



Texas Coastal Exchange

**Citizens' Environmental Coalition
Greater Houston Environmental Summit
August 2, 2019**

Support the ecosystems that support us all



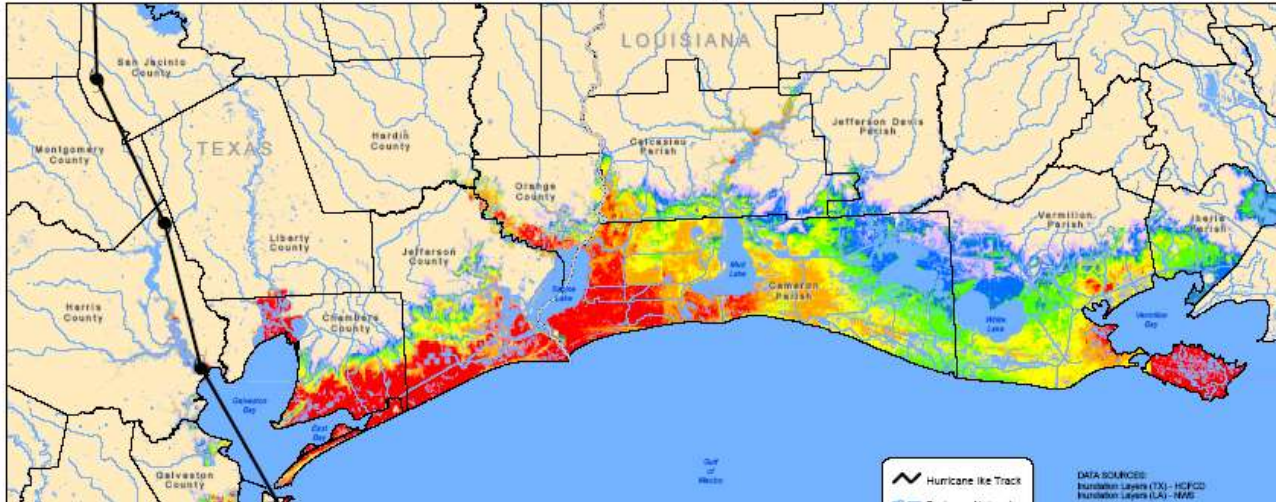
How does TCX fit with the United Nations' Sustainable Development Goals?



Post Ike Research at Rice University's SSPEED Center

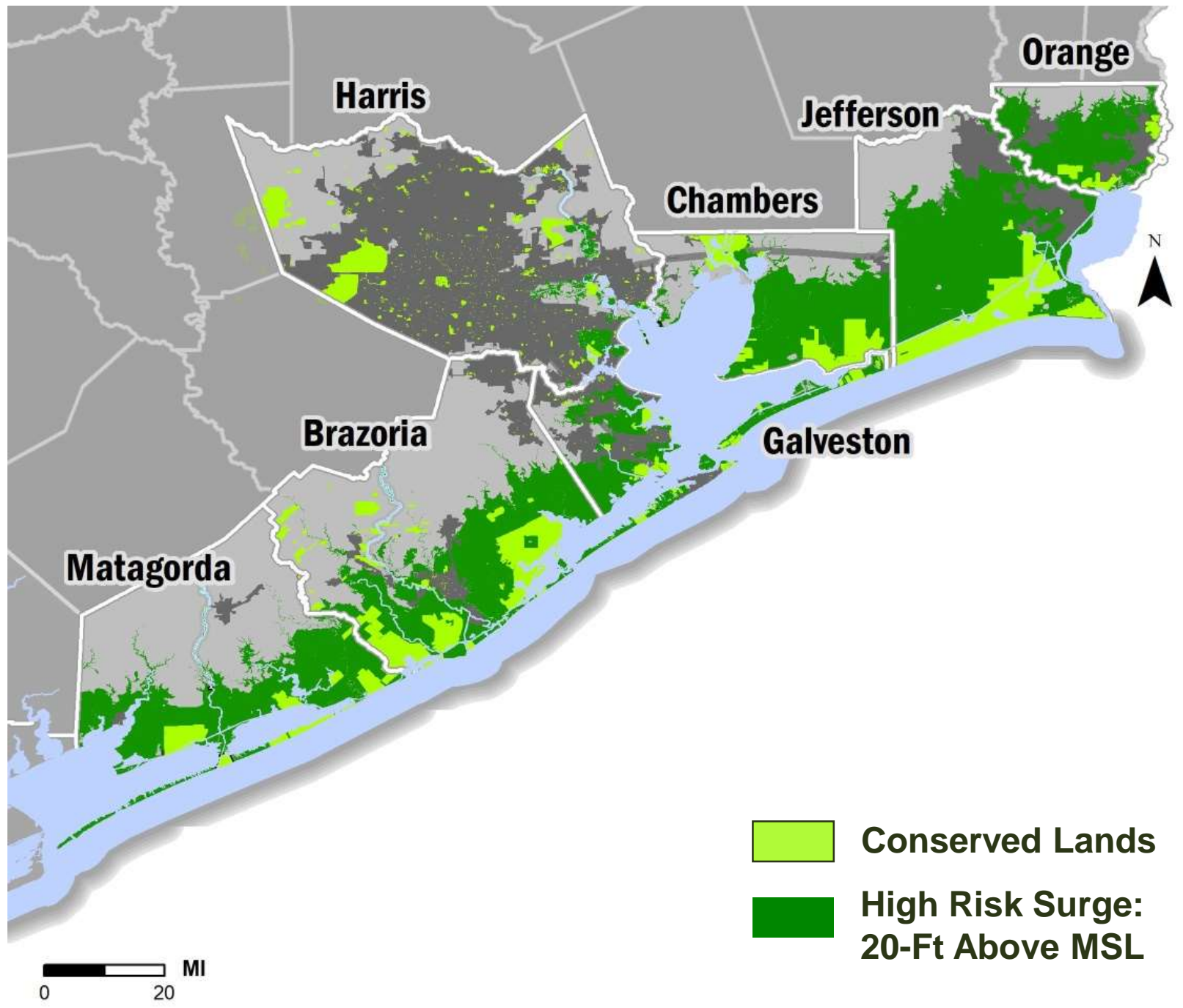


Hurricane Ike Inundation Depth



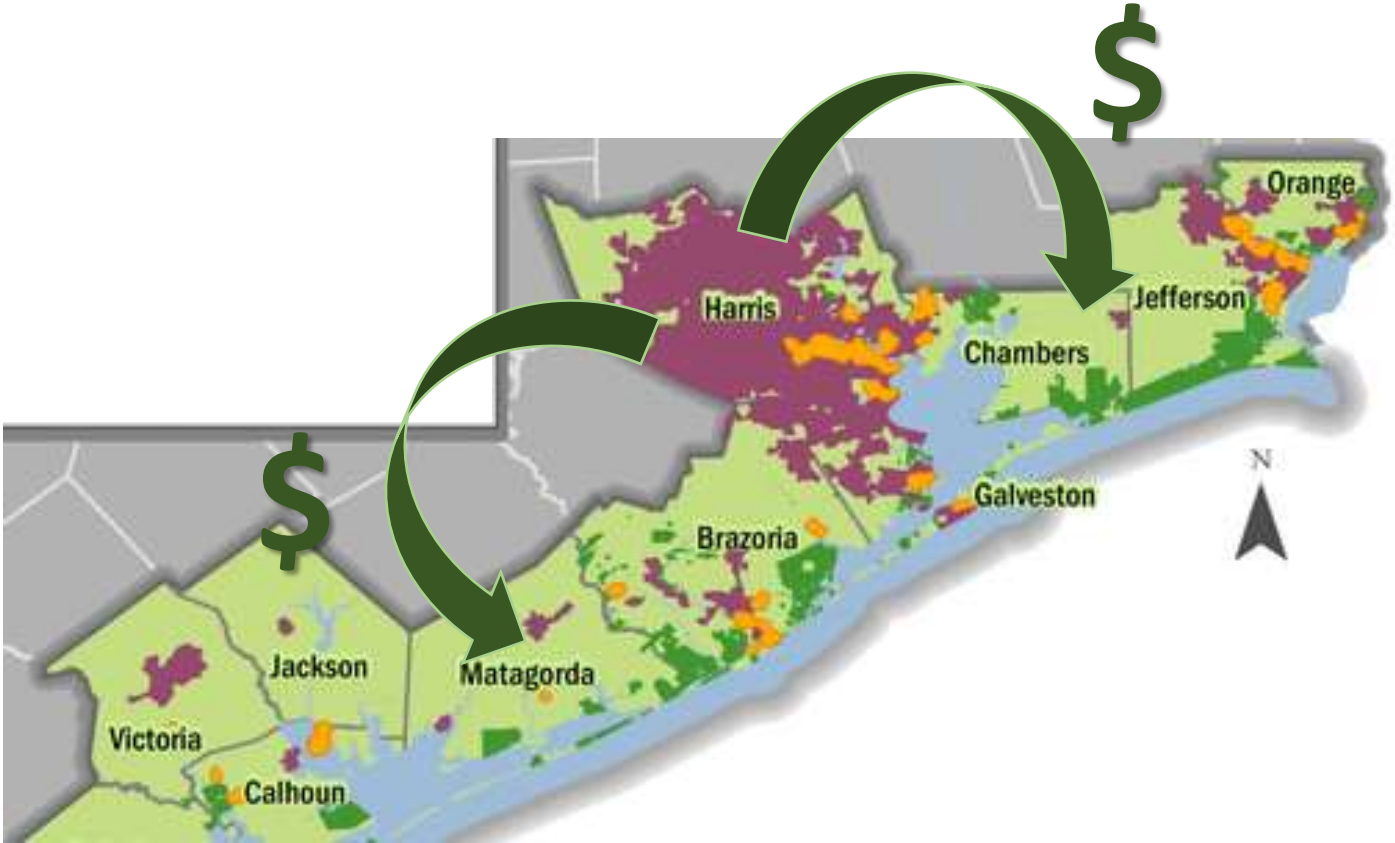
How Do We Protect 2 Million Coastal Acres Lying At Or Below 20 Feet Elevation?

Majority in Private Ownership



-  Conserved Lands
-  High Risk Surge: 20-Ft Above MSL

Let's Have A Conversation About Ecology





Ecosystem benefits provided by natural coastal lands

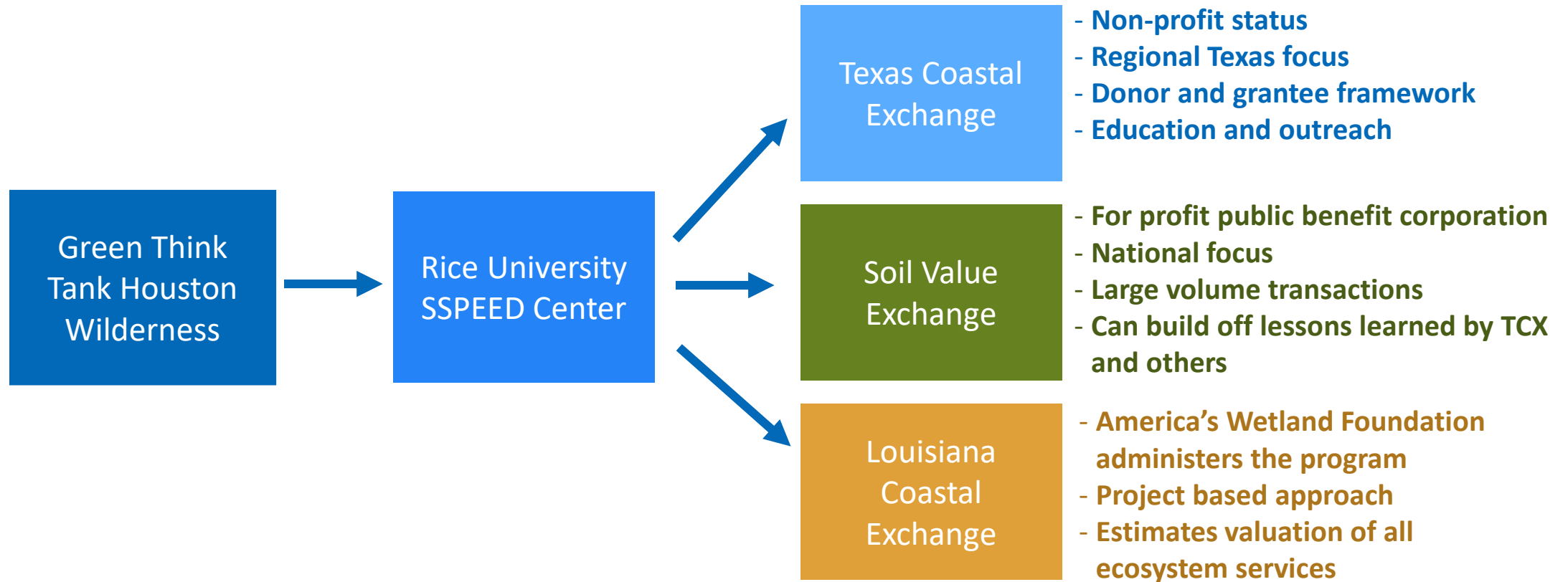
- Storm surge protection
- Flood storage
- Carbon sequestration
- Water supply enhancement
- Fishery productivity
- Endangered species habitat
- Neo-tropical migrant bird habitat
- Waterfowl habitat





How it came about

- Has evolved over 10+ years into multiple initiatives





What is Texas Coastal Exchange

- Non-profit conservation organization
- Designed to support the long-term resilience of the Texas coast

Mission

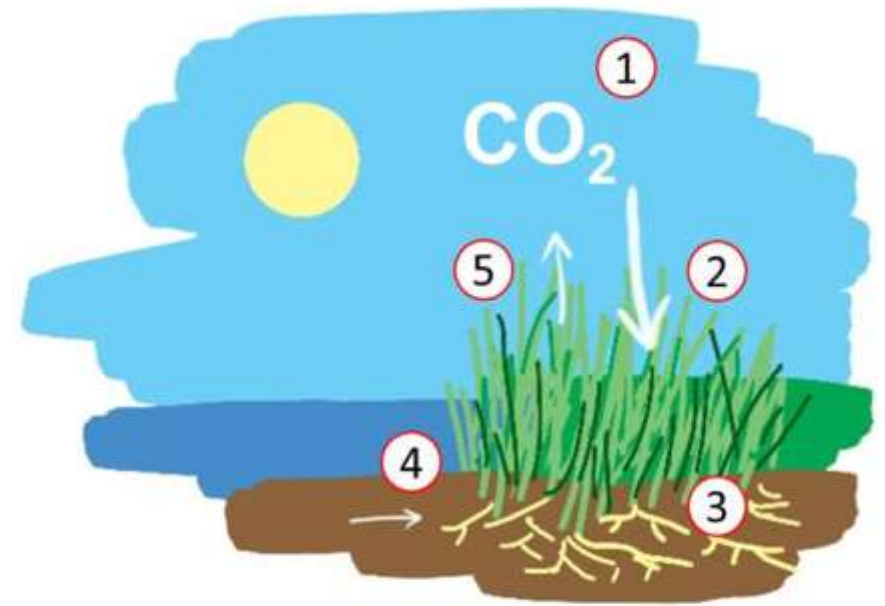
- To educate the public and develop, test, and **implement** innovative tools and approaches to promote the protection and restoration of coastal habitats.

Vision

- To help build a resilient Texas coast through grant support to landowners who keep their lands in a natural state and by educating the public about the benefits that coastal marshes, prairies, and bottomland hardwood forests provide to us all.

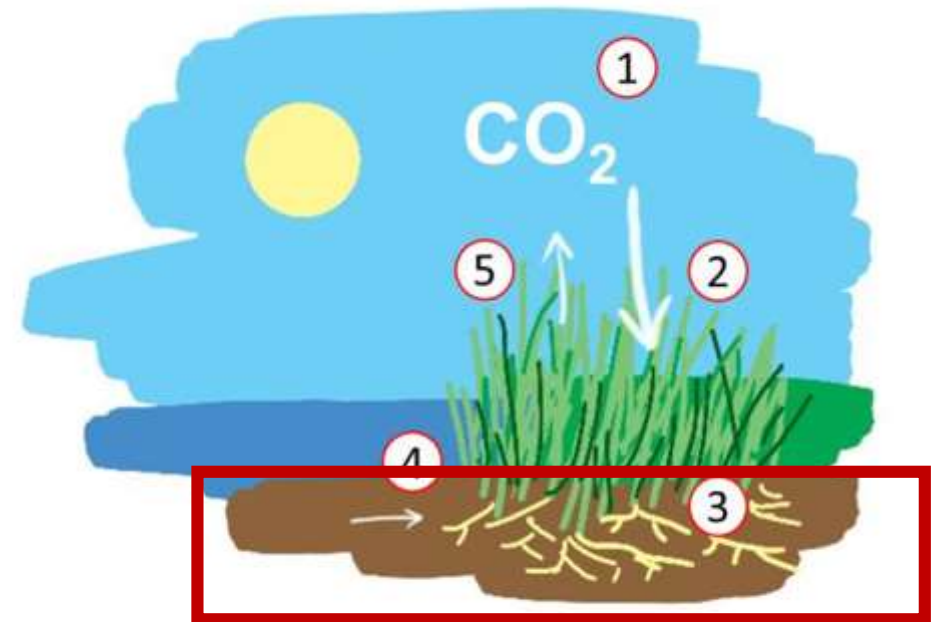
Focus on Annual Carbon Storage

1. Atmospheric CO₂ is at the highest level in human history.
2. CO₂ is removed from the atmosphere by plants through photosynthesis.
3. Plants use the CO₂ to grow, producing roots, leaves, and stems.
4. Dead roots remain in the soil because their decomposition is slowed due to tidal flooding by sea water, leading to high rates of carbon storage in coastal wetland soils.
5. Some of the CO₂ returns to the atmosphere due to plant and bacterial respiration, but the majority of it remains stored in



Focus on Annual Carbon Storage

1. Atmospheric CO₂ is at the highest level in human history.
2. CO₂ is removed from the atmosphere by plants through photosynthesis.
3. Plants use the CO₂ to grow, producing roots, leaves, and stems.
4. Dead roots remain in the soil because their decomposition is slowed due to tidal flooding by sea water, leading to high rates of carbon storage in coastal wetland soils.
5. Some of the CO₂ returns to the atmosphere due to plant and bacterial respiration, but the majority of it remains stored in



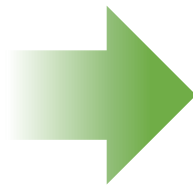
How does Texas Coastal Exchange work?



Landowners submit grant applications along with maps of their property to be evaluated by TCX for inclusion in our annual carbon storage capacity.



The carbon storage capacity is determined based on property size, ecosystem type, and carbon storage rates based on values found in scientific literature.



Donations will support grants that will be distributed to landowners annually.



Donations will be accepted from individuals, organizations, and businesses until the total carbon storage capacity is filled.

Donations completed through our website

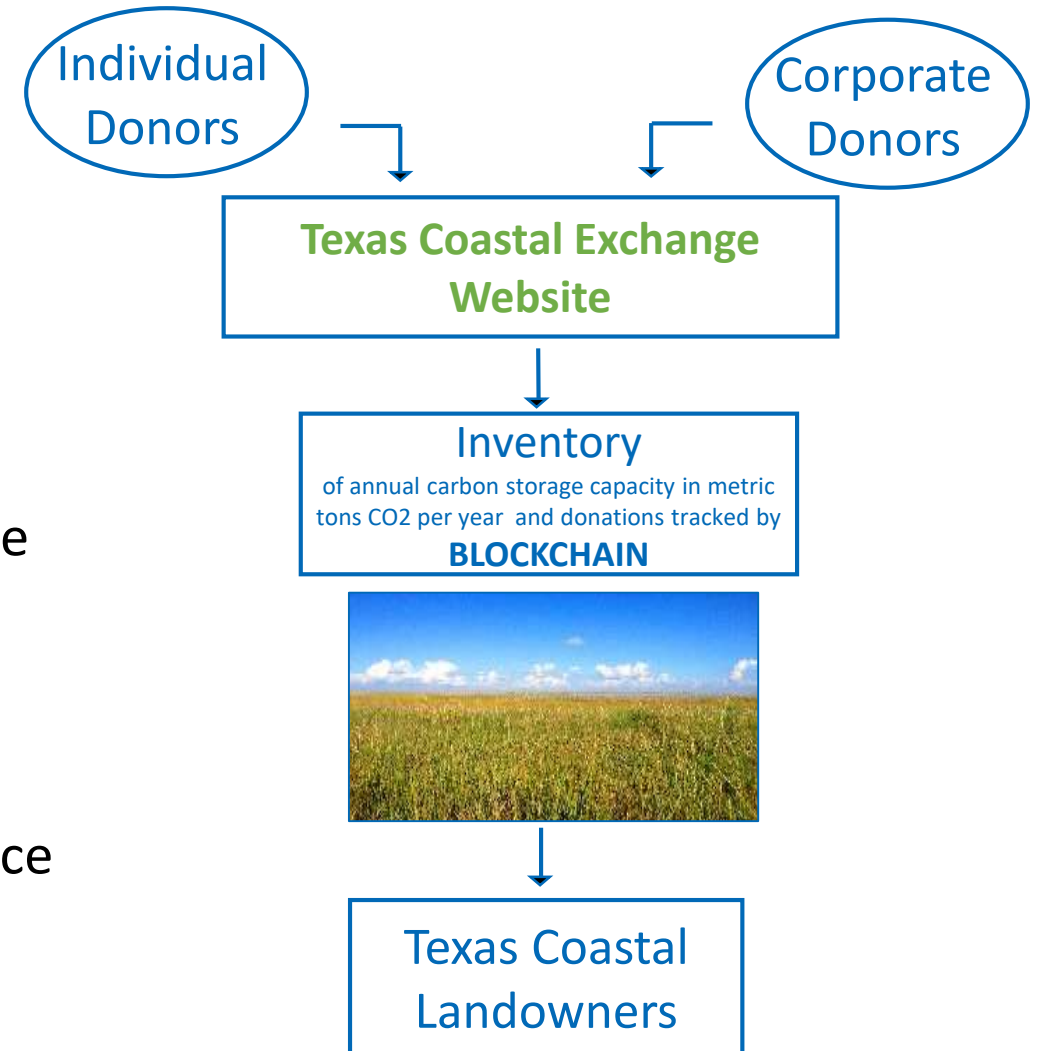
texascoastalexchange.org



- Launching our online donation portal
- Linked to a blockchain registry
 - Developed by a Houston based company



- Transparent, publicly accessible and impossible to hack
- Landowners
 - Complete application and work with the science team to do carbon storage rate determination
 - Receive grants annually based on the total donations received in the previous year

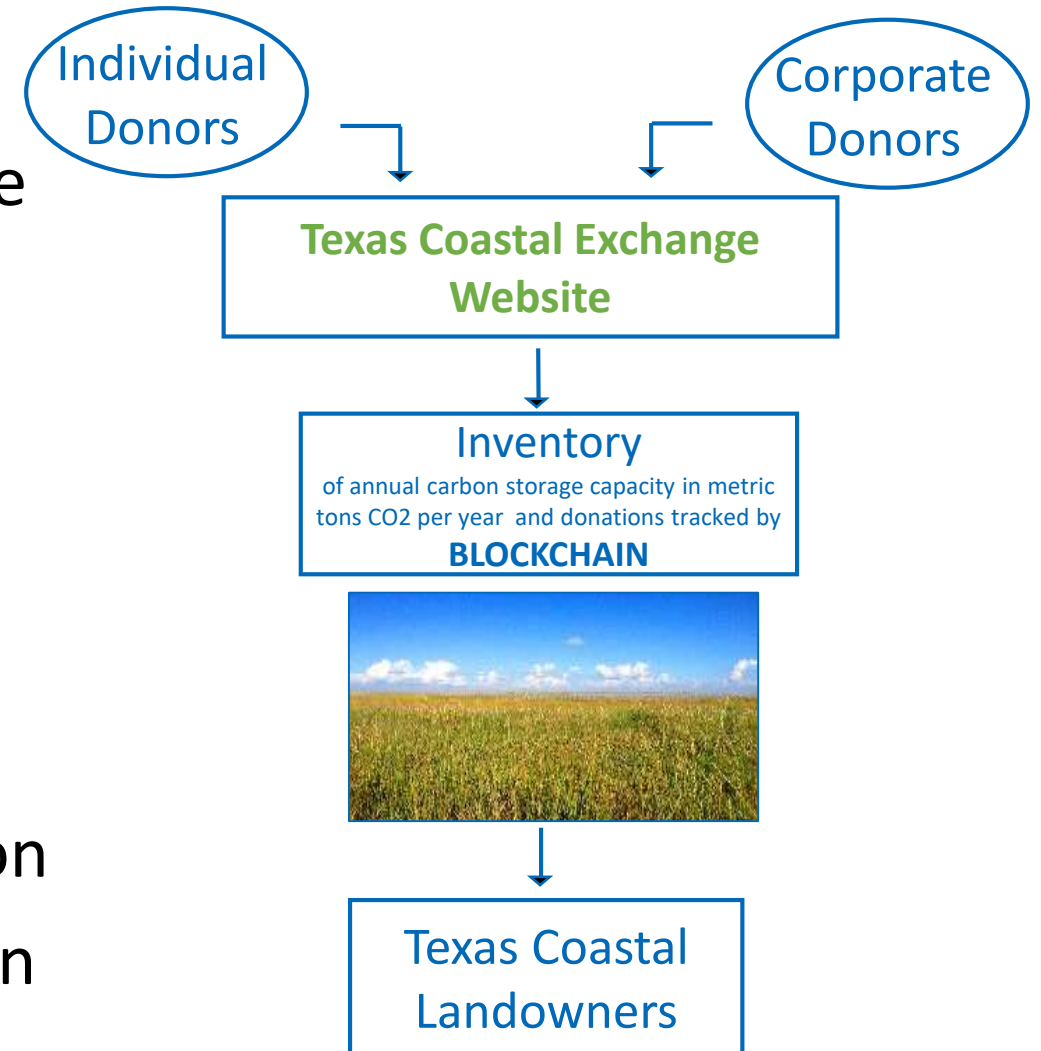


Donations completed through our website

texascoastalexchange.org



- Current rate of storage is 2 tons per acre of coastal marsh
- Rate determined by chief scientist Dr. Azure Bevington
- Currently working with 2 private non-profits and 5 private landowners
- Donation is \$20 per ton
- Landowner grant is based on \$17 per ton
- TCX retains \$3 per ton for administration





Ecosystems included in the program



Coastal Wetlands
July 2019



Bottomland
Hardwood Forests
Sept 2019



Coastal Prairies
Early 2020



Thank you!

Please see us at our table talks and booth for more information

Learn more and donate at:

texascoastalexchange.org