Results of the Luling, Louisiana Wetland Carbon Credit Pilot Project

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Tierra Resources

- **Mission:** To conserve, protect, and restore coastal wetland ecosystems by creating innovative solutions that support investment into blue carbon
- **About Us:** Founded in 2007. Recognized innovator and quality leader in the research, development, and monetization of blue carbon.
- **Tierra International Foundation:** 501(c)(3) Founded in 2016

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Outline

- Background on the Luling Pilot Project
- Applying the carbon methodology
- Monitoring
- Carbon Results
- Challenges
- Looking to the future

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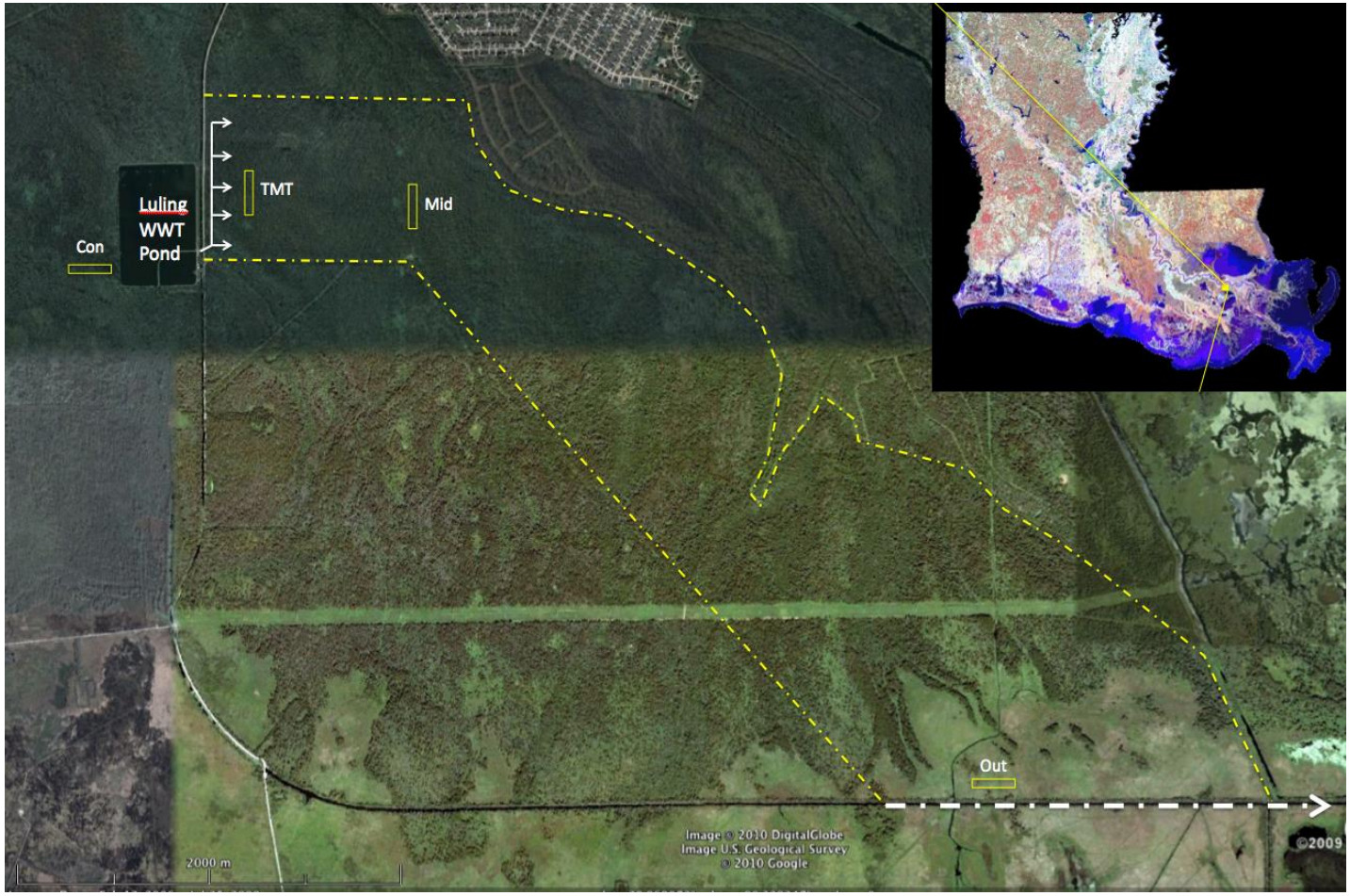
First Wetland Carbon Pilot!



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WHERE NATURE'S TECHNOLOGY MEETS HUMAN INGENUITY
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Why We Liked This Project?

- *Clear goal of transacting carbon from the onset of the project.*
- Demonstration of a financial need.
- Beautiful successful assimilation system
- Private and secure system started in 2006.
- Great partners.
- Some monitoring already exists.
- Low cost carbon pilot project

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Goals

- Apply the ACR methodology
- Determine cost-saving measures
- Produce commercially viable carbon credits
- Compensate landowner for the use of their land without additional cost to parish or citizens
- Demonstrate public-private partnerships that leverage carbon finance
- Prove the commercial viability of wetland carbon credits

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Restoration of Degraded Deltaic Wetlands of the Mississippi Delta

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2012

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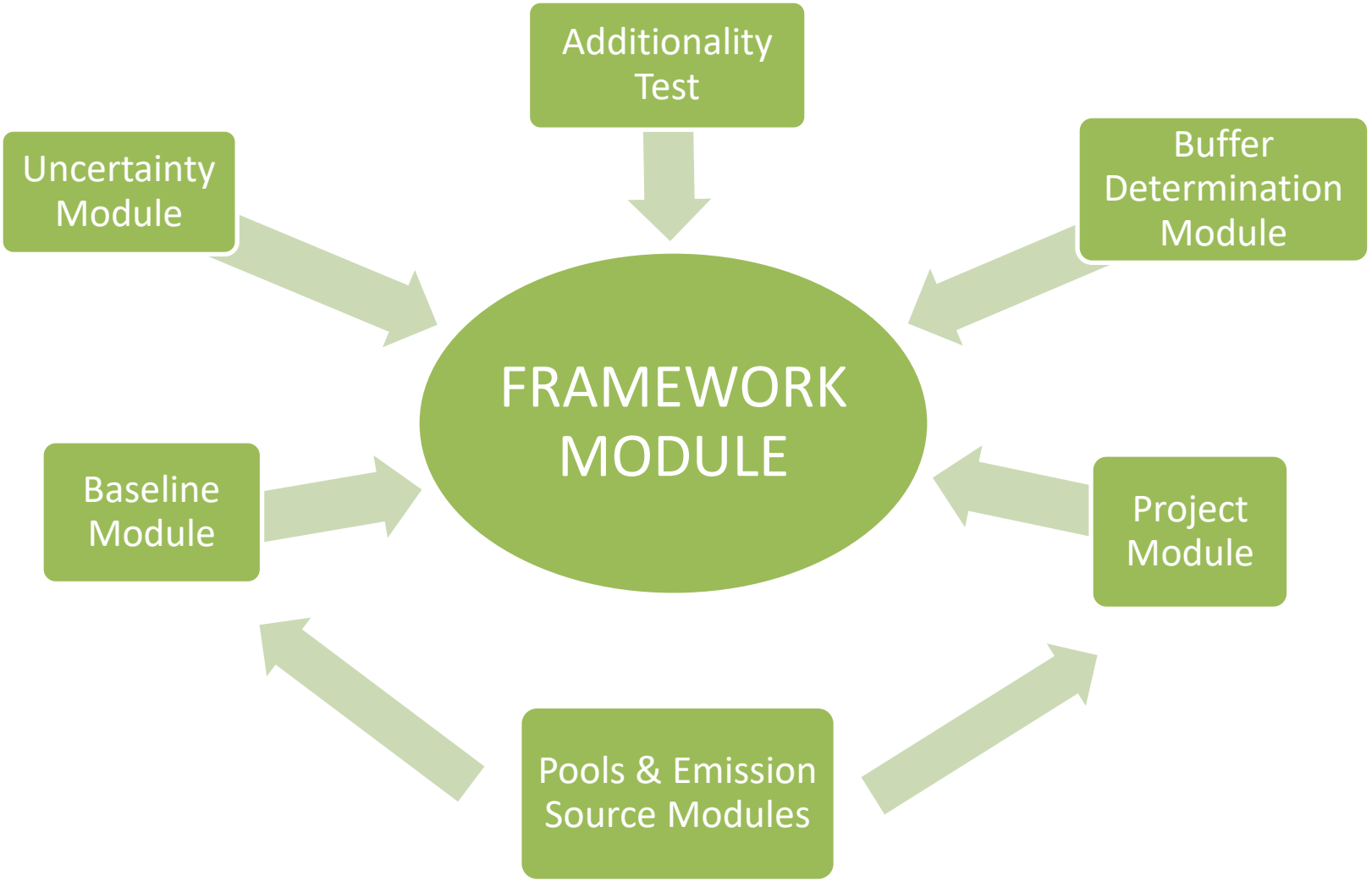
American Carbon Registry

Individual Modules Are Applied Under the Framework Module



Key Equation

Carbon Offset = Project Cseq – Baseline Cseq

Carbon Offset = $C_{ACR,t} = (\Delta C_{ACTUAL} - \Delta C_{BSL}) * (1\text{-}LK) * (1 - UNC)$

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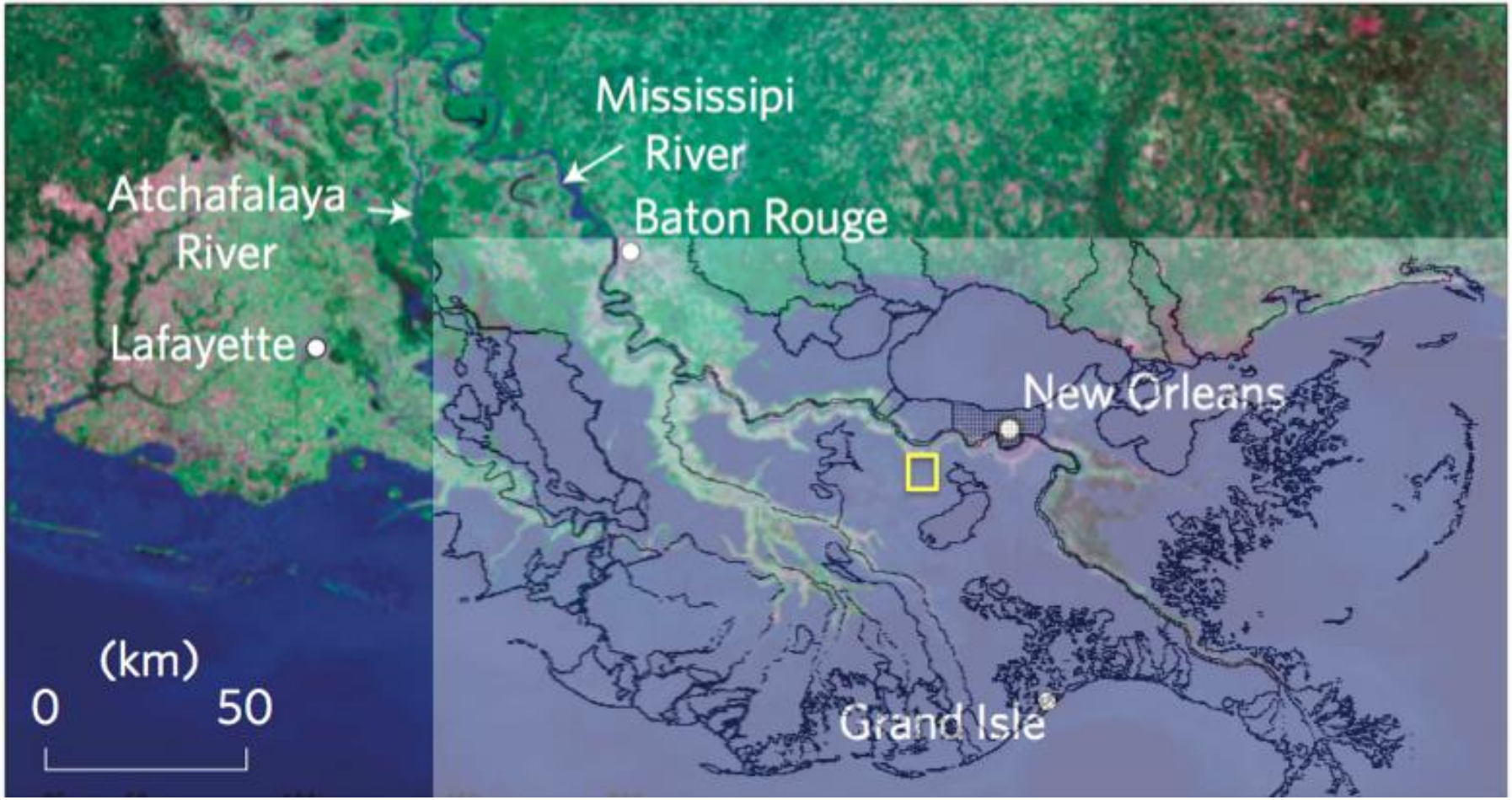
Baseline Scenario



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Baseline Scenarios

- **Conservative baseline scenario:**
  - Uses the degraded carbon sequestration rate determined prior to Start Date or that would have occurred in the absence of the project activity
  - Constant wetland project area in baseline
- **Projected wetland loss scenario:**
  - Uses the degraded carbon sequestration rate determined just prior to Start Date or that would have occurred in the absence of the project activity, and also incorporates a projected reduction of total wetland project area due to wetland loss that would occur over a 40-year Crediting Period if no activity were to take place.

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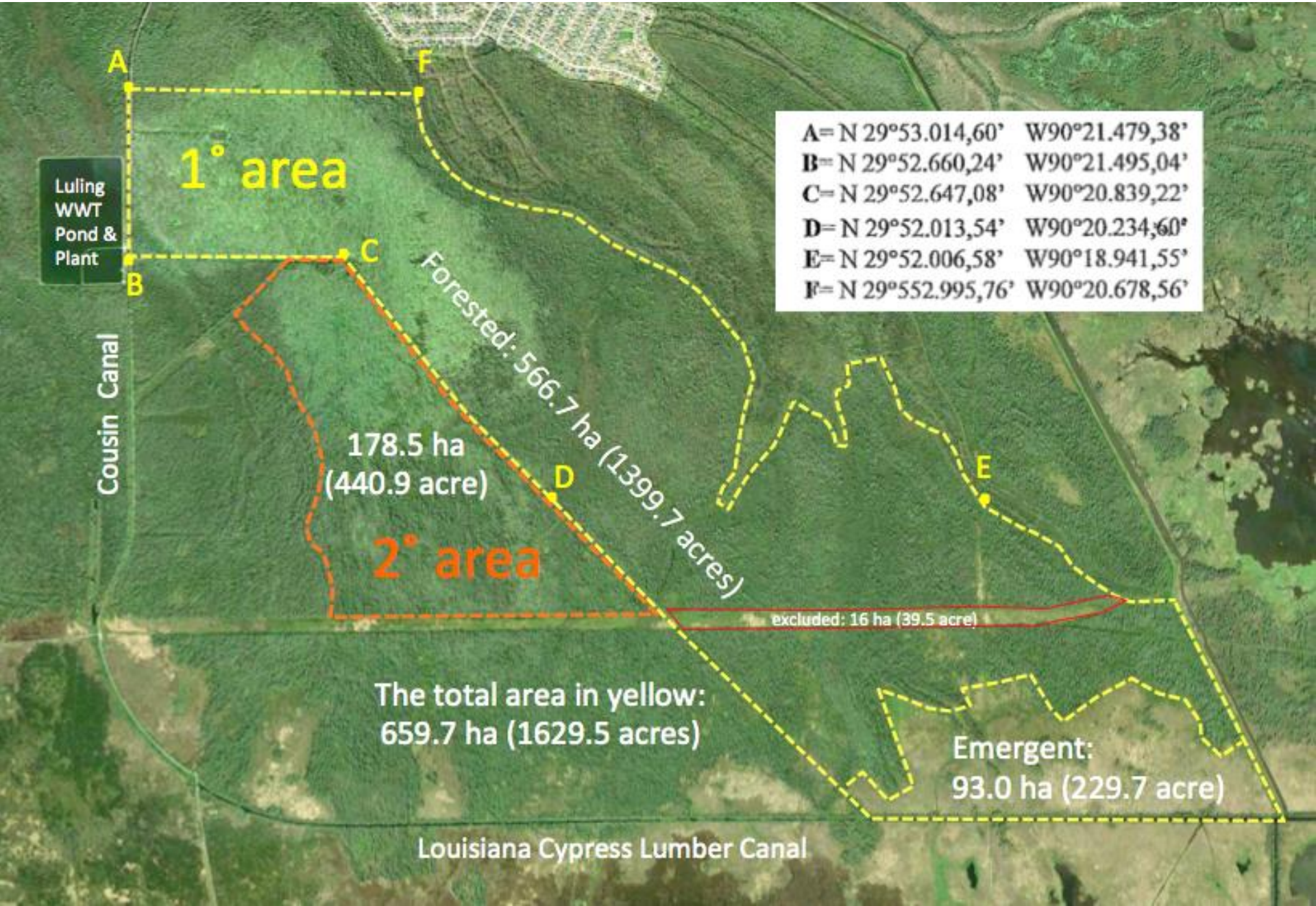
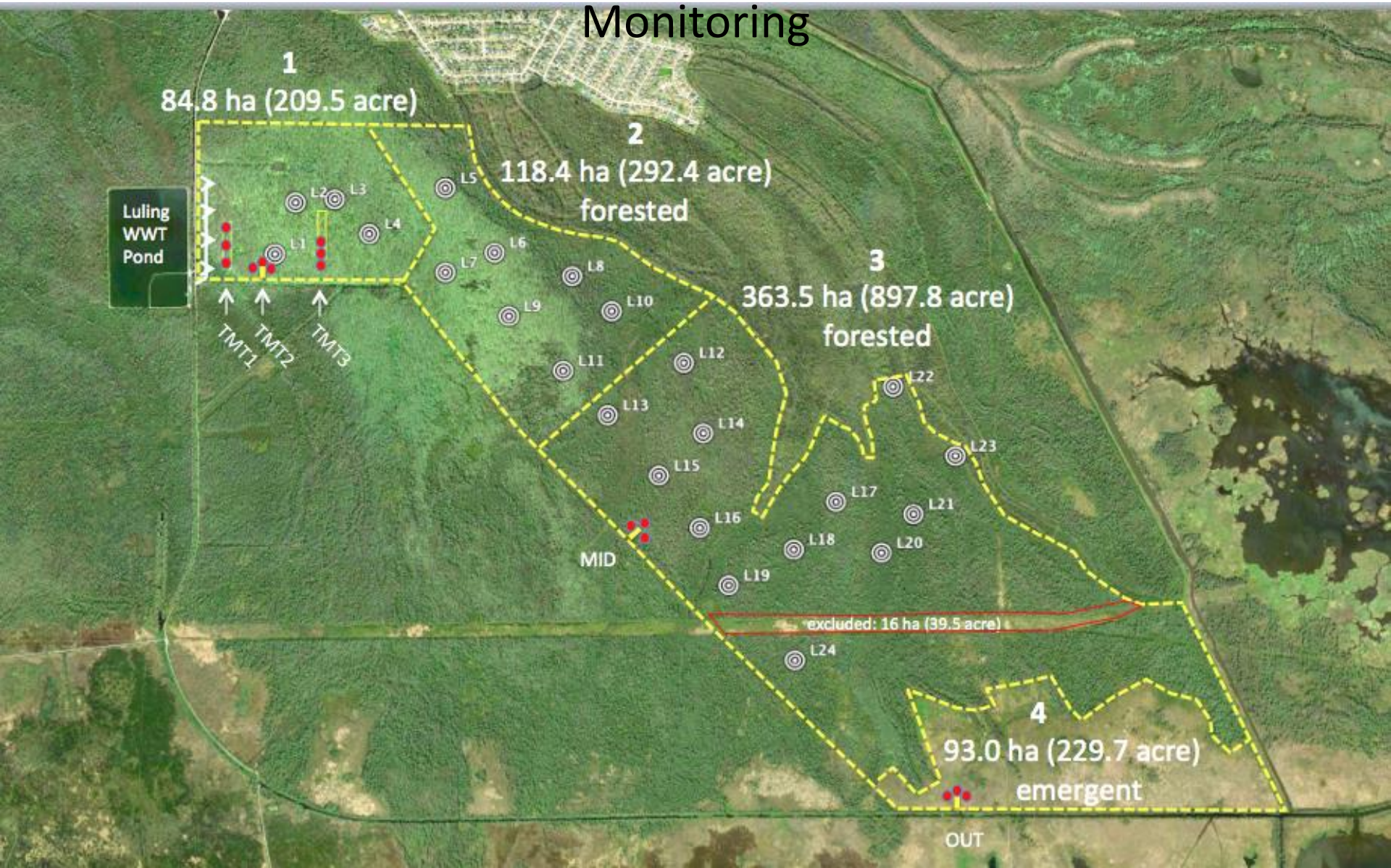
Project Scenario



Monitoring Regime

Stratification, Tree Biomass, Soil Cs,Accretion, and GHGs Monitoring



Luling Summary

Parameter	Baseline t CO2-e/yr	Project t CO2-e/yr	Net Cseq t CO2-e/yr	Baseline t CO2-e/40yr	Project t CO2-e/40yr	Net Cseq t CO2-e/40yr
DC_{TREE}	1,842.4	7,233.1		73,696.8	289,325.9	
DC_{SOC}	2,573.7	7,342.2		102,949.1	293,687.9	
$DGHG_{E}$	56,762.8	31,303.0		2,270,510.1	1,252,118.1	
Net w/GHG_s	-52,346.6	-16,727.6	35,619.0	-2,093,864.2	-669,104.2	1,424,760.0
Net no GHG_s	4,416.1	14,575.3	10,159.2	176,645.8	583,013.9	406,368.0

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- 1.5 years of monitoring
- PDD developed
- Project start date 2008
- Pre-verification review

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Challenges

- Additionality
  - Project not required by law
  - Least-cost scenario
- Variability in GHG emissions
  - Holm et al. 2016 - omit GHG's?
  - Radiative forcing time intervals
  - Decay of methane over time
- Monitoring costs
- Opportunity costs

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Looking to the Future!

- 2017 publication(s)
- We still have buyers expressing interest!
- Other value streams?
- Quantifying co-benefits
- Water quality
  - Nutrient credits
- Adaptation
  - Wave attenuation
  - Sea level rise
  - Salt water intrusion
  - Disturbance regulation

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Final Conclusions

- Growing recognition of wetlands role in climate change mitigation and adaptation
- Private sector more present than ever!
- 1000 companies call for a price on carbon
  - Set “Science-Based Targets”
  - Seek to “inset” their supply chain
- International Civil Aviation Organization (ICAO) passed resolution to establish a Global Market-based Measure in 2021

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If you want to go fast, go alone.
If you want to go far, go together.

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Thank You!

- **Co- Authors**
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  - Chuck Barlow
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