

# COASTAL CARBON POLICY AND LEGAL ADVISORY PANEL

*Summary of Meetings*

**Prepared for and funded by:**

**Louisiana Coastal Protection and Restoration Authority  
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**Prepared by:**

**The Water Institute and Stantec**



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## ABOUT THE WATER INSTITUTE

The Water Institute is an independent, non-profit, applied research institution advancing science and developing integrated methods to solve complex environmental and societal challenges. We believe in and strive for more resilient and equitable communities, sustainable environments, and thriving economies. For more information, visit [www.thewaterinstitute.org](http://www.thewaterinstitute.org).

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The authors also acknowledge and are grateful to the Advisory Panelists Bessie Daschbach (Adjunct Faculty, Tulane Law School and Tulane Master of Jurisprudence Program), and Drs. Lydia Olander (Duke University), Ryan Moyer (TerraCarbon), Sebastiaan Van Dort (British Standards Institute), and Jennifer Howard (Conservation International) for agreeing to participate in this panel and for sharing their time and expertise.

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## PREFACE

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The Water Institute has supported the Louisiana Coastal Protection and Restoration Authority (CPRA) with its endeavors to better understand the challenges and opportunities to realize the potential of utilizing coastal carbon to support the implementation of its Coastal Master Plan. The potential for a financially viable coastal carbon market, a concept discussed by the state’s coastal agencies for years, presents a promising opportunity for the state of Louisiana to increase funding to implement projects that will provide for resiliency of its coastal communities and natural resources. The Water Institute, in collaboration with Stantec, continues to support CPRA in its efforts to collaborate with internationally recognized experts to identify and reduce scientific uncertainties critical to informing policy updates needed to establish a financially viable carbon accreditation for tidal marshes in Louisiana. This report summarizes engagement with a 5-person panel that was convened to support the research and recommendations on the potential development of a coastal carbon market in Louisiana, as funded and directed by CPRA.

Questions about this research should be directed to the Director of Ecology at The Water Institute, Jessica Henkel ([jhenkel@thewaterinstitute.org](mailto:jhenkel@thewaterinstitute.org)) or to the Louisiana Coastal Protection and Restoration Authority at [coastal@la.gov](mailto:coastal@la.gov).



## EXECUTIVE SUMMARY

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At present there is no economically viable carbon crediting mechanism for the marshes of coastal Louisiana. To support the State of Louisiana in its efforts to assess the viability of carbon accreditation as a funding stream to support the coastal program, the Louisiana Coastal Protection and Restoration Authority funded The Water Institute to coordinate the contracting and convening of a legal and policy advisory panel (panel).

The panel's primary activities were to participate in one virtual and two in-person meetings to discuss, review, and comment on the current coastal carbon policy and legal environment.

The panel assisted with the convening of the Gulf Coastal Carbon Working Group, which facilitated collaboration and free exchange of information between interested parties including but not limited to researchers, resource managers, landowners, and legal and policy analysts.

Members of the panel also participated in the peer review of two major reports that were developed as part of the overall project:

- *CPRA Funding Programs: Legal and Policy Review of CPRA's Ability to Generate Revenue from Carbon Offset Projects Supported by Federal or State Funding*. The purpose of this report is to provide the evaluation of existing relevant federal and state funding programs, a legal and policy review of the potential to generate carbon credits on projects funded by those programs, and recommendations to CPRA for next steps in advancing opportunities.
- *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility*. The purpose of this report is to provide an evaluation of existing crediting frameworks relative to Louisiana's particular challenges and strengths, and to offer recommendations on a path forward for developing a voluntary carbon commodities market in Louisiana. Included with this report will be an appendix of comments made by the Coastal Carbon Legal and Advisory Panel.

The panel recommended actions that the State of Louisiana can take to progress towards the goal of using local, national, or international carbon markets to help fund the implementation of the Louisiana Coastal Master Plan.

Finally, the panel reviewed this memorandum to ensure that it accurately presents their discussions, actions, and recommendations.

Several additional key points emerged from these meetings.

- Louisiana in general—and CPRA specifically—were identified as leading progress toward financially viable accreditation of large-scale coastal restoration in highly-dynamic tidal herbaceous wetlands, from the development of the Verra Verified Carbon Standard (VCS) VM0024 methodology (now inactive) through to the work CPRA has led in the past 5 years.
- Before continuing to pursue projects for the blue carbon market and to determine where to focus exploration of projects, it is recommended that a rough cost benefit analysis for fully established



and verified projects is conducted to understand if and where there are sufficient benefits to pursue continued investment of time and resources into blue carbon project development.

- Before pursuing additional scientific research in support of blue carbon market opportunities, add additional certainty in carbon estimates to the cost-benefit analysis to determine whether better data or science could sufficiently reduce the costs relative to the benefits for project development.
- Permanence in a highly-dynamic coastal system, the complex variation of carbon flux with salinity, and the recognition of the high carbon cost to build many large-scale coastal restoration projects were acknowledged as potential barriers to financially-viable carbon accreditation in coastal Louisiana.
- Even though greenhouse gas (GHG) emissions, and methane in particular, are complex and highly variable across the coast, an important distinction was made that methane only needs to be monitored for those projects where the project is reasonably expected to change the salinity in the project area.

Final recommendations by the panel included:

- **Market Research:** Commission a market research study to identify potential buyers under a Louisiana specific carbon standard for carbon, coastal resilience, and biodiversity credits and determine their willingness to pay.
- **Feasibility Assessment and Cost Benefit Analysis:** Conduct a feasibility assessment including a cost benefit analysis to identify those projects that would be feasible and profitable. Conduct this analysis before further investment or research is conducted
- **Pilot Projects:** Identify and initiate one or two pilot projects that are straightforward and fit within existing methodologies to gain practical experience and insights into the process, needs, limitations, and opportunities.
- **Engagement with Registries:** Engage with carbon registries to discuss the feasibility of proposed projects and methodologies, and to understand any gaps or requirements, recognizing that greatest success in engagement has been through submission of projects.
- **Criteria for Funding:** Establish criteria for evaluating and accepting funding sources (carbon credit purchasers), including considerations for the types of organizations and their alignment with project values.
- **Module Development:** Explore the development of a new module under Verra, VCS, VM0033 or a new methodology under another registry such as the Gold Standard GS4GG: Blue Carbon and Freshwater Wetlands Activity for CPRA project types (e.g., ridge restoration) that do not fit existing methodologies, focusing on those with significant potential for net carbon benefits.
- **Resilience and Biodiversity Credits:** Investigate the potential for resilience and/or biodiversity credits and other alternative revenue streams for projects that may not fit directly within carbon frameworks (e.g., Certification under Verra's Climate, Community and Biodiversity standard could add value to carbon credits generated by Louisiana Coastal Master Plan projects).



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## LIST OF ACRONYMS AND ABBREVIATIONS

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Acronym/Abbreviation	Definition
AAAS	American Association for the Advancement of Science
BSI	British Standards Institution
CCB	Compliance Certification Board
CI	Conservation International
CPRA	Louisiana Coastal Protection and Restoration Authority
ESG	Environmental, social, and governance
GCCWG	Gulf Coastal Carbon Working Group
GHG	Greenhouse gas
ICVCM	Integrity Council for the Voluntary Carbon Market
NASA	National Aeronautics and Space Administration
TNC	The Nature Conservancy
USDA	U.S. Department of Agriculture
VCS	Verified Carbon Standard



## 1.0 BACKGROUND

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The Louisiana Coastal Protection and Restoration Authority (CPRA) contracted The Water Institute (the Institute) to establish and facilitate a panel of policy and legal experts to assist in the development of a new, or special application of current, carbon accreditation mechanism in coastal Louisiana. This panel provided support to CPRA as they worked through the potential roadblocks and opportunities and will help guide the state in this decision-making process.

This is one of five reports developed under this Task Order to assess the potential to develop carbon credits from coastal restoration projects that would be tradeable on the voluntary commodities markets. The other related reports are as follows:

- *CPRA Funding Programs: Legal and Policy Review of CPRA's Ability to Generate Revenue from Carbon Offset Projects Supported by Federal or State Funding.* The purpose of this report is to provide the evaluation of existing relevant federal and state funding programs, a legal and policy review of the potential to generate carbon credits on projects funded by those programs, and recommendations to CPRA for next steps in advancing opportunities. This report has been posted onto CPRA's Coastal Information Management System at the following link:  
<https://cims.coastal.la.gov/RecordDetail.aspx?Root=0&sid=26730>
- *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility.* The purpose of this report is to provide an evaluation of existing crediting frameworks relative to Louisiana's particular challenges and strengths, and to offer recommendations on a path forward for developing a voluntary carbon commodities market in Louisiana. The accreditation frameworks report was still being drafted at the time this document was being finalized, and will be posted onto CPRA's Coastal Information Management System (CIMS) Document Library (<https://cims.coastal.la.gov/DocLibrary/DocumentSearch.aspx?Root=0&Folder=0>) once it is completed.
- *Gulf of America Coastal Carbon Working Group: Summary of Meetings.* The purpose of this report is to summarize the content and discussion of three meetings that were held with over 200 scientists, engineers, and managers with interest or experience in carbon and coastal restoration from across the northern Gulf. The Working Group Summary of Meetings has been posted onto CPRA's Coastal Information Management System at the following link:  
<https://cims.coastal.la.gov/RecordDetail.aspx?Root=0&sid=26902>
- *Gulf of America Coastal Carbon Working Group: Data Hosting Needs and Collaboration Web Portal Investigation Summary.* The purpose of this report is to summarize the outputs of an investigation and recommendations on the long-term information sharing needs of the Gulf Coastal Carbon Working Group (GCCWG). This report has been posted onto CPRA's Coastal Information Management System at the following link:  
<https://cims.coastal.la.gov/RecordDetail.aspx?Root=0&sid=26890>



In cooperation with CPRA, the Institute identified and contracted with five internationally recognized experts in the field and scheduled, organized, and hosted three regular meetings of the panelists and one meeting to review major deliverables of this task order and provide final recommendations. This work included development of agendas and associated meeting materials including presentations, identification and provision of key background reading, and facilitation of and follow-up from the meetings.

Four meetings were held:

- February 2, 2024: Virtual meeting (all panelists);
- February 19, 2024: In-person meeting at the Tampa Convention Center, Tampa, Florida, co-incident with the 2024 Gulf of Mexico Conference;
- November 12, 2024: In-person meeting, Galvez Building, Baton Rouge, Louisiana, co-incident with a meeting of the GCCWG; and
- July 10, 2025: Virtual meeting.

The panelists were provided with high-level background on CPRA and legislative and scientific context in coastal Louisiana. They were then asked to provide their perspectives on limitations, knowledge gaps, and opportunities for progressing toward a financially viable blue carbon crediting mechanism for tidal wetlands in coastal Louisiana. This report includes summaries of those conversations and key recommendations and priority needs as provided by the expert panel.



## 2.0 MEETINGS OVERVIEW

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The Policy and Legal Advisory Panel consisted of five experts: Ryan Moyer, TerraCarbon; Bessie Daschbach, Adjunct Faculty, Tulane University Law School; Jennifer Howard, Conservation International; Lydia Olander, Duke University; and Sebastiaan Van Dort, British Standards Institution (BSI). Appendix A provides a summary of each panelist's relevant expertise.

The purpose and outcomes of these engagements were explained to the panelists during the February 2024 meetings, the November 2024 meeting, and the July 2025 meeting.

### 2.1. FEBRUARY 2024 MEETINGS

The meetings in February 2024 were held to orient the panelists to their tasks and provide them with more background on the State's interest in exploring viable coastal carbon crediting mechanisms.

#### 2.1.1 February 2, 2024 meeting purpose

The purpose of the first virtual advisory panel meeting primarily was to:

- Make introductions between the panelists and CPRA, Institute, Plauche & Carr, and Stantec staff.
- Provide the panelists with an orientation and the group charge.
- Provide an overview of CPRA's purpose and need for investigating potential carbon accreditation mechanisms in coastal Louisiana.

The agenda, meeting attendees, and presentation shared in this meeting are provided in Appendix B.

#### 2.1.2 February 19, 2024 meeting purpose

The purpose of the in-person meeting in Tampa, Florida was to:

- Hold a more in-depth discussion of CPRA's interest in coastal carbon, including a presentation from CPRA as well as an overview of a draft white paper developed by the Institute and Stantec through separate funding.
- Facilitate discussion among the panelists regarding the legal, policy, and scientific challenges as well as potential priority actions.

The agenda, meeting attendees, presentations, and summary of notes for this meeting are provided in Appendix C.

#### 2.1.3 Key observations, recommendations, and priority needs

The February 2024 discussions between the panelists revealed several key recommendations and priority needs, as highlighted below.

1. The state should clearly define the objectives of certifying carbon credits and the buyer's needs (e.g., is this to demonstrate social responsibility or for financial gain through purchasable credits?).



2. The state should clearly define who receives financial benefits of carbon credits if that is the goal.
3. The state should clearly define who takes the risk for the carbon credits; e.g., if they lose value or the carbon is lost due to extrinsic factors such as a major storm/s.
4. Currently the most-used methodologies (Verra's VM0007 and VM0033) are evolving constantly based upon new information. This creates an opportunity for Louisiana to engage in the process of refining and updating those methodologies; however, it also presents a challenge as there is high uncertainty in feasibility of implementing those approaches (with changes) in Louisiana's tidal wetlands.
5. At a federal scale, there was some legislative discussion on blue carbon and suggestions that Federal agencies could play a bigger role, but at the time of the meetings, only the U.S. Department of Agriculture (USDA) had practically engaged by carrying out some monitoring. There are individual efforts within the U.S. Fish and Wildlife Service, U.S. Geological Survey (USGS) and the National Aeronautics and Space Administration (NASA) to carry out some blue-carbon-related research and monitoring—but this is not done consistently or within any formal national program.
6. Utilize a well-established approach to assess the most appropriate standard (updates or development) that is financially viable to meet the CPRA's needs for additional revenue for restoration implementation and/or offset credit for industry and others interested in purchasing high value credits.
7. The state should investigate major uncertainties, like lateral flux and overall fate of carbon as coastlines erode and subside, to determine if it is worth investing money to reduce the uncertainties.
8. The state should consider assessing, applying, or developing a coast-wide or regional approach to quantifying carbon flux for accreditation, as this would address many of the challenges of uncertainties; for example, if lateral flux occurs but is still within the coast-wide region, it does not need to be discounted.
9. The panelists noted that most work thus far has been limited to mangroves habitats that are not fully representative of the dynamic and diverse coastal delta tidal wetland systems of coastal Louisiana (freshwater swamps, herbaceous marshes, and black mangrove-dominated mangrove swamps).
10. It is reasonable to question some of the fundamental assumptions currently used in the majority of commonly applied methodologies to credit carbon, for example:
  - a. Why do methodologies require habitat-change assumption to the top one meter of sediments and soils? This "standard" was based on the removal of mangroves to build shrimp ponds that, at the time, were generally considered to be dug to a depth of one meter, and is therefore not immediately relevant to coastal Louisiana tidal marsh creation or loss.
  - b. Why the focus on IPCC's requirement for 100 years of carbon stock permanence? Options to a shorter/more realistic timeframe for purposes of developing viable standard for coastal carbon appear more consistent with needs for mitigation of anthropogenic



carbon emissions. (Note by Jennifer Howard: At the time of publication of this report, the 100-year permanence issue is the subject of intense debate right now as it related to Article 6 as many feel this requirement is specifically trying to keep nature-based solutions out of the discussion around climate solutions.)

11. There is value in acting now, even with known uncertainties, to sequester carbon.
12. The state should explore pathways to proceed with methodologies and standards for accreditation, ensuring to create flexibility to continue addressing uncertainties and reducing risk (noting that VM0033 allows calculations based on field data to be updated over time with tranches of credits sold).
13. The state should consider the use of case studies to gain lessons learned from previous attempts.
14. Across the Gulf, there are many questions and opportunities for continued engagement and learning.

This feedback informed early development of the two primary reports that were developed for this task order:

- *CPRA Funding Programs: Legal and Policy Review of CPRA's Ability to Generate Revenue from Carbon Offset Projects Supported by Federal or State Funding; and*
- *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility.*

## 2.2. NOVEMBER 12, 2024 MEETING, BATON ROUGE, LOUISIANA

### 2.2.1 Meeting purpose

The purpose of this in-person meeting was to:

- Re-engage with panelists on CPRA's work related to coastal carbon.
- Collaboratively discuss and determine next steps for completing *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility.*
- Prepare for the November 13, 2024 Gulf Coastal Carbon Working Group meeting.

The agenda, meeting attendees, presentations, and summary of notes for this meeting are provided in Appendix D.

### 2.2.2 Panelists updates

Each panelist was asked to provide any updates that may be relevant to CPRA's assessment of the viability of a carbon market in Louisiana.

- **Lydia Olander:** Duke University is part of a 4-state group (North Carolina, South Carolina, Virginia, and Maryland) that received \$421 million to invest in natural climate solutions. There is interest in tracking carbon and other types of benefits. There may be some learning opportunities for Louisiana by tracking this initiative. Additionally, CPRA staff may be interested in watching a



December 2024, National Estuarine Research Reserve System Science (NERRS) Collaborative-hosted web seminar entitled “Co-creating Climate Solutions: Designing Carbon Monitoring Tools for Salt Marshes”. Louisiana may be interested in watching this (<https://nerrssciencecollaborative.org/event/co-creating-climate-solutions-designing-carbon-monitoring-tools-salt-marshes>).

- **Bessie Daschbach:** Bessie Daschbach is working with a non-governmental organization focused on decommissioning aging and abandoned oil and gas assets in Louisiana and nationwide.
- **Ryan Moyer:** TerraCarbon started working on a project exploring biodiversity credits for marine ecosystems globally. He is also working on non-carbon related coastal resilience, working directly with Verra and The Nature Conservancy (TNC), the latter of which has performed some market research. Early results indicate that some people will pay more for stacked credits, but exactly how much more is not known but may not be as much as double the price.
- **Sebastiaan Van Dort:** Sebastiaan is working on an Integrity Council for the Voluntary Carbon Market (ICVCM) framework for nature-based solutions and has produced some new standards. He also is working on nature-based carbon benefits which was published in February 2025. Additionally, he is researching assurance frameworks for accreditation schemes.
- **Jennifer Howard:** Conservation International (CI) is working with NASA to analyze coastal carbon data, especially irrecoverable carbon, which is carbon that once lost cannot be recaptured on a climate-relevant timescale. They are producing a high-quality guidance document for blue carbon and a practitioner’s guideline for government and private sector audiences to assess their projects ([high-quality-blue-carbon-practitioners-guide.pdf](#)). Additionally, CI is scoping blue carbon and irrecoverable carbon project sites in France, Portugal, Brazil, Sierra Leone and new Zealand. CI and TNC also jointly developed a new initiative called [BC+](#) (<https://www.bcplus.org/>), noting that carbon finance is a great financial stream but may not be sufficient to cover an entire project. Therefore, they are exploring combining markets (e.g., carbon and aquaculture) to meet goals. The BC+ website says “BC+ accelerates business models that incentivize coastal carbon ecosystem conservation, support local economies with technical assistance and grant funding, and attract additional finance for scaling impact.”

### 2.2.3 Key discussion points

The main focus of the November, 2024 meeting in Baton Rouge, Louisiana was to discuss specific elements of *the report Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility*, which was then under development, and for the writing team to receive recommendations from the panelists on key questions, as highlighted below. For a more detailed summary of the discussion, see Appendix D.5.2.

#### *Discussion 1: High-quality credits, including the benefits and costs of stacking versus stapling credits*

The writing team provided an overview of Section 2.5 of the draft report. The goals of this discussion were to discuss:

- Ecosystem services that may have market potential (e.g., resiliency, biodiversity).



- Benefits/costs of stacking (treating different credits independently) or stapling (blending benefits together).
- Whether adding ecosystem services justification is truly increasing carbon offset price, and by how much. Consider whether quantifying ecosystem services may be a much higher expense and what might be a break-even point?
- Risks or concerns: Could this distract from a primary goal of progressing financially viable tidal wetland credits, or are they so closely related it would be most efficient to develop both at the same time?

For this discussion, three of the five panelists were asked to prepare some comments on the following questions:

- **Ryan Moyer:** Discuss the status of linking resiliency or biodiversity to carbon credits. Is there anything that TerraCarbon is involved in with respect to resilience and whether it could be stacked or stapled? Thoughts on market potential?
- **Jennifer Howard:** Provide any experience or examples of linking resiliency or biodiversity to carbon credits.
- **Sebastiaan Van Dort:** Process question: Why is the BSI focusing on biodiversity or resilience co-benefits? What was the decision-making process for what to include? How explicitly are these services being linked to carbon credits? What are BSI's standard operating procedures for this work?

Below is a summary of the discussion.

## 1. Ecosystem Services as Potential Co-Benefits

The discussion identified biodiversity and coastal resilience as the two most advanced co-benefits for carbon credits in coastal Louisiana. Ryan noted that resilience benefits are people-based, measured by the number of people or structures protected, making them potentially easier to separate from carbon credits than biodiversity metrics. CPRA mentioned that Louisiana also has a fully-developed nutrient credit trading program housed within the Louisiana Department of Environmental Quality. In 2025 the first project was approved in St. Charles Parish implemented by Restore the Earth Foundation ([PROJECTS | Restore The Earth](#), and [Restore the Earth Foundation Awarded Louisiana's First Water Quality Credits | Restore The Earth](#)). Ryan added that the State of Florida was exploring a nutrient trading program, but is not sure it was ever put into effect. The State of North Carolina has an active nutrient credit program.

Jennifer and Ryan emphasized the need for clarification on what specifically is being valued for biodiversity: key species, trends, spatial variability, or nutrient fluxes. CPRA expressed particular interest in adding biodiversity or other benefits to carbon credit projects, noting that while biodiversity has significant philanthropic support in Louisiana, carbon benefits are not as well understood or valued by local stakeholders. Jennifer raised the possibility of creating a mosaic of credits across coastal Louisiana, where different areas might be optimized for different credit types—some for carbon, others for resilience or biodiversity—depending on local ecological conditions and restoration potential.



## 2. Benefits and Challenges of Stacking versus Stapling

Ryan opened the discussion distinguishing between stacking and stapling. He noted that most existing standards for stacking credits are carbon-focused and may not fit well with biodiversity or marine systems. A critical challenge for coastal Louisiana is that most approaches do not allow crediting for stewardship that maintains baseline conditions; that is, under current standards and methodologies there is typically no credit given for preventing future loss, which is especially problematic given Louisiana's threat of total land loss.<sup>1</sup>

Jennifer explained that Verra methodologies are carbon accounting standards only and require activities to increase sequestration or decrease emissions over and above a baseline. They do not require that other benefits be measured/monitored, but Verra does offer additional certifications that a project can implement if they choose which, if certified, could justify a premium price (i.e., carbon credit alone sells for \$12/ton, carbon credit with a Community, Climate, Biodiversity [CCB] certification may sell for \$25+/ton).

Ryan identified technical challenges including determining relatable units for three-dimensional spaces like mangroves and marine systems when converted to two-dimensional crediting frameworks. He observed that elements making carbon credits unviable (permanence requirements, baseline establishment) similarly affect other credit types like biodiversity.

Jennifer noted that there is potential to double charge for benefits. Nature-based carbon is already sold at a premium because of the additional ecosystem services those ecosystems provide. So there is a need to be mindful of stacking biodiversity credits on top of premium carbon credits because in essence the buyer is being charged twice for ecosystem services and the result may be 1) a more complex deal structure requiring multiple buyers for different components, 2) driving down the price of nature based carbon credits across the entire field requiring every project to implement stacking to make enough money which may not be feasible.

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<sup>1</sup> Notes: Credits can be generated from avoiding future loss (REDD+ strategy generating emission reduction credits) but the loss needs to be from anthropogenic threats and the state would need to show a baseline of loss first. So, if there is an area that has been stable but will be destroyed due to climate driven sea level rise then that loss is not creditable.

*Between the time that this meeting occurred and the issuance of this document, TerraCarbon began working with CI to develop a marine biodiversity stewardship project. There is need for this type of project within the biodiversity crediting space and standards bodies/certifying organizations are starting to respond to the need.*



Sebastian suggested that as markets mature and become established, there may be more opportunities to stack credits and diversify funding sources.

### **3. Economic Viability**

The discussion revealed limited concrete pricing data but important insights about market dynamics. Jennifer stated that carbon pricing is primarily based on supply and demand, making it difficult to tease out specific price differences between stacked and stapled approaches. Additionally, deals are often under non-disclosure agreements so understanding the market value, given the small number of projects doing transactions and that we cannot openly discuss those deals, is difficult.

Ryan noted that blue carbon is "highly valuable as a stand-alone credit," but adding biodiversity remains "an untested market" that ultimately depends on buyer preferences and what they are willing to pay for.

CPRA provided crucial cost perspective, stating that the incremental cost of monitoring for additional benefits is small compared to construction costs for restoration projects. This suggests that from an implementation standpoint, adding co-benefit monitoring to existing carbon credit projects in Louisiana could be economically feasible. However, they acknowledged that while biodiversity has strong philanthropic backing in Louisiana, carbon benefits lack similar understanding or valuation among local stakeholders.

CPRA also expressed interest in finding ways to merge biodiversity and carbon benefits to increase perceived value of restoration projects. Jennifer indicated that diversification of finance options could be valuable but cautioned about potential pitfalls in packaging. Ryan mentioned a potential path forward using carbon credits with Verra CCB certification.

### **4. Risks and Concerns**

Jennifer warned about public scrutiny on emerging credit types and emphasized that different restoration/conservation approaches need careful review for additionality issues—a fundamental requirement ensuring that credited activities would not have occurred without the incentive.

Ryan highlighted that habitat components need actual monitoring for biodiversity credits rather than relying solely on modeled benefits, which could increase costs and complexity. CPRA mentioned they are exploring options for modeling carbon emissions but recognized that under then-current standard practices, meeting with Verra to discuss permanence and additionality issues is likely only possible if a project is formally submitted, creating a barrier to early consultation.

Jennifer specifically warned that care in packaging and discussing combined benefits is essential to ensure the complexity does not slow down the process of developing viable carbon credits. The group discussed whether numerical modeling could be accepted for setting baselines, including future scenarios with and without projects (as is typically estimated by CPRA during the planning of restoration projects in coastal Louisiana). Ryan noted this could be allowable if models are peer-reviewed and proven for specific areas.

The discussion revealed tension between Louisiana's unique coastal challenges—including land loss and the need for stewardship credits—and existing international standards that do not accommodate these



conditions. CPRA noted that many coastal areas under government control are Wildlife Management Areas focused on conservation rather than restoration, adding complexity to calculating carbon credits and determining additionality.

### **Additional Topics and Comments**

- **International Standards Process:** Sebastiaan explained that the BSI is the UK's national standards body. It is independent and apolitical, but operating in the national interest (MoU). It is independent from government and industry, and is a not-for-profit organization that brings together committees of industry representatives to draw up standards. These committees can develop national British Standards and/or contribute to the development of standards at an international level, for instance via the International Standards Organization (ISO) or the European Standards Organization (CEN).

Standards are voluntary and stakeholder-led, built from consensus and consultation, which is where standards get their legitimacy and reputation. Standards can be referenced by regulation, and support different regulatory approaches.

Different types of standards follow distinct development timelines:

- Fast Track Standards (e.g., BSI Fast Track) are developed rapidly to meet urgent needs. A PAS (Publicly Available Specification) is such a fast tract solution which typically takes around 12 months and is suited to emerging areas of standardization.
- British Standards generally require 12 to 18 months, depending on the complexity and stakeholder engagement.
- International Standards (e.g., those developed by CEN, the European Committee for Electrotechnical Standardization [CENELEC], or ISO) often take longer due to the extensive consensus-building process across multiple countries.

The appropriate standardization route is selected based on the subject matter and the urgency or maturity of the topic.

- **Small- versus Large-Scale Projects:** Ryan noted most U.S. wetland restoration projects are small-scale with limited carbon benefits, but Louisiana's large-scale projects differ significantly from this national pattern.
- **Market Emergence Timing:** Sebastiaan suggested that as carbon markets become more established, opportunities for stacking credits and diversifying funding sources may increase over.



## *Discussion 2: Federal and Louisiana Legislative Opportunities, Initiatives, and Potential Future Opportunities*

The writing team provided an overview of Section 7.5 of the draft report. The goals of this discussion were to:

- Identify and discuss potential legislative opportunities, initiatives, discussions, and future opportunities.
- Consider examples of tax revenue in addition to carbon offset revenue: Are there any examples of multiple revenue sources (tax benefits, carbon revenue, biodiversity revenue) being dispersed to multiple recipients (e.g., carbon revenue to state/landowner, tax credits to private investors)?

For this discussion, two of the five panelists were asked to prepare some comments on the following questions:

- **Lydia Olander:** Discuss relevant federal policy considerations.
- **Bessie Daschbach:** Discuss relevant state policy and legal considerations.

Below is a summary of the ensuing discussion.

### **1. Legislative Opportunities, Initiatives, and Future Discussions**

Louisiana faces a complex legislative landscape with both challenges and opportunities. Bessie Daschbach highlighted that while Environmental and Social Governance (ESG) as a concept has been met with resistance and opposition in Louisiana, there remain several legislative avenues worth exploring. A critical area requiring legislative attention is the state's mineral and civil code framework, which needs thoughtful review, analysis (and potentially revision) to ensure they adequately accommodate carbon credit structures in connection with landowner interests. The classification of carbon credits in relation to mineral rights and obligations presents a significant legislative challenge that could impact project valuation and implementation.

The uncertainty surrounding federal policy under the new administration (as of January 2025) creates both risk and opportunity. Lydia Olander noted the existence of a greenhouse gas (GHG) reduction fund at the federal level, though access pace and future administration policies remained unclear as of the time of the meeting. Historically, when federal support has diminished, states have shown increased interest in developing their own scalable carbon-market models, suggesting Louisiana could position itself as a leader in state-level carbon market development.

The state's Coastal Master Plan, as Sebastiaan emphasized, provides an unprecedented level of detail in planning, modeling, monitoring, and stakeholder engagement not found elsewhere. This comprehensive framework positions Louisiana uniquely to pursue carbon markets with legislative backing. The coastal land-loss litigation status, mentioned by Bessie, represents another area where legislative opportunities may emerge on the policy side. The perception of carbon credits as royalty interests with questions of divisibility requires legislative clarification to provide certainty for landowners and investors alike.



## 2. Multiple Revenue Sources and Distribution Models

The discussion revealed emerging models for combining multiple revenue streams and distributing them across various stakeholders. Lydia discussed the role of entities like Greenbanks in managing different credits across multiple properties and implementing programs that engage multiple landowners simultaneously. This aggregation model could enable smaller landowners to participate in carbon markets.

The financial mechanisms that are considered include green bonds and revolving loan funds for long-term project financing. These instruments could facilitate projects spanning multiple landowners while potentially combining carbon revenue with other financial benefits. The discussion suggested exploring models that could fund projects across multiple landowners, though specific examples of combined tax benefits and carbon revenue distribution were not detailed in the provided text.

Bessie's observation about landowners with histories of oil and gas extraction seeking new revenue generation methods from their properties suggests there may be a potential for transitioning from traditional extractive revenue models to carbon credit systems. The classification and valuation of credits based on mineral rights could create a framework where different revenue streams flow to different stakeholders based on existing property rights structures.

While specific examples of multiple revenue sources being dispersed to multiple recipients were not provided, the discussion indicated that Louisiana's rich data infrastructure could reduce transaction costs for companies implementing projects. This cost reduction, combined with increased trust from comprehensive data availability, could make projects more attractive to private investors who might access tax credits while landowners receive carbon revenue.

### Additional Topics and Comments

- Louisiana's extensive monitoring dataset (i.e., SWAMP) significantly reduces verification timelines and transaction costs compared to other locations where carbon projects have succeeded with far less data
- Anti-ESG sentiment remains a consideration for policy development and must be navigated carefully in legislative efforts
- Trust issues arise primarily from perceived loopholes rather than lack of data, with particular distrust in crediting/valuation mathematics
- The rich monitoring and baseline data from Louisiana's Coastal Master Plan provides advantages over other regions pursuing carbon markets.
- The intersection of mineral rights obligations with carbon credit classification requires careful legal framework development.



#### 2.2.4 Key observations, recommendations, and priority needs

The Panelists made the following recommendations for topics to be analyzed and included in the report *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility*.

1. Louisiana needs legislative review, analysis, and potentially revision of its mineral and civil code frameworks to ensure they adequately accommodate carbon credit structures in connection with landowner interests and clarifying credit classification.
2. Biodiversity and coastal resilience are the most advanced co-benefits for carbon credits in coastal Louisiana, with resilience benefits being people-based and easier to measure.
3. With the exception of Verra VM007, current carbon standards do not credit stewardship that maintains baseline conditions or prevents future loss, from naturally occurring events, like storms or climate driven sea level rise, which is problematic for Louisiana as it is facing coastal wetland loss threats.
4. The incremental cost of monitoring additional benefits is small compared to construction costs, making co-benefit monitoring economically feasible for Louisiana restoration projects.
5. Louisiana's Coastal Master Plan provides unprecedented detail in planning and monitoring, positioning the state uniquely to pursue carbon markets with legislative backing.
6. Aggregation models through entities like Greenbanks could enable smaller landowners to participate in carbon markets by managing credits across multiple properties. This could also help with stacking revenue streams with multiple types of credits and buyers. New Orleans has a green bank with a focus on resilient infrastructure which could in theory encompass these coastal habitats and resilience credits. The Louisiana green bank is focused on clean energy only—Louisianian Clean Energy fund—and would need to expand its mission or a separate green bank could be established with a different mission.
7. Louisiana's extensive monitoring data is expected to significantly reduce verification timelines and transaction costs compared to other regions, providing competitive advantages.
8. Create a mosaic approach where different coastal areas optimize for different credit types (carbon, resilience, biodiversity) based on local conditions could maximize value.
9. Meeting Verra's permanence and additionality requirements remains challenging; formal project submission is likely needed before consultation with registries, creating barriers to early guidance.
10. Anti-ESG sentiment must be carefully navigated in legislative efforts while developing carbon market policies in Louisiana.
11. Transitioning landowners from traditional oil/gas extraction revenue models to carbon credit systems presents opportunities for new revenue generation.
12. Louisiana's large-scale restoration projects differ significantly from typical small-scale U.S. wetland projects, requiring tailored approaches to carbon crediting.



13. Green bonds and revolving loan funds should be explored for long-term project financing spanning multiple landowners and combining revenue streams.
14. Clarifying what specifically is valued for biodiversity metrics (key species, trends, spatial variability) is essential for developing marketable biodiversity credits.<sup>2</sup>

## 2.3. JULY 10, 2025 VIRTUAL MEETING

### 2.3.1 Meeting purpose

The purpose of the July 10, 2025 virtual meeting was to discuss specific elements of the May 25, 2025 version of the draft report *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility* and for the writing team to receive recommendations from the panelists on key questions. The agenda, meeting attendees, presentations, and summary of notes for this meeting are provided in Appendix E.

### 2.3.2 Priority questions to be addressed during the meeting

Overall reaction to the final report in particular chapters 4 and 8—comments on utility to CPRA in informing a decision on next steps.

1. Comment on any identified ‘critical failures’ to address before finalization; either omissions or material that is overstated/ unjustified / impractical.
2. Recommendations on short-term actions in Louisiana, based on panelists’ experience and content from the report.
3. Recommendations for longer term actions in Louisiana— on reflection, what is a recommended path toward accreditation of herbaceous marsh creation projects? (VM0033 recognizing low return; develop new blue carbon/wetland methodology under Gold Standard; New Standard/Registry).
4. Given that coastal Louisiana is such a manipulated ecosystem at this point, could a Louisiana methodology (or standard or registry) have a greater chance of success/validity if it avoided ‘conservation’ altogether and focused on created land/ plantings and then assessed avoided loss against a dynamic baseline?
5. China, Australia, Indonesia, California etc. have established markets that are selling credits – but all to a local market (within country or largely within state). This fragmentation is generally seen as detrimental to the reputation of the global voluntary carbon market. Louisiana will need to

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<sup>2</sup> Note: Between the time that this meeting occurred and the issuance of this document, both Verra and Plan Vivo released their biodiversity standards (Nature Framework and PV Nature, respectively). According to Ryan Moyer, there is now a little more clarity on some of these uncertainties than when the meeting occurred.



access a national or international market—what are the impacts of this for deciding what standards to use or establish?

### 2.3.3 Key discussion points

During this meeting, there was active participation by all panelists, as well as CPRA, Institute, and Stantec participants; however, the primary focus was to get feedback and input from the panelists. Key discussion points included:

1. Exploration of a jurisdictional approach for crediting similar to California, to better fit a grouped-project structure
2. Estimation of transaction costs relative to expected carbon revenues and the feasibility across different project types to help identify which projects would be most likely to generate carbon revenue with the least discounting for permanence issues.
3. Performance of a high-level go/no-go analysis based on engineering and construction costs and expected carbon revenue.
4. Some agricultural methodologies could be adapted for wetlands, as the current exclusion of wetlands might be due to complexity, rather than scientific reasons.
5. Consider time as a risk factor, in that creating new methods could take years and impact project feasibility.
6. If Louisiana develops its own method, it should also be applicable or transferable beyond the state border to benefit other state efforts to implement a voluntary carbon market for coastal projects.
7. The avoided loss of irrecoverable carbon could have value for consideration of a new methodology or module to an existing methodology, despite the phenomenon not being accounted for in existing voluntary carbon markets and the challenges in quantifying and valuing them within the existing market frameworks.
8. Consider the importance of market acceptance for localized standards and methodologies, particularly the economic interest in linking carbon credits to working environments that could drive acceptance and success of the projects.
9. Consider exploring resilience and biodiversity credits.
10. Consider conducting a feasibility assessment to identify the most feasible projects and engaging with registries to understand their alignment.
11. Consider building out one or two pilot projects based on the feasibility assessment to gain experience and practical insights with project submission to the registries, and inform future decisions.
12. Consider developing either a module under VM0033 or a methodology under the Gold Standard, ‘Wetland and Blue Carbon’ theme of methods for project types (e.g., ridge restoration) that do not fit existing methodologies, leveraging the relationship with the selected standard.



#### 2.3.4 Key observations, recommendations, and priority needs

**Market Research:** Commission a market research study to identify potential buyers for blue carbon, coastal resilience, and biodiversity credits under various standards, including the appetite for credits generated under a newly created, Louisiana specific standard and determine their willingness to pay.

**Feasibility Assessment:** Conduct a feasibility assessment to identify the most feasible projects for carbon accounting, focusing on those that align with existing methodologies.

**Pilot Projects:** Identify and initiate one or two pilot projects that are straightforward and fit within existing methodologies to gain practical experience and insights.

**Engagement with Registries:** Engage with carbon registries to discuss the feasibility of proposed projects and methodologies, and to understand any gaps or requirements.

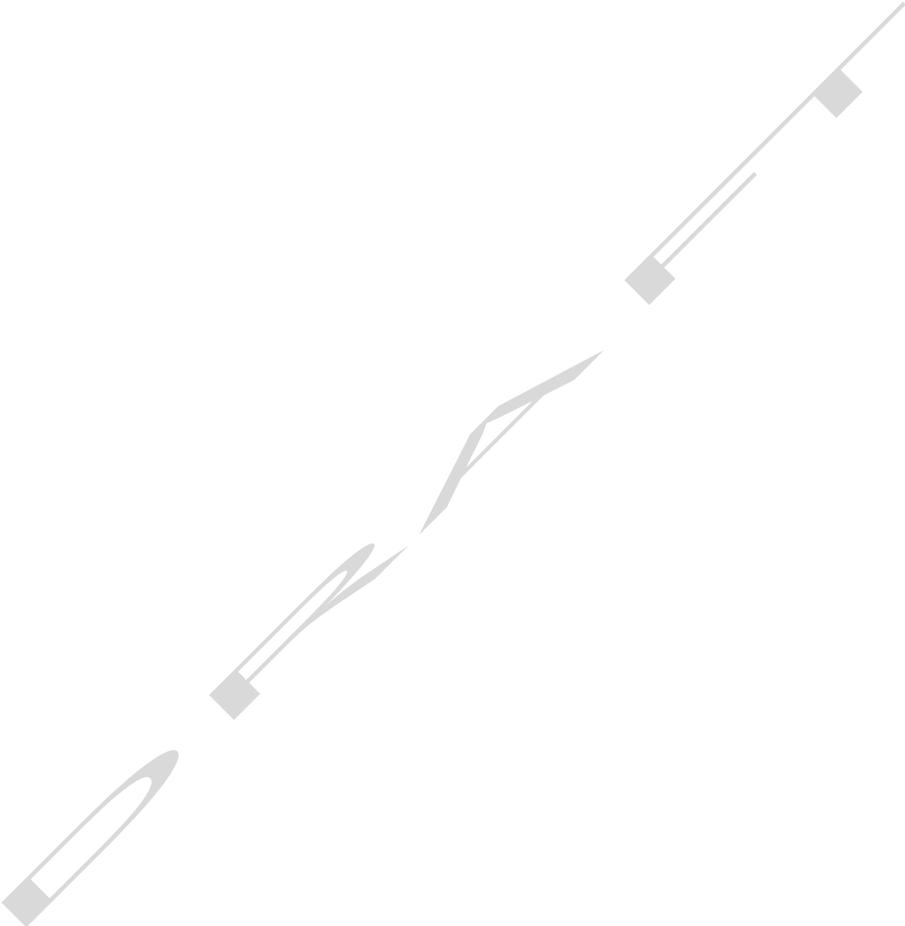
**Criteria for Funding:** Establish criteria for evaluating and accepting funding sources, including considerations for the types of organizations and their alignment with project values.

**Module/Methodology Development:** Explore the development of a module under Verra Verified Carbon Standard (VCS) VM0033 or methodology under Gold Standard GS4GG Blue Carbon and Freshwater Wetlands Activity Requirements for projects that do not fit existing methodologies, focusing on those with significant potential.

**Resilience and Biodiversity Credits:** Investigate the potential for resilience and/or biodiversity credits and other alternative revenue streams for projects that may not fit well within carbon frameworks.

**APPENDICES**

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## APPENDIX A. POLICY AND LEGAL ADVISORY PANEL MEMBERS

To arrive at the final list of panelists, The Water Institute first provided a list of ten names and summary qualifications to CPRA. The Institute then met with CPRA to present the knowledge, background, and skills of each potential panel member specifically as they pertain to the challenges and decisions CPRA is facing regarding coastal carbon credits from coastal wetlands and blue carbon generally. Based upon this information, CPRA prioritized the list. The final five legal and policy panelists are listed below with a summary of their background and expertise.

*Table A-1. Policy and Legal Advisory Panelists.*

Name	Organization	Position	Contact
Emma Elizabeth “Bessie” Antin DaschBach	Tulane Law School	Adjunct Professor of Law	<a href="mailto:eedaschbach@gmail.com">eedaschbach@gmail.com</a> New Orleans, LA
Jennifer Howard, PhD	Conservation International	Vice President pf Natural Climate Solutions and Integrity	<a href="mailto:jhoward@conservation.org">jhoward@conservation.org</a> Washington, DC
Ryan Moyer, Ph.D.	TerraCarbon, LLC	Senior Manager, Blue Carbon	<a href="mailto:ryan.moyer@terracarbon.com">ryan.moyer@terracarbon.com</a> St Petersburg, FL
Lydia Olander, PhD	Duke University, Nichols Institute of Environment & Sustainability	Program Director	<a href="mailto:lydia.olerander@duke.edu">lydia.olerander@duke.edu</a> Durham, NC
Sebastiaan Van Dort	British Standards Institution	Associate Director of Energy and Sustainability	<a href="mailto:Sebastiaan.VanDort@bsigroup.com">Sebastiaan.VanDort@bsigroup.com</a> United Kingdom

### **Emma Elizabeth “Bessie” Antin Daschbach**

Bessie Daschbach has accumulated more than 20 years of experience as a recognized trial and appellate lawyer, including more than a decade of experience representing Louisiana landowner interests. She also spearheaded the establishment of a full-scale Sustainability & Environmental, Social, and Governance (ESG) legal practice for a national law firm. She holds a certificate in Sustainable Capitalism & ESG from the University of California, Berkeley, School of Law, and she designed the Tulane Master of Jurisprudence course on sustainability and ESG. Over the course of her career, Bessie has practiced with law firms in New Orleans and New York City and worked with the International Labor Organization (Bangkok), the United Nations Legal Affairs Codification Division (New York City), and the Open Society Justice Initiative (New York City). She holds a JD from Tulane and an LLM in International & Comparative Law from Columbia University Law School.

### **Jennifer Howard**

Jennifer Howard is the Vice President of Natural Climate Solutions and Integrity at Conservation International (CI). Her experience focuses on implementing scalable mechanisms to conserve coastal and marine ecosystems as a means to protect vulnerable coastal communities, combat climate change, and



conserve coastal biodiversity. She provides technical support regarding blue carbon finance to partners globally. She helped found the Global Mangrove Alliance and represents CI on its Steering Committee, with the goal of halting loss, doubling protection, and restoring half of the mangrove ecosystems globally through meaningful collaboration across sectors and disciplines. She also sits on the Advisory Council of the Mangrove Breakthrough, where she represents the Alliance.

### **Ryan Moyer**

Ryan Moyer leads the blue carbon practice at TerraCarbon and advises clients on the feasibility, design, and monitoring of coastal habitat conservation and restoration projects that increase carbon storage, reduce greenhouse gas emissions, and enhance coastal resiliency. He is a leading coastal wetland scientist with extensive experience in monitoring soil carbon changes in coastal ecosystems. Ryan holds a Ph.D. in Geological Sciences from The Ohio State University, and an M.S. in Marine Biology from Nova Southeastern University. Ryan previously held positions at the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute, and the U.S. Geological Survey. He also formerly held positions as a Courtesy Assistant Professor and Adjunct Instructor at the University of South Florida.

### **Lydia Olander**

Lydia Olander is a program director at the Nicholas Institute for Energy Environment & Sustainability at Duke University and adjunct professor at the Nicholas School of the Environment. She works on improving evidence-based policy and accelerating implementation of climate resilience, nature-based solutions, natural capital accounting, and environmental markets. She leads the National Ecosystem Services Partnership and sits on Duke's Climate Commitment action team. She recently spent two years with the Biden administration at the Council on Environmental Quality as Director of Nature based Resilience and before that spent five years on the Environmental Advisory Board for the US Army Corps of Engineers. She is a fellow of the American Association for the Advancement of Science (AAAS) and widely published researcher. Prior to joining the Nicholas Institute, she spent a year as an AAAS Congressional Science and Technology Fellow working with Senator Joseph Lieberman on environmental and energy issues. She was a college scholar at Cornell University and earned her Master of Forest Science from Yale University and Ph.D. from Stanford University.

### **Sebastiaan Van Dort**

Sebastiaan Van Dort has more than 15 years of experience within the low carbon industry in the United Kingdom, working on key policies and initiatives to reduce CO<sub>2</sub> emissions and safe energy and collaborating with government and regulators to deliver them. These policies include The Green Deal, Warm Home Discount, and the Smart Meter roll-out.-His career includes senior positions at Centrica, OVO Energy, EDF Energy, and VINCI Construction, as well as working with rapidly growing start-ups in the low carbon industry. He is currently the Director of Sustainability and with the British Standards Institution (BSI) which is the UK's national standards body. BSI plays a crucial role in creating the standards that support and shape credible global and UK nature markets. BSI supported the Integrity Council for the voluntary Carbon Markets (ICVCM) on the development of the Core Carbon Principles for voluntary carbon markets.

# APPENDIX B. FEBRUARY 2, 2024 VIRTUAL MEETING

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## B.1 FEBRUARY 2, 2024 MEETING AGENDA



### STATE OF LOUISIANA'S COASTAL CARBON POLICY AND LEGAL ADVISORY PANEL MEETING

February 2, 2024 | 1:00 - 2:30 CT

#### Microsoft Teams Call-in Instructions

[Click here to join the meeting](#)

Meeting ID: 230 800 371 950

Passcode: BzWMvW

[Download Teams](#) | [Join on the web](#)

#### Or call in (audio only)

+1 225-778-8458,423901646# United States, Baton Rouge

Phone Conference ID: 423 901 646#

#### Objectives

- Make introductions between the panelists and the Louisiana Coastal Protection and Restoration Authority (CPRA), The Water Institute (TWI), Plauche & Carr (P&C) and Stantec project team.
- Provide Panelists with an orientation, group charge, and relevance of currently-funded effort to the State.

#### Agenda Items (Central Time – all times are approximate)

Time	Topic
1:00	Welcome & Opening Comments <i>Jean Cowan, TWI, and Brian Lezina, CPRA</i>
1:05	Introductions between Panelists
1:25	The Panel as a Part of CPRA's Current Strategy Regarding Coastal Carbon <i>James Pahl, CPRA</i>
1:45	Advisory Panel Charge and High-level Schedule of Activities <i>Megan Terrell, P&amp;C, and Garvin Pittman, TWI</i>
2:00	Preview of the February 19 Meetings <i>Tim Carruthers and Jonathan Scheibly, Stantec</i>
2:10	Open Discussion
2:25	Closing Remarks



## B.2 FEBRUARY 2, 2024 MEETING ATTENDEES

*Table B-1. List of legal and policy panel members and additional attendees from CPRA, Plauché and Carr, Stantec, and The Water Institute at the February 2, 2024 meeting.*

First Name	Last Name	Affiliation
Amanda	Carr	Plauché & Carr
Tim	Carruthers	The Water Institute
Jean	Cowan	The Water Institute
Bessie	DaschBach	Panel member
Michelle	Feltermann	CPRA
Jennifer	Howard	Panel member
Beaux	Jones	The Water Institute
Skylar	Liner	CPRA
Megan	Terrell	Plauché & Carr
Ryan	Moyer	Panel member
Lydia	Olander	Panel member
James	Pahl	CPRA
Garvin	Pitman	The Water Institute
Jonathan	Scheibly	Stantec
Laura	Talbert	The Water Institute
Megan	Terrell	Plauché & Carr
Sebastiaan	Van Dort	Panel member



## B.3 FEBRUARY 2, 2024 MEETING PRESENTATIONS





**LOUISIANA'S  
COASTAL CARBON  
POLICY AND LEGAL ADVISORY PANEL**

February 2, 2024





### AGENDA (CENTRAL TIME)

Time	Topic
1:00	Welcome & Opening Comments
1:05	Introductions Between Panelists
1:25	The Panel as a Part of CPRA's Current Strategy Regarding Coastal Carbon
1:40	Advisory Panel Charge and High-level Schedule of Activities
2:00	Preview of February 19 Meeting
2:10	Open Discussion
2:25	Closing Remarks





# The Policy and Legal Advisory Panel as a Part of CPRA's Current Coastal Carbon Strategy

JAMES PAHL, CPRA PLANNING AND RESEARCH DIVISION SENIOR SCIENTIST



## Outline

### Drivers of Considering Coastal Carbon in Louisiana

- 2020 Executive Order JBE-2020-18
- 2023 Coastal Master Plan and the 2032 Coastal "Fiscal Cliff"

### CPRA Considerations for Coastal Carbon

- Louisiana Climate Action Plan
- Uncertainty Bridging the Distance between Capturable Carbon and Credit Sales



# Outline

## Drivers of Considering Coastal Carbon in Louisiana

- 2020 Executive Order JBE-2020-18
- 2023 Coastal Master Plan and the 2032 Coastal “Fiscal Cliff”

## CPRA Considerations for Coastal Carbon

- Louisiana Climate Action Plan
- Uncertainty Bridging the Distance between Capturable Carbon and Credit Sales

# Drivers of Considering Coastal Carbon in Louisiana

## State Executive Order JBE-2020-18



NOW THEREFORE, I, JOHN BEL EDWARDS, Governor of the State of Louisiana, by virtue of the authority vested in the Constitution and laws of the State of Louisiana do hereby order and direct as follows:

**SECTION 1:** The Climate Initiatives Task Force (hereafter the “Task Force”) is hereby established within the executive branch, Office of the Governor – Coastal Activities.

**SECTION 2:** The duties of the Task Force shall include, but are not limited to, the following:

- A. Review and comment on ongoing efforts to update the state’s greenhouse gas emissions inventory;
- B. Investigate and make recommendations for the reduction of greenhouse gas emissions originating in Louisiana to achieve the following greenhouse gas emissions reduction goals:

1. By 2025, reduce net greenhouse gas emissions by 26-28% of 2005 levels;
2. By 2030, reduce net greenhouse emissions by 40-50% of 2005 levels; and
3. By 2050, reduce greenhouse gas emissions to net zero;

- C. Develop policies, strategies, and incentives designed to achieve the net emissions reduction targets established in this Order, while improving the health and welfare of the people of Louisiana and advancing Louisiana’s economic and energy profile.



# Drivers of Considering Coastal Carbon in Louisiana

## 2023 Coastal Master Plan

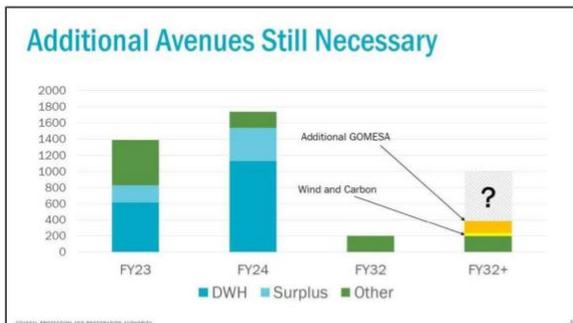


COASTAL PROTECTION AND RESTORATION AUTHORITY

9

# Drivers of Considering Coastal Carbon in Louisiana

## 2032 Coastal "Fiscal Cliff"



COASTAL PROTECTION AND RESTORATION AUTHORITY

[https://www.nola.com/news/environment/coastal-cliff-threatens-louisiana-restoration-projects/article\\_08f6d58-c8f7-11e0-ae7e-9704e56c1787.html](https://www.nola.com/news/environment/coastal-cliff-threatens-louisiana-restoration-projects/article_08f6d58-c8f7-11e0-ae7e-9704e56c1787.html)

### Louisiana coastal projects are funded by an unlikely source. What happens when the money runs out?

State in search of revenue to replace BP spill money

BY MARK SCHLEIFSTEIN | Staff writer  
Mar 25, 2023

1 of 2

A dredging pipe is primed before sediment is placed at the site of the \$100 million Spanish Pass project in Venice on Wednesday. Now building a 7-mile ridge and marsh with Mississippi River sediment to buffer Barataria Bay against future storm surge. State officials say projects will be harder to fund after 2031, when money from BP Deepwater Horizon oil spill settlements will have run out.

STAFF PHOTO BY SOPHIA GERBER

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# Outline

## Drivers of Considering Coastal Carbon in Louisiana

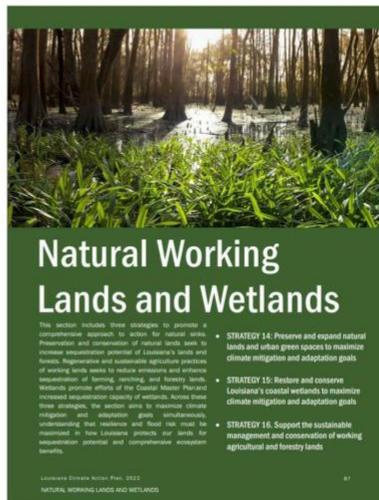
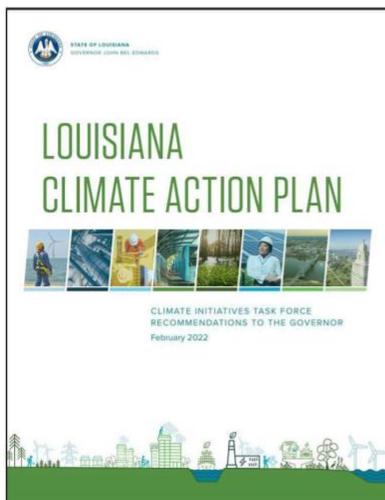
- 2020 Executive Order JBE-2020-18
- 2023 Coastal Master Plan and the 2032 Coastal “Fiscal Cliff”

## CPRA Considerations for Coastal Carbon

- Louisiana Climate Action Plan
- Uncertainties Between Gross Capturable Carbon and Credit Sales

# CPRA Considerations for Coastal Carbon

## 2022 Louisiana Climate Action Plan





# CPRA Considerations for Coastal Carbon

## 2022 Louisiana Climate Action Plan

**STRATEGY 15. Restore and conserve Louisiana's coastal wetlands to maximize climate mitigation and adaptation goals**

As with Louisiana's inland nature lands, our coastal wetlands sequester carbon and provide important ecosystem services, while also serving a critical role in buffering against rising sea levels and severe storms. Restoring and maintaining coastal wetlands for restoration against these climate change-related threats can benefit Louisiana's vulnerable coastal communities and ecosystems, as realized through implementation of Louisiana's Coastal Master Plan. While sources of GHG emissions are well characterized in the 2021 GHG Inventory, significant knowledge gaps remain related to sequestration of carbon by the diverse ecosystems of Louisiana. Actions in this strategy include mechanisms to fill knowledge gaps and improve the accuracy of our data on natural carbon sinks in Louisiana.

Highlights of how this strategy can realize benefits for Louisiana:

- Resilience to a Changing Environment: Investments in restoration and conservation planning can increase community resilience to the threat of sea level rise and severe storms by providing a nature buffer to these threats.
- Cultural Heritage: The unique cultural heritage of South Louisiana is intrinsically tied to the natural environment of the coast, highlighting the need to protect environments important to traditional living cultures, including Indigenous cultures and traditional fishing communities. Projects by project considerations are important for understanding how restoration impacts impact cultural heritage.
- Economy and Jobs: Louisiana's coast is a working coast, with 20% of U.S. seafood commerce coming through our ports and coastal wetlands that provide important habitat for commercially important fish and game species. Conservation and restoration of Louisiana's coastal habitats is critical to both our local and national economy.

**ACTION 15.1 Optimize the carbon sequestration potential of Louisiana's coastal wetlands through implementation of Coastal Master Plan projects**

IMPLEMENTATION PARTNERS	NEAR-TERM ACTION	GOALS
CPRA	Study carbon storage potential of wetland projects	Maximize carbon sequestration of coastal wetland restoration

Implementation of Louisiana's Coastal Master Plan<sup>16</sup> includes coastal restoration actions to reduce land loss with a focus on risk reduction to support coastal communities. This action proposes that the Coastal Protection and Restoration Authority (CPRA) incorporate climate mitigation and resiliency (e.g., carbon sequestration potential of wetlands) into future iterations of the Coastal Master Plan as well as into project design and prioritization. Carbon sequestration potential should further make the case for investment in Louisiana's coastal program and attract additional resources for project implementation. (Associated Submitted Action Proposals: 77)

**ACTION 15.2 Quantify and monitor the potential coastal blue carbon in Louisiana habitats and Coastal Master Plan projects**

IMPLEMENTATION PARTNERS	NEAR-TERM ACTION	GOALS
CPRA	Invest in assessments of net carbon flux of coastal wetlands	Maximize carbon sequestration of coastal wetland restoration

Quantification and monitoring to assess net carbon flux of Louisiana's coastal wetland habitats (fresh, intermediate/marsh, saline, and submerged aquatic vegetation) also known as coastal blue carbon and open water habitats is a crucial step towards building a robust carbon finance framework. Carbon financing presents an opportunity for the state to partner with industry to expand coastal wetland restoration initiatives. Though a comprehensive understanding of blue carbon requires long-term study, existing efforts should continue through: 1) research and development led by the state, companies, the private sector, and academic institutions to create accurate models that will allow quantification of Louisiana's coastal blue carbon over time and across variable environmental conditions; and 2) expanded support and monitoring capacity of existing restoration monitoring programs (e.g., Saline Wetland Assessment and Monitoring Program (SWAMP) and the Quantitative Reference Monitoring System (QRMS)) to quantify coastal blue carbon across coastal Louisiana over time. (Associated Submitted Action Proposals: 80, 81, 77)

**ACTION 15.3 Develop crediting mechanism and market specific to blue carbon**

IMPLEMENTATION PARTNERS	NEAR-TERM ACTION	GOALS
Investment / CPRA / Non carbon experts and wetland / coastal managers	Collaborate with stakeholders to design a carbon credit and market	Maximize investment to carbon sequestration of wetland restoration projects

Existing carbon markets are designed primarily for terrestrial forests and have not readily accommodated crediting of coastal wetlands. Specifically, standards for additionality and permanence must be tailored for dynamic coastal wetlands to recognize and account for their GHG benefits while being grounded in the realities of these dynamic systems. The natural carbon sequestration potential of Louisiana's coastal habitats is too valuable to be entirely precluded from carbon-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. The potential Louisiana credit and market must 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 offset given the dynamic nature of these 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: 80, 81, 77)

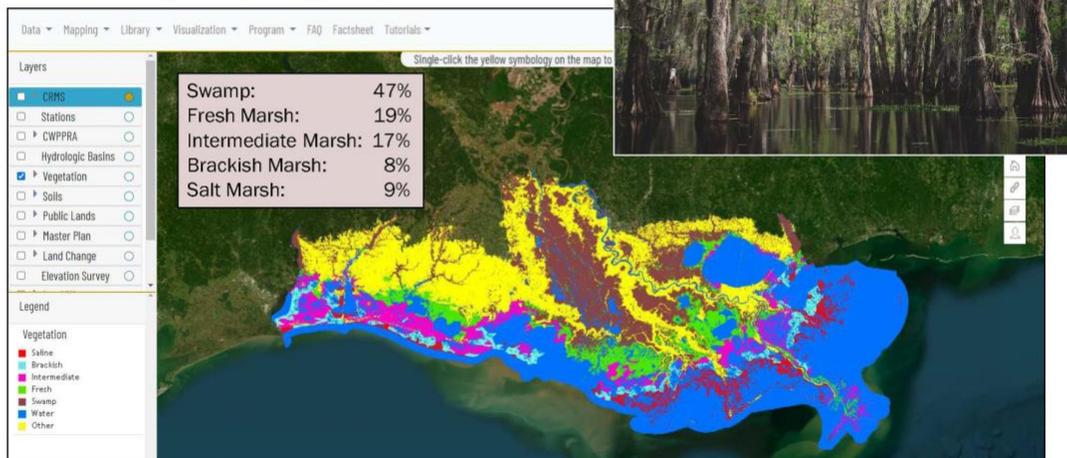
**DISSENTING VIEW:** One member objected to this action, opposing the sale of coastal wetlands as offsets for continued GHG pollution. (DISSENTING Action Detail)

13

# Definitions

## Coastal Carbon

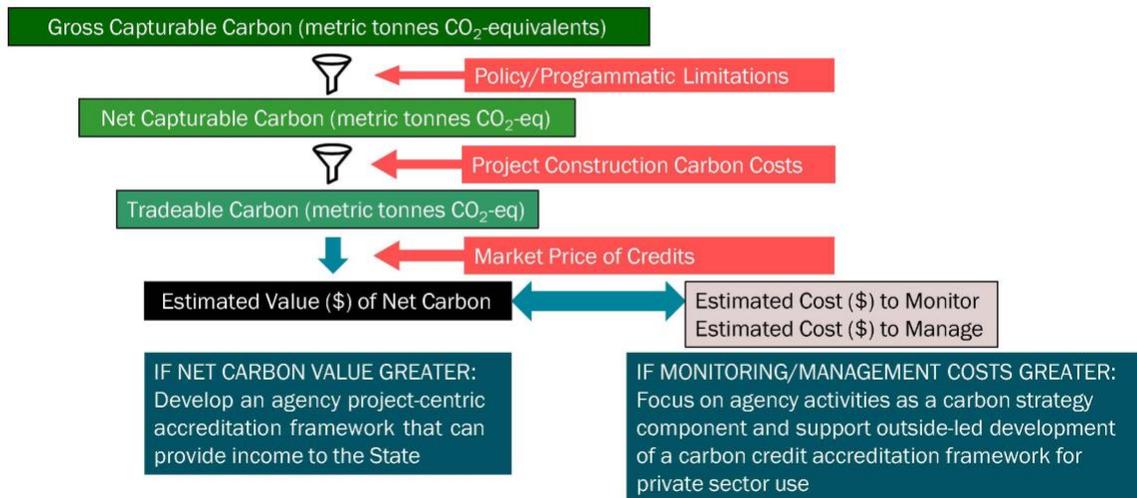
- More than seagrasses, mangroves, and salt marshes





# CPRA Considerations for Coastal Carbon

## Uncertainty Bridging the Distance between Capturable Carbon and Credit Sales



COASTAL PROTECTION AND RESTORATION AUTHORITY

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### CONNECT WITH US!



@LouisianaCPRA

James Pahl [james.pahl@la.gov](mailto:james.pahl@la.gov)





# DISCUSSION



# ADVISORY PANEL CHARGE





# HIGH-LEVEL SCHEDULE OF ACTIVITIES



## SCHEDULE OF ACTIVITIES

Administrative Activities	Date
Finalize Initial Contracts with Panelists	Feb 9
Finalize Contract Modification (?) for Reviewers of Activity 2.1 Report: <i>Credit Allowances Review of Programs Funding CPRA - Position on Allowances, Legal and Policy Basis, Flexibilities and Recommendations</i>	Mar 4
Finalize Contract Modification (?) for Reviewers of Activity 2.2 Report: <i>Summation of Existing Crediting Frameworks and Methodologies, Including Known/Possible Roadblocks and Offramp Decision Points for Developing a New Framework</i>	TBD
End of Contract Period	Aug 30
Final Invoices Due	Sep 13

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## SCHEDULE OF ACTIVITIES

Primary Activities	Date
Virtual Meeting of Full Panel	Feb 2
First In-Person Meeting of Full Panel (GoMCon)	Feb 19
Second In-Person Meeting of Full Panel (Baton Rouge)	~Jun 17
Review Deliverable: <i>Summary of the Activities and Findings of the Advisory Panel</i>	~Aug 4

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## SCHEDULE OF ACTIVITIES

<b>Activity 2.1 Report: <i>Credit Allowances Review of Programs Funding CPRA - Position on Allowances, Legal and Policy Basis, Flexibilities and Recommendations</i></b>	Date
Annotated Outline Prepared by Plauché & Carr and Circulated	~Mar 4
First Virtual Meeting of Reviewers	~Mar 11
Review Period	~Mar 4 – 22
Complete Draft Prepared by Plauché & Carr and Circulated	~Jun 10
Second Virtual Meeting of Reviewers	~Jun 17
Review Period	~Jun 10 - 28

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## SCHEDULE OF ACTIVITIES

<i>Activity 2.2 Report: Summation of Existing Crediting Frameworks and Methodologies, Including Known/Possible Roadblocks and Offramp Decision Points for Developing a New Framework</i>	Date
Carbon White Paper Circulated (Joint effort of Stantec, P&C, and TWI)	~Feb 12
Present Carbon White Paper and Discussion by Panel at First In-Person Meeting	Feb 19
CPRA, P&C, TWI, and Stantec Meet to Finalize Responsibilities and Schedule	~Mar 4
Deliverable Development and Review Schedule	TBD

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## DISCUSSION





# IN-PERSON MEETING PREVIEW

February 19, 2024  
Tampa, FL



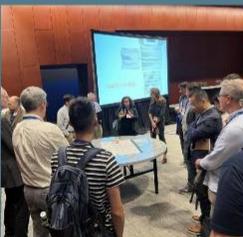
## POLICY AND LEGAL ADVISORY PANEL

### First In-Person Meeting

- Time: 8:30 – 11:30
- Location: Tampa Convention Center
- Topics
  - Louisiana's interest and investment in coastal carbon
    - Summary of previous northern Gulf of Mexico working groups
    - CPRA perspective on need, incentive and opportunity
    - Carbon white paper – Stantec presentation and panel discussion
  - Perspectives from the Panelists
    - Top needs and opportunities from each perspective in the coastal carbon legal and policy space
  - Panel plan for first portion of afternoon Working Group meeting
    - Legal and Policy panel prepare to run the first session of the afternoon working group
    - Set the guardrails for the scope and charge of the broader working group within the priority legal and policy needs

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## GOAL OF GOMCON IN-PERSON

- A. Understand legal and policy opportunities and needs to progress tidal wetland blue carbon accreditation and marketability
- B. Based on A. identify critical uncertainties in science/data to quantify coastal carbon in tidal wetlands to support that legal/policy framework (e.g. accreditation)
- C. Identify on-line databases /tools / needs to track and discuss the research community rapidly progressing to meet the identified critical needs
- D. This will provide the structure and framework for the coastal carbon science community to collaboratively support progress toward improving accreditation pathways for carbon in coastal wetlands



## OPEN DISCUSSION





## AGENDA (CENTRAL TIME)

Time	Topic
1:00	Welcome & Opening Comments
1:05	Introductions Between Panelists
1:25	The Panel as a Part of CPRA's Current Strategy Regarding Coastal Carbon
1:40	Advisory Panel Charge and High-level Schedule of Activities
2:00	Preview of February 19 Meeting
2:10	Open Discussion
2:25	<b>Closing Remarks</b>

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# APPENDIX C. FEBRUARY 19, 2024 MEETING

## C.1 FEBRUARY 19, 2024 MEETING AGENDA



### STATE OF LOUISIANA’S COASTAL CARBON POLICY AND LEGAL ADVISORY PANEL MEETING

February 19, 2024 / 8:30 - 11:30

Tampa Convention Center, Room 118

#### Objectives

- Through a more in-depth discussion of background information, begin to consider priority challenges and actions.
- Prepare for afternoon session with Gulf Coastal Carbon Working Group.

#### Agenda Items (All times are approximate)

Time	Topic
8:30	Welcome, Opening Comments, Panel Charge <i>Jean Cowan, TWI; Brian Lezina, CPRA; Tim Carruthers, TWI</i>
8:45	Louisiana’s Investment in Coastal Carbon – Deeper Dive <i>James Pahl, CPRA</i>
9:00	Carbon White Paper Overview <i>Jonathan Scheibly, Stantec; Megan Terrell, Plauché &amp; Carr</i>
9:15	Panel Discussion of Legal, Policy, Scientific Challenges and Uncertainties <i>Group</i>
10:00	Break
10:30	Afternoon Gulf Coastal Carbon Working Group Meeting Preparation <i>Group</i>
11:25	Wrap up





## C.2 FEBRUARY 19, 2024 MEETING ATTENDEES

Table C-1. List of legal and policy panel members and additional attendees from CPRA, Plauche and Carr, Stantec, and The Water Institute at the February 19, 2024 meeting.

First Name	Last Name	Affiliation
Tim	Carruthers	The Water Institute
Jean	Cowan	The Water Institute
Bessie	Daschbach	(Panel member)
Michelle	Felتمان	CPRA
Jennifer	Howard	(Panel member)
Beaux	Jones	The Water Institute
Brian	Lezina	CPRA
Skylar	Liner	CPRA
Ryan	Moyer	(Panel member)
James	Pahl	CPRA
Lydia	Olander	(Panel member)
Garvin	Pittman	The Water Institute
Jonathan	Scheibly	Stantec
Laura	Talbert	The Water Institute
Megan	Terrell	Plauché & Carr
Sebastiaan	Van Dort	(Panel member)

## C.3 FEBRUARY 19, 2024 MEETING PRESENTATIONS

The meeting was facilitated with the agenda and discussions as supported by two informational presentations:

1. Louisiana’s investment in coastal carbon – deeper dive
2. Carbon white paper overview

Additionally, a portion of the meeting was focused on preparing for the afternoon meeting with the Gulf of America Coastal Carbon Working Group meeting. The full slide deck is provided below including the two main informational presentations.



# LOUISIANA'S COASTAL CARBON POLICY AND LEGAL ADVISORY PANEL

February 19, 2024



## AGENDA

Time	Topic
8:30	Welcome, Opening Comments, Panel Charge
8:45	Louisiana's Investment in Coastal Carbon – Deeper Dive
9:00	Carbon White Paper Overview
9:15	Panel Discussion of Legal, Policy, Scientific Challenges and Uncertainties
10:00	Break
10:30	Afternoon Gulf Coastal Carbon Working Group meeting Preparation
11:25	Wrap up





COASTAL PROTECTION AND RESTORATION AUTHORITY

GULF OF MEXICO CONFERENCE

20 FEBRUARY 2024

## The State of Louisiana's coastal carbon science needs and current investigations of the feasibility of an agency-led crediting framework

JAMES PAHL, PH.D., CPRA PLANNING AND RESEARCH DIVISION (PRD) SENIOR SCIENTIST,  
MICHELLE FELTERMAN, J.D., CPRA PRD SUPERVISOR, AND  
BRIAN LEZINA, M.SC., CPRA PRD ADMINISTRATOR



### CPRA Considerations for Coastal Carbon

**In a nutshell ...**

**Is it feasible for estimates of net coastal carbon benefits from restoration and risk-reduction projects in Louisiana to be submitted to existing carbon-crediting accreditation frameworks to generate and trade carbon credits?**

**If not, are amendments to the existing frameworks, or (a) new framework(s) needed?**



# Drivers of Considering Coastal Carbon in Louisiana

## 2023 Coastal Master Plan

### What does the plan propose?

**To address the challenges of a changing coast, a suite of 77 restoration and risk reduction projects has been identified. These would prevent hundreds of square miles of land loss and reduce expected annual damage from storm surge-based flooding by billions of dollars and thousands of structures.**

- 65 Restoration Projects
- 12 Structural Risk Reduction Projects
- \$11B for Nonstructural Risk Reduction Projects
- \$19B in Dredging Projects

In addition to these projects, \$2.5 billion is allocated to programmatic restoration efforts and small-scale strategies, such as bank stabilization and barrier island maintenance. Additionally, \$1.2 billion is allocated to nonstructural risk reduction activities, such as residential elevations, commercial floodproofing, and voluntary acquisition of properties.

Beyond the projects, the master plan acknowledges that the coast is dynamic, and additional adaptation will be required to continue living, working, and playing here. The master plan alone is not sufficient to respond to all the challenges the future may bring. It aims to be a catalyst for coordinating local, state, and federal efforts to help address the coastal land loss crisis and threats from storm surge based flooding, and in joining the greenhouse gas reductions necessary to avoid the most severe impacts of climate change.

Explore the project types included in the master plan on the following pages. These work together to provide comprehensive restoration and risk reduction benefits.

Explore more on CPRO's website: <https://www.cpra.louisiana.gov/>

Figure: Funding by Project Type, in \$B.

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# Definitions

## Coastal Carbon

Nola.com



- More than seagrasses, mangroves, and salt marshes

Data Mapping Library Visualization Program FAQ Factsheet Tutorials

Layers

- CRMS
- Stations
- CWPPRA
- Hydrologic Basins
- Vegetation
- Soils
- Public Lands
- Master Plan
- Land Change
- Elevation Survey

Legend

Vegetation

- Saline
- Brackish
- Intermediate
- Fresh
- Swamp
- Water
- Other

Swamp: 47%

Fresh Marsh: 19%

Intermediate Marsh: 17%

Brackish Marsh: 8%

Salt Marsh: 9%

Single-click the yellow symbology on the map to

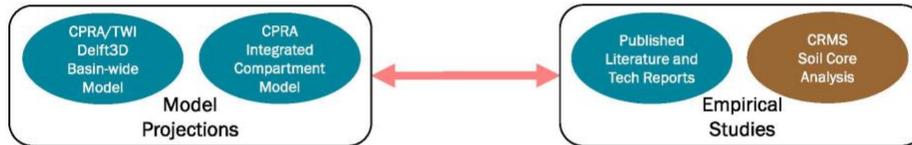
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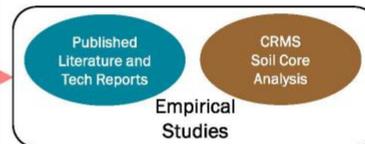
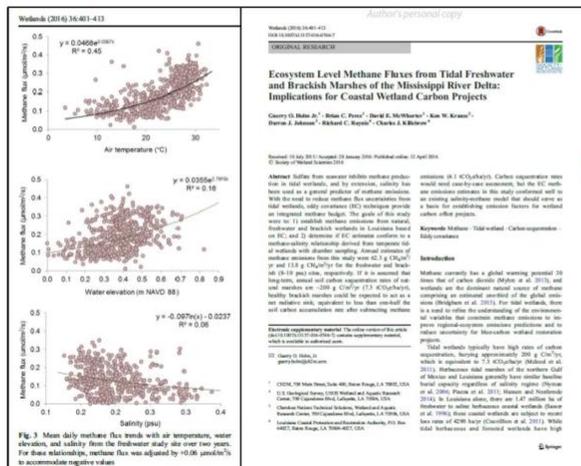
# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation



# CPRA's Coastal Carbon Actions and Approach

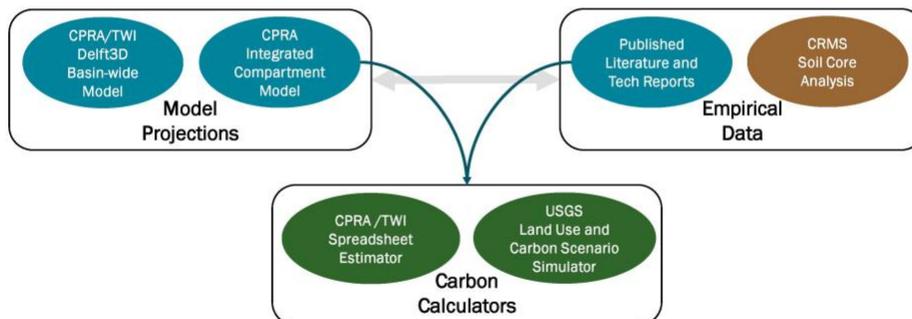
## Science-based Estimates of Carbon Benefits of Project Implementation





# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation

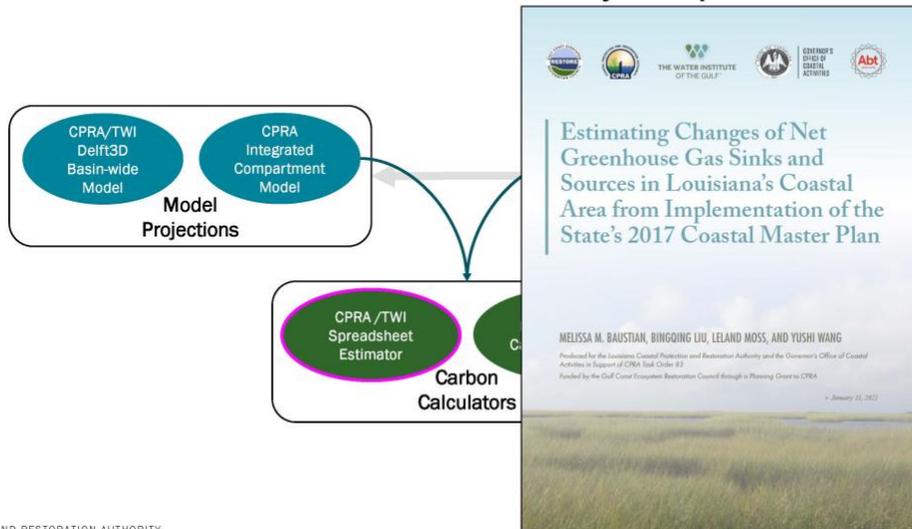


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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation



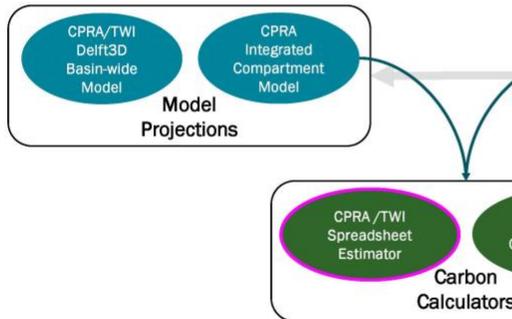
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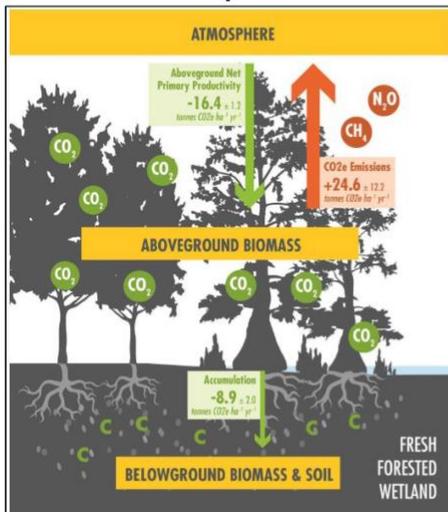
# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation



# CPRA's Coastal Carbon Actions and Approach

## Annotated Conceptual Models Based on Available Literature



### Examined habitats

- Fresh forested wetland (swamp)
- Fresh marsh
- Intermediate marsh
- Brackish marsh
- Salt marsh
- Fresh and intermediate open water
- Brackish open water
- Saline open water



# Coastal Carbon Dynamics Estimates

## Dearth of available studies in some key Louisiana habitats

Habitat Class	Net Primary Productivity	Soils and Sediments	Greenhouse Gas Emissions
Fresh Forested Wetland	15	3	5
Fresh Herbaceous Marsh	7	9	10
Intermediate Herbaceous Marsh	7	7	3
Brackish Herbaceous Marsh	15	16	6
Saline Emergent Wetland	16	11	4
Fresh Open Water	2	4	3
Brackish Open Water	1	1	3
Saline Open Water	2	2	2

# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation

### Key Uncertainties

- Rate of carbon loss when emergent wetland converts to open water
- Rate carbon dynamics of restored emergent wetlands increase to natural systems
- Carbon dynamics of open water systems
- Carbon dynamics in restored fresh & intermediate habitats
- Carbon dynamics of other habitat types
- Optimal mathematical approach to estimate future-year carbon dynamics

CPRA/TWI Spreadsheet Estimator

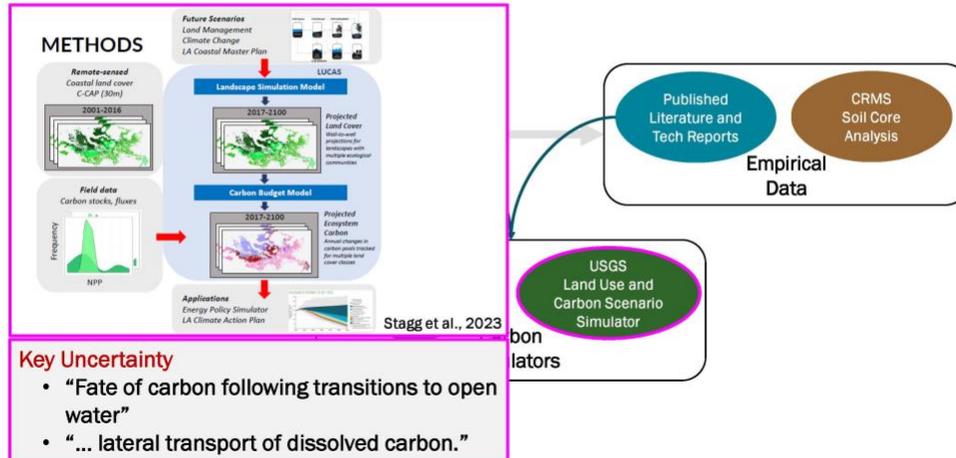
Car Calcul





# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation

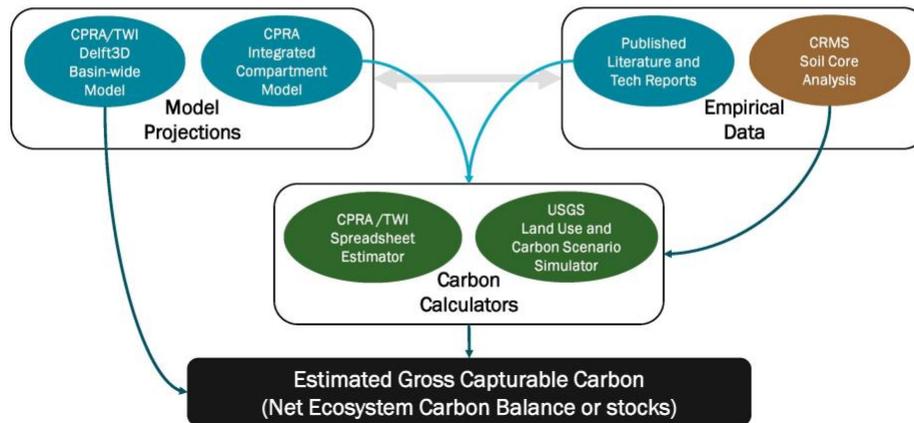


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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation



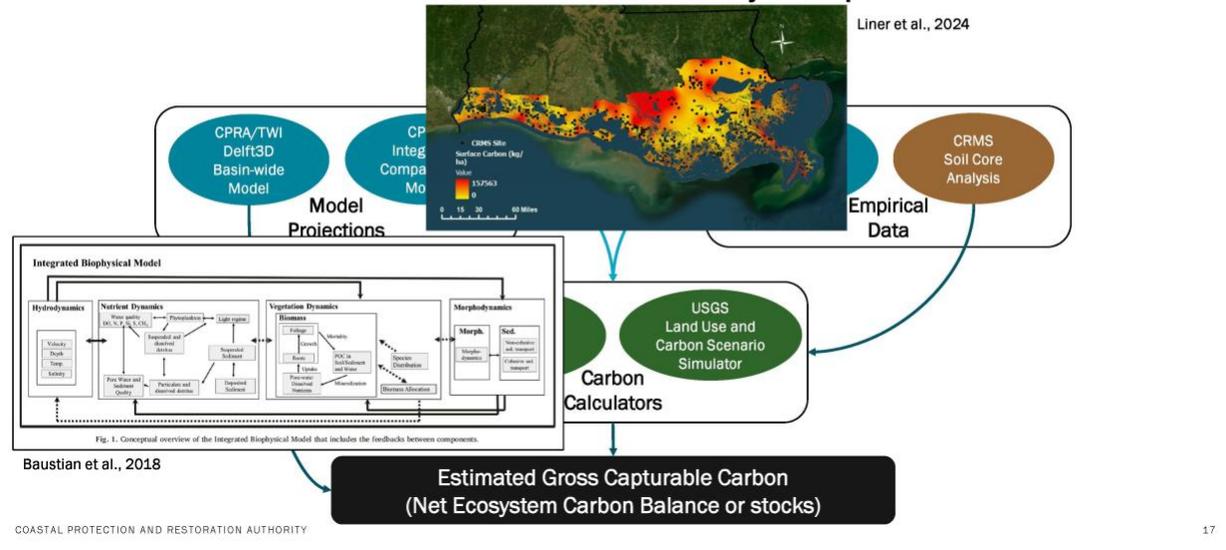
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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation

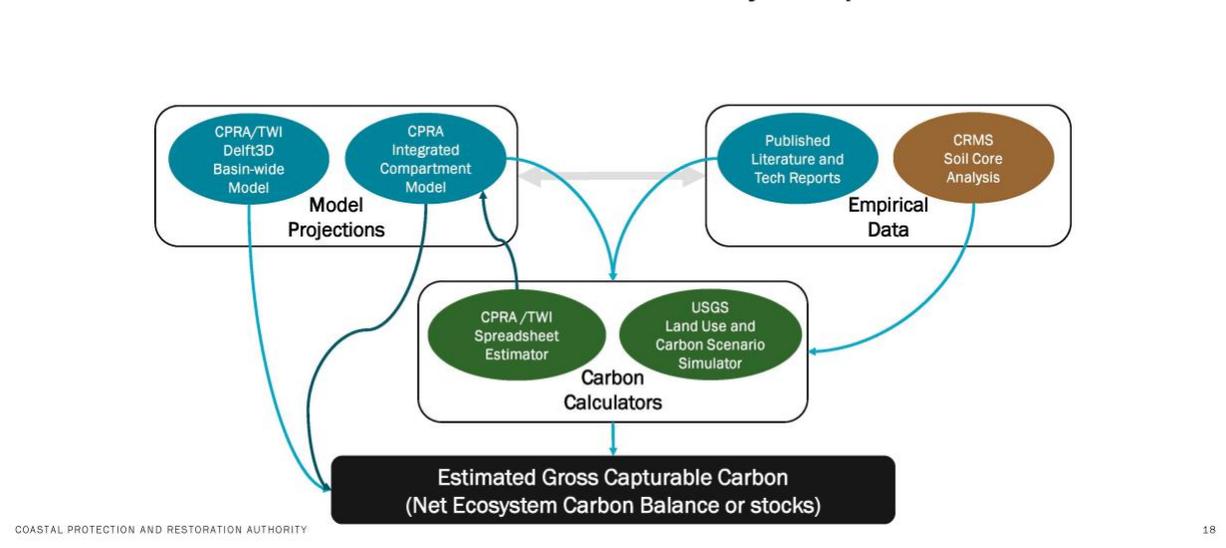


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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation



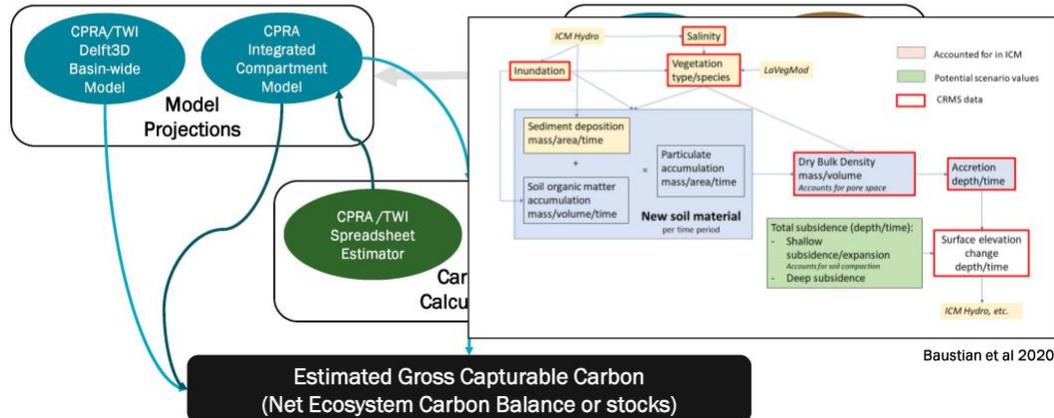
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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation

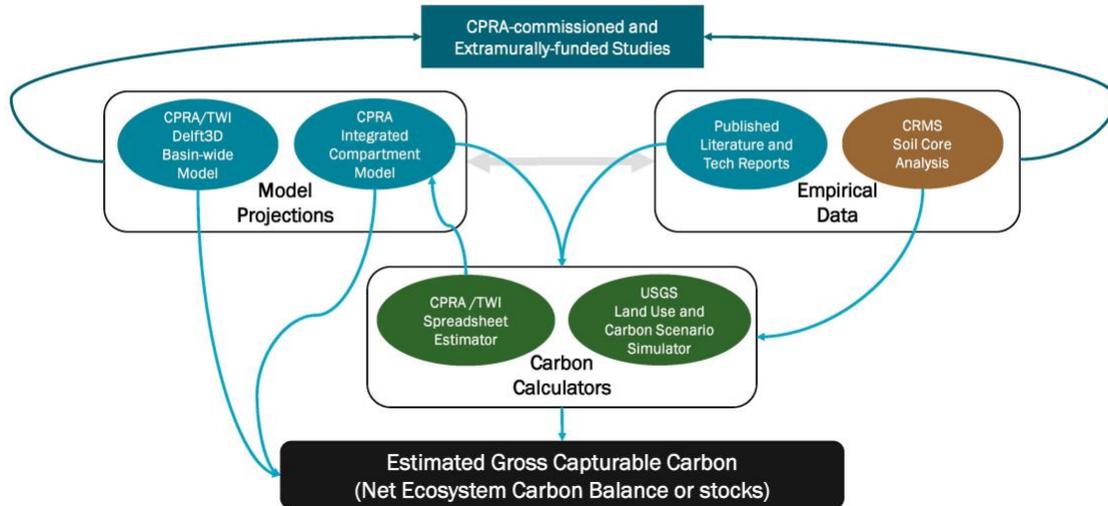


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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation



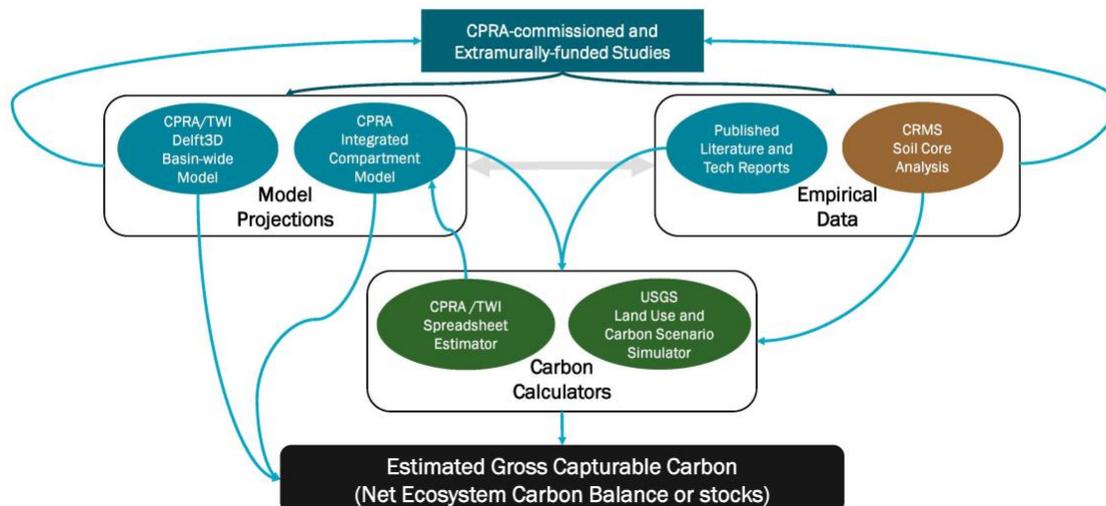
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# CPRA's Coastal Carbon Actions and Approach

## Science-based Estimates of Carbon Benefits of Project Implementation

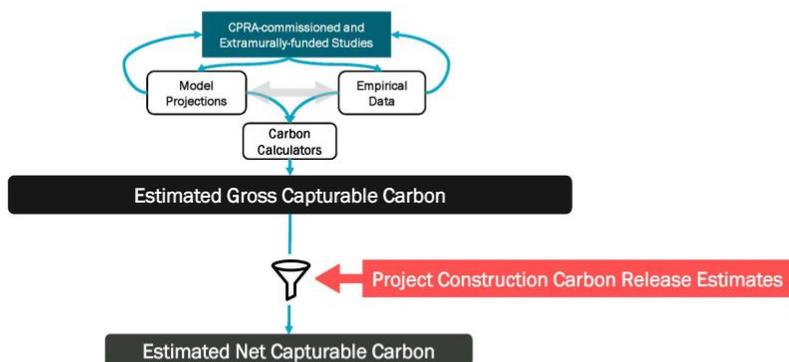


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# CPRA's Coastal Carbon Actions and Approach

## Legal/Policy/Program Limits on Capturable Carbon



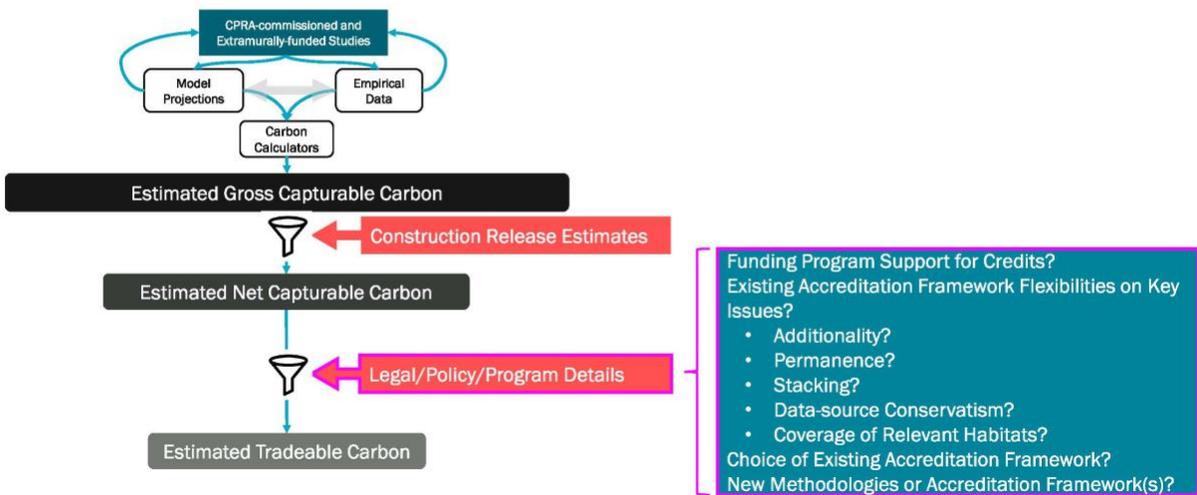
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# CPRA's Coastal Carbon Actions and Approach

## Legal/Policy/Program Limits on Capturable Carbon

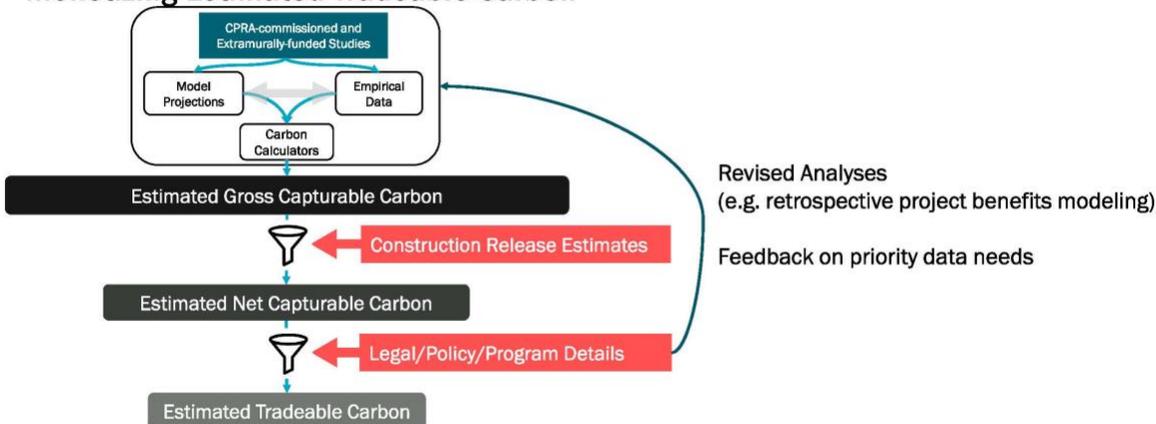


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# CPRA's Coastal Carbon Actions and Approach

## Monetizing Estimated Tradeable Carbon



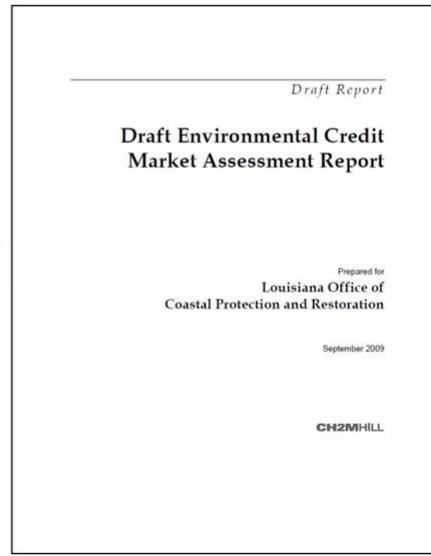
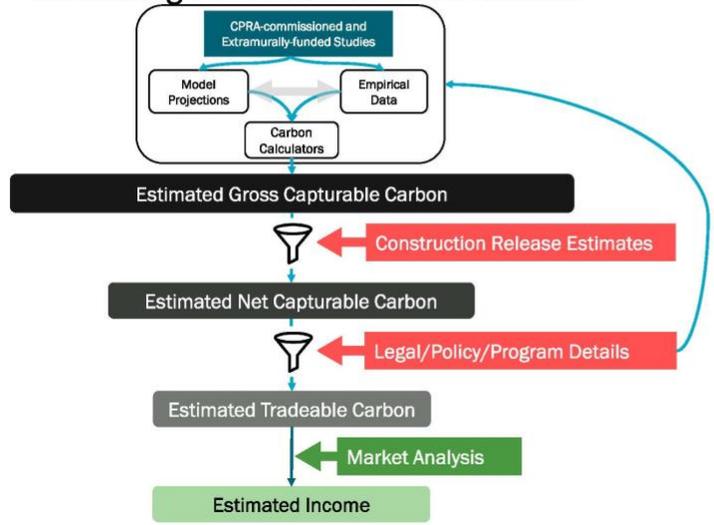
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# CPRA's Coastal Carbon Actions and Approach

## Monetizing Estimated Tradeable Carbon

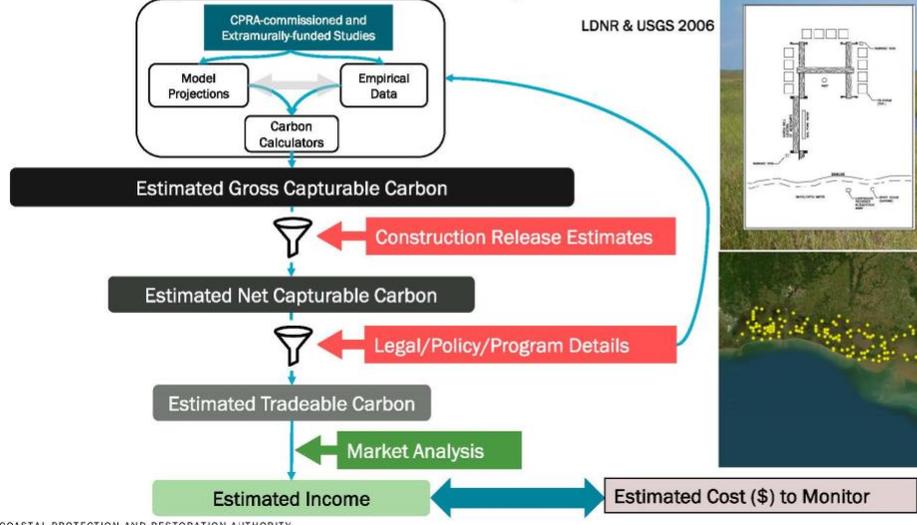


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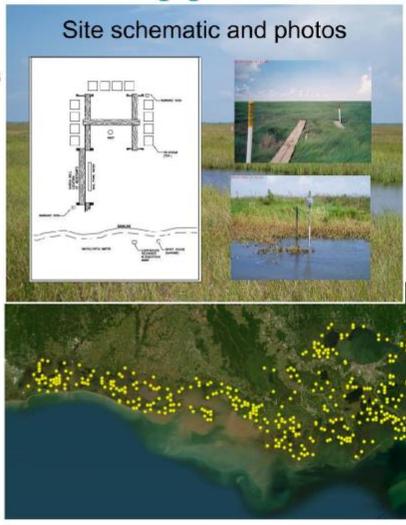
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# CPRA's Coastal Carbon Actions and Approach

## Estimating Net Economic Feasibility



LDNR & USGS 2006



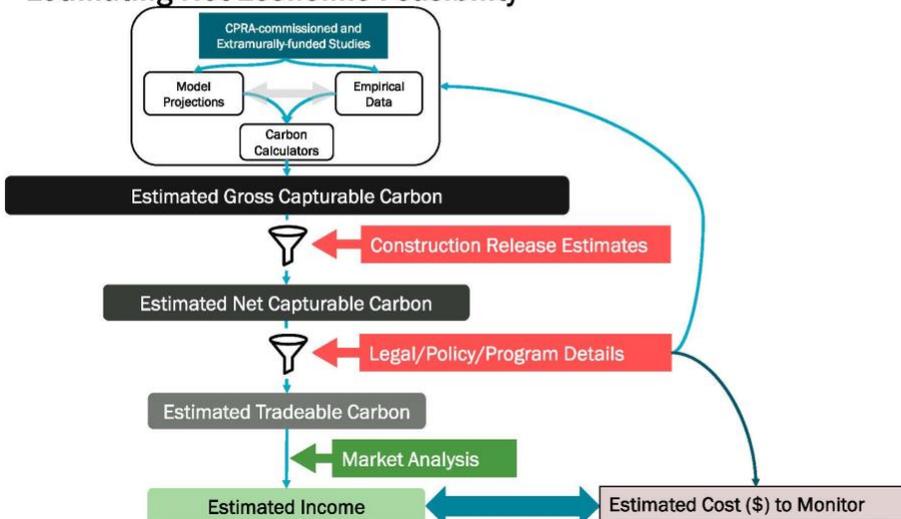
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# CPRA's Coastal Carbon Actions and Approach

## Estimating Net Economic Feasibility

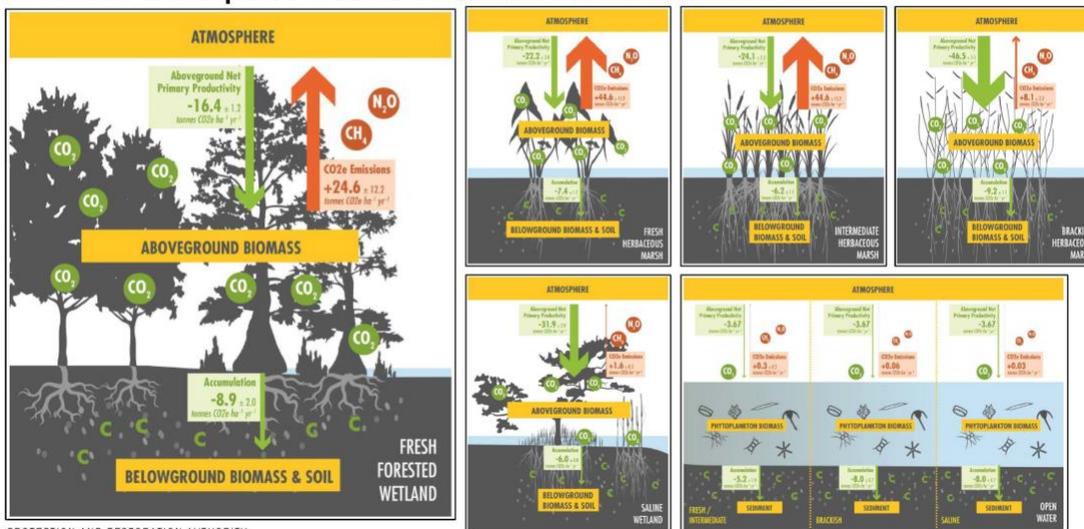


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# CPRA's Coastal Carbon Actions and Approach

## Annotated Conceptual Models Based on Available Literature



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## CONNECT WITH US!



James Pahl [james.pahl@la.gov](mailto:james.pahl@la.gov)



## AGENDA

Time	Topic
8:30	Welcome, Opening Comments, Panel Charge
8:45	Louisiana's Investment in Coastal Carbon – Deeper Dive
9:00	<b>Carbon White Paper Overview</b>
9:15	Panel Discussion of Legal, Policy, Scientific Challenges and Uncertainties
10:00	Break
10:30	Afternoon Gulf Coastal Carbon Working Group meeting Preparation
11:25	Wrap up

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Coastal Protection &  
Restoration Authority

## Draft Louisiana Coastal Carbon Market Whitepaper



PLAUCHÉ & CARR LLP



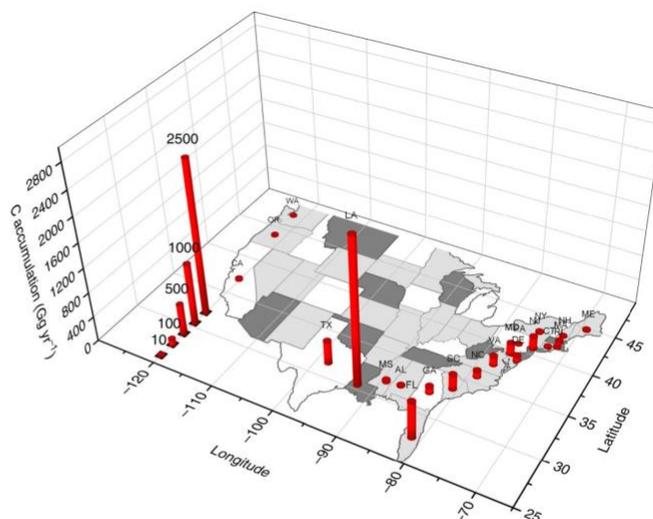
Source: NPS (2023)

## The Opportunity



## Opportunity

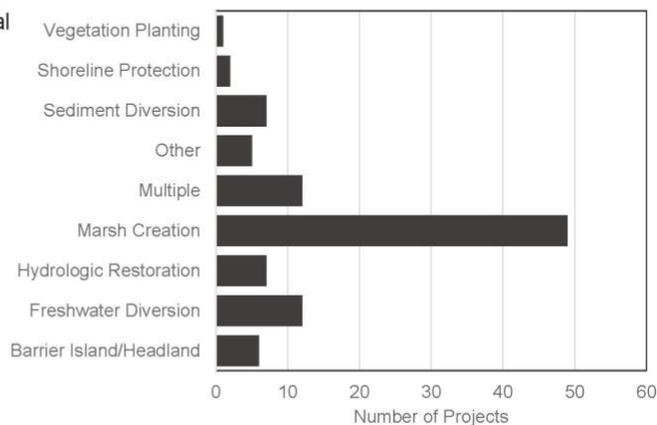
- Louisiana has the most extensive tidal wetlands and the highest carbon accumulation rates in US
- Potential for a revenue stream through carbon credits derived from
  - Carbon sequestration by natural systems
  - Restoration and coastal protection projects
- Credits could:
  - Be sold or traded
  - Meet climate regulatory compliance requirements
  - Satisfy net-zero commitments



From: Tidal wetland resilience to sea level rise increases their carbon sequestration capacity in United States (Wang et al., 2019)

## Louisiana Coastal Master Plan

- CMP restoration projects are one of the largest opportunities for carbon sequestration
- Carbon sequestration potential varies widely based on project activities and environmental setting



Data above from 2017 CMP



## Legal and Policy Issues in Louisiana

### Federal Coastal Carbon Programs

- EO 13653, "Preparing the United States for the Impacts of Climate Change" (2013)
  1. Directing agencies to focus on promoting dual goals of greater climate resilience and carbon sequestration when developing land- and water-related climate resiliency policies, programs, and regulations
- Climate and Natural Resources Working Group's "Priority Agenda: Enhancing the Climate Resilience of America's Natural Resources (2014)
  1. Foster climate-resilient lands and waters
  2. Manage and enhance U.S. carbon sinks
  3. Enhance community preparedness and resilience by utilizing and sustaining natural resources
  4. Modernize Federal programs, investments, and delivery of services to build resilience and enhance sequestration of biological carbon
- National Estuarine Research Reserve System Science Collaborative – Science Transfer project (2018)
  1. Blue Carbon in Practice webinar series
  2. Establishing a Blue Carbon Network for the Gulf Coast (<https://www.fisheries.noaa.gov/inport/item/47688>)
- Ocean Climate Action Plan, A Report by the Ocean Policy Committee (March 2023)
  1. Accelerate Nature-Based Solutions: Blue-Carbon – discussing challenges in carbon accounting, highlighting the need to increase and expand research, and the need to centralize policy decisions around prioritizing blue carbon since coastal habitats are largely controlled and managed by states and local governments



## State Coastal Carbon Programs

- **Georgia Carbon Sequestration Registry Act (Ga. Code Ann. 12-6-220 et seq.)**
  1. Non-profit program administered by the Georgia Forest Commission and the Georgia Superior Clerks Cooperative Authority
  2. Designed to provide forest landowners, municipalities, and public and private entities with a mechanism for the development, documentation, and reporting of carbon sequestration projects
  3. Objectives include encouraging voluntary actions to reduce GHG emissions, allow participants to voluntarily record carbon sequestration efforts, ensure that sources receive appropriate consideration for certified carbon sequestration results under future federal or international regimes
- **Oklahoma Carbon Sequestration Enhancement Act (Ok. St. T. 27a 3-4-101 et seq.)**
  1. Authorized the Oklahoma Conservation Commission to establish and administer a carbon sequestration certification program
  2. Applies to agricultural, natural resources conservation, and CO<sub>2</sub> injection carbon sequestration practices
  3. Fee-based verification of carbon credits to participating aggregators who hold carbon contracts
  4. Objectives include allowing for the documentation and quantification of carbon sequestration so that users can participate in future CO<sub>2</sub> marketing or trading programs

## Coastal Property Ownership in Louisiana

- La. C.C. art. 450 – Public things are owned by the state...including “running waters, the waters and bottoms of natural navigable water bodies, the territorial sea, and the seashore.”
- La. R.S. 9:1101 – “The waters of and in all bayous, rivers, streams, lagoons, lakes and bays, and the beds thereof, not under the direct ownership of any person on August 12, 1910, are declared to be the property of the state....”
- La. R.S. 49:3 – “The State of Louisiana owns in full and complete ownership the waters of the Gulf of Mexico and of the arms of the Gulf and the beds and shores of the Gulf and the arms of the Gulf, including all lands that are covered by the waters of the Gulf and its arms either at low tide or high tide....”
- La. Const. art. IX, sec. 3 – “the legislature shall neither alienate nor authorize the alienation of the bed of a navigable water body, except for purposes of reclamation by the riparian owner to recover land lost through erosion





## Ownership of Eroded Land & Why it Matters

### OWNERSHIP OF COASTAL LANDS

The State owns water bottoms that existed prior to its admission to the Union and were not otherwise alienated.

What happens to land that becomes a sea bottom after admission or alienation?

Is State ownership triggered by operation of law?

### WHY IT MATTERS

- Mineral rights
- Public access
- Conservation
- Acquisition of land rights (easement/servitude) for coastal restoration
- Revenue generating opportunities

## Carbon Credits Under Louisiana Law



### • La. R.S. 9:1103

Any **monetary compensation derived from the sequestration of carbon** on the surface of land or water bottoms through biological processes, including but not limited to the growth of plants or animals or other natural or induced processes, **is the property of the owner of the land or water bottom** upon which such sequestration occurs, unless (a) contractually assigned to another party; or (b) **the sequestration, uptake, or prevention of emission of greenhouse gases is directly related to the avoided conversion or avoided loss attributable to a project carried out or sponsored by the Coastal Protection and Restoration Authority or the Coastal Protection and Restoration Authority Board, including use of public resources as provided in R.S. 49:214.5.4. In such instance, the monetary compensation is the property of the state.**

### • La. R.S. 9:1103

A. The commissioner is authorized to take all actions necessary to ensure Louisiana's participation, to the fullest extent practicable, regarding carbon sequestration or the reduction of emissions of carbon dioxide and other greenhouse gases from agriculture and forestry.

B. The office of soil and water conservation of the Department of Agriculture and Forestry shall function as the state's agency for such participation.

C. **The provisions of this Section do not affect the authority of the Louisiana Department of Natural Resources or benefits, credits, or offsets derived from projects approved and undertaken by the Coastal Protection and Restoration Authority in the coastal area.**



## Potential Paths Forward

### Crediting Under Existing Standards - Opportunities

- VM0007 is likely the coastal carbon crediting mechanism that currently offers the greatest potential for coastal Louisiana
  - Widest variety of applicable project activities, including conservation
  - Applicable to full range of coastal wetland habitats
  - Lowest thresholds for project additionality
- Using an established crediting methodology as opposed to developing a brand-new standard provides:
  - A known pathway for project development, registry, validation, and verification.
  - Consistency for incorporating carbon crediting into project schedules and budgets, and potentially reducing volatility of credit pricing when introduced to the market





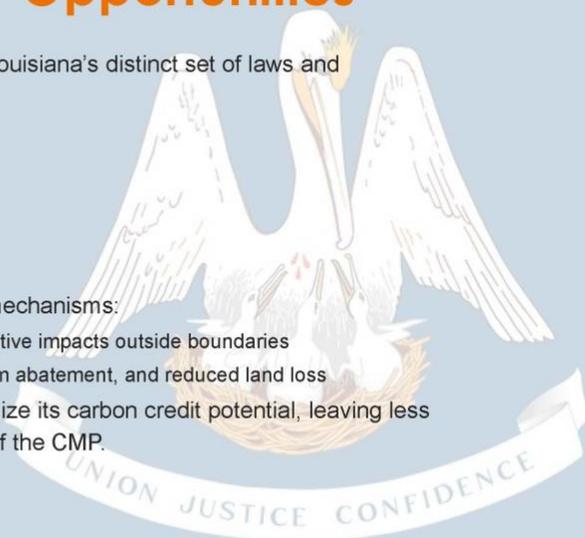
## Crediting Under Existing Standards - Challenges

- Difficult application from non-permanence due to RSLR and erosion
- Limitations of available data
  - Large body of research in coastal Louisiana, little specifically informs carbon credit generation
- Boundary Definition
  - Largest climate benefit of the CMP is avoided emissions from coastal wetland soils, which may be located outside a specific project boundary
  - Projects implemented on areas under the control of one stakeholder may experience lower credit yields and higher risks of loss, while generating NER outside the project boundary in areas where carbon crediting is not taking place
  - Difficult to create a project boundary large enough for allow marsh migration to mitigate permanence concerns
  - Project boundary beyond proposed work limits complicated by registry requirements related to land ownership, leakage, spatial variability, and monitoring locations used to verify credits



## Louisiana Standard - Opportunities

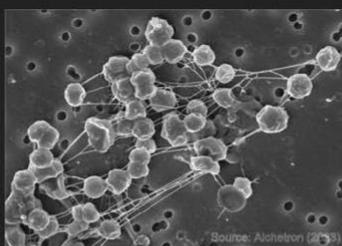
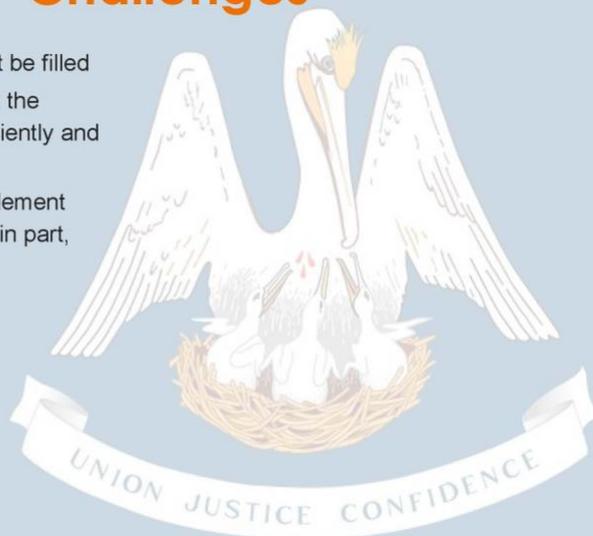
- Policies and processes would be tailored to Louisiana's distinct set of laws and ecosystems
- Address the state's specific challenges:
  - Erosion and subsidence
  - GHG flux and variability
  - RSLR
  - Additionality of full range of CMP projects
- Add new elements or not mature in existing mechanisms:
  - Credit NER within project boundaries and positive impacts outside boundaries
  - Coupled co-benefits such as biodiversity, storm abatement, and reduced land loss
- This approach would allow the state to maximize its carbon credit potential, leaving less carbon "on the table" during implementation of the CMP.





## Louisiana Standard - Challenges

- **Information:** several critical data gaps must be filled
- **Policy:** key decisions must be made so that the crediting mechanism can be developed efficiently and with clarity
- **Time:** could take longer to develop and implement rather than using something that is, at least in part, already established



Source: Alchetron (2015)



Source: EERE (2016)



Source: phys.org (2016)

## Information Needs for Decisions



## Critical Gaps

- RSLR and Permanence
- Project Boundary Definition
- GHG Fluxes
  - Variability
  - Methanogen flora
- SOC sources and fate



## Recommended Next Steps



## Recommended Next Steps

- **IDENTIFY AND PURSUE THE MOST VIABLE POLICY FRAMEWORK**
- **CLOSE THE GAPS OF SCIENTIFIC UNCERTAINTY**
  - Quantify soil carbon accumulation, loss, and transport dynamics via modeling informed by field data
  - Utilize innovative technologies (e.g. Remote sensing, CarbonWATCH model, eDNA) for large-scale data collection
  - Clarify relationships between GHG emissions and salinity across sedimentary facies and habitat types
  - Establish relationship between methanogenic microbial communities and CH<sub>4</sub> emissions
  - Develop an estuary to deep Gulf of Mexico carbon flux budget if warranted

## Recommended Next Steps

- **ESTABLISH STANDARDS APPLICABLE TO LOUISIANA**
  - Synthesize available data and work with state regulators, state and federal agencies, and academia to support development of science and policy for a Louisiana carbon standard and market
  - Conduct a case study applying existing methodologies to assess NER derived from projects already implemented by the LCMP
  - Pilot registration of an LCMP project with VCS using VM0007 to generate credits for sale on the VCM
  - Conduct an Economic Analysis & construct timeline to understand costs/benefits of developing a Louisiana Standard or using existing methodologies
  - If warranted, develop a crediting mechanism using the framework presented in VM0007 as a starting point, but tailored to the unique challenges of blue carbon in Louisiana



 **Stantec**  **THE WATER INSTITUTE**  
PLAUCHÉ & CARR LLP

## Questions and Discussion

## AGENDA

Time	Topic
8:30	Welcome, Opening Comments, Panel Charge
8:45	Louisiana's Investment in Coastal Carbon – Deeper Dive
9:00	Carbon White Paper Overview
9:15	Panel Discussion of Legal, Policy, Scientific Challenges and Uncertainties
10:00	Break
10:30	<b>Afternoon Gulf Coastal Carbon Working Group meeting Preparation</b>
11:25	Wrap up



# GCCWG

## Gulf of Mexico Coastal Carbon Working Group

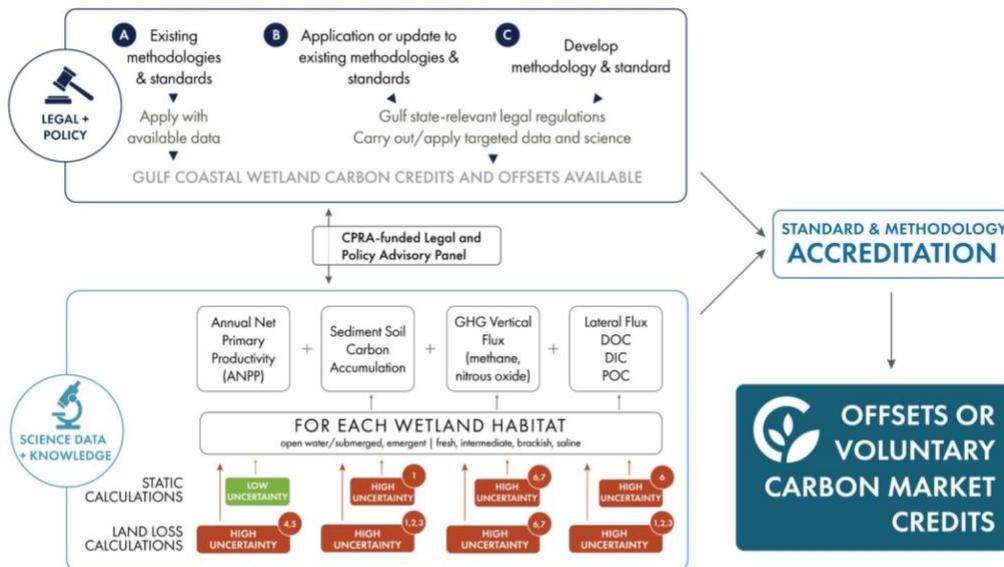
### Mission

- Collaboratively and strategically address critical science gaps and policy issues associated with developing coastal carbon as a conservation and management tool for Northern Gulf of Mexico coastal ecosystems

### Participants

- Open to researchers, resource managers, policy & legal experts, landowners, industry leaders, others

66



67



**THANK YOU!**





## C.4 FEBRUARY 19, 2024 SUMMARY OF NOTES AND INPUT FROM PANEL

In a facilitated discussion, the panel was asked a series of questions for discussion. They were asked to specifically highlight any points that may be an “off ramp,” i.e., lead to a direct decision that further pursuing blue carbon accreditation for tidal marshes was not viable. In addition, they were asked to comment on potential decision points and what criteria may show that a threshold to ‘off ramp’ had occurred. Finally, they were asked to identify if there were any deterministic steps to fully understand or be able to answer questions from another perspective? (an example might be, there is no point deciding on whether to build a new standard until it is determined that the State could actually receive financial benefit from selling carbon of a restoration project implemented by the State – this one is answered in the positive, so that deterministic path can continue).

- **Ryan Moyer–Verification Process:** What do you consider the critical uncertainties for quantifying net GHG flux and required discounts in the verification process through VM0033, VM007 and/or other most applicable methodologies? Which (if any) of these do you expect to be updated/improved in the VM0033 current update?
  - There are currently large uncertainties with the two most relevant methodologies, VM0007 and VM0033. VM0007 is about to be retired and replaced with VM0048 and all of the tidal wetland accounting will now be run through VM0033. A new version of the ‘Permanence Risk Tool’ was just released – this has to be used within the application/approval process to quantify the risk associated with non-permanence. This non-permanence buffer creates a lot of uncertainty for feasibility of blue carbon projects in the face of sea level rise and with the updated version of the Permanence Risk Tool outputs have become more conservative (i.e., require a larger buffer against potential non-permanence). The largest uncertainties are the fate of carbon entering and exiting a system, including land to open water transitions, lateral fluxes including both imports and exports of dissolved organic carbon, and ultimate fate of eroded particulate organic carbon in geological time, for example if and/or how much of this carbon gets deposited in deep ocean beds.
- **Lydia Olander–Federal Policy landscape:** What are current and/or pipeline policy opportunities to fast-track restoration project implementation towards carbon accreditation, what are key agencies/ departments and possible programs/opportunities? What are the federal legal and policy considerations that might limit or preclude Louisiana’s ability to take credits to market? And, what do you see as the potential opportunity for the insurance industry to bridge the permanence gap in blue carbon credit delivery for tidal wetlands?
  - The federal government is currently focused on the measurement and monitoring side of carbon to generate inventories of stocks, rather than consideration of fluxes and the potential of net changes to be considered in an offset context. Blue carbon was mentioned in President Biden’s national roadmap on nature-based solutions in 2022 and some (non-passed) bills in congress are being developed around developing standards for carbon markets. The only current policy was from USDA regarding use of federal money for a project that then can be considered for carbon credits. The biggest question for



consideration is: what is the scale of the project, is it basin wide, or state-wide, or smaller? A larger overall consideration may reduce or remove some of the challenges with assumptions and required discounts to mitigate uncertainty around permanence (for example lateral flux may be less of an issue if the whole of coastal Louisiana is being accounted for in the net GHG flux quantifications).

- **Sebastiaan Van Dort–Establishing a New Standard:** As applicable to a potential new blue carbon tidal wetland standard, what is the process, timeframe, cost, relative benefits, and challenges of developing a new standard? Who needs to be involved, how are the detailed methodologies established? Who does the verification? Etc.
  - The process is the same to develop a new ‘standard’ or a new ‘methodology’ (below the term standard is used to encompass both standard and methodology). BSI can facilitate development of a new standard as well as the regulation and implementation of that standard, but they are completely separate groups and work independently of each other. Development of an ISO standard takes roughly five years total. However, there are two additional options. Firstly a ‘fast-track’ standard which can be developed in 12-18 months and, secondly, a ‘flex standard’ which can be established in as little as three months and is then developed fully over time to a full ISO standard (five years total). In all cases community (user and stakeholder) engagement is essential throughout the standard development process. In one example developing a set of core Biodiversity accounting standards there were 16 workshops getting input from 30 experts. The process is consensus based, with two specific rounds of formal stakeholder review and input. Likely for any development in Louisiana a fast-track standard development would be most appropriate, so 12–18-month process of stakeholder engagement and development.
- **Bessie Daschbach –Louisiana Legal Considerations:** What are likely to be the main state legal considerations that may slow down, limit, or preclude taking restoration projects through to carbon certification and taking credits to market? What factors are stakeholders and market participants looking for in a carbon standard/program when evaluating opportunities for investment and participation?
  - One of the largest questions is around public water bottoms or land ownership and especially areas with dual claims to ownership – which are abundant in Louisiana. There is a tension currently with landowners and the willingness of landowners to participate may depend on where the credits ultimately reside, even though current state legislation provides some clear legal guidance. The second is who would bear the risk of loss of carbon in the event of a storm or simply with land loss over time, given how rapidly the coastal area is changing. From a legal perspective a broader coastal approach that can accommodate and alleviate some of the risk of losing the carbon may be highly beneficial. Finally, the integrity of the credits makes an important legal distinction, are they solely for social responsibility or intended to be sold as carbon credits on the voluntary market – the level of rigor and legal responsibility associated with these two options may be very different. The ultimate end user, whether purchaser/seller or organization/department looking for social accounting of the carbon, is a primary determinant of the required path forward and the associated legal constraints.



- **Jennifer Howard–Global Perspective on Best Practice and Taking Credits to Market:** In the context of application to tidal herbaceous wetlands, what are the applicable best practices of blue carbon project implementation and what can Louisiana take away from the international market perspective of taking blue carbon credits to market from Southeast Asia and other geographies?
  - A general set of process step questions to determine likely viability of a blue carbon project:
    - What is project objective: biodiversity, protecting people, climate, or all?
    - What are carbon finance objectives: how much of implementation budget is expected to be covered and when (noting that income from carbon credits comes after project has been finished for years – unless credits are forward sold, which has another associated set of risks)
    - What are benefits sharing arrangements: how much funding is set aside for community (or landowner) vs funding project implementation, maintenance, monitoring vs returned to investor?
    - Are offset credits required for market or just proof of mitigation benefit (social responsibility)?
    - What is threat/risk and can that risk be managed (reductions)?
    - What is starting scenario and therefore the level of needed hydrology or sedimentation repair (removals)?
    - Are ownership of land and carbon clear?
    - What will the project cost, approximately?
    - What carbon data is available, what is needed, what would be nice to have? Which of these are easy and cheap to collect vs expensive and difficult? What is the potential cost-benefit of each type of data in terms of cost to collect versus potential impact on final VCUs from the project? This last should be the primary determinant for collection of any carbon data.
    - Is the project in one large area or lots of small areas – can any economies of scale be realized where implementation or restoration costs are not directly related to area, this can have a large influence on both the socialization/buy in as well as the benefits sharing opportunity (landowner – defraying project costs – investor)
  - Noted that VM0033 assumptions can be updated over time within a project, so while initial credits may need to be estimated using standard assumptions, if additional monitoring data has been collected then subsequent credits can be calculated using the field-based monitoring data. The updated assumptions cannot be used retroactively, however, to verify additional credits from estimates that have already been sold. All carbon quantification and accreditation for projects is challenging at present, not just blue carbon but also green carbon from forest and other terrestrial projects.
  - Conservation International works widely internationally, Surinam, Chile, Philippines, etc. and so often are setting up projects with low data and low capacity for implementation.



Fundamental goals are 1) safeguard nature (do no harm) and 2) employ best information including Traditional Ecological Knowledge, indigenous knowledge, environmental science, gender mainstreaming, equity, addressing stakeholder needs, ensuring government and private input is equitable, being clear on who is paying for the project and who is responsible for the project delivery.

- Governance issues are more often an ‘off-ramp’ for a project than science. That is, are the communities on board, are benefits going to be equitably distributed, is land and carbon ownership clarified, what are jurisdictional and governance regulations and requirements – only once these are understood does it make sense to start looking at the scientific cost benefit analysis and applying discount tools etc.
- High value blue carbon credits that include multiple benefits for resiliency and biodiversity are highly desirable. There is industry and large companies (big tech) interest.
- Monitoring projects is expensive if the goal is for private sector to invest in financial return. For example, the Columbia project is US\$700,000 per year to maintain the project, plus the monitoring cost and Verra certification cost each time a set of carbon credits are quantified/verified.

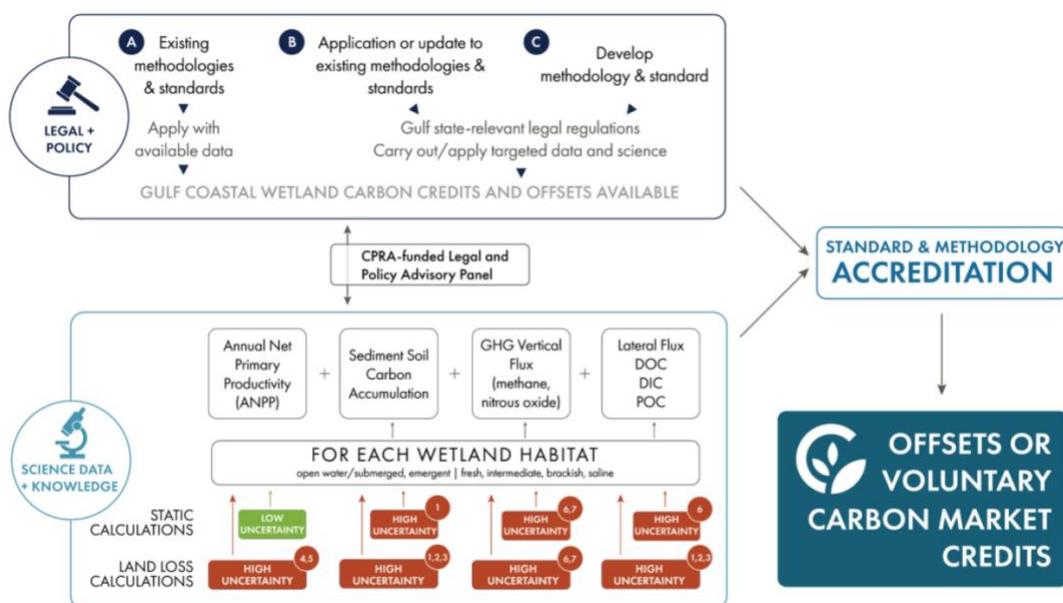


Figure C-1. Framing diagram to facilitate communication between the legal and policy panel and the coastal carbon working group

# APPENDIX D. NOVEMBER 12, 2024 MEETING

## D.1 NOVEMBER 12, 2024 MEETING AGENDA



### STATE OF LOUISIANA'S COASTAL CARBON POLICY AND LEGAL ADVISORY PANEL MEETING

November 12, 2024 / 1:00 – 5:00 CT

CPRA Building

Room 152

#### Objectives

- Reengage with Panelists on the State's work related to coastal carbon.
- Collaboratively discuss and determine next steps for completing Report 2.2: Summation of Existing Crediting Frameworks and Methodologies
- Prepare for November 13, 2024 Gulf Coastal Carbon Working Group meeting.

#### Agenda Items (All times are approximate)

Time	Topic
1:00	Welcome, Opening Comments, Panel Charge <i>Jean Cowan, TWI; Brian Lezina, CPRA; James Pahl, CPRA</i>
1:15	Panelists Updates <i>Panel</i>
1:25	Update on Report 2.1 (Legal and Policy Review) <i>Valerie Black, TWI</i>
1:35	Report 2.2 – Overview of Progress and Schedule <i>Jean Cowan, TWI</i>
1:40	Break
2:00	Discussion: Report 2.2, Section 7.4 (High Quality Credits – Benefits and Costs of Stacking or Stapling) <i>Group</i>
3:15	Discussion: Report 2.2, Section 7.5 (Federal and LA Legislative Opportunities, Initiatives, Potential Future Opportunities) <i>Group</i>
4:00	Break
4:15	Prepare for November 13 Coastal Carbon Working Group Meeting <i>Jean Cowan, TWI; Valerie Black, TWI</i>
5:00	Wrap up



## **D.2 NOVEMBER 12, 2024 MEETING PREPARATORY INFORMATION TO PANELISTS**

To support the panelists in preparing for the meeting, the project team provided a document describing the goals of *CPRA Funding Programs: Legal and Policy Review of CPRA's Ability to Generate Revenue from Carbon Offset Projects Supported by Federal or State Funding*, as well as specific questions that the panelists would be asked to address during the meeting. This document was sent to the panelists in advance of the meeting and the discussion from 2:00–4:00 flowed accordingly.



# STATE OF LOUISIANA'S COASTAL CARBON POLICY AND LEGAL ADVISORY PANEL MEETING

## *Report 2.2, Sections 7.4, 7.5 Discussion*

*November 12, 2024*

Below, please find more information regarding the purpose and goals for the 2:00 – 4:00 CT discussion of Report 2.2, Sections 7.4 and 7.5. Also, please note the topics that each panelist is asked to be prepared to provide remarks on as part of supporting the group discussion.

### **7.4: High Quality Credits – benefits and costs of stacking or stapling (75 minutes total)**

- **Goals for session:**
  1. Discuss ecosystem services that may have market potential (e.g., resiliency, biodiversity).
  2. Discuss benefits/costs of stacking or stapling.
  3. Discuss whether adding ecosystem services justification is truly increasing carbon offset price, and by how much. Consider whether quantifying ecosystem services may be a much higher expense and what might be a break-even point?
  4. Identify risks or concerns: Could this distract from a primary goal of progressing financially viable tidal wetland credits, or are they so closely related it would be most efficient to develop both at the same time?
  
- **Remarks from panel (approximately 50 mins total) – please consider the above goals**
  - **Ryan Moyer** (5-7 min): Discuss the status of linking resiliency or biodiversity to carbon credits. Is there anything that TerraCarbon is involved in with respect to resiliency and whether it could be stacked or stapled? Thoughts on market potential?
  - **Jennifer Howard** (5-7 min): Provide any experience or examples of linking resiliency or biodiversity to carbon credits.
  - **Sebastiaan Van Dort** (5-7 min): Process question: Why is BSI focusing on biodiversity or resilience co-benefits? What was the decision-making process for what to include? How explicitly are these services being linked to carbon credits? What are BSI's SOPs for this work?
  - **Group Discussion:** NOTE this is intended to be an open session, with discussion occurring as appropriate throughout.



- **Group Discussion of Session Goals** (approx. 30 min): Follow up discussion, refinements, clarifications from the group, especially with respect to the above goals to achieve suggestions, and consensus where possible, on path forward.

#### **7.5: Federal and LA legislative opportunities, process, and tax credits (45 minutes total)**

- **Goals for session:**
  1. Identify and discuss potential legislative opportunities initiatives, discussions, future opportunities.
  2. Consider examples of tax revenue in addition to carbon offset revenue: Are there any examples of multiple revenue sources (tax benefits, carbon revenue, biodiversity revenue) being dispersed to multiple recipients (e.g. carbon revenue to state/landowner, tax credits to private investors)?
- **Remarks and discussion (45 mins total)**
  - **Lydia Olander** (5-7 min): Federal policy considerations on the above goals.
  - **Bessie Daschbach** (5-7 min): State policy and legal considerations on the above goals.
  - **Group Discussion of Session Goals** (approx. 30 min): Questions and discussion on federal and state policy opportunities in general and tax credits specifically.



### D.3 NOVEMBER 12, 2024 MEETING ATTENDEES

Table D-1. List of legal and policy panel members and additional attendees from CPRA, Plauche and Carr, Stantec, and The Water Institute at the November 12, 2024 meeting.

First Name	Last Name	Affiliation
Valerie	Black	The Water Institute
Tim	Carruthers	The Water Institute
Jean	Cowan	The Water Institute
Bessie	Daschbach	(Panel member)
Michelle	Feltermann	CPRA
Greg	Grandy	CPRA
Jennifer	Howard	(Panel member)
Erin	Kiskaddon	The Water Institute
Glenn	Ledet	CPRA
Brian	Lezina	CPRA
Skylar	Liner	CPRA
Ryan	Moyer	(Panel member)
Lydia	Olander	(Panel member)
James	Pahl	CPRA
Garvin	Pittman	The Water Institute
Brendan	Player	Stantec
Jonathan	Scheibly	Stantec
Ryan	Seidemann	The Water Institute
Hilary	Stevens	Restore America's Estuaries
Sebastiaan	Van Dort	(Panel member)
Ryan	Vivian	CPRA



## D.4 NOVEMBER 12, 2024 PRESENTATION





**LOUISIANA'S  
COASTAL CARBON  
POLICY AND LEGAL ADVISORY PANEL**

November 12, 2024




## AGENDA

Time	Topic
1:00	Welcome, Opening Comments
1:15	Panelists Updates
1:25	Report 2.1 Update
1:35	Report 2.2 Update: Progress, Schedule
1:40	Break
2:00	Discussion: Report 2.2, Section 7.4
3:15	Discussion: Report 2.2, Section 7.5
4:00	Break
4:15	Prepare for November 13 Working Group Meeting
4:55	Wrap up





## •CPRA Considerations for Coastal Carbon

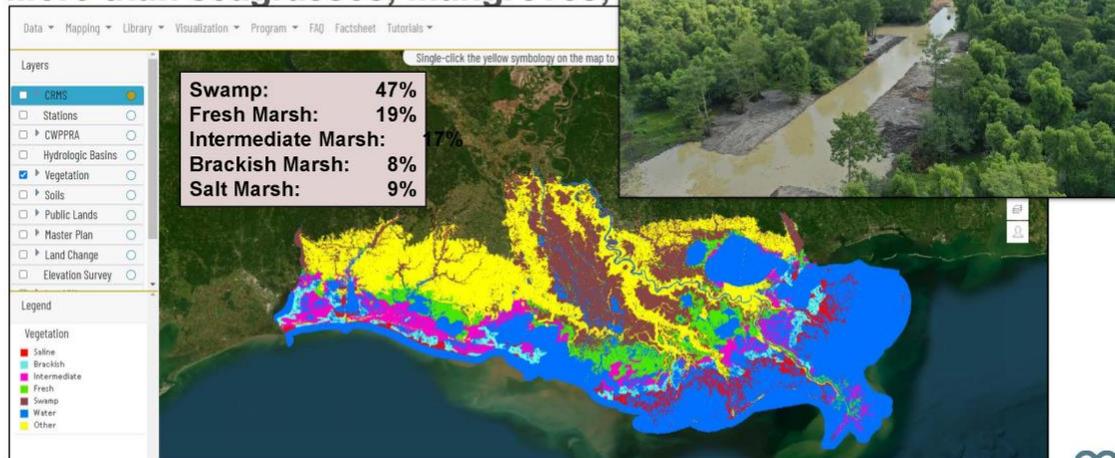
### • In a nutshell ...

Is it **feasible** for estimates of net coastal carbon benefits from restoration and risk-reduction projects in Louisiana to be submitted to existing carbon-crediting accreditation frameworks to generate and trade carbon credits?



## •CPRA Considerations for Coastal Carbon

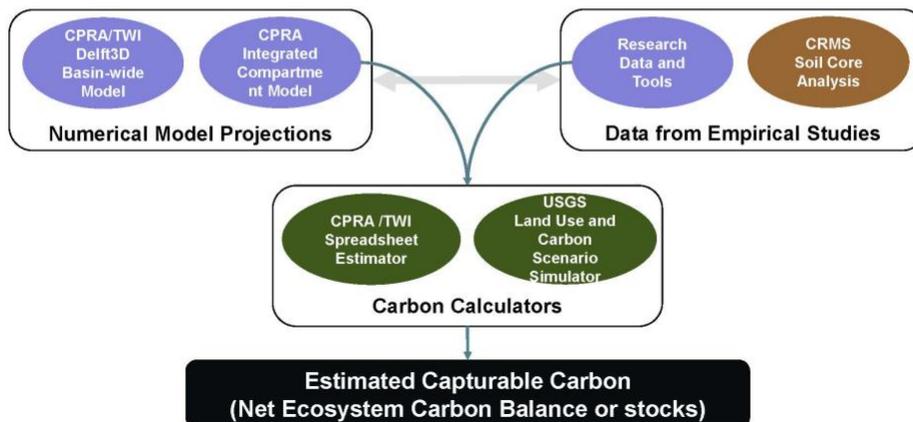
- **Terminology: Why “Coastal Carbon”?**
- **More than seagrasses, mangroves,**





# CPRA's Coastal Carbon Activities

## Science-based Estimates of Carbon Benefits of Project Implementation

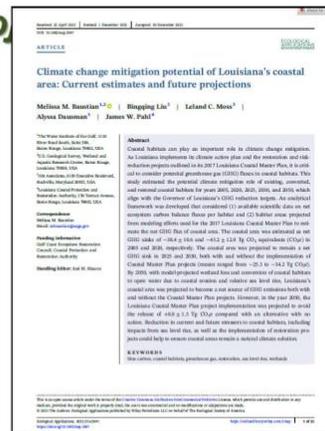
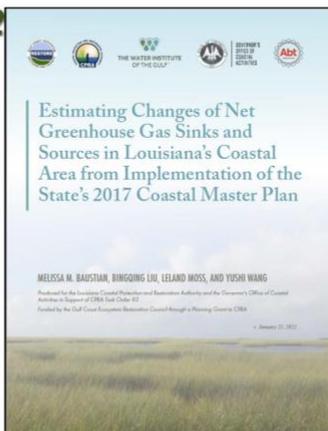


# CPRA's Coastal Carbon Activities

## Potential Contribution of 2017 Master Plan Integrated Activities

### Activities

- Literature-driven algorithms of net ecosystem carbon balance of Louisiana coastal habitats
- Quantify projected change in habitat extent from 2017 Master Plan Integrated Compartment Model outputs
- In-process peer review
- Develop spreadsheet-based estimations of net carbon emissions
- Publish an open-source, peer-reviewed journal article

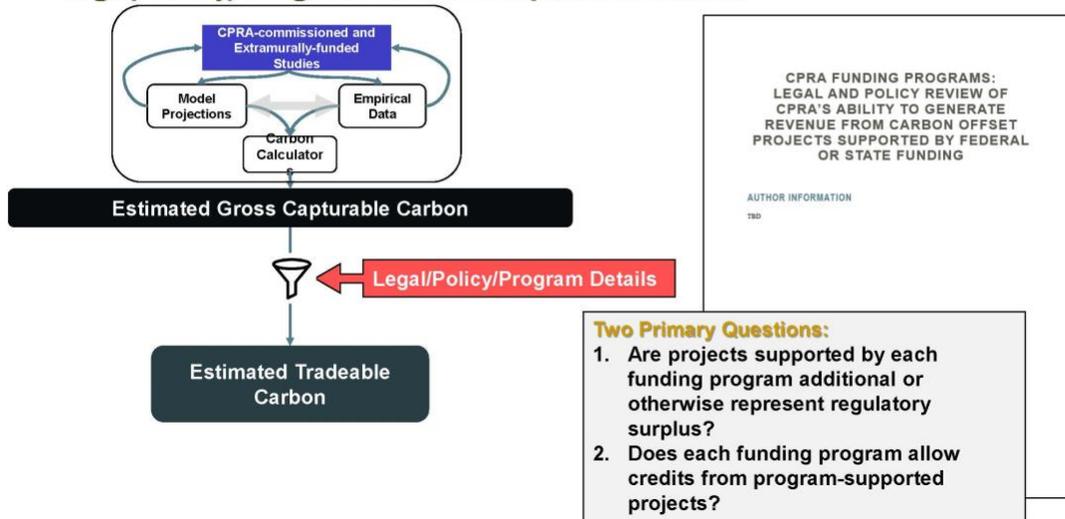






# CPRA's Coastal Carbon Activities

## Legal/Policy/Program Limits on Capturable Carbon



# CPRA's Coastal Carbon Activities

## Science-based Estimates of Carbon Benefits of Project Implementation

### LUCAS

Herbaceous Wetland Carbon Model

Carbon pool (tons C·km<sup>-2</sup>)

- Aboveground
- Belowground

AG-VF: Aboveground Very Fast  
BG-VF: Belowground Very Fast  
BG-S: Belowground Slow

Estuarine Pools  
Palustrine Pools

Carbon flux (tons C·km<sup>-2</sup>·yr<sup>-1</sup>)

- Growth
- Mortality
- Burial
- Emission (to Atmosphere)
- Lateral transport (to Aquatic)

Estuarine Fluxes  
Palustrine Fluxes

**Incorporating wetland carbon fluxes into LUCAS to inform Louisiana's Climate Action Plan**

PROVENANCE  
Camille L. Cook, State Wetlands Division

**BACKGROUND:**  
Wetlands store a lot of carbon in the soil. Wetlands are disappearing. When wetlands are lost, the carbon buried deep in the soil may be released to the atmosphere. Wetland restoration and conservation can decrease net carbon emissions. Managers and policy makers are looking on wetlands as a nature-based climate solution. The LUCAS model can help managers to quantify the contribution of wetlands to climate mitigation plans.

**METHODS:**

**RESULTS: Mississippi River Delta Plain**  
Despite wetland loss (1990-2016), remaining wetlands continued to accumulate carbon, but at a significantly lower rate.

**The Land Use Carbon Simulator helps decision makers to develop climate action plans by quantifying the carbon consequences of wetland loss and wetland restoration.**

**LUCAS**

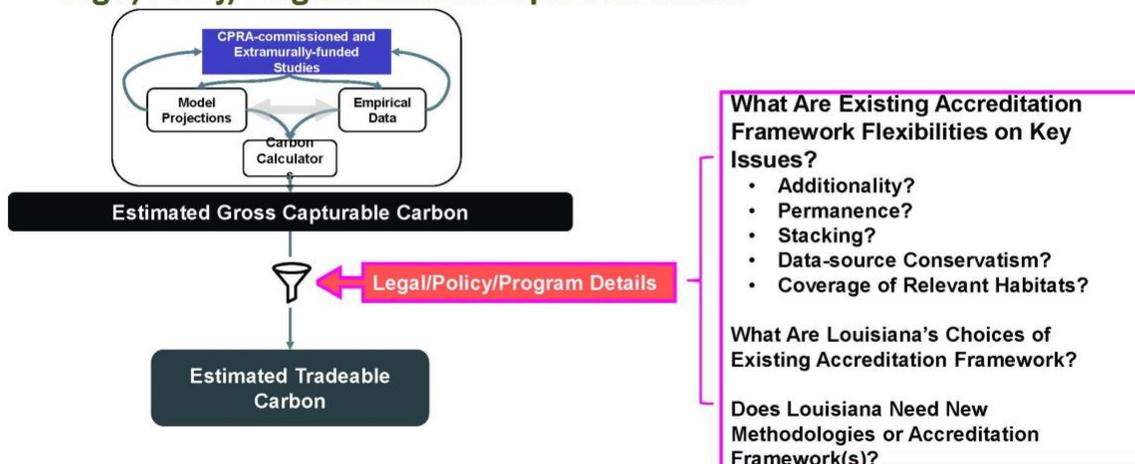
Herbaceous Wetland Carbon Model





# •CPRA’s Coastal Carbon Activities

## • Legal/Policy/Program Limits on Capturable Carbon



# •CPRA’s Coastal Carbon Activities

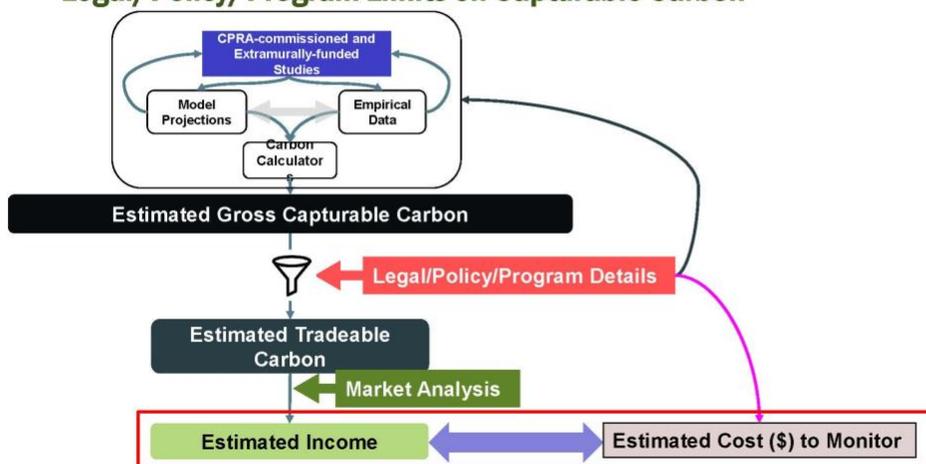
## • Legal/Policy/Program Limits on Capturable Carbon





## •CPRA's Coastal Carbon Activities

### • Legal/Policy/Program Limits on Capturable Carbon



## •CPRA Coordination with External Partners

- **Louisiana Division of Administration** is implementing some priority actions from the 2022 Climate Action Plan
- **Restore America's Estuaries National Blue Carbon Working Group** provides access to experience of other coastal states implementing carbon-relevant policies and exposes CPRA staff to updated data and tools relevant to Louisiana resources
- **Texas General Land Office and The Nature Conservancy – Texas** are discussing data, tools, and experience with TGLO and TNC-TX carbon investigations
- **US Natural Resources Conservation Service** has proposed collecting 2-meter soil cores at all CRMS-Wetlands sites for the national Coastal Zone Soil Survey program
- **American Shore and Beach Preservation Association** is working with CPRA to determine appropriate coastal carbon activities to conduct
- **How to leverage other existing carbon science/policy investigations?**





## AGENDA

Time	Topic
1:00	Welcome, Opening Comments
1:15	Panelists Updates
1:25	<b>Report 2.1 Update</b>
1:35	Report 2.2 Update: Progress, Schedule
1:40	Break
2:00	Discussion: Report 2.2, Section 7.4
3:15	Discussion: Report 2.2, Section 7.5
4:00	Break
4:15	Prepare for November 13 Working Group Meeting
4:55	Wrap up

15



## REPORT 2.1 UPDATE

CPRA Funding Programs: Legal and Policy  
Review of CPRA's ability to generate revenue  
from carbon offset projects supported by Federal  
or State funding

Currently under review.

Anticipated final delivery date:

16





## REPORT 2.1 UPDATE

Purpose: Determine what funding CPRA currently receives can be used for restoration and protection projects and general revenue for carbon offset projects.

Focused on analyzing additionality and the regulatory surplus test.

Provided examples of federal laws that would allow carbon offsets to be generated and examples of language that is less clear.

Provided an analysis of each funding source received by CPRA.

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## AGENDA

Time	Topic
1:00	Welcome, Opening Comments
1:15	Panelists Updates
1:25	Report 2.1 Update
1:35	<b>Report 2.2 Update: Progress, Schedule</b>
1:40	Break
2:00	Discussion: Report 2.2, Section 7.4
3:15	Discussion: Report 2.2, Section 7.5
4:00	Break
4:15	Prepare for November 13 Working Group Meeting
4:55	Wrap up

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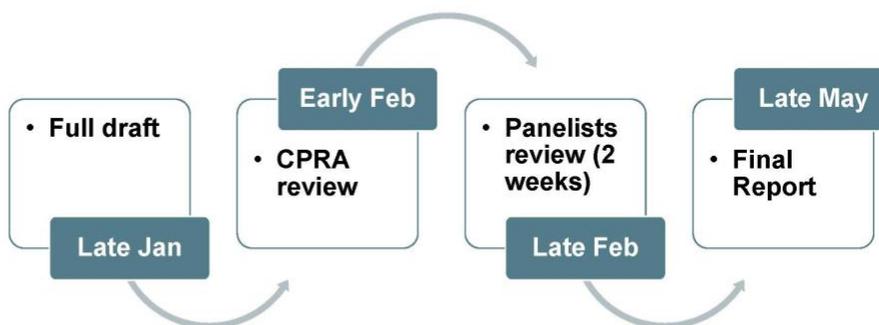
## REPORT 2.2 UPDATES

- Outline being revised as writing progresses and in consideration of [Panelists' comments](#).
- Reminder: 8 Chapters
  - [Revised outline](#)
  - 4 chapters almost fully drafted
    - 1. Driving needs of the State of LA
    - 2. Opportunities for carbon accreditation in LA
    - 3. Challenges with carbon accreditation of LA coastal wetlands
    - 4. Voluntary carbon market crediting process
- Today's Focus: Chapter 7 Options for CPRA

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## HIGH-LEVEL SCHEDULE (2025)



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## AGENDA

Time	Topic
1:00	Welcome, Opening Comments
1:15	Panelists Updates
1:25	Report 2.1 Update
1:35	Report 2.2 Update: Progress, Schedule
1:40	Break
2:00	<a href="#">Discussion: Report 2.2, Section 7.4</a>
3:15	Discussion: Report 2.2, Section 7.5
4:00	Break
4:15	Prepare for November 13 Working Group Meeting
4:55	Wrap up

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## 7.4 HIGH QUALITY CARBON CREDITS – STAPLED OR STACKED (E.G. BIODIVERSITY)

### High level question:

- What is the benefit-cost analysis of ‘high quality’ carbon credits versus certifying carbon credits alone?
  - Benefits:
    - Biodiversity - Community Resilience – Nutrients – other?
    - Additional market opportunities / interest
    - Higher price per credit (but 4x, 10x, 100x?) does it shift the viability?
    - Community and ecosystem benefits documented and prioritized
    - Diversifies opportunity and may increase sustainability for funding restoration
  - Costs:
    - Cost of monitoring (each natural resource, field/proxies/defaults?)
    - Additional processing time
    - Additional submission cost (time for additional justifications)

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## AGENDA

Time	Topic
1:00	Welcome, Opening Comments
1:15	Panelists Updates
1:25	Report 2.1 Update
1:35	Report 2.2 Update: Progress, Schedule
1:40	Break
2:00	Discussion: Report 2.2, Section 7.4
3:15	<b>Discussion: Report 2.2, Section 7.5</b>
4:00	Break
4:15	Prepare for November 13 Working Group Meeting
4:55	Wrap up

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## 7.5 FEDERAL AND STATE LEGISLATIVE OPPORTUNITIES

### High level questions (examples focused on tax and regulation):

- What would it change if a federal tax credit for coastal carbon projects became available?
  - 2018 45Q Carbon Sequestration Tax Credit did not include nature-based carbon but has been greatly over subscribed, so there was clearly interest
- What would it change if a state tax credit for coastal carbon projects became available?
  - May not have the same local incentive or potential to fund coastal restoration, since it would be transferring funds to restoration rather than generating additional revenue
- Is there any future that could include a regulatory market that applied to Louisiana? (Or binding federal guidance for accreditation)
  - Before 2050 what changes may occur in the international and current US regulatory markets that may change the VCM market for coastal Louisiana carbon credits

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## AGENDA

Time	Topic
1:00	Welcome, Opening Comments
1:15	Panelists Updates
1:25	Report 2.1 Update
1:35	Report 2.2 Update: Progress, Schedule
1:40	Break
2:00	Discussion: Report 2.2, Section 7.4
3:15	Discussion: Report 2.2, Section 7.5
4:00	Break
4:15	<b>Prepare for November 13 Working Group Meeting</b>
4:55	Wrap up

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## NOV 13 WORKING GROUP MEETING

- Working Group meeting [agenda](#)
- Panelists' prepared [questions](#)
- Breakout sessions facilitation
- General logistics for Wednesday

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**THANK YOU!**



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## D.5 NOVEMBER 12, 2024 SUMMARY OF NOTES AND INPUT FROM PANEL

Over the course of the four-hour meeting on November 12, 2024, Panelists were asked to provide input on specific topics:

1. **Panelists Updates:** Panelists were asked to provide updates on their coastal carbon-relevant work since the February 2024 meeting in Tampa.
2. **Discussion of Report *Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility*:** Panelists were asked to provide input to support drafting of two sections of this report.
  - a. Discussion of high-quality credits, including the benefits and costs of stacking versus stapling credits whereas stapling merges benefits together to a higher-priced credit, and stacking keeps different elements separate, to potentially be traded or sold separately.
  - b. (NOTE: At the time of the meeting, this was Section 7.4 of the draft report.)
  - c. Discussion of Federal and Louisiana legal opportunities, initiatives, and potential future opportunities. (NOTE: At the time of the meeting, this was Section 7.5 of the draft report.)

### D.5.1 Panelists updates

Each panelist was asked to provide any updates that may be relevant to CPRA's assessment of the viability of a carbon market in Louisiana.

- **Lydia Olander:** Duke University is part of a 4-state group (North Carolina, South Carolina, Virginia, and Maryland) that received \$4 million to invest in natural climate solutions. There is interest in tracking carbon and other types of benefits. There may be some learning opportunities for Louisiana by tracking this initiative. Additionally, in December 2024, the National Estuarine Research Reserve System Science Collaborative hosted a webinar entitled “Co-creating Climate Solutions: Designing Carbon Monitoring Tools for Salt Marshes”. Louisiana may be interested in watching this. [Co-Creating Climate Solutions: Designing Carbon Monitoring Tools for Salt Marshes | NERRS Science Collaborative \(https://nerrsciencecollaborative.org/event/co-creating-climate-solutions-designing-carbon-monitoring-tools-salt-marshes\)](https://nerrsciencecollaborative.org/event/co-creating-climate-solutions-designing-carbon-monitoring-tools-salt-marshes).
- **Bessie Daschbach:** Bessie is working with a non-governmental organization focused on decommissioning aging and abandoned oil and gas assets in Louisiana and nationwide.
- **Ryan Moyer:** TerraCarbon started working on a project exploring biodiversity credits for marine ecosystems globally. TerraCarbon is also working on coastal resilience (non-carbon related) and working directly with Verra and The Nature Conservancy (TNC). TNC has done some market research. Early results indicate that some people will pay more for stacked credits, but exactly how much more is not known but may not be as much as double the price.
- **Sebastiaan Van Dort:** Sebastiaan is working on an Integrity Council for the Voluntary Carbon Market (ICVCM) framework for nature-based solutions and has produced some new standards.



He also is working on nature-based carbon benefits which should be published by February 2025. Additionally, he is researching assurance frameworks for accreditation schemes.

- **Jennifer Howard:** Conservation International (CI) is working with the National Aeronautics and Space Administration (NASA) to analyze coastal carbon data, especially irrecoverable carbon. Once lost, it is not possible to recapture it on a climate-relevant timescale. They are producing a high-quality guidance document for blue carbon and a practitioner’s guideline for government and private sector audiences to assess their projects. Additionally, CI is reviewing irrecoverable carbon sites in other countries including France and Brazil. CI and TNC also jointly developed a new initiative called [BC+](https://www.bcplus.org/) (<https://www.bcplus.org/>), noting that carbon finance is a great financial stream but may not be sufficient to cover an entire project. Therefore, they are exploring combining markets (e.g., carbon and coffee) to meet goals. The BC+ website says “BC+ accelerates business models that incentivize blue carbon ecosystem conservation, support local economies with technical assistance and grant funding, and attract additional finance for scaling impact.”

## D.5.2 Discussion of Report 2.2

*High-quality credits, including the benefits and costs of stacking versus stapling credits*

The writing team kicked off this discussion by providing an overview of this section of the report. The goals of this discussion were to:

- Discuss ecosystem services that may have market potential (e.g., resiliency, biodiversity).
- Discuss benefits/costs of stacking or stapling.
- Discuss whether adding ecosystem services justification is truly increasing carbon offset price, and by how much. Consider whether quantifying ecosystem services may be a much higher expense and what might be a break-even point?
- Identify risks or concerns: Could this distract from a primary goal of progressing financially viable tidal wetland credits, or are they so closely related it would be most efficient to develop both at the same time?

For this discussion, three of the five panelists were asked to prepare some comments on the following questions:

- **Ryan Moyer:** Discuss the status of linking resiliency or biodiversity to carbon credits. Is there anything that TerraCarbon is involved in with respect to resilience and whether it could be stacked or stapled? Thoughts on market potential?
- **Jennifer Howard:** Provide any experience or examples of linking resiliency or biodiversity to carbon credits.
- **Sebastiaan Van Dort:** Process question: Why is BSI focusing on biodiversity or resilience co-benefits? What was the decision-making process for what to include? How explicitly are these services being linked to carbon credits? What are BSI’s SOPs for this work?

Below is a summary of the ensuing discussion.



- Ryan Moyer started the discussion with comments about the idea of stacking versus stapling credits. He noted that the two most advanced are biodiversity and coastal resilience. There are many standards for stacking credits and most are very carbon-focused, which may not fit well with biodiversity and particularly with marine systems. Most approaches also do not allow for stewardship, as most need baseline and uplift values. This is especially challenging when there is a threat of total loss (as there is in coastal Louisiana). There is no “credit” for holding baseline (i.e., preventing future loss), and in some systems it may not be possible to get an uplift. He also noted that stacking means that different credits are treated independently, while stapling blends them.
- Jennifer Howard noted that for a credit, specifically it means that a benefit above baseline is needed. For stacking, there would be greater credit for stacking biodiversity with a carbon credit versus just a carbon credit with certification. Currently, a baseline for biodiversity is not needed and monitoring is not required to show that it is not decreasing. She also commented that it reflects what the buyer wants. Stapling merges benefits together to a higher-priced credit, whereas stacking keeps different elements separate. Biodiversity, nature credits, other activities could be important for places where the carbon market is not functioning or if governance says you cannot create a carbon market due to regulations.
- Ryan then stated that some elements that make achieving carbon credit unviable (permanence, baseline, etc.) also affect other credit types like biodiversity. Some things need to be worked out a little further. Identifying relatable units for 3D spaces (e.g., mangroves, marine systems) put into 2D space have been an issue as well. Resilience will be people-based (e.g., number of people or structures protected) for evaluation and could be easier to tease out and separated from carbon credits. Biodiversity is more entangled with carbon issues when considering stapling or stacking.
- On the topic of price differences between stacking and stapling, Jennifer stated that carbon is more based on supply and demand, so it is difficult to tease out prices. For blue carbon, it is highly valuable as a stand-alone credit. Ryan added that it comes down to what the buyer wants, and that adding biodiversity is a bit of an untested market.
- Jennifer and Ryan added that there needs to be more clarification on what is being valued for biodiversity (e.g., key species, trends, spatial variability, nutrient fluxes).
- CPRA added that the State of Louisiana has a fully developed nutrient credit trading program, but it has never been used. Ryan added that the State of Florida was exploring a nutrient trading program but was unsure if it was every put into effect, and that the State of North Carolina has an active nutrient crediting program.
- Jennifer observed that there may be double-counting issues if many of these benefits are considered together (e.g., nutrients, seagrass carbon).
- CPRA noted that adding biodiversity of other benefits into other projects for carbon credits is of interest to them, and that the incremental cost of monitoring is small compared to construction costs. However, while biodiversity has a big philanthropy push in Louisiana, carbon benefits are not as well understood or valued. There is interest in finding a way to merge these to increase perceived value.



- Jennifer indicated that diversification of finance options could be valuable but need to be aware of pitfalls. Care in how it is packaged and discussed should be taken to ensure that it does not slow down the process.
- Regarding stacking, Sebastiaan postulated that as markets emerge and become established, there make be more opportunity to stack credits and diversify.
- Ryan indicated that there could be a path for carbon credits that have Verra’s Climate, Community and Biodiversity (CCB) certification. However, currently, there is no market for biodiversity or resilience.
- Regarding potential opportunities for using a declining baseline (i.e., land loss due to future without restoration action) to justify carbon credits for restoration:
  - Jennifer observed that restoration or conservation then uplifts biodiversity, and dependent upon spatial scale of the restoration. She also indicated that setting baselines for carbon and biodiversity have different issues and risks that need to be explored.
  - Ryan added that small restoration projects such as mangrove restoration could have great resilience benefits but little carbon benefits. Because most wetland restoration projects in the US are small scale, the carbon benefits tend to be small. That is not necessarily the case in Louisiana.
- Discussion then explored whether numerical modeling could be accepted for setting baseline, including future with and without a project (as can be done for coastal Louisiana), and for using the modeled outputs to calculate benefits.
  - Ryan noted that this could be allowable if the model is peer-reviewed and proven that it works for a specific area.
  - Jennifer noted that for Verra, it is not possible to get credits for converting ecosystems. However, if the conversion were naturally occurring, that would need to be accounted for.
  - Ryan also pointed out that habitat components need to be monitored for biodiversity credits, rather than just relying on modeled benefits.
  - CPRA noted that they are looking at options for modeling carbon emissions as well.
- Thinking more broadly about how to characterize the coast and the projects:
  - Jennifer raised questions about opportunities in coastal Louisiana to create a mosaic of credits across the coast (e.g., some areas might be more prone for carbon credits, other for resiliency or biodiversity).
  - The group discussed the potential to consider the entire coast a “project” with multiple construction components. CPRA noted that many areas of the coast that are governmentally controlled are Wildlife Management Areas that focus more on conservation rather than restoration. So, there are many options and considerations for calculating carbon credits. Jennifer noted that there is some public scrutiny on some types



of credits that are emerging and that the different restoration/conservation approaches need to be carefully reviewed for additionality issues.

- Regarding how much of this is regulatory versus voluntary, Sebastiaan pointed out that the United Kingdom (UK) is different than the US in that the UK has a national standards body which gives us a unique stance. Standards are all voluntary. There is due process with a broad set of stakeholders (scientists, industry experts, etc.) and they produce a standard. That standard goes through a public review and revision period. In terms of international standards making (e.g., ISO), once you publish a standard recognized by multiple projects it can take significantly longer to get consensus. The process can be very slow.
- CPRA indicated that they would like to meet with VERRA to discuss the issue of permanence and additionality. However, currently, this appears to be possible only if a project is submitted to them.

### *Federal and Louisiana Legislative Opportunities, Initiatives, and Potential Future Opportunities*

The writing team kicked off this discussion by providing an overview of this section of the report. The goals of this discussion were to:

- Identify and discuss potential legislative opportunities, initiatives, discussions, and future opportunities.
- Consider examples of tax revenue in addition to carbon offset revenue: Are there any examples of multiple revenue sources (tax benefits, carbon revenue, biodiversity revenue) being dispersed to multiple recipients (e.g., carbon revenue to state/landowner, tax credits to private investors)?

For this discussion, two of the five panelists were asked to prepare some comments on the following questions:

- **Lydia Olander:** Discuss relevant federal policy considerations.
- **Bessie Daschbach:** Discuss relevant state policy and legal considerations.

Below is a summary of the ensuing discussion.

- Lydia Olander acknowledged that there would be a new administration in January 2025, and it is uncertain what the new policies would be related to carbon. She noted that there is a GHG reduction fund, but she was not sure of the pace at which those funds could be accessed or what the new administration might do with that fund. She also noted that, in the past when federal support waned, states have expressed interest in developing scalable models for carbon markets.
- Bessie Daschbach pointed out that there is an opportunity for the business case. On the question of the business opening and what you can make of it – 2 things to flag for LA specifically: 1) legislative efforts in opposition to ESG have failed thus far; 2) not sure about the status of the coastal land-loss litigation – there may be legislative opportunities to look into on the policy side. On the landowner interest side, some things that continue to jump out at me include: the classification of credits/value based on the mineral rights/obligations can have impacts; the valuation can also have impacts. She also noted that landowners who have a history of oil/gas extraction from their property are interested in finding the next useful way to generate money



from their properties. She further noted that there is the perception that a credit is a royalty interest with questions of divisibility. She suggested that thought needs to be put into mineral and civil code to stand this up with consideration of landowner interests. On anti-ESG, it is something to be aware of.

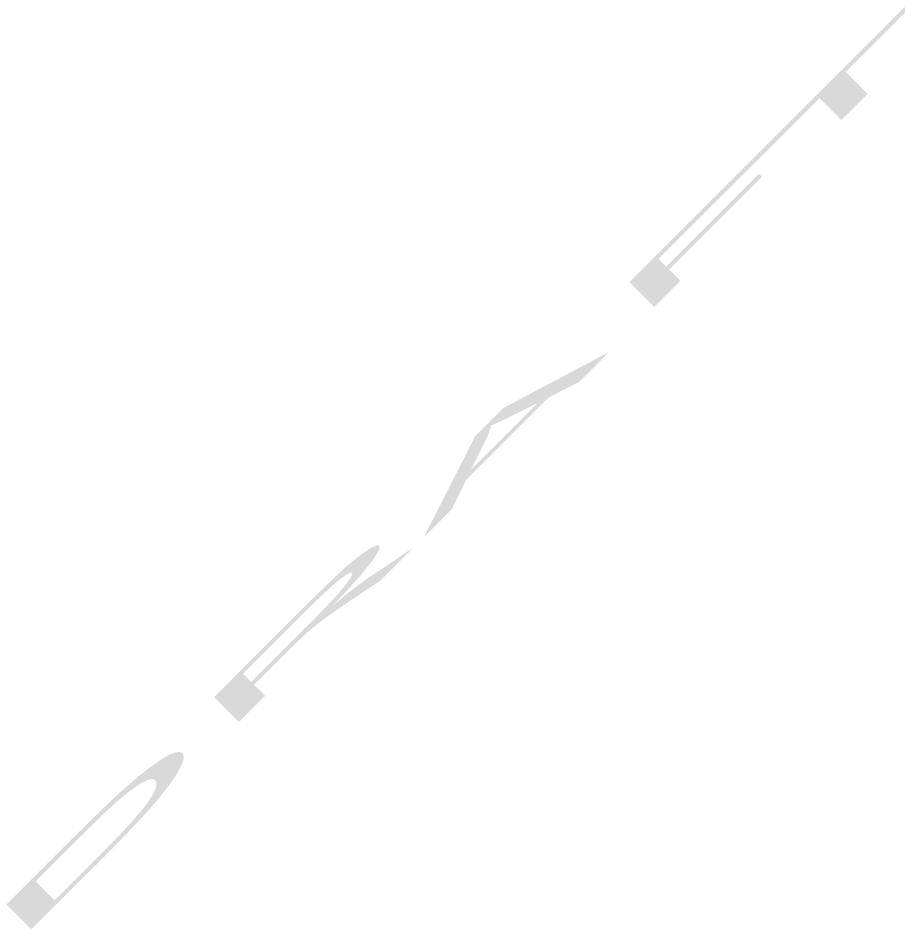
- Sebastiaan acknowledged that the state’s Coastal Master Plan provides a level of detail with respect to planning, models, monitoring, and stakeholder engagement that is not found elsewhere. This provides a great opportunity for Louisiana to pursue carbon markets.
- Jennifer emphasized the rich data set that Louisiana has and that others have successfully implemented carbon projects with far less data.
- Ryan pointed out that data helps compress the timeline for verification. The Verra timeline will not shorten, but the project development timeline would be shorter than other locations.
- Jennifer also noted that, because of the rich data set, the transaction costs for a company implementing a project would be less. It also serves to increase trust in the potential benefits of a project. The distrust comes when people try to find loopholes, not necessarily lack of data/information. There can be distrust in math on crediting/valuation.
- Lydia shared a discussion she heard about managing different credits on different properties—thinking that is a role Greenbank plays often—implement programs with multiple landowners. She asked about CPRA’s capacity on this issue. There are also green bonds and revolving loan funds for long-term financing. Models to consider looking at to fund projects across multiple landowners.

## APPENDIX E. MEETING HELD JULY 10, 2025

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The purpose of this meeting was to review the report *Technical Viability of Carbon Accreditation for Coastal Restoration in Louisiana: Technical applicability and financial feasibility*

The draft report was sent to panelists on May 12, 2025. Panelists were given until July 7 to provide extensive review of the report and to provide comments in a Microsoft Excel based comment matrix.







## E.1 JULY 10, 2025 AGENDA



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### COASTAL CARBON REPORT VIRTUAL REVIEW MEETING

*Virtual 7/10/2025*

#### Call-in Instructions

Microsoft Teams [Need help?](#)

[Join the meeting now](#)

Meeting ID: 289 119 024 265 1

Passcode: AZ9hd2iw

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#### Dial in by phone

[+1 225-778-8458,,887578413#](#) United States, Baton Rouge

[Find a local number](#)

Phone conference ID: 887 578 413#

For organizers: [Meeting options](#) | [Reset dial-in PIN](#)

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*Confirm approval to record transcript of meeting*

#### Participants

Expert Panel: Bessie Daschbach, Ryan Moyer, Seb Van Dort, Lydia Olander, (*Jennifer Howard separate meeting*)

CPRA: Jim Pahl, Brian Lezina, Kristen Chatelain, Skylar Liner, Wes LeBlanc, Greg Grandy

Water Institute: Tim Carruthers, Garvin Pittman, Ryan Seidemann

Stantec: Jonathan Scheibly, Brendan Player

#### Objectives

- Panel to provide overall comments on utility of report to inform decision on next steps
- Panel to identify any major omissions or 'critical failures' that need to be addressed
- Opinions from panel on some of the larger challenges facing Louisiana



### Agenda Items

Time	Topic	Facilitator
Midday (CST)	Introductory comments from CPRA	Brian / Jim
	Each Panel Member provides a five (5) minute summary: <ol style="list-style-type: none"> <li>Overall reaction to the final report in particular chapters 4 and 8 – comments on utility to CPRA in informing a decision on next steps</li> <li>Comment on any identified ‘critical failures’ to address before finalization; either omissions or material that is overstated/ unjustified / impractical (etc)</li> </ol> Ryan Moyer Bessie Daschbach Seb Van Dort Lydia Olander	Tim (WI)
12:30 (CST)	<ul style="list-style-type: none"> <li>Follow up discussion amongst panel on any major points raised above</li> </ul> <b>Questions / topics for input and discussion:</b> <ul style="list-style-type: none"> <li>Period of permanence – concerns and opportunities – Verra etc 100 yrs; IVCN 40 yrs; UK high integrity 30 yrs; BlueCam 100/25 yrs?</li> <li>Recommendations on short term actions in Louisiana, based on experience and the report?</li> <li>Recommendations for longer term actions in Louisiana– on reflection what is a recommended path toward accreditation of herbaceous marsh creation projects? (VM0033 recognizing low return; develop new blue carbon/ wetland methodology under Gold Standard; New Standard/ Registry)</li> <li>Given that coastal Louisiana is such a manipulated ecosystem at this point, could a LA methodology (or standard or registry) have a greater chance of success / validity if it avoided ‘conservation’ altogether and focused on created land/ plantings and then assessed avoided loss against a dynamic baseline?</li> <li>China, Australia, Indonesia, California etc have established markets that are selling credits – but all to a local market (within country or largely within state). Louisiana will need to access a national or international market – what are the impacts of this for deciding what standards to use or establish?</li> </ul>	Tim (WI)
1:50 PM (CST)	Thanks and any final comments	Brian/Jim
2:00 PM (CST)	close	



## E.2 ATTENDEES

First Name	Last Name	Affiliation
Tim	Carruthers	The Water Institute
Kristen	Chatelain	CPRA
Bessie	Daschbach	(Panel member)
Shawn	Doyle	The Water Institute
Greg	Grandy	CPRA
Jennifer	Howard	(Panel member)
Skylar	Liner	CPRA
Ryan	Moyer	(Panel member)
Lydia	Olander	(Panel member)
James	Pahl	CPRA
Garvin	Pittman	The Water Institute
Brendan	Player	Stantec
Jonathan	Scheibly	Stantec
Sebastiaan	Van Dort	(Panel member)

## E.3 DISCUSSION

Meeting notes:

- **Report Feedback:** Tim asked the panel to provide feedback on the report, focusing on overall reactions and identifying any critical failures.
  - **Overall Reactions:** Tim requested the panel to provide their overall reactions to the report, focusing on whether it met their expectations and if there were any critical failures. Panel members, including Ryan, Bessie, Sebastiaan, Lydia, and Jennifer, provided their feedback, generally praising the report's comprehensiveness and quality.
  - **Critical Failures:** Tim also asked the panel to identify any critical failures in the report. The panel members did not identify any major critical failures but provided constructive feedback on areas for improvement, such as redundancy, academic tone, and the need for more visuals and examples.
- **Redundancy and Overlap:** Ryan noted that the report had redundancy and overlap in some sections, suggesting it could be tightened up.
- **Sustainability and ESG:** Bessie emphasized the importance of sustainability and ESG, noting the tension between legislative/regulatory pullbacks and continuing commercial interest.
- **Academic Tone:** Sebastiaan suggested that the report's academic tone could be improved by adding summaries and recommendations at the start of each section.
- **Visuals and Examples:** Sebastiaan recommended using visuals and illustrative examples to enhance the report, particularly for funding gaps and credit markets.



- **Jurisdictional Approach:** Lydia proposed exploring a jurisdictional approach for crediting, similar to California, to better fit the group structure.
- **Transaction Costs:** Lydia raised questions about transaction costs relative to carbon revenues and suggested estimating feasibility across different project opportunities.
  - **Transaction Costs:** Lydia raised concerns about the transaction costs relative to carbon revenues. She suggested that the report should estimate the feasibility of different project opportunities by considering the balance between transaction costs and expected carbon revenues.
  - **Feasibility Estimates:** Lydia recommended running through estimates to understand the balance between transaction costs and carbon revenues across different project opportunities in Louisiana. This would help identify which projects are most likely to generate carbon revenue with the least discounting for permanence issues.
- **Permanence Issues:** Lydia noted the lack of project-level discussion on permanence issues and suggested addressing this in the report.
- **Financial Component:** Jennifer echoed Lydia's concerns about the financial component, suggesting a high level go/no-go analysis based on engineering costs and expected carbon revenue.
  - **Financial Analysis:** Jennifer supported Lydia's concerns about the financial component of the report. She suggested conducting a high level go/no-go analysis to evaluate the feasibility of projects based on engineering costs and expected carbon revenue. This would help prioritize projects that are financially viable.
  - **Cost vs. Revenue:** Jennifer emphasized the importance of considering the financial aspects of projects, including the costs of engineering and the expected revenue from carbon credits. She recommended a straightforward analysis to determine which projects are worth pursuing based on their financial feasibility.
- **Dynamic River Systems:** Jennifer highlighted the challenges posed by dynamic river systems, which can affect carbon stocks and monitoring efforts.
- **Wetlands Methodologies:** Jennifer suggested that some agricultural methodologies could be adapted for wetlands, as the exclusion of wetlands might be due to complexity rather than scientific reasons.
- **Time as a Risk Factor:** Jennifer urged considering time as a risk factor, noting that creating new methods could take years and impact project feasibility.
- **Louisiana Method:** Jennifer recommended that if Louisiana develops its own method, it should be applicable beyond the state to benefit the broader carbon market.
- **Permanence Flexibility:** Jim asked the panel about the flexibility of permanence periods, exploring the possibility of shorter permanence periods and their impact on buffer pool allocation.
  - **Permanence Flexibility:** Jim inquired about the flexibility of permanence periods, considering the possibility of shorter permanence periods and their impact on buffer pool



allocation. The panel discussed various perspectives, including the challenges and potential benefits of shorter permanence periods.

- **Buffer Pool Impact:** The panel explored how shorter permanence periods might affect the allocation of credits to buffer pools. They discussed the need for flexibility in permanence requirements and how this could influence the overall feasibility and attractiveness of carbon projects.
- **Irrecoverable Carbon:** Ryan and Jennifer discussed the concept of irrecoverable carbon, emphasizing its value despite not being recognized in the voluntary carbon market.
  - **Irrecoverable Carbon:** Ryan and Jennifer explained the concept of irrecoverable carbon, which refers to carbon that, once lost, cannot be restored within a climate-relevant timescale. They emphasized its value, even though it is not currently recognized in the voluntary carbon market.
  - **Market Recognition:** The panel discussed the lack of recognition for irrecoverable carbon in the voluntary carbon market. They highlighted the importance of protecting these carbon stocks to prevent significant carbon loss, despite the challenges in quantifying and valuing those within existing market frameworks.
- **Market Acceptance:** Bessie and Lydia highlighted the importance of market acceptance for localized standards and methodologies, noting the economic interest in linking carbon credits to working environments.
  - **Market Acceptance:** Bessie and Lydia emphasized the importance of market acceptance for localized standards and methodologies. They noted that economic interest in linking carbon credits to working environments could drive acceptance and success of localized carbon projects.
  - **Economic Interest:** The panel discussed the economic interest in linking carbon credits to working environments. They highlighted that aligning carbon projects with local economic interests could enhance market acceptance and support the development of localized standards and methodologies.
- **Resilience and Biodiversity Credits:** Lydia suggested exploring resilience and/or biodiversity credits and other alternative revenue streams for projects that may not fit well within carbon frameworks.
- **Feasibility Assessment:** Sebastiaan recommended conducting a feasibility assessment to identify the most feasible projects and engaging with registries to understand their alignment.
- **Pilot Projects:** Sebastiaan suggested building out one or two pilot projects based on the feasibility assessment to gain practical insights and inform future decisions.
- **Criteria for Funding:** Jennifer advised setting criteria for funding and business partnerships before credits are on the market to ensure alignment with values and avoid potential conflicts.
- **Module Development:** Jennifer recommended developing a module under VM33 for projects that don't fit existing methodologies, leveraging the relationship with the selected standard. (Facilitator note: A 'module' under VM0033 would be the same level as a 'methodology' under the Gold Standard, 'Wetland and Blue Carbon' theme of methods.)





#### E.4 FINAL RECOMMENDATIONS BY THE PANEL

- **Market Research:** Commission a market research study to identify potential buyers for carbon, coastal resilience, and biodiversity credits and determine their willingness to pay.
- **Feasibility Assessment:** Conduct a feasibility assessment to identify the most feasible projects for carbon accounting, focusing on those that align with existing methodologies.
- **Engagement with Registries:** Engage with carbon registries to discuss the feasibility of proposed projects and methodologies, and to understand any gaps or requirements.
- **Pilot Projects:** Identify and initiate one or two pilot projects that are straightforward and fit within existing methodologies to gain practical experience and insights.
- **Criteria for Funding:** Establish criteria for evaluating and accepting funding sources, including considerations for the types of organizations and their alignment with project values.
- **Module Development:** Explore the development of a module under VM33 (or methodology under Gold Standard or other) for projects that do not fit existing methodologies, focusing on those with significant potential.
- **Resilience Credits:** Investigate the potential for resilience credits and other alternative revenue streams for projects that may not fit well within carbon frameworks.



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