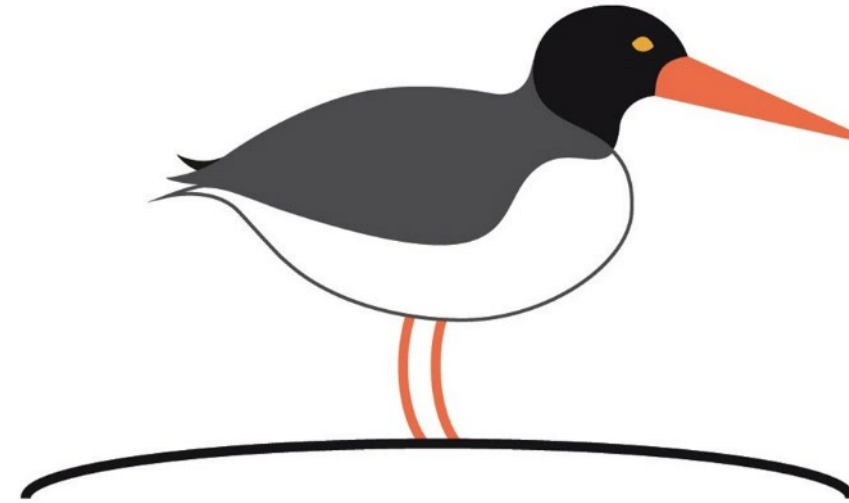




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Living Shorelines Workshop

Bill Balboa

bbalboa@matbay.org



Living Shorelines Workshop

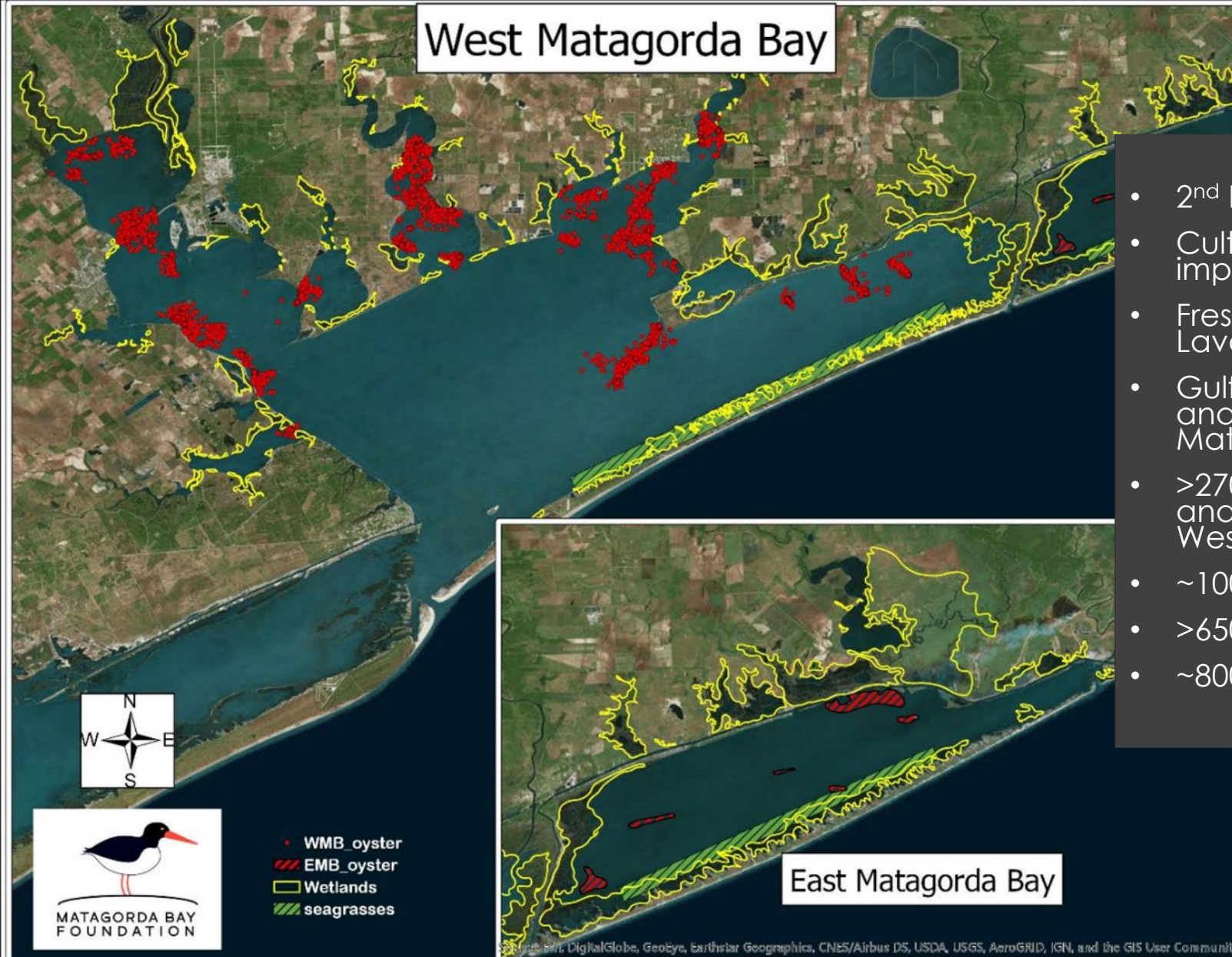
- MBF
- Need
- Planning
- Shoreline protection projects
 - Grassy Point
 - Mouth of Carancahua Bay
 - GIWW
- Observations



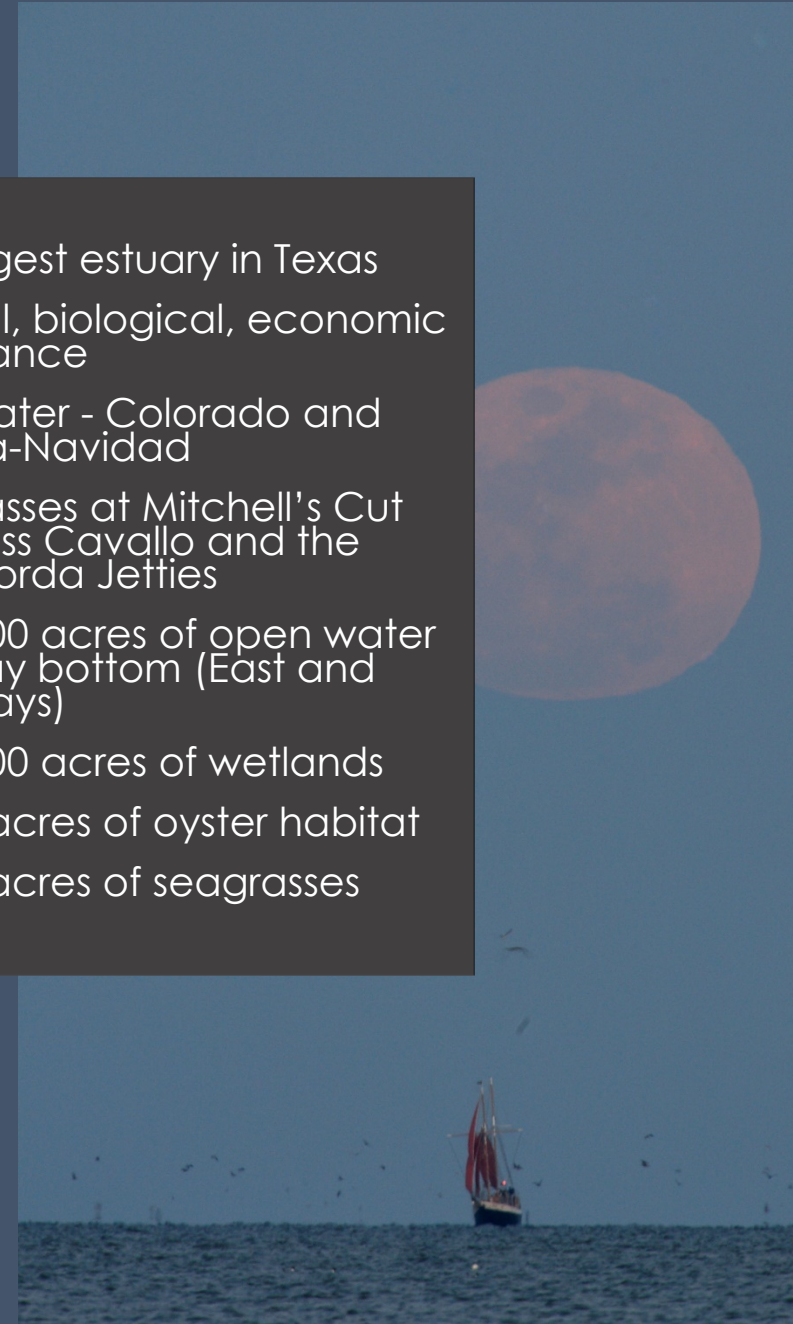
Matagorda Bay Foundation

- *The Matagorda Bay Foundation is dedicated to the wise stewardship of central Texas' estuaries and the coastal watersheds that sustain them.*
- Created in 1995 Inflows for Whoopers– Blackburn, Hamman & Garrison
- February 2019
- San Antonio Bay Partnership, Lavaca Bay Foundation and East Matagorda Bay Foundation
- The unknown coast

West Matagorda Bay

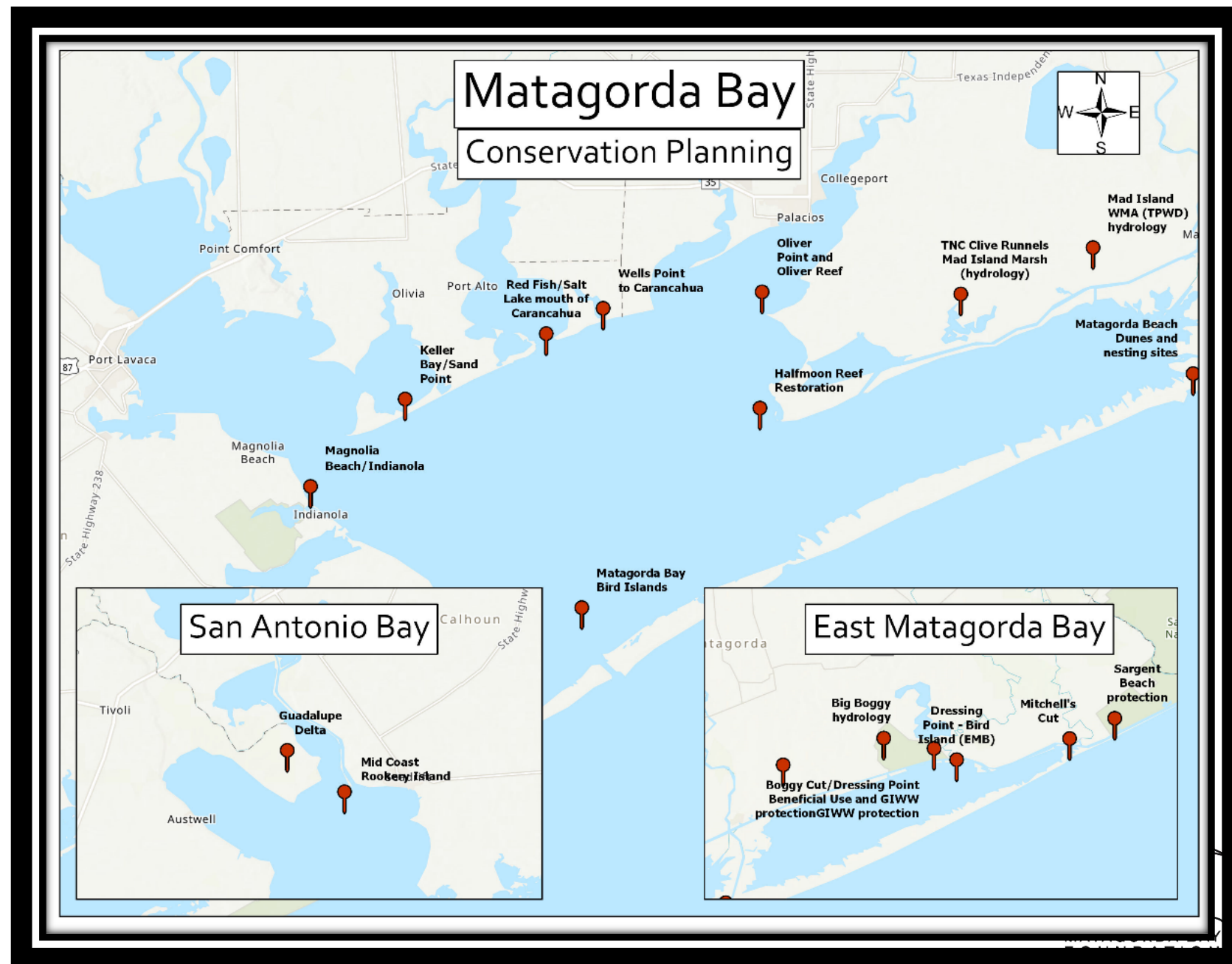


- 2nd Largest estuary in Texas
- Cultural, biological, economic importance
- Freshwater - Colorado and Lavaca-Navidad
- Gulf passes at Mitchell's Cut and Pass Cavallo and the Matagorda Jetties
- >270,000 acres of open water and bay bottom (East and West Bays)
- ~100,000 acres of wetlands
- >6500 acres of oyster habitat
- ~8000 acres of seagrasses





Planning



Shoreline Projects



Grassy Point



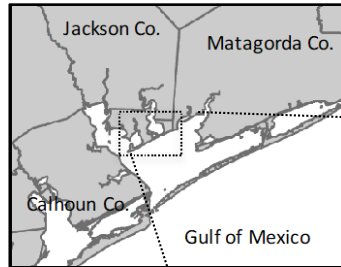
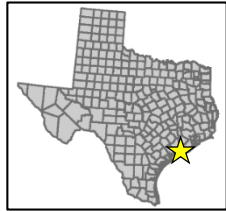
Grassy Point



Mouth of Carancahua Bay



Mouth of Carancahua Bay



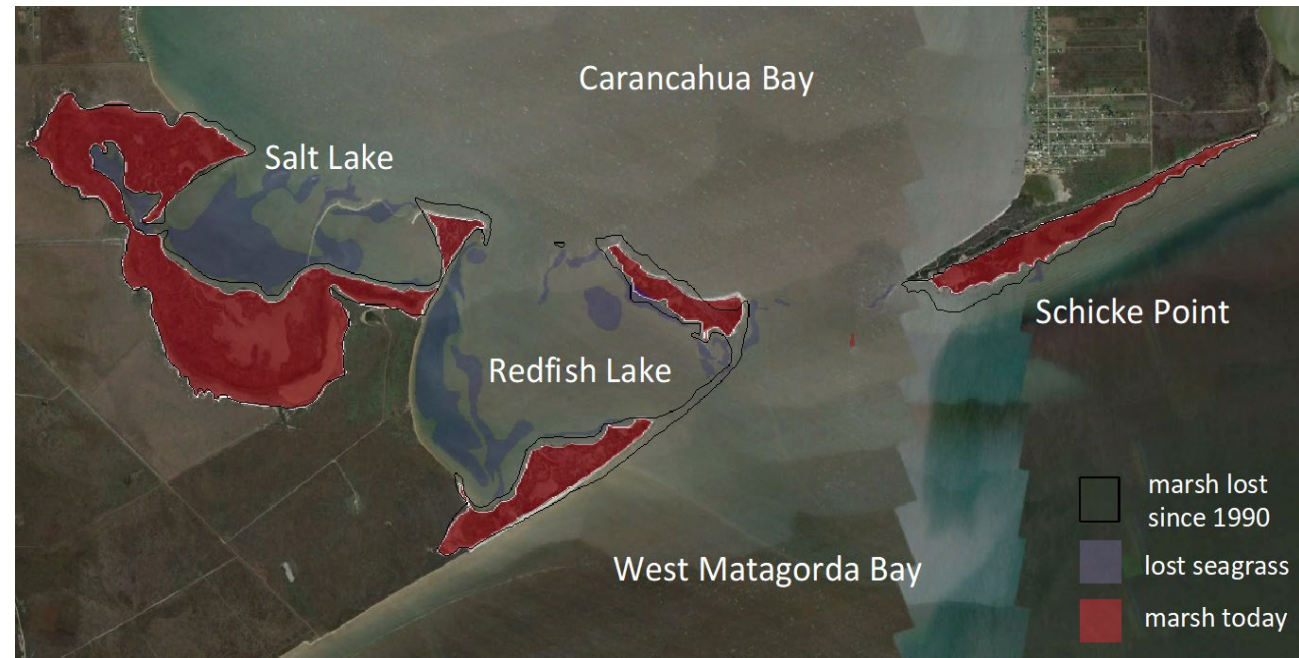
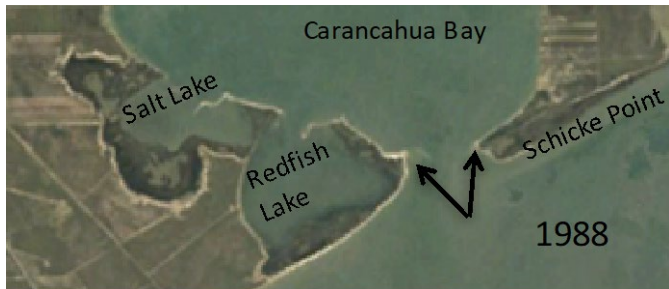
Rusty Feagin, Bill Balboa, Dave Buzan, Thomas Huff,
Matt Glaze, Woody Woodrow, Ray Newby



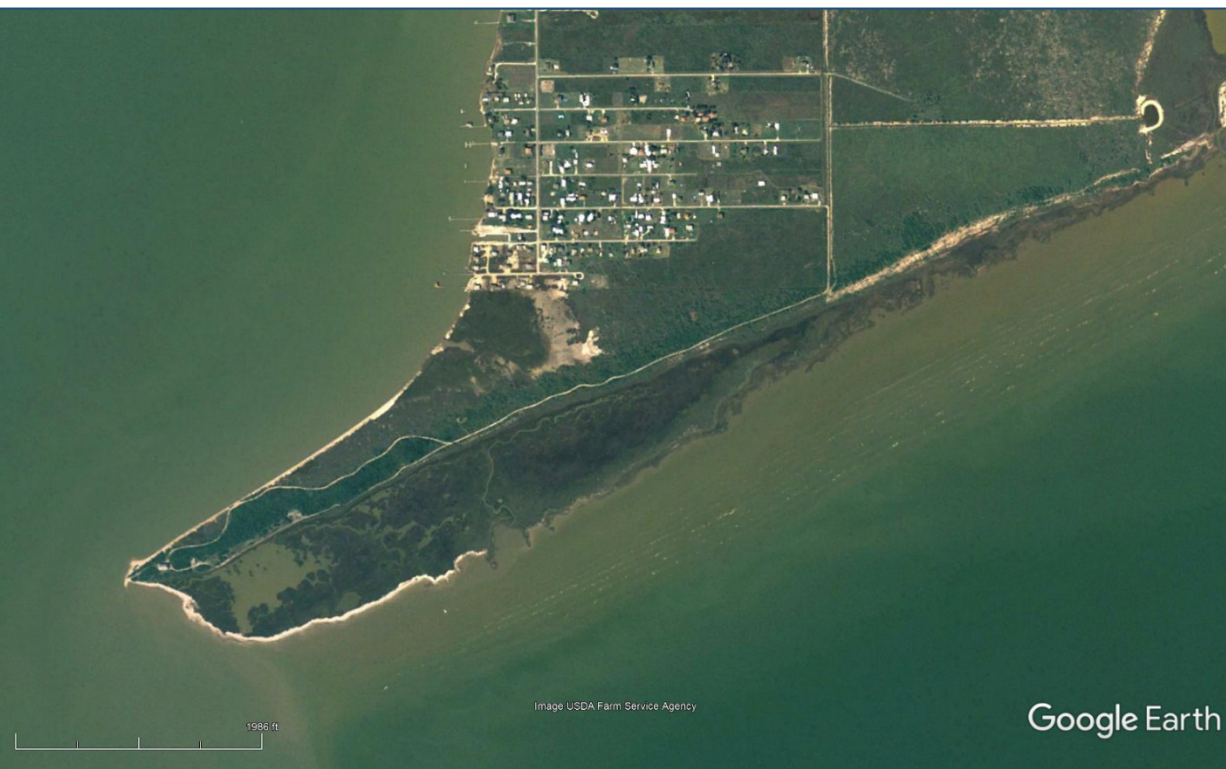
Mouth of Carancahua Bay

The problem

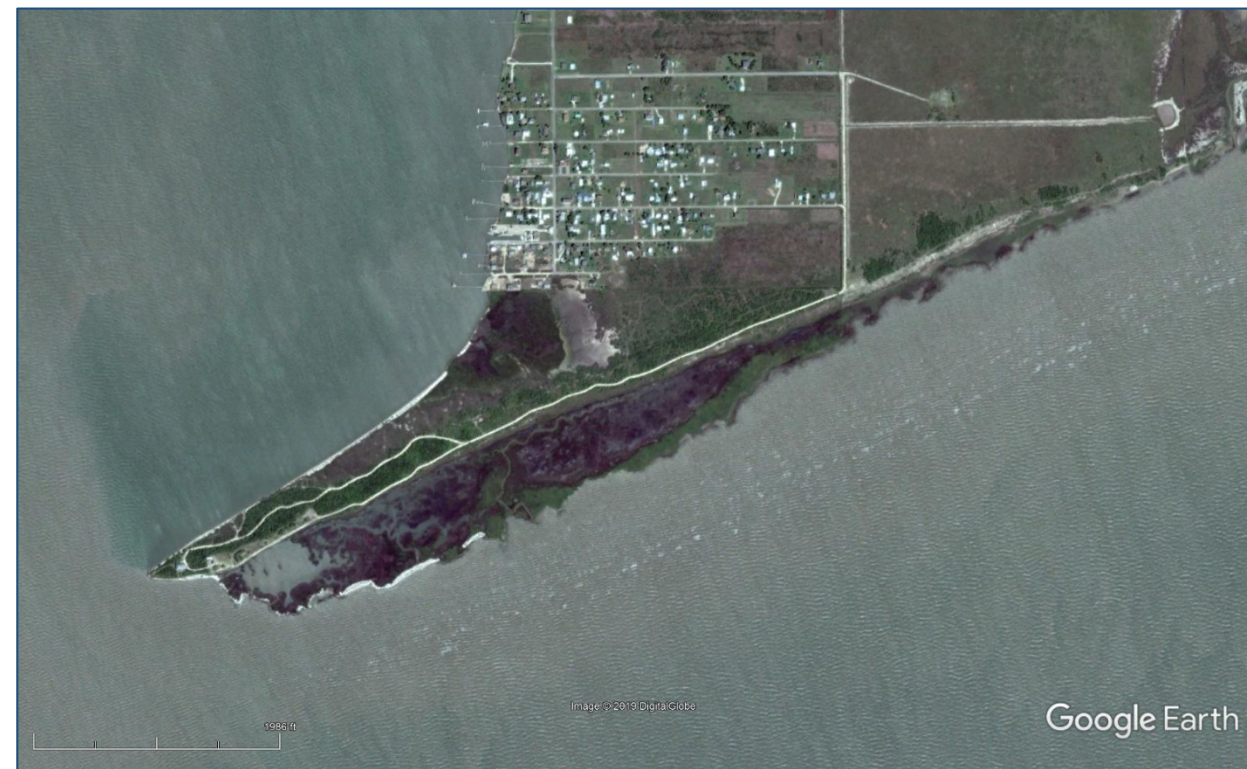
- Carancahua Bay mouth widens ~122 feet per year by erosion
- Already 61 acres of marsh and seagrass lost
- Future loss of 624 acres of marsh and seagrass under threat
- Larger waves impacting Port Alto's docks and bulkheads
- Water quality declining
- Altered fishing prospects as Carancahua and Keller Bays merge with West Matagorda Bay



Schicke Point



2005



2017



Mouth of Carancahua Bay

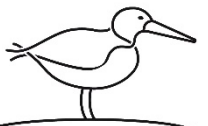
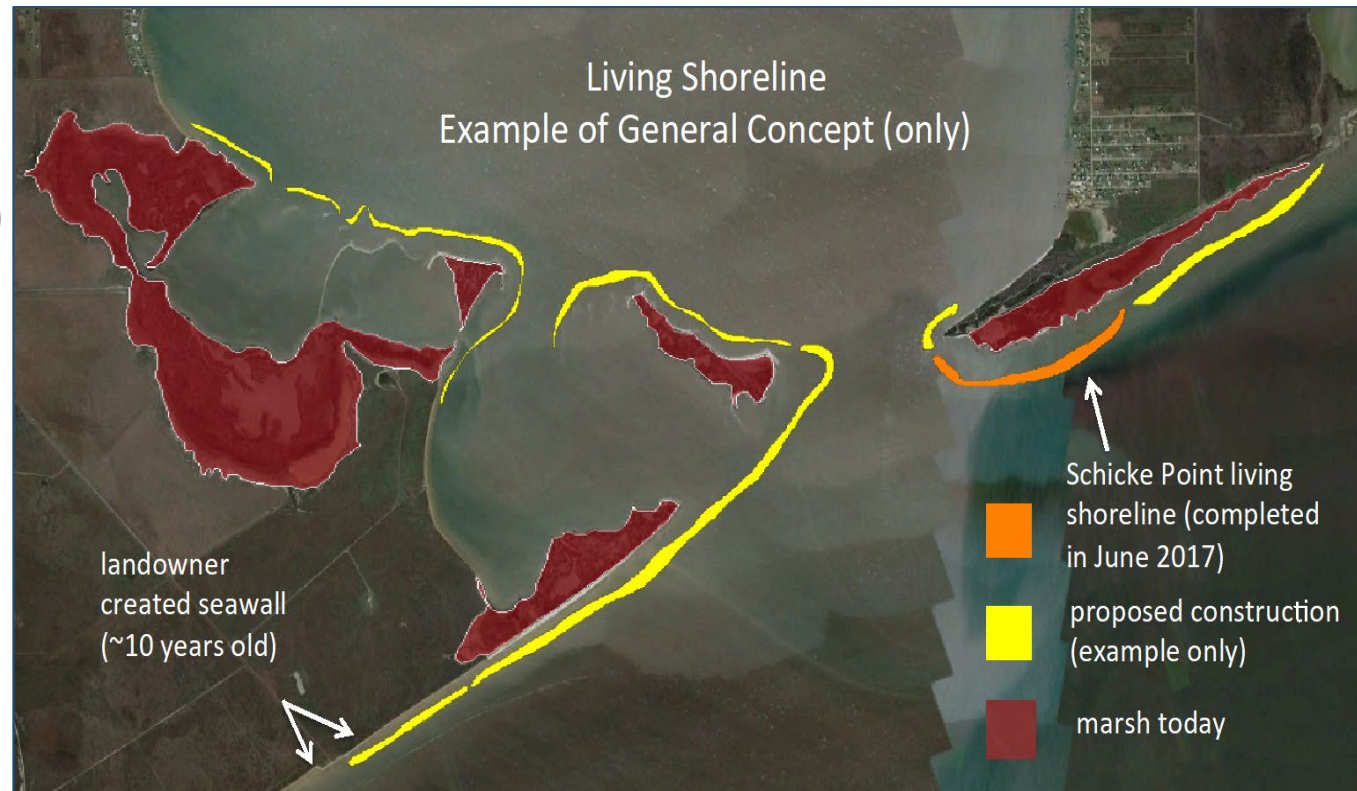
Partners

- Texas A&M University/AgriLife Research (TAMU)
- Freese & Nichols, Inc (FNI)
- The Matagorda Bay Foundation
- US Fish & Wildlife Service (USFWS)
- Urban Engineering (UE)
- Coastal Conservation Association (CCA)
- National Fish & Wildlife Foundation (NFWF)
- Texas General Land Office (GLO)
- Texas Sea Grant (TSG)
- Calhoun County
- Matagorda County
- Several private landowners
- Local volunteers

\$ Funds

- USFWS (scoping funds)
- NFWF (design funds)
- GLO CEPR program (design and engineering funds)

The solution: A living shoreline



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Schicke Point



GIWW

Palacios

TPWD/ TNC Mad Island

Boggy Cut

Sargent Ranch

Matagorda Bay



TNC Clive Runnel's Mad Island Marsh



TNC Clive Runnel's Mad Island Marsh



1965



1995

TNC Clive Runnel's Mad Island Marsh



2009



2014



TNC/TPWD Mad Island



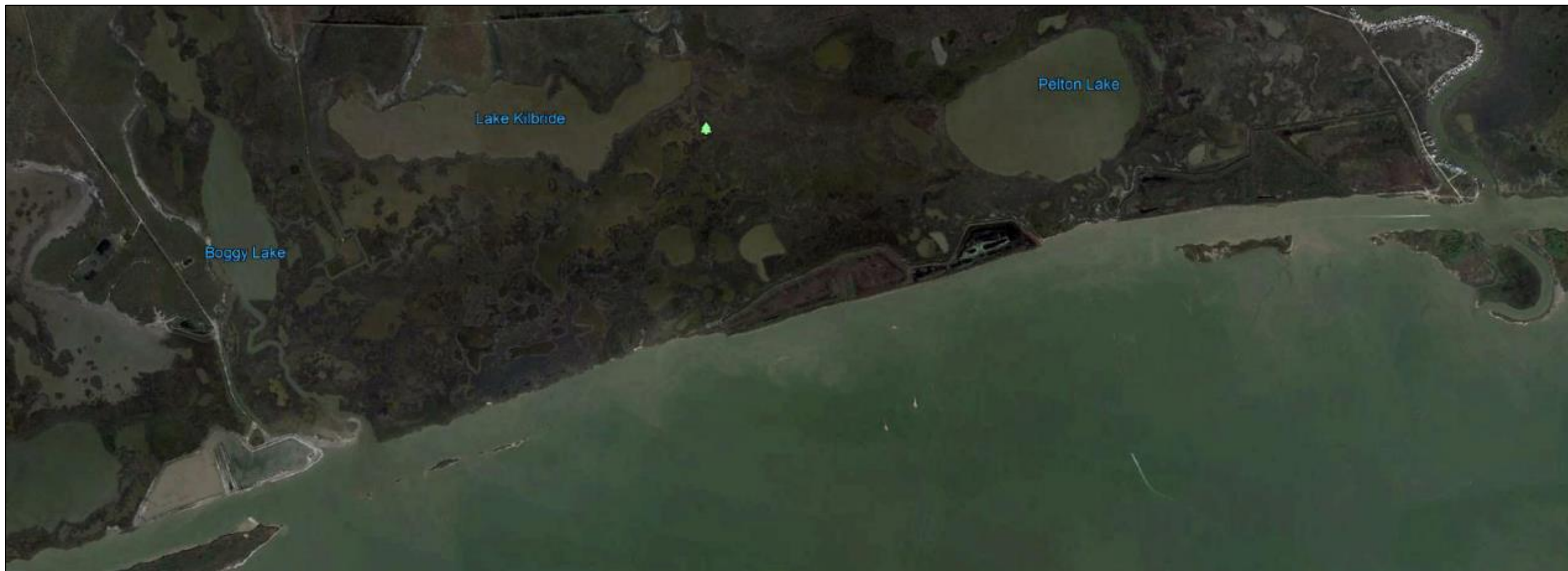
Sargent Ranch shoreline



© 2018 Google
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2019 TerraMetrics

Google Earth

Boggy Cut/Live Oak Bayou

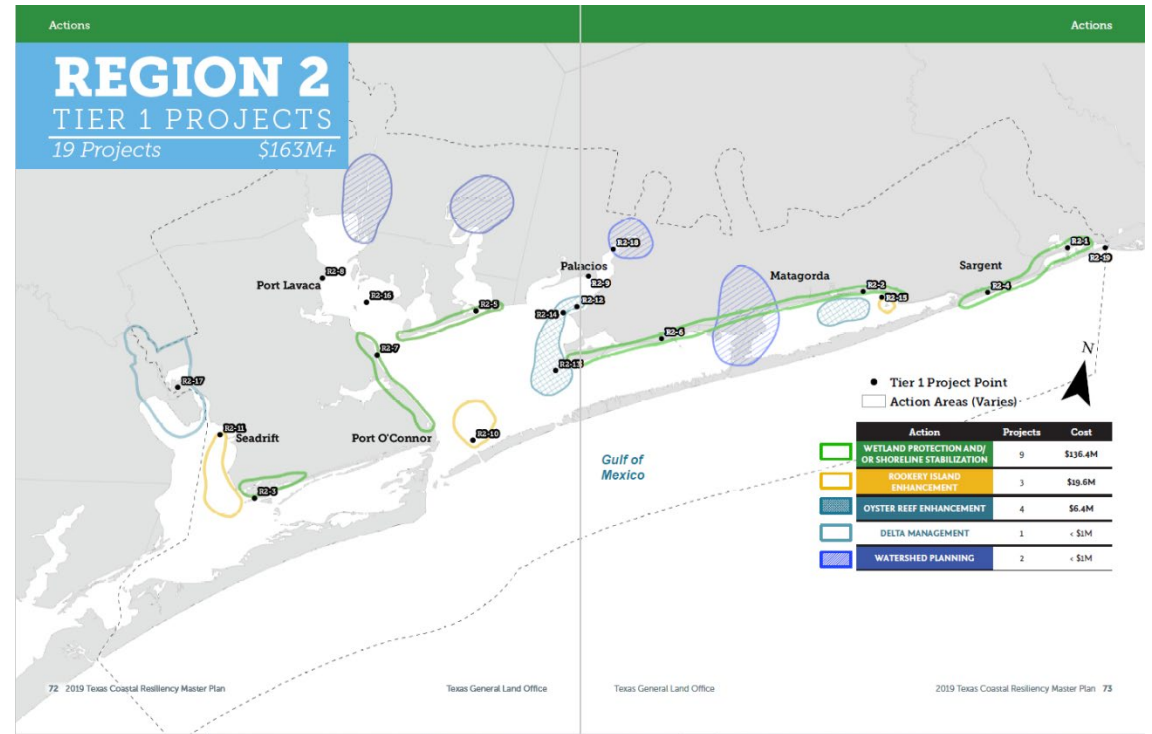


Boggy Cut/Live Oak Bayou



Region 2 Project Recommendations

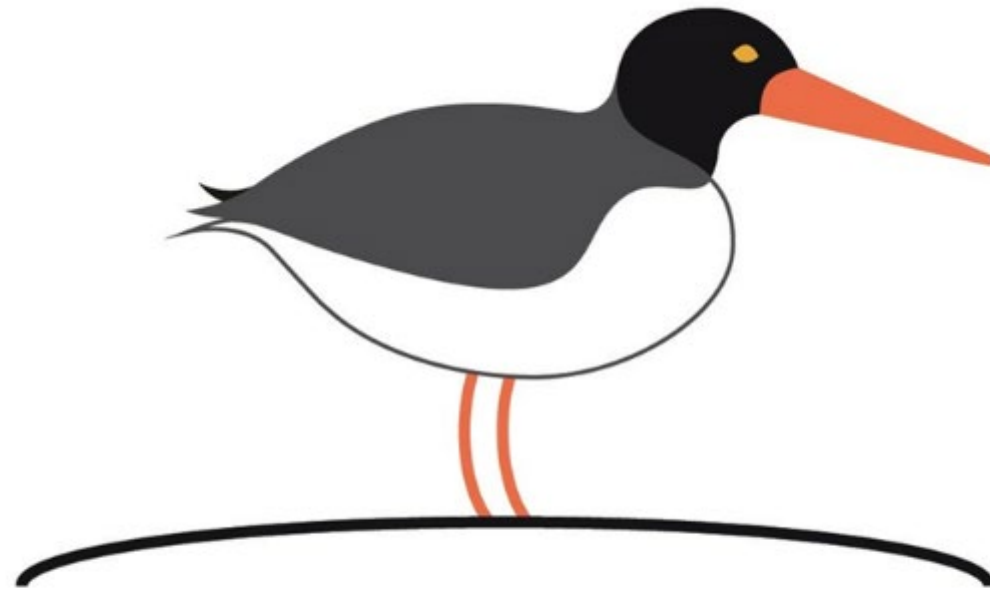
Action	ID	Tier 1 Project	Estimated Project Cost
WETLAND PROTECTION AND/OR SHORELINE STABILIZATION	R2-1	Brazos River to Cedar Lake Creek GIWW Stabilization	\$35,800,000 ^(PF)
	R2-2	Boggy Cut GIWW Stabilization	\$9,300,000
	R2-3	Welder Flats Wildlife Management Area	\$1,600,000
	R2-4	Sargent Beach & Dune Restoration	\$66,300,000
	R2-5	Redfish Lake Living Shoreline	\$4,700,000
	R2-6	Mad Island Shoreline Protection and Ecosystem Restoration	\$7,400,000 ^(PF)
	R2-7	Ocean Drive Living Shoreline	\$4,500,000
	R2-8	Port Lavaca Living Shoreline	\$2,400,000
	R2-9	Palacios Shoreline Revitalization Project	\$4,400,000



Observations

- Galveston Bay shoreline protection successes
- Funding
- Project costs – traditional methods vs. living shorelines
- Education





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Photo credit - Jarrett Woodrow (USFWS) and David Buzan (Freese and Nichols, Inc.)