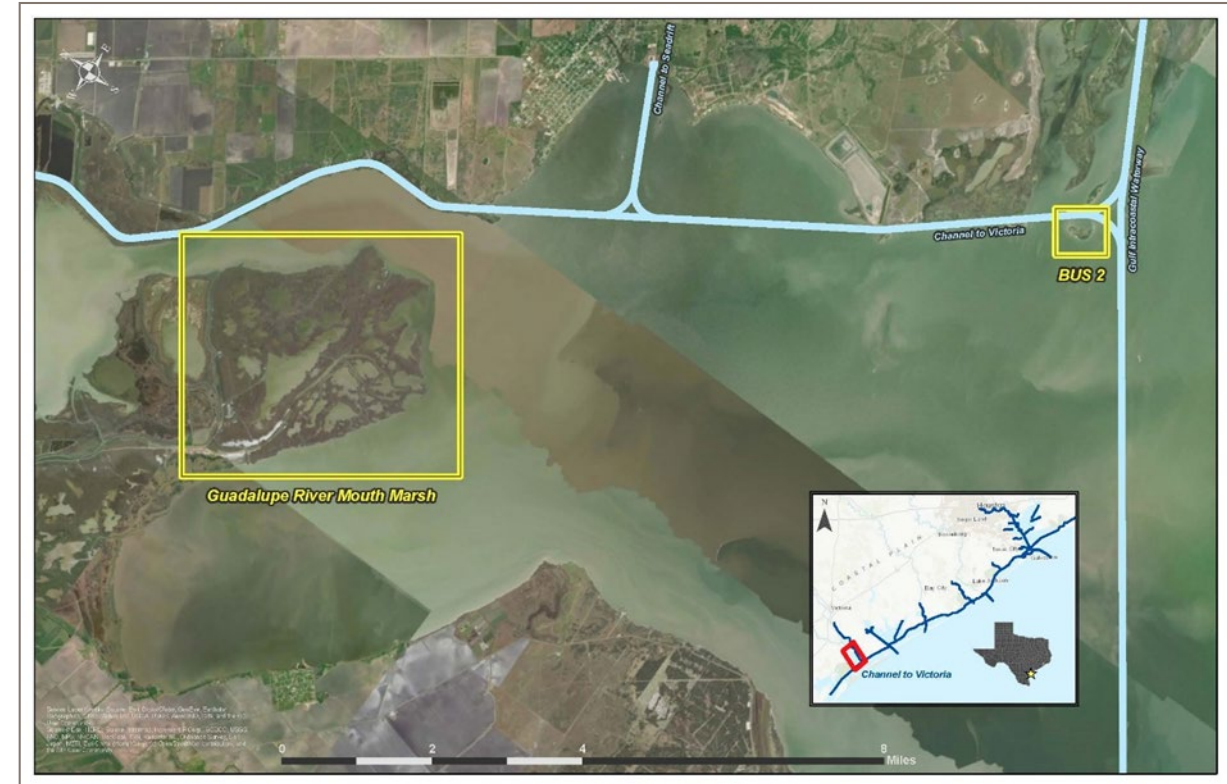




# FUTURE BU: CHANNEL TO VICTORIA BENEFICIAL USE SITE 2 ADAPTIVE MANAGEMENT & IMPLEMENTATION OF THE GUADALUPE RIVER MOUTH MARSH RESTORATION INITIATIVE



- Ongoing Regional Sediment Management (RSM) Study
- Consider BU Placement at BUS 2 when funds available
- Determine quantities to be placed in Guadalupe River Mouth Marsh during next USACE dredging event
- Develop potential designs for Guadalupe River Mouth Marsh restoration





# **BENEFICIAL USE IMPLEMENTATION IN NAVIGATION MISSION**



**Operations is committed to beneficially using dredged material to create mutually supporting economic and environmentally sustainable solutions as part of the Navigation Mission.**

**We look forward to continued coordination on restoration efforts with our stakeholders and are ready to discuss new projects as they relate to our ongoing maintenance dredging program.**



# CONTACTS FOR YOUR ENVIRONMENTAL TEAM



- Lisa Finn-  
[Lisa.M.Finn@usace.army.mil](mailto:Lisa.M.Finn@usace.army.mil)
  
- Ashley Neill-  
[Ashley.N.Neill@usace.army.mil](mailto:Ashley.N.Neill@usace.army.mil)
  
- Kristin Nelson/McKnight-  
[Kristin.M.Nelson@usace.army.mil](mailto:Kristin.M.Nelson@usace.army.mil)

