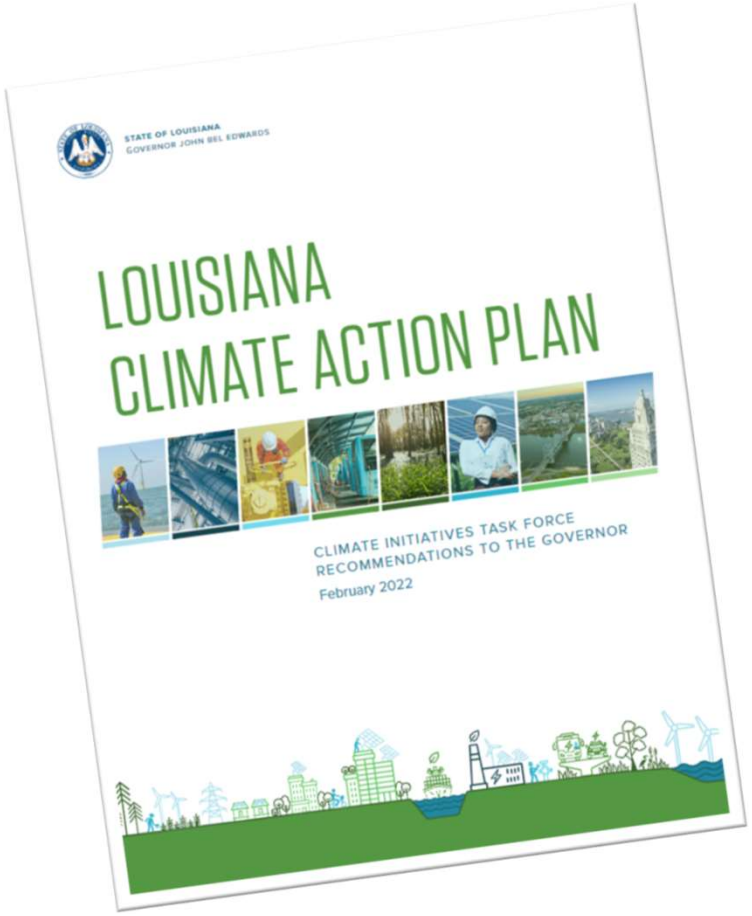
LOUISIANA 2022 CLIMATE ACTION PLAN

ACTION 15.3 Develop crediting mechanism and market specific to blue carbon

IMPLEMENTATION PARTNERS	NEAR-TERM ACTION	GOALS
Universities / CPRA / blue carbon experts and verifiers / coastal ecologists	**Collaborate with stakeholders to design a carbon credit and market**	**Maximize investment in carbon sequestration of wetland restoration**

Existing carbon markets are designed primarily for terrestrial forests and have not readily accommodated crediting of coastal wetlands. Specifically, standards for additionality and permanency must be tailored for dynamic coastal wetlands to recognize and account for their GHG benefits while being grounded in the realities of those dynamic systems. The natural carbon sequestration potential of Louisiana's coastal habitats is too valuable to be entirely precluded from market-based systems that can support the conservation and restoration of these important ecosystems. With the assistance of blue carbon experts, carbon verifiers, and coastal ecologists, Louisiana should evaluate the longevity of coastal carbon pools, the design and market interest for the creation of a specialized carbon credit, and the market specific to Louisiana's coastal wetland habitats. This potential Louisiana credit and market would more directly take into account the sequestration potential of coastal wetland habitats as well as the shorter time scales that conservation or restoration efforts would be expected to offer given the dynamic nature of deltaic systems. This credit and market would attempt to match the local and global demand for natural carbon credits with the urgent need to protect and restore Louisiana's wetland ecosystems for the preservation of the state's culture, communities, economy, and environment. ***(Associated Submitted Action Proposals: 59, 60, 77)***

LOUISIANA'S MARKET DRIVERS




PAR
8.15.22
Commentary
The Public Affairs Research Council of Louisiana

Coastal Fiscal Cliff

Oil spill recovery cash is financing Louisiana's coastal projects, but will disappear by 2032

Louisiana's largest sources of money to pay for coastal restoration and protection work will run dry within the next decade, leaving the state far short of the cash needed to fulfill its master plan, respond to climate change and safeguard its residents and businesses.

The state's Coastal Master Plan currently relies heavily on dollars stemming from the Deepwater Horizon oil spill in 2010 that devastated Louisiana's coastal ecosystems by spewing millions of gallons of oil into the Gulf of Mexico. Because of the widespread environmental damage, Louisiana received $8.7 billion in settlement and recovery dollars, much of it divvied up from 2017 through 2031 and most of it allocated to coastal work.

Source: CPRA

That annual support has become essential to paying for Louisiana's multibillion-dollar, multiyear plan aimed at combatting alarming levels of land loss across southern parishes that is driven by climate change, subsidence, sea level rise, hurricanes, levees constructed around the Mississippi River and other causes.

Projects contained in the master plan target both restoration work and reduction of flood risks, such as water diversions, shoreline protection, marsh creation, vegetative planting and barrier island rebuilding.

Louisiana doesn't have all the money needed to cover the $50 billion budget estimate needed to finance the master plan. State surpluses, federal hurricane recovery dollars and other revenue sources provide short infusions of cash for the work overseen by the state's Coastal Protection and Restoration Authority.

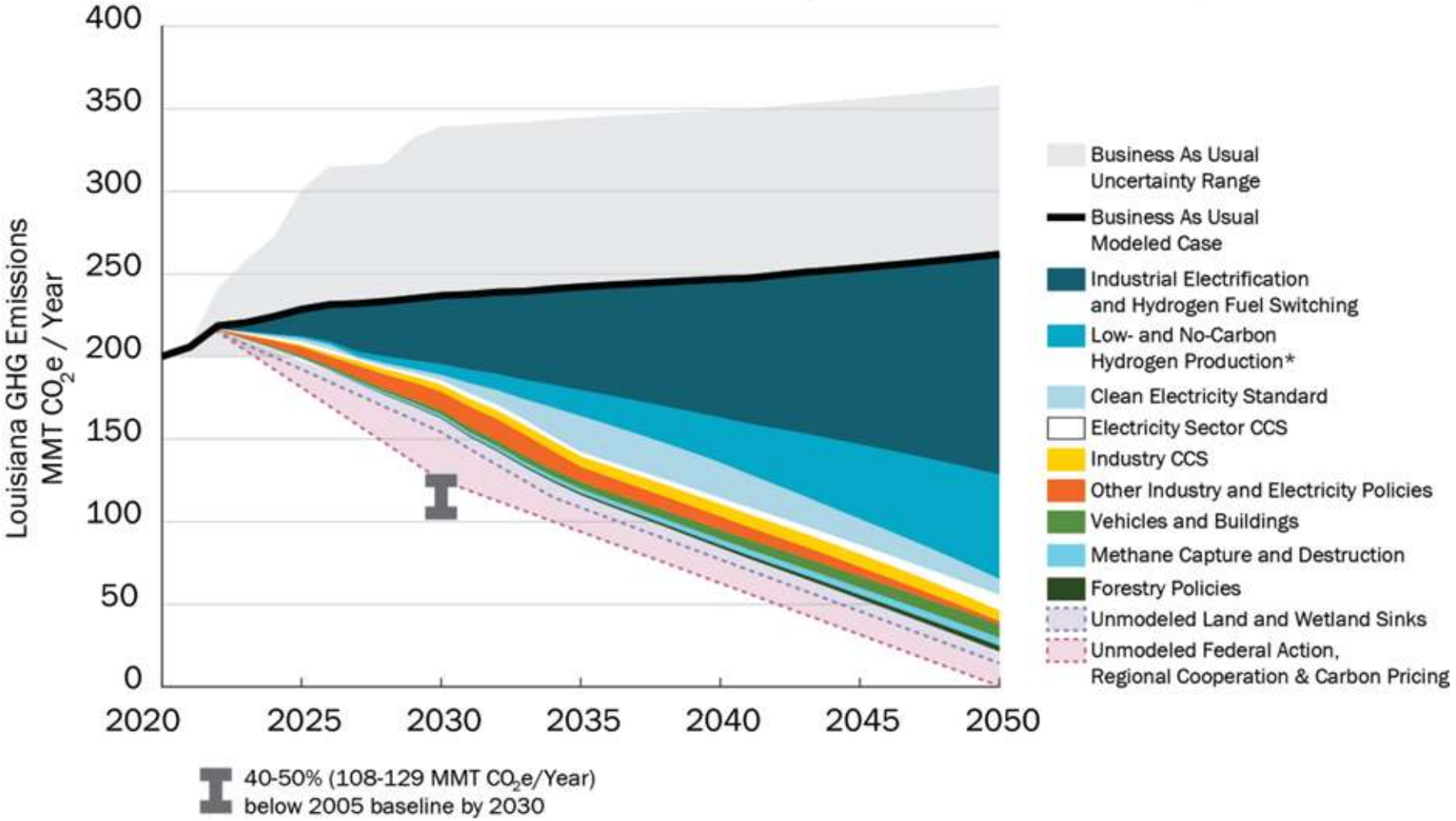
But the oil spill money remains the most sizable, dedicated financing stream for the projects – at least until the looming expiration date.

The Deepwater Horizon settlement and recovery agreement involved several pots of money. Among the larger allocations, Louisiana received $5 billion in civil penalties for natural resource damages, more than $1 billion from federal Clean Water Act penalties and nearly $1.3 billion in criminal fines and plea agreements.

Prior to the influx of oil spill settlement dollars, Louisiana had three primary sources of recurring cash to pay for Coastal Master Plan projects: State and federal funding from oil and gas production and federal money from fuel taxes and excise taxes on fishing equipment and boats. Each financing stream can seesaw from external impacts that aren't in state control, creating uncertainty for the coastal efforts.

Public Affairs Research Council of Louisiana |2|

Louisiana's Modeled Pathway to Net Zero by 2050



CPRA FISCAL YEAR 2024 ANNUAL PLAN

TABLE 28: GOMESA PROJECTED EXPENDITURES (CONTINUED)

Project ID	Project Name	FY 2024	FY 2025	FY 2026	Program Total (FY 2024 - 2026)
Not Avail.	T-Wall for Cousins Pump Station (St. Charles Parish)	$3,500,000	$1,126,806	$0	$4,626,806
Not Avail.	Section A East Levee Improvements (SLLD)	$2,400,000	$1,000,000	$0	$3,400,000
Not Avail.	Lakeside Project Improvements (SMLD)	$3,807,600	$5,711,400	$0	$9,519,000
Not Avail.	Iberia Protection Projects (Iberia Parish)	$1,000,000	$12,264,000	$7,176,000	$20,440,000
Not Avail.	Bay Adams Marsh and Ridge Restoration	$1,000,000	$4,000,000	$0	$5,000,000
Not Avail.	St. Mary Hydrologic Restoration	$2,000,000	$0	$0	$2,000,000
N/A	GOMESA Beneficial Use	$2,075,000	$0	$0	$2,075,000
N/A	GOMESA Restoration Planning	$250,000	$0	$0	$250,000
N/A	Tangipahoa Parish Feasibility Study	$300,000	$300,000	$50,000	$650,000
N/A	Flood Risk and Resilience Program	$3,100,000	$3,500,000	$3,135,180	$9,735,180
N/A	Parish Matching Program	$3,000,000	$4,000,000	$3,000,000	$10,000,000
N/A	GOMESA CPRA Allocation	$2,700,000	$2,700,000	$3,000,000	$8,400,000
N/A	GOMESA OM&M - Diversions	$9,391,559	$3,242,040	$6,884,497	$19,518,096
N/A	GOMESA Adaptive Management (See Table 14)[3]	$19,260,000	$4,160,000	$4,160,000	$27,580,000
N/A	Future GOMESA Projects (TBD)[4]	$0	$24,868,310	$31,180,829	$56,049,139
	Total Expenditures	**$117,111,367**	**$166,426,543**	**$195,456,725**	**$478,994,634**

1. Funding may be utilized for implementation of additional projects within the respective levee district.
2. Expenditure forecast dependent on LAILD securing P1 Capital Outlay Funds for BA-0223 for FY 2025; GOMESA funding may also be utilized for implementation of Lower Lafitte Tidal Protection (BA-0226).
3. FY 2024 expenditures include $3M for development of a carbon market for coastal restoration projects to support development of an alternate revenue source for the coastal program.
4. GOMESA funding in outlying years is contingent upon receipt of sufficient funding. Projects proposed to begin receiving funding in FY 2025-2026 include the following:
   - Bayou Teche Floodgate (SMLD)- FY 2025
   - MTG Levee Improvements (NLLD)- FY 2025

THE WATER INSTITUTE

DEVELOPING BLUE CARBON AS A FUNDING STREAM TO SUPPORT LOUISIANA'S COASTAL PROGRAM

Fiscal Year 2024

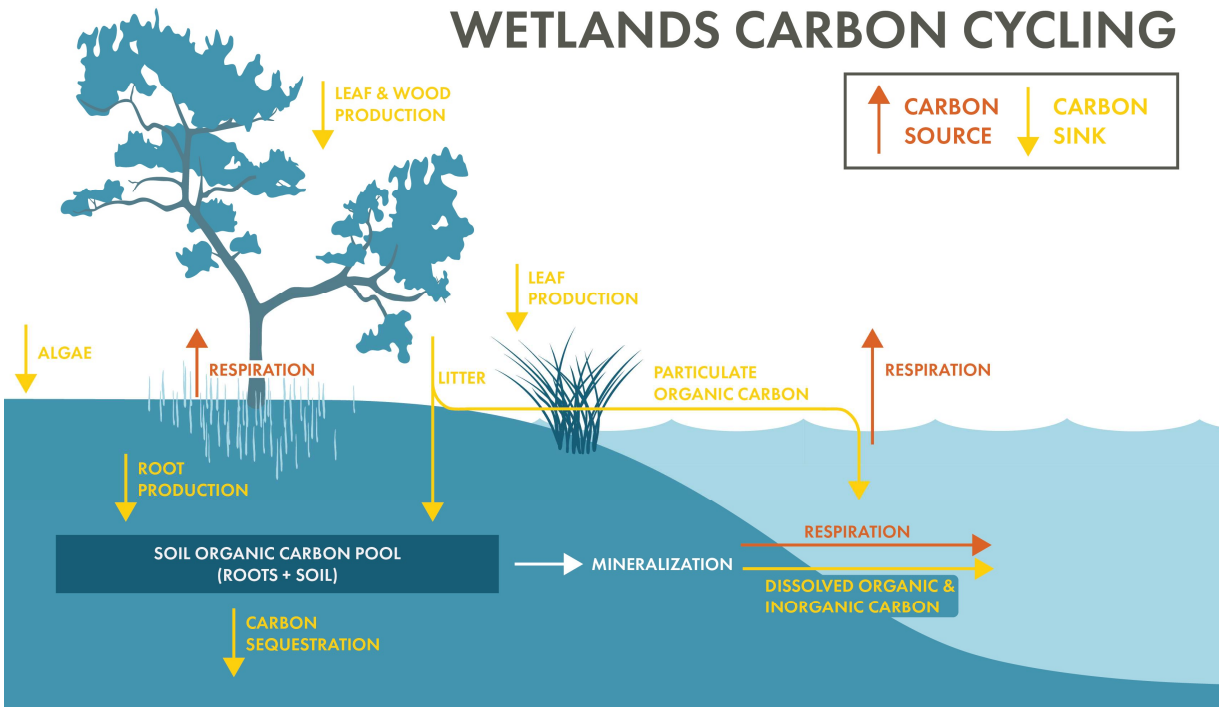
Beaux Jones

6/14/2023

WHAT IS BLUE CARBON?

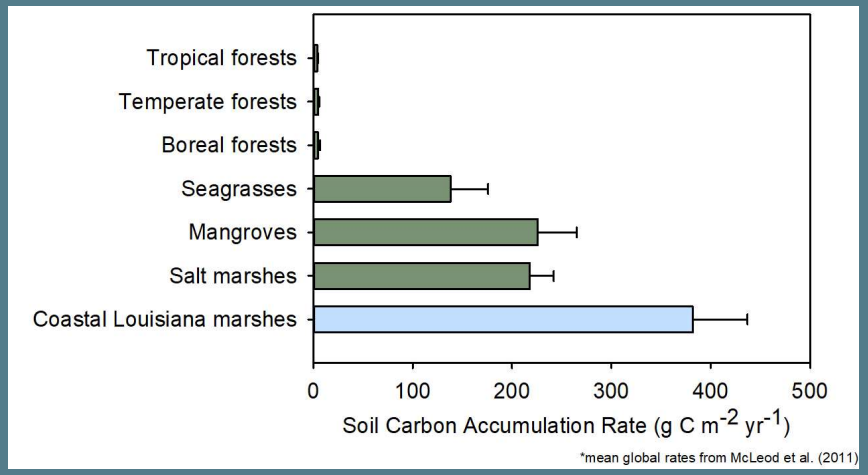
Blue carbon describes the ability of aquatic and wetland plants to capture and store carbon from the air.

The carbon captured in coastal wetlands presents an opportunity for restoration and infrastructure protection projects to generate greenhouse gas offset credits and incentivize private investment through the revenue that can be generated from carbon credit markets.



LA WETLANDS CAPTURE CARBON AT HIGH RATES

- 1 acre of Louisiana **marsh** accumulates
  1,466 kg of carbon per year
- 1 acre of average **forest** globally accumulates
  18 kg of carbon per year
- **1 acre of Louisiana marsh accumulates the same carbon as 80 acres of average forest**



Global mean rates from McLeod et al. (2011)
Coastal Louisiana marshes from Baustian et al. (2017, 2020)

COASTAL CARBON TIMELINE

2005

Act 8 of the First Extraordinary Session

CPRA was established to coordinate response to damage from hurricanes.

This includes developing and implementing a comprehensive coastal protection and restoration plan including a Master Plan for coordinating and prioritizing efforts.

2009

Act 523, Regular Session of the Louisiana Legislature

Revenues derived from integrated coastal protection programs, projects, or activities shall be deposited in and credited to the fund.

CPRA has a Trust Fund that funds the restoration program, revenue from carbon credits can be added to the trust fund and used for future restoration

2010

La. R.S. 9:1103

Carbon credit revenues are the property of the land owner

A landowner can assign carbon credits to the state (ex. to validate an offset).

If the additional carbon results from a CPRA project, the state owns the carbon revenue.

2010

House Bill 495; Engrossed House Bill 495 of the 2010 RS; House Floor Amendment No. 2813; Senate Floor Amendment No. 3721

In addition to the restoration project footprint, any carbon revenue from avoided land loss resulting from the project also belongs to the state.

2010

La. R.S. 3:1221 in 2010; CPRA (La. R.S. 3:1221(C))

CPRA was expressly identified as the authority over "benefits, credits, or offsets derived from projects approved and undertaken" from coastal restoration projects implemented by CPRA.

2012

CPRA releases the coast wide Louisiana's Comprehensive Master Plan for a Sustainable Coast.

This integrated coastwide protection and restoration planning process rigorously identifies and selects suites of projects, modeling land area change with and without restoration effort 50 years into the future.

2014

VCS Methodology VM0024 approved

CPRA developed 'Vera' standard methodology specifically to quantify the greenhouse gas benefits of wetland creation projects. Methodology is categorized as a Restoring Wetland Ecosystem (RWE) + Afforestation, Reforestation and Revegetation (ARR) methodology. VM0024 was subsequently used in the development of VM0033 Methodology for Tidal Wetland and Seagrass Restoration.

2017

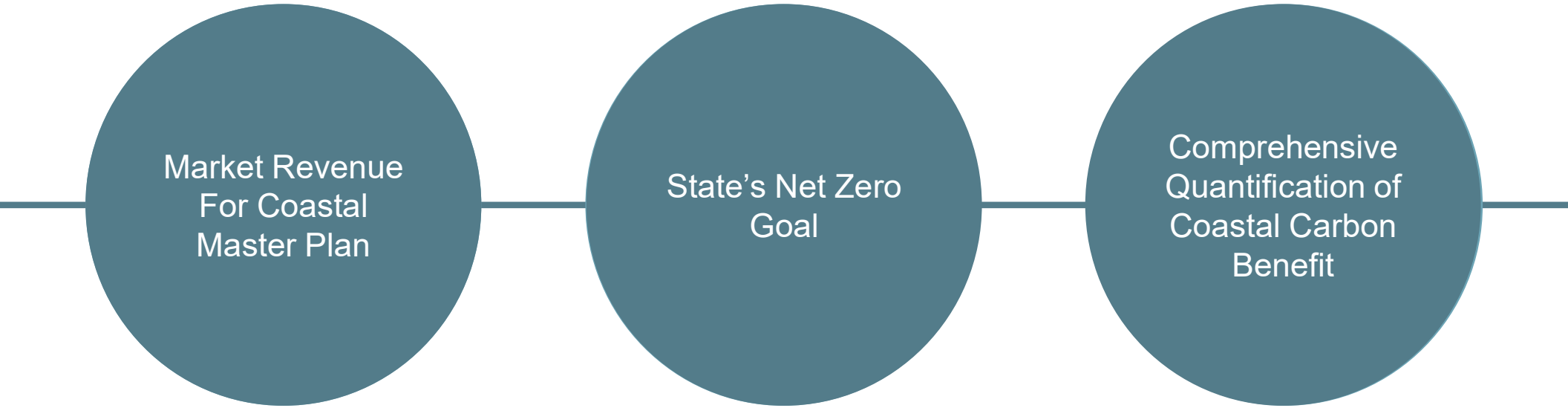
2023

Voluntary Carbon Market

- $2B in transactions in 2021
- $5.80 average price per ton
- 46% in Forestry and Land Use

Forest Trends' Ecosystem Marketplace. 2021. 'Market in Motion', State of Voluntary Carbon Markets 2021, Installment 1. Washington DC: Forest Trends Association.

CARBON PROGRAM GOALS



INTENDED RESEARCH PARTNERS

Stantec

LSU

LUMCON

USGS
science for a changing world

RESTORE AMERICA'S ESTUARIES

UNIVERSITY OF GEORGIA

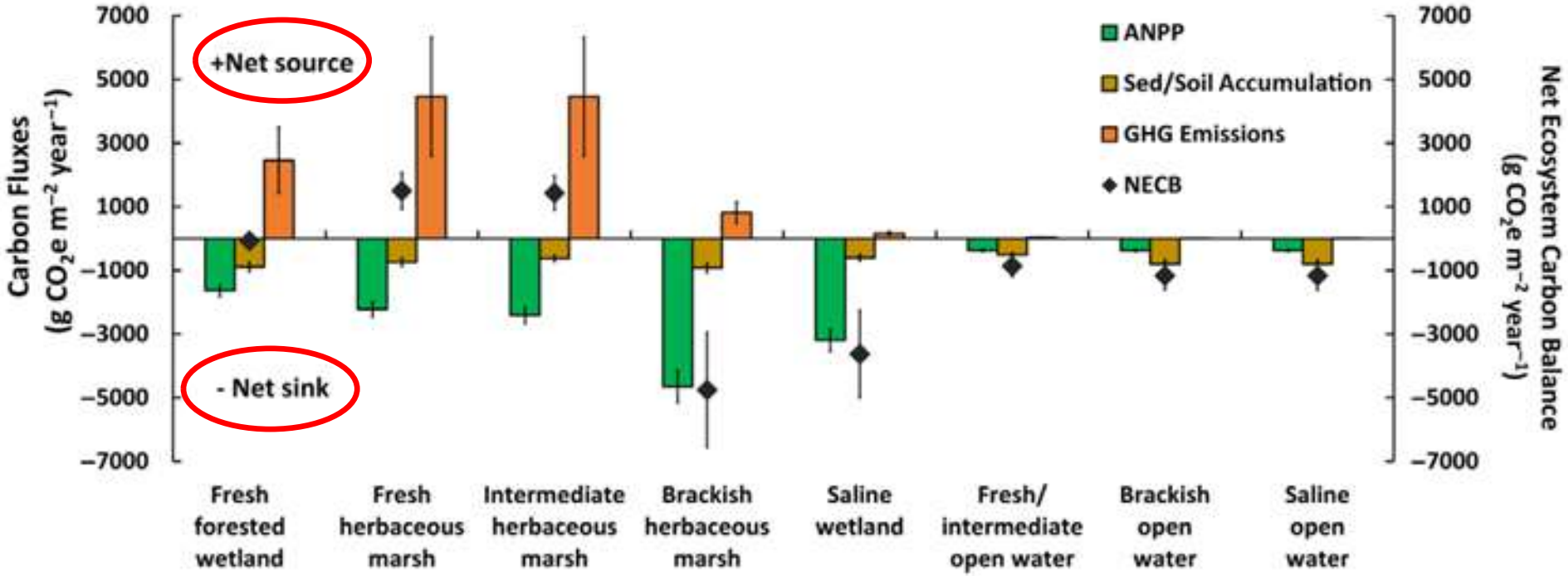
UNIVERSITY OF LOUISIANA Lafayette

PLAUCHÉ & CARR LLP

THE UNIVERSITY of NEW ORLEANS

Tulane University

ONGOING CARBON RESEARCH



Climate change mitigation potential of Louisiana's coastal area: Current estimates and future projections

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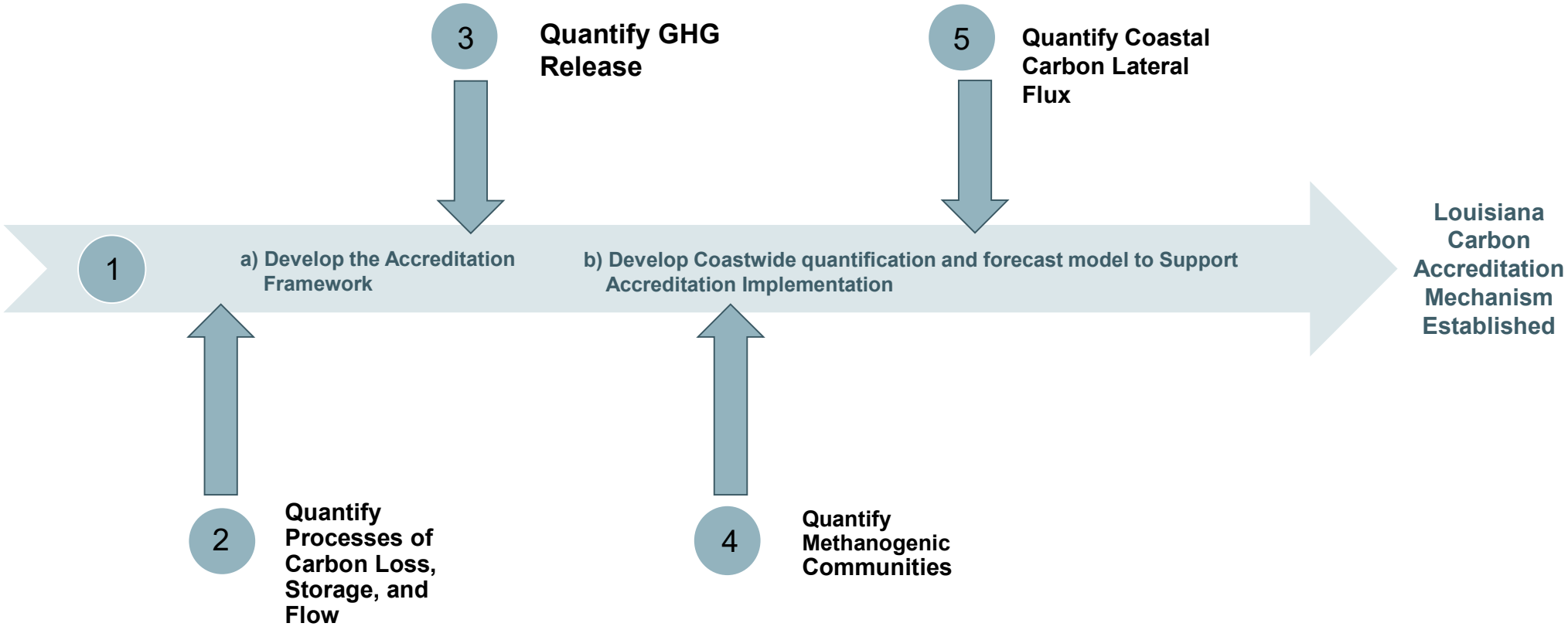
ECOLOGICAL APPLICATIONS
ECOLOGICAL SOCIETY OF AMERICA

Pathway to Louisiana Coastal Carbon Standard Implementation

Reducing Uncertainty in Science and Assessing Accreditation Mechanism to Improve the Value Proposition



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