



2023 DRAFT COASTAL MASTER PLAN

REGIONAL WORKGROUP GROUND RULES, MEETING SUMMARIES

SUPPLEMENTAL MATERIAL F.1

REPORT: VERSION 01
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COASTAL PROTECTION AND
RESTORATION AUTHORITY
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COASTAL PROTECTION AND RESTORATION AUTHORITY

This document was developed in support of the 2023 Coastal Master Plan being prepared by the Coastal Protection and Restoration Authority (CPRA). CPRA was established by the Louisiana Legislature in response to Hurricanes Katrina and Rita through Act 8 of the First Extraordinary Session of 2005. Act 8 of the First Extraordinary Session of 2005 expanded the membership, duties, and responsibilities of CPRA and charged the new authority to develop and implement a comprehensive coastal protection plan, consisting of a master plan (revised every six years) and annual plans. CPRA's mandate is to develop, implement, and enforce a comprehensive coastal protection and restoration master plan.

CITATION

2023 Draft Coastal Master Plan: Regional Workgroup Ground Rules, Meeting Summaries. Version I. (p.112). Baton Rouge, Louisiana: Coastal Protection and Restoration Authority.

INTRODUCTION

In 2018, CPRA convened Regional Workgroups (RWs) to obtain regionally-informed perspectives from a variety of stakeholders and interests within five coastal regions: Chenier Plain, Central Coast, Terrebonne Basin, Barataria Basin, and Pontchartrain/Breton Basin. The invited RW members worked collaboratively to identify, discuss, and reach a common understanding about issues, priorities, and possible solutions for each coastal region and provide recommendations to CPRA. The following pages detail the RW ground rules and meeting summaries.

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2023 Coastal Master Plan

Regional Workgroup - Ground Rules

November 2018

Background

The Coastal Protection and Restoration Authority (CPRA) is convening Regional Workgroups (RWs) to obtain broad perspectives from a variety of stakeholders and interests within 5 regions: Chenier Plain, Central Coast, Terrebonne, Barataria, and Pontchartrain/Breton.

The RWs will provide local and regional expertise and insight to support the Master Plan Delivery Team (MPDT) on technical aspects of 2023 Coastal Master Plan development. The RWs will consist of representatives from federal, state and local governments; NGOs; business and industry; community; and academia. RW members will offer guidance on various aspects of the 2023 Coastal Master Plan, especially during the New Project Development process. Members will work collaboratively to identify, discuss, and reach a common understanding about issues, priorities, and solutions for each coastal region. RW members are encouraged to reach out to other citizens between meetings and bring new ideas into the RW discussion.

The RWs will meet approximately 2-3 times in person between December 2018 and January 2020. If needed, the RWs may also meet again in person or for additional webinars for updates and feedback throughout the Coastal Master Plan process.

The work of the RWs will be guided by several key principles:

- ***“We are all in this together.”*** To be successful, the 2023 Coastal Master Plan must integrate interests of a wide variety of stakeholders and be mindful of the context of the work. Options that serve multiple interests will be encouraged over those addressing a single interest.
- ***Legitimacy, accountability, and representativeness.*** To ensure the process is credible and results in outcomes useful to CPRA and the MPDT, the RW’s work should foster effective representation, accountability, and thoughtful weighing of choices and tradeoffs.
- ***Outcome-focused deliberations.*** There are no easy answers, and all RW members have their own ideas and desires. The purpose of the RW is to outline concerns and work to develop solutions at the regional scale.

In addition to the RWs, a Coastal Advisory Team will provide more general, “big picture” guidance on elements of the 2023 Coastal Master Plan.

Ground Rules

Membership. Members have been appointed to serve by CPRA’s executive director and were selected to represent a broad range of stakeholder groups and agency perspectives rather than specific, individual

interests. Members will make every effort to attend RW meetings in person, to think broadly about problems, and to propose solutions at the regional scale.

Communication with Stakeholders. RW members should keep others informed of the RW's efforts and report relevant feedback to the MPDT and RW. In reporting back, RW members should strive to present dissenting views respectfully and constructively.

Collaborative, Effective, and Respectful Deliberations. The following ground rules are intended to foster collaborative, effective, and respectful RW deliberations:

- *Active, focused participation.* Every participant is responsible for communicating his/her perspectives. Everyone is encouraged to participate and to help meetings stay on track.
- *Respectful interaction.* Participants will respect each other's personal integrity, values, and interests. Participants will assist in creating an effective environment by silencing phones, refraining from sidebar conversations, and using computers for RW-related work only.
- *Integration and creative thinking.* Participants will strive to be open-minded and integrate members' ideas and interests. Participants will attempt to reframe contentious issues and offer creative solutions to enable constructive dialogue.
- *Adherence to ground rules.* As a set of mutual obligations, RW members will commit to adhere to these rules and should help uphold and enforce them.

Meeting Materials. To the extent practicable, the MPDT commits to provide relevant meeting material with ample time for RW members to review information prior to meetings. All RW members will have equal access to these materials. Members commit to reviewing provided material before meetings to help foster informed discussion.

Information Sharing. Planning for the 2023 Coastal Master Plan depends on access to the best available information. RW members commit to share relevant information. At times, the MPDT may share current information that is draft or preliminary, and RW members will be asked to treat the information as such.

Meeting Participation. Participation in meeting discussions will be limited to RW members only. Also, as needed, the MPDT may ask CPRA staff and other experts in attendance to share relevant expertise and information.

Communication Protocols. RW members wishing to email or send documents to the full RW are asked to communicate through the MPDT. Should RW members reach out to others for feedback, it should be made clear that any materials shared are not targeted for general distribution.

Media Contact. CPRA recognizes that the press may contact members during the course of the RW discussions. RW members agree to the following ground rules for interaction with the press:

- not to attribute particular comments to particular individuals, nor to characterize others' views;
- not to portray ideas as consensus before the RW has explicitly agreed on them; and
- to inform CPRA when the 2023 Coastal Master Plan appears to be the primary focus of the media contact.

Role of Master Plan Delivery Team. The MPDT will strive to enforce the ground rules in a consistent, fair, and firm manner and will ensure meetings stay on track. The MPDT may also recommend changes to meeting agendas as appropriate to provide opportunity for productive discussion and will be responsible for keeping notes to track meeting outcomes.



Chenier Plain Regional Workgroup

Regional Workgroup Meeting 1 Summary

December 3, 2018 (1:00 p.m. to 5:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Regan Brown (Port of Lake Charles), Laurie Cormier (Calcasieu Parish Police Jury), Charles Herbert (USACE), Greg Linscombe (Continental Land and Fur), Andrew MacInnes (USACE), George Melancon (LDWF), Kevin Savoie (Louisiana Sea Grant), Dennis Scott (Calcasieu Parish Police Jury), Phillip Trosclair (LDWF), Jenneke Visser (University of Louisiana-Lafayette); Leigh Anne Sharp (CPRA)

Additional Participants: Kara Bonsall (Cameron Parish Police Jury)

Master Plan Delivery Team (MPDT): Stuart Brown, Elizabeth Jarrell, Mandy Green, Krista Jankowski, Ashley Cobb, Seth Irby, Denise Reed, Eric White, Brett McMann

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #1 and provided an overview of the meeting's purpose: to think about how to design project concepts for the 2023 Coastal Master Plan.

Regional Workgroups – Seth Irby

Seth Irby led introductions and discussed the main points of the RW Ground Rules.

CPRA and the Master Plan Process – Stuart Brown

Stuart provided a summary of the Coastal Master Plan development process and how CPRA projects are implemented. Previously mandated to be updated every five years, the master plan cycle was changed to every six years in the last legislative session. Future land change and risk reduction without and with plan implementation predicted for the 2017 Coastal Master Plan were discussed.

2023 Coastal Master Plan – Elizabeth Jarrell

Elizabeth Jarrell described how the 2023 Coastal Master Plan will build on previous efforts to produce a realistic and practical plan that communicates and supports adaptation to future change. With this in mind, CPRA plans to improve technical analyses and modeling over the next few years, incorporating newly available data and coordinating with other efforts. Lastly, Elizabeth confirmed that 2017 Master Plan projects

with funding for construction will be included as part of the landscape for the 2023 Master Plan's Future Without Action; a decision on which projects meet that criteria will need to be made before model runs begin.

Additional clarification was provided through discussion in response to questions from the RW. It was confirmed that CPRA will direct the team's work to update models and conduct model runs to evaluate candidate projects for the 2023 Coastal Master Plan. It was explained that specific techniques for construction (for example techniques tested in CWPPRA demonstration projects) are typically determined during engineering and design rather than being considered as part of the master plan process, which looks at conceptual project ideas. A suggestion was made to look at parish coastal plans as a starting point for the master plan, and it was discussed that projects important at the parish scale may not provide the magnitude of benefits expected for master plan projects; one aim of the RWs is to coordinate with parishes to ensure alignment of plans. Further suggestions from the RW included comparing the master plan's Planning Tool to Dynamic Adaptive Policy Pathways (DAPP) and looking at what the Feds are doing in terms of resilience (retreat, open space emphasis, etc.).

Historical and Future Land Change and Flood Risk by Basin – Leigh Anne Sharp & Denise Reed

Leigh Anne Sharp described historical trends in the Chenier Plain. Since the Coastwide Reference Monitoring System (CRMS) sites have been implemented, observed land loss in the Chenier Plain has been associated with marsh flood stress. Alternatively, sites with access to tidal fluctuations have performed better as the marsh is able to drain when the tide goes out to the Gulf of Mexico. Leigh Anne and the RW discussed that proposed projects with forced drainage would help flood risk reduction and/or land building in the basin and provide the marsh with the opportunity to breathe.

Denise Reed described future trends in the Chenier Plain and explained the mechanisms of land loss and vegetation transitions in the 2017 Coastal Master Plan models. Denise and the RW discussed the importance of proposed projects being effective at year 30/40 in addition to the near-term and how precipitation sensitivities are taken into account in the modeling based on the historical record. It was suggested that the [Master Plan Data Viewer](#) might serve as a useful tool as the RW considers project concepts and how they might perform in the future.

What's Important for Your Region? – Seth Irby

Seth provided a summary of the pre-meeting survey results.

New Project Development – Seth Irby

Seth reiterated the purpose of the new project development process, which is to identify new projects that will: provide land building and/or flood risk reduction benefits at the regional scale; provide benefits in the areas of most importance or areas with inherent "resilience"; provide long-term benefits without continued maintenance; and support gradual estuarine gradients. It was confirmed that:

- RW project worksheets are considered submitted project proposals and should not be resubmitted through the public solicitation process, although the MPDT may follow up for clarification or additional details.
- According to a Governor's Office policy, shoreline protection along federal navigation channels can be included as a feature of a restoration project but cannot be the sole purpose of the project. For the sake of this exercise to develop new project concepts, RW members are encouraged to not be

constrained by current policies as projects will be implemented decades into the future in addition to the near term.

- All submitted projects will be given equal consideration; no weighting is applied to specific project types or to projects that are in advanced stages of design. If there are project submittal-specific questions, please contact CPRA directly at masterplan@la.gov.

The following project ideas were discussed and voted upon:

1. Wildhorse Ridge Marsh Creation and Erosion Control on GIWW (marsh creation)
2. Sediment Pipeline Across Big Lake (marsh creation) – 2 votes
3. Chenier Plain Nonstructural Acquisition (nonstructural risk reduction)
4. Mermentau Hydrologic Restoration with Gravity or Force (Pump) Drainage / Highway 82 Spillway (hydrologic restoration) – 5 votes
5. Calcasieu/Sabine Basin Hydrologic Restoration (hydrologic restoration) – 1 vote
6. Permanent Pipeline Black Lake (marsh creation) – 1 vote
7. Mermentau to Calcasieu Coastline Protection and Restoration / Shoreline Protection at West of Mermentau River (ridge restoration) – 1 vote
8. Highway 27 Spillway (hydrologic restoration) – 2 votes
9. Cameron Creole Outfall Canal (hydrologic restoration)

Next Steps

- The MPDT will send the presentation slides and meeting summary notes to the RW.
- RW Meeting #2 will occur in June/July to share the results of the new project analysis and refine project ideas.



Central Coast Regional Workgroup

Regional Workgroup Meeting 1 Summary

December 4, 2018 (1:00 p.m. to 5:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Todd Baker (LDWF), Ron Boustany (USDA-NRCS), Ann Howard (LDWF), Cassidy Lejeune (Ducks Unlimited), Tim Matte (St. Mary Levee District), Randy Moertle (McIlhenny Corp./Rainey Conservation Alliance), Donald Sagrera (Teche - Vermilion Freshwater District), Mark Shirley (LSU Ag Center), Karen Westphal (National Audubon Society); Tommy McGinnis (CPRA)

Additional Participants: Ralph Libersat (Vermilion Parish)

Master Plan Delivery Team (MPDT): Stuart Brown, Elizabeth Jarrell, Mandy Green, Krista Jankowski, Zach Rosen, Nick Speyrer, Seth Irby, Denise Reed, Eric White, Brett McMann

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #1 and provided an overview of the meeting's purpose: to think about how to design project concepts for the 2023 Coastal Master Plan.

Regional Workgroups – Seth Irby

Seth Irby led introductions and discussed the main points of the RW Ground Rules.

CPRA and the Master Plan Process – Stuart Brown

Stuart provided a summary of the Coastal Master Plan development process and how CPRA projects are implemented. Previously mandated to be updated every five years, the master plan cycle was changed to every six years in the last legislative session. Future land change and risk reduction without and with plan implementation predicted for the 2017 Coastal Master Plan were discussed.

2023 Coastal Master Plan – Elizabeth Jarrell

Elizabeth Jarrell described how the 2023 Coastal Master Plan will build on previous efforts to produce a realistic and practical plan that communicates and supports adaptation to future change. With this in mind, CPRA plans to improve technical analyses and modeling over the next few years, incorporating newly available data and coordinating with other efforts. Lastly, Elizabeth confirmed that 2017 Master Plan projects with funding for construction will be included as part of the landscape for the 2023 Master Plan's Future

Without Action; a decision on which projects meet that criteria will need to be made before model runs begin.

Additional clarification was provided through discussion in response to questions from the RW. It was explained that subsidence rates will vary spatially across the coast for modeling future scenarios. CPRA explained that CPRA's focus is the coastal zone and new projects should have sub-basin to regional scale benefits. Clarification was provided on why Barrier Island Restoration, Shoreline Protection, and Oyster Barrier Reef project types will be included in the plan programmatically. It was explained this allows for individual projects to be evaluated and prioritized through programs that consider their benefits more locally and on a case by case basis. A suggestion was made to consult the RWs to help further define the programs related to these project types.

Historical and Future Land Change and Flood Risk by Basin – Tommy McGinnis & Denise Reed

Tommy McGinnis described historical trends in the Central Coast. Since the Coastwide Reference Monitoring System (CRMS) sites have been implemented, observed land loss in the Central Coast has been associated with interior marsh damage from hurricanes as well as wind and wave action on north facing shorelines. Tommy discussed an observed trend of low salinities over the past 10 years, with relatively stable land change and vegetation coverage. Surface elevations average around 1.13 ft NAVD88 for both the Teche-Vermilion and Atchafalaya Delta basins, substantially higher than for the rest of the coastal zone, although elevation capital is lower in the Atchafalaya Basin since water levels average about half a foot higher. Most CRMS sites seem to be gaining elevation relative to sea level rise.

Denise Reed described future trends in the Central Coast and explained the mechanisms of land loss and vegetation transitions in the 2017 Coastal Master Plan models. Denise and the RW discussed the importance of proposed projects being effective at year 30/40 as well as in the near-term. Denise explained that long-term land loss predicted by the master plan's Integrated Compartment Model (ICM) is primarily driven by prolonged inundation of marsh as relative sea level continues to rise, although shoreline erosion continues into the future and salinity causes some loss in years associated with especially dry conditions. Denise confirmed that the ICM does incorporate the western flow of the Atchafalaya River. It was suggested that the [Master Plan Data Viewer](#) might serve as a useful tool as the RW considers project concepts and how they might perform in the future.

What's Important for Your Region? – Seth Irby

Seth provided a summary of the pre-meeting survey results.

New Project Development – Seth Irby

Seth reiterated the purpose of the new project development process, which is to identify new projects that will: provide land building and/or flood risk reduction benefits at the regional scale; provide benefits in the areas of most importance or areas with inherent "resilience"; provide long-term benefits without continued maintenance; and support gradual estuarine gradients. It was confirmed that:

- RW project worksheets are considered submitted project proposals and should not be resubmitted through the public solicitation process, although the MPDT may follow up for clarification or additional details.

- All submitted projects will be given equal consideration; no weighting is applied to specific project types or to projects that are in advanced stages of design. If there are project submittal-specific questions, please contact CPRA directly at masterplan@la.gov.

The following project ideas were discussed and voted upon:

1. Avery Island North Wetland Protection (hydrologic restoration)
2. Avoca Island Marsh Creation (marsh creation) – 1 vote
3. Permanent Long Distance Pipeline to Terrebonne (marsh creation)
4. Atchafalaya Sediment Pipeline (integrated project: marsh creation, ridge restoration, and hydrologic restoration) – 1 vote
5. North Vermilion Bay Marsh (integrated project: marsh creation, ridge restoration, and hydrologic restoration) – 1 vote
6. Charenton Diversion (sediment diversion)
7. Delta Expansion in Acadiana Bays/Sediment Management (integrated project: sediment diversion, hydrologic restoration, and marsh creation) – 1 vote
8. Central Coast Marsh Creation Coastal Barrier (integrated project: marsh creation and hydrologic restoration) – 6 votes
9. Shark Island Shoreline Protection & Terracing (integrated project: shoreline protection and marsh creation)

Next Steps

- The MPDT will send the presentation slides and meeting summary notes to the RW.
- RW Meeting #2 will occur in June/July to share the results of the new project analysis and refine project ideas.



Terrebonne Basin Regional Workgroup

Regional Workgroup Meeting 1 Summary

December 5, 2018 (1:00 p.m. to 5:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Tim Allen (Apache), Todd Baker (LDWF), Mart Black (Terrebonne Parish), Brady Carter (LDWF), Cindy Cutrera (Port of Morgan City), Richard Demay (BTNEP), Quenton Fontenot (Nicholls University), Jennifer Gerbasi (Terrebonne Parish), Alex Kolker (LUMCON), Greg Linscombe (Continental Land and Fur), Simone Maloz (Restore or Retreat), Leslie Suazo (Ducks Unlimited), Chris Swarzenski (USGS), Amanda Voisin (Lafourche Parish); Glen Curole (CPRA), Darin Lee (CPRA)

Master Plan Delivery Team (MPDT): Brian Lezina, Stuart Brown, Elizabeth Jarrell, Mandy Green, Krista Jankowski, Ashley Cobb, Nick Speyrer, Denise Reed, Eric White, Brett McMann

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #1 and provided an overview of the meeting's purpose: to think about how to design project concepts for the 2023 Coastal Master Plan.

Regional Workgroups – Nick Speyrer

Nick Speyrer led introductions and discussed the main points of the RW Ground Rules.

CPRA and the Master Plan Process – Stuart Brown

Stuart provided a summary of the Coastal Master Plan development process and how CPRA projects are implemented. Previously mandated to be updated every five years, the master plan cycle was changed to every six years in the last legislative session. Future land change and risk reduction without and with plan implementation predicted for the 2017 Coastal Master Plan were discussed.

2023 Coastal Master Plan – Elizabeth Jarrell

Elizabeth Jarrell described how the 2023 Coastal Master Plan will build on previous efforts to produce a realistic and practical plan that communicates and supports adaptation to future change. With this in mind, CPRA plans to improve technical analyses and modeling over the next few years, incorporating newly available data and coordinating with other efforts. Lastly, Elizabeth confirmed that 2017 Master Plan projects with funding for construction will be included as part of the landscape for the 2023 Master Plan's Future

Without Action; a decision on which projects meet that criteria will need to be made before model runs begin.

Historical and Future Land Change and Flood Risk by Basin – Glen Curole & Denise Reed

Glen Curole described historical trends in the Terrebonne Basin. Since the Coastwide Reference Monitoring System (CRMS) sites have been implemented, the Terrebonne Basin has experienced the largest amount of land loss. This loss has occurred predominantly in brackish and/or saline marshes due to high rates of marsh edge erosion during storm events, enlarging bays and lakes, and low bulk density soils.

Denise Reed described future trends in the Terrebonne Basin and explained the mechanisms of land loss and vegetation transitions in the 2017 Coastal Master Plan models. In later model years, the brackish marsh zone narrows and fresh marsh actually expands from year 20 to year 35. Denise confirmed that the models account for accretion in terms of sediment deposition and organic matter. It was suggested that the [Master Plan Data Viewer](#) might serve as a useful tool as the RW considers project concepts and how they might perform in the future.

What's Important for Your Region? – Nick Speyrer

Nick provided a summary of the pre-meeting survey results.

New Project Development – Nick Speyrer

Nick reiterated the purpose of the new project development process, which is to identify new projects that will: provide land building and/or flood risk reduction benefits at the regional scale; provide benefits in the areas of most importance or areas with inherent “resilience”; provide long-term benefits without continued maintenance; and support gradual estuarine gradients. It was confirmed that:

- RW project worksheets are considered submitted project proposals and should not be resubmitted through the public solicitation process, although the MPDT may follow up for clarification or additional details.
- All submitted projects will be given equal consideration; no weighting is applied to specific project types or to projects that are in advanced stages of design. If there are project submittal-specific questions, please contact CPRA directly at masterplan@la.gov.

The following project ideas were discussed and voted upon:

1. Western Terrebonne Hydrologic Restoration (hydrologic restoration) – 1 vote
2. East Terrebonne Ecosystem Stabilization (integrated project: marsh creation, ridge restoration, hydrologic restoration)
3. West Golden Meadow Marsh Creation (marsh creation)
4. Greater Terrebonne Bay Rim Restoration (integrated project: hydrologic restoration, marsh creation, ridge restoration) – 4 votes
5. Lower Terrebonne Buy Out (nonstructural risk reduction)
6. Atchafalaya Long Distance Sediment Transport to East Terrebonne (marsh creation) – 5 votes
7. Western Terrebonne Bay Rim Implementation (marsh creation)

8. Southern Terrebonne Rim Ridge/Marsh Creation (integrated project: ridge restoration, marsh creation)
9. Marsh Nourishment (fleet of barges) – 2 votes

Next Steps

- The MPDT will send the presentation slides and meeting summary notes to the RW.
- RW Meeting #2 will occur in June/July to share the results of the new project analysis and refine project ideas.



Barataria Basin Regional Workgroup

Regional Workgroup Meeting 1 Summary

December 6, 2018 (1:00 p.m. to 5:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Lauren Averill (Jefferson Parish), Todd Baker (LDWF), Brady Carter (LDWF), Craig Gothreaux (NOAA-NMFS), Michael Massimi (BTNEP), Earl Matherne (St. Charles Parish), Alisha Renfro (NWF), Robert Spears (Plaquemines Parish), Joni Tuck (Shell), Amanda Voisin (Lafourche Parish), Julie Whitbeck (National Park Service); Melissa Hymel (CPRA), John Troutman (CPRA)

Additional Participants: Billy Guste (CES/Jefferson Parish), Mike Schulze (CES/Jefferson Parish)

Master Plan Delivery Team (MPDT): Stuart Brown, Elizabeth Jarrell, Krista Jankowski, Catherine Fitzpatrick, Seth Irby, Denise Reed, Eric White, Brett McMann

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #1 and provided an overview of the meeting's purpose: to think about how to design project concepts for the 2023 Coastal Master Plan.

Regional Workgroups – Seth Irby

Seth Irby led introductions and discussed the main points of the RW Ground Rules.

CPRA and the Master Plan Process – Stuart Brown

Stuart provided a summary of the Coastal Master Plan development process and how CPRA projects are implemented. Previously mandated to be updated every five years, the master plan cycle was changed to every six years in the last legislative session. Future land change and risk reduction without and with plan implementation predicted for the 2017 Coastal Master Plan were discussed.

2023 Coastal Master Plan – Elizabeth Jarrell

Elizabeth Jarrell described how the 2023 Coastal Master Plan will build on previous efforts to produce a realistic and practical plan that communicates and supports adaptation to future change. With this in mind, CPRA plans to improve technical analyses and modeling over the next few years, incorporating newly available data and coordinating with other efforts. Lastly, Elizabeth confirmed that 2017 Master Plan projects with funding for construction will be included as part of the landscape for the 2023 Master Plan's Future

Without Action; a decision on which projects meet that criteria will need to be made before model runs begin.

Additional clarification was provided through discussion in response to questions from the RW. Several working group members had questions about considering projects programmatically. The Master Plan team confirmed that all feedback is welcome but that programmatic projects types will not be evaluated through this process. There were additional questions about what projects and new land will be included in the 2023 Coastal Master Plan's Future Without Action scenario. The team confirmed that the Mid-Barataria sediment diversion, depending on what has been accomplished by the deadline, will be included in the Future Without Action scenario. The team responded to a question about the incorporation of private projects and mitigation efforts. Improvements to 2023 Master Plan models will include updating landscape imagery, which should capture many projects, and CPRA also encourages sponsoring organizations to reach out with details about their projects. Further suggestions from the RW included communicating programmatic consideration more effectively to the public and working with the RWs to help define these programs (e.g., possibly displaying hotspots of shoreline erosion along the coast).

Historical and Future Land Change and Flood Risk by Basin – Melissa Hymel & Denise Reed

Melissa Hymel described historical trends in the Barataria Basin. Since the Coastwide Reference Monitoring System (CRMS) sites have been implemented, most of the observed land loss in the Barataria Basin has been associated with marsh edge erosion. Sites remain relatively stable throughout the basin, except those that have been eroded in the lower basin. One site showed gains behind a shoreline protection area completed in 2004.

Denise Reed described future trends in the Barataria Basin and explained the mechanisms of land loss and vegetation transitions in the 2017 Coastal Master Plan models. Denise and the RW discussed the importance of proposed projects being effective at maintaining low salinities throughout the basin to sustain freshwater swamps in the upper basin and brackish marshes in the mid-basin. The RW noted that scenarios that predict low precipitation years could occur earlier than predicted in model simulations, as model precipitation is based on historical data. The RW discussed which set of storms is used in storm surge modeling. USACE has a new storm set that the team is investigating using for future runs. The RW was interested in how floatant is handled by the model. It was confirmed that the model converts floating marsh and fresh marsh directly to open water when salinities are high for a sustained period of time. It was suggested that the [Master Plan Data Viewer](#) might serve as a useful tool as the RW considers project concepts and how they might perform in the future.

What's Important for Your Region? – Seth Irby

Seth provided a summary of the pre-meeting survey results.

New Project Development – Seth Irby

Seth reiterated the purpose of the new project development process, which is to identify new projects that will: provide land building and/or flood risk reduction benefits at the regional scale; provide benefits in the areas of most importance or areas with inherent "resilience"; provide long-term benefits without continued maintenance; and support gradual estuarine gradients. It was confirmed that:

- RW project worksheets are considered submitted project proposals and should not be resubmitted through the public solicitation process, although the MPDT may follow up for clarification or additional details.
- All submitted projects will be given equal consideration; no weighting is applied to specific project types or to projects that are in advanced stages of design. If there are project submittal-specific questions, please contact CPRA directly at masterplan@la.gov.

The following project ideas were discussed and voted upon:

1. East Bayou Lafourche/Caminada Headland Region Marsh & Ridge Restoration (integrated project: marsh creation, ridge restoration)
2. Increased Bayou Lafourche East Down GIWW (hydrologic restoration)
3. Mid-Rim Armored Terrace (marsh creation)
4. Upper Barataria Bay Marsh & Ridge Creation (integrated project: marsh creation, ridge restoration) – 2 votes
5. Upper Barataria Bay Headland & Marsh Creation (integrated project: marsh creation, ridge restoration) – 5 votes
6. Bayou L’Ours Ridge Restoration/Marsh Creation (integrated project: marsh creation, ridge restoration) – 3 votes

Next Steps

- The MPDT will send the presentation slides and meeting summary notes to the RW.
- RW Meeting #2 will occur in June/July to share the results of the new project analysis and refine project ideas.



Pontchartrain/Breton Regional Workgroup

Regional Workgroup Meeting 1 Summary *December 13, 2018 (1:00 p.m. to 5:00 p.m.)*

Meeting Participants

Regional Workgroup (RW) Members: Kiley Bates (Tangipahoa Parish), Mike Bengé (Delacroix Corporation), Daniel Breaux (USFWS), Brady Carter (LDWF), Henry DiFranco (St. Tammany Levee Drainage and Conservation District), Barret Fortier (USFWS), Carol Franze (LA Sea Grant), Ioannis Georgiou (UNO), Ann Howard (LDWF), John Lane (St. Bernard Parish), John Lopez (Lake Pontchartrain Basin Foundation), George Ramseur (Mississippi Department of Marine Resources), Elizabeth deEte Smythe (St. Tammany Parish), Robert Spears (Plaquemines Parish); Danielle Richardi (CPRA)

Additional Participants: Lauren Averill (Jefferson Parish), Erin Bivova (St. Tammany Parish), Brent Duet (Coastal Engineering Solutions), Donna O’Dell (St. Tammany Parish), Henry Peterson (Associated Branch Pilots), Mike Schulze (Coastal Engineering Solutions)

Master Plan Delivery Team (MPDT): Stuart Brown, Elizabeth Jarrell, Zach Rosen, Catherine Fitzpatrick, Seth Irby, Denise Reed, Eric White, Brett McMann

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #1 and provided an overview of the meeting’s purpose: to think about how to design project concepts for the 2023 Coastal Master Plan.

Regional Workgroups – Seth Irby

Seth Irby led introductions and discussed the main points of the RW Ground Rules.

CPRA and the Master Plan Process – Stuart Brown

Stuart provided a summary of the Coastal Master Plan development process and how CPRA projects are implemented. Previously mandated to be updated every five years, the master plan cycle was changed to every six years in the last legislative session. Future land change and risk reduction without and with plan implementation predicted for the 2017 Coastal Master Plan were discussed.

2023 Coastal Master Plan – Elizabeth Jarrell

Elizabeth Jarrell described how the 2023 Coastal Master Plan will build on previous efforts to produce a realistic and practical plan that communicates and supports adaptation to future change. With this in mind, CPRA plans to improve technical analyses and modeling over the next few years, incorporating newly available data and coordinating with other efforts. Lastly, Elizabeth confirmed that 2017 Master Plan projects with funding for construction will be included as part of the landscape for the 2023 Master Plan's Future Without Action; a decision on which projects meet that criteria will need to be made before model runs begin.

Additional clarification was provided through discussion in response to questions from the RW. A working group member asked where vegetative plantings would fit as a project type for New Project Development consideration. The team encouraged group members to consider underlying issues that might cause die-offs and to brainstorm integrated projects that address hydrology as well as vegetation. The Master Plan team explained that the specific use of vegetative planting may be addressed in the later engineering and design phase of projects. A working group member raised the question whether project proposals located in high flood risk areas would initially be screened out for consideration due to the underlying environmental conditions. The Master Plan Team explained that for projects to be considered for 2023 analysis, projects should address areas of future flood risk and land loss in addition to providing near-term benefits. There were additional questions about what projects will be included in the 2023 Coastal Master Plan's Future Without Action scenario. The team confirmed that anything constructed or funded for construction by the 2021 deadline will be included in the Future Without Action scenario.

Historical and Future Land Change and Flood Risk by Basin – Danielle Richardi & Denise Reed

Danielle Richardi described historical trends in the Pontchartrain and Breton Sound Basins. Since the Coastwide Reference Monitoring System (CRMS) sites have been implemented, most of the observed land loss in the two basins has been associated with marsh edge erosion. Land loss in the Breton Sound Basin is concentrated in northwestern brackish and intermediate marshes. Land loss in the Pontchartrain Basin is concentrated in saline marshes between Lake Borgne and the Chandeleur Sound. The two basins have seen some land gain associated with restoration projects, such as delta management at Fort St. Philip and Bayou Bonfouca Marsh Creation. In general, vegetation cover is relatively stable throughout both basins, but there is a swamp to marsh transition being observed in the Maurepas Swamp. Flooding has increased at sites in the Maurepas Swamp and the most vulnerable areas to future submergence are considered to be the Maurepas Swamp and northwest Breton Sound Basin.

Denise Reed described future trends in the Pontchartrain and Breton Basin and explained the mechanisms of land loss and vegetation transitions in the 2017 Coastal Master Plan models. Denise explained that marsh edge erosion drives land loss in the two basins for the first 20 years of future simulations. In later years of the simulations, land loss is dominated by inundation collapse that particularly affects brackish and salt marshes. It was suggested that the [Master Plan Data Viewer](#) might serve as a useful tool as the RW considers project concepts and how they might perform in the future.

What's Important for Your Region? – Seth Irby

Seth provided a summary of the pre-meeting survey results.

New Project Development – Seth Irby

Seth reiterated the purpose of the new project development process, which is to identify new projects that will: provide land building and/or flood risk reduction benefits at the regional scale; provide benefits in the areas of most importance or areas with inherent “resilience”; provide long-term benefits without continued maintenance; and support gradual estuarine gradients. It was confirmed that:

- RW project worksheets are considered submitted project proposals and should not be resubmitted through the public solicitation process, although the MPDT may follow up for clarification or additional details.
- All submitted projects will be given equal consideration; no weighting is applied to specific project types or to projects that are in advanced stages of design. If there are project submittal-specific questions, please contact CPRA directly at masterplan@la.gov.

The following project ideas were discussed and voted upon:

1. Restoration of Breton Sound Islands (integrated project: barrier island restoration, marsh creation, and ridge restoration)
2. South Breton Land Bridge (integrated project: ridge restoration and marsh creation)
3. East Pearl River Freshwater Restoration (hydrologic restoration) – 1 vote
4. Maurepas Swamp Diversion Enhancement (hydrologic restoration)
5. Shoreline Protection along Lake Pontchartrain and Lake Maurepas (integrated project: hydrologic restoration and ridge restoration)
6. North and South Biloxi Marsh Reconnection (hydrologic restoration) – 2 votes
7. Caernarvon Sediment Diversion and Breton land bridge marsh creation (integrated project: diversion, hydrologic restoration, and marsh creation)
8. Chandeleur Island Sand Engine Nourishment (integrated project: barrier island restoration and ridge restoration) – 4 votes
9. Comprehensive Chandeleur Sustainability Project (integrated project: structural protection, marsh creation, and oyster reef restoration) – 4 votes

Next Steps

- The MPDT will send the presentation slides and meeting summary notes to the RW.
- RW Meeting #2 will occur in June/July to share the results of the new project analysis and refine project ideas.



Chenier Plain Regional Workgroup

Regional Workgroup Meeting 2 Summary

July 2, 2019 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Rica Canik (Cameron Parish Police Jury), Laurie Cormier (Calcasieu Parish Police Jury), Glenn Harris (USFWS), Charles Herbert (USACE), Greg Linscombe (Continental Land and Fur), George Melancon (LDWF), Kevin Savoie (Louisiana Sea Grant), Phillip Trosclair (LDWF), Jenneke Visser (Retired-University of Louisiana Lafayette); Leigh Anne Sharp (CPRA)

Master Plan Delivery Team (MPDT): Stuart Brown, Ashley Cobb, Krista Jankowski, Denise Reed, Rachelle Sanderson, Eric White

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone and provided an overview of the meeting’s purpose: to review CPRA’s initial evaluation of the RW’s proposed new project concepts for the 2023 Coastal Master Plan.

Background and Context – Krista Jankowski

Krista Jankowski provided a reminder of background and context related to the master plan process and land change patterns for the region.

- If the Calcasieu Salinity Control Ship Channel receives funding by 2021 it will be put into the model as a base condition for Future Without Action (FWOA) for the 2023 Coastal Master Plan.
- Projects that are being constructed (or received funding for construction) will be considered as part of the landscape for the FWOA.
- Shoreline protection projects are not being modeled. Shoreline protection will be included in the 2023 plan programmatically, with individual projects to be selected on a case-by-case basis.
- Models for the 2023 plan are being revised, for example to be less sensitive to single events.

Evaluation of Project Concepts – Stuart Brown, Denise Reed, Eric White

Results from the evaluation of proposed project concepts using the 2017 Coastal Master Plan Integrated Compartment Model (ICM) were provided.

Ideally, we want to identify projects that perform well across multiple environmental scenarios.

- Projects will likely be modeled against three scenarios for the 2023 plan, but scenario details (TBD) will likely be different from those used for the 2017 plan.
- The rate of subsidence for the Chenier Plain was less than 5 mm/year in modeling for the 2017 plan; this will be re-evaluated for the 2023 plan based on newly available data.

Discussion – Stuart Brown

Willdhorse Marsh Creation

- Project Description: create marsh in area north of GIWW in the vicinity of Gum Cove.
- Discussion:
 - For implementation of traditional marsh creation projects in the ICM, water greater than 2.5 ft in depth is not filled in. Water less than 2.5 ft in depth is filled as marsh. Surrounding marsh within the project footprint is raised to the same elevation above mean water level. Since marsh is not created everywhere within the project footprint, it is important to look at land gain by ecoregion.

Calcasieu Sabine Hydrologic Restoration

- Project Description: introduce freshwater from the Sabine River in the northwest and improve drainage in the southwest towards West Cove.
- Discussion:
 - Adjustments from original project concept: looked at various locations to determine where hydrologic gradients exist in order to move water.
 - There are not a lot of places with a differential stage, so what are the options for drainage?
 - The best marsh in the area is tidal marsh, is there a way to open/un-impound the area around Willow?
 - Channels with flap gates to prevent salinity infiltration were not modeled due to the channel size (~650 ft). How would adding flapgates change results?

Mermentau Highway 82 Hydrologic Restoration

- Project Description: improve drainage in the Mermentau Basin by moving water across Highway 82.
- Discussion:
 - There is a net zero change in land over time for this project.
 - There is a lack of opportunity to drain from the north into the south, the water level in Calcasieu Lake is too high. There is only 360 ft of a 4 mile stretch along Highway 82 that is unrestricted; if water can get across the highway, it will drain to the Gulf most of the time.
 - The Calcasieu Salinity Control project is on hold to re-evaluate many of the issues we are talking about. It was initially designed to address the salinity problem only, now they are looking at controlling salinity without negatively impacting drainage.
 - For the 2023 plan there will be additional snapshots of model output to show benefits of projects between years 30-40 (vs. only at year 25 and 50).
 - 2023 model improvements include adding more dynamic response to inundation.
 - CPRA to look at ME20 report.

Highway 27 + Cameron Creole Outfall Canal Phase I & II

- Project Description: create drainage of Cameron Creole marshes into the Gulf of Mexico.
- Discussion:
 - The project does drain the area but negatively impacts salinity.
 - Water control structures along the Intracoastal Waterway may cause silting issues (e.g., CS-49).

Other Adjustments/Ideas

- Investigate a project to fix Highway 27's restrictions.
- Use massive pumps to drain water that is above the marsh elevation.
 - CPRA will do back of the envelope calculations to see how much it would cost to move X amount of water and share with the RW at the next meeting.
- Explore a smaller outlet with structures and combine approach with increased lake rim drainage.
- If we are going to do marsh creation, it needs to be designed as a landbridge – shore up the marsh at salinity exchange zones to have a gradient of marsh types near major outlets.
- Thinking about what the Chenier Plain will look like in the future, can we solve the problem when a big storm hits? Tides are restricted from going in/out because of the rice industry – do we want to keep the area fresh over the long term?
- Sustaining the marsh (regardless of what type) will likely sustain the marshes longer than trying to artificially maintain them.
- Focus on creating elevation (marsh creation and ridges).
- What should we protect (infrastructure, levees, marsh, etc.)?
- To protect Calcasieu we need to protect Cameron.

Next Steps

- Follow-up from Meeting #2
 - The MPDT will send the presentation slides, meeting summary notes, and a digital version of the regional map handout.
- RW Meeting #3 will occur in Spring 2020
 - Discuss full list of proposed projects and how to combine or adjust to best meet regional priorities.
 - Input on updated model calibration and validation.
- Optional modeling webinar early 2020 – deep dive into improvements made, how the model works, etc.



Central Coast Regional Workgroup

Regional Workgroup Meeting 2 Summary

July 8, 2019 (9:00 a.m. to 12:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Ron Boustany (USDA-NRCS), Cassidy Lejeune (Ducks Unlimited), Tim Matte (St. Mary Levee District), Tommy McGinnis (CPRA-LRO), Randy Moertle (McIlhenny Corp), Andy Nyman (LSU Ag Center), Donald Sagrera (Teche Vermilion Freshwater), Scott Saunier (Iberia Parish), Karen Westphal (Audubon MRD)

Additional Participants: Ralph Libersat (Vermilion Parish)

Master Plan Delivery Team (MPDT): Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Elizabeth Jarrell, Denise Reed, Rachele Sanderson, Eric White

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #2 and provided an overview of the meeting's purpose: to review CPRA's initial evaluation of the RW's proposed new project concepts for the 2023 Coastal Master Plan.

Background and Context – Ashley Cobb

Ashley Cobb provided a reminder of the background and context of the Master Plan process and land change patterns.

- Vermilion Parish has GOMESA projects to add to the DEM (Southwest Pass).
- Send information on parish projects that are constructed or will be funded for construction by 1/1/2021 (regardless of acreage) to masterplan@la.gov.

Evaluation of Project Concepts – Stuart Brown, Denise Reed, Eric White

A summary of the RW's proposed project concepts and an explanation of how concepts were initially evaluated using 2017 Coastal Master Plan models was provided.

Discussion – Stuart Brown

Avoca Island Marsh Creation

- Project Description: create marsh at Avoca Island.
- Discussion:
 - CPRA emphasized that for implementation of traditional marsh creation projects in the Integrated Compartment Model (ICM), water greater than 2.5 ft in depth is not filled in. Water less than 2.5 ft in depth is filled in as marsh. Surrounding marsh within the project footprint is raised to the same elevation above mean water level. Since marsh is not created everywhere within the project footprint, it is important to look at land gain by ecoregion.

Central Coast Marsh Creation – Coastal Barrier

- Project Description: maintain large tracts of marsh in/around Southwest Pass and Point Au Fer.
- Discussion:
 - Current plans for shoreline protection around Southwest Pass.
 - Is it easier to get sediment to Avoca? Bayou Chene and other water bottoms are routinely dredged. Why not divert sediment to fill 3 ft water bottoms around Avoca, etc. To think bigger picture, we should fill deeper areas for marsh creation.
 - Marsh creation fill-depth assumptions for this analysis are from the 2017 modeling effort. These assumptions may change for the 2023 Master Plan.
 - There are sediment, containment issues, and cost constraints for filling in deep water areas for marsh creation.
 - By year 50, Point Au Fer is lost. In reality, lots of sediment is coming from the Atchafalaya; the bay is shallowing.
 - This is taken into account, but subsidence is relatively high at Point Au Fer in the model. The subsidence scenarios are being re-evaluated for the 2023 plan.
 - The 2017 models use USGS bathymetry data from 2014. We will use updated bathymetry/topography data for the 2023 plan.
 - What are the benefits of maintaining or constricting Southwest pass?
 - Maintaining the same width for large channels does not show a lot of benefit. What makes a difference is constricting channels to narrower dimensions.
 - Constricting Southwest Pass may provide more storm surge protection for Cote Blanche and Vermilion Bays and restore hydrology.
 - Some projects were discarded in the 2017 plan because they only lasted 30 years.
 - The longevity of a project is dependent on when it is put on the landscape. For the 2017 plan, there were different implementation periods. The Planning Tool looked at the amount of funding available for each and what benefits projects would have over the remaining years (land vs. cost).
 - Processes in the ICM do not operate at a scale that allows capture of terracing benefits.
 - Where would strategic placement of marsh creation be?

Charenton Diversion and Hydrologic Restoration

- Project Description: sediment and freshwater diversion to West Cote Blanche and Vermilion Bays.
- Discussion:
 - Improvements would need to be made to the Charenton control structure.
 - Consider outfall management and the benefit from terraces.

- For this modeling effort, the location with the greater hydraulic gradient was selected. This project would be very expensive due to the new canal structure and dredging. Routing through Bayou Teche could be a cheaper option.
- Looked further east at freshening of GIWW, open to suggestions on other outfall locations.
- How much freshwater goes straight out to the bay down the GIWW?

Other Adjustments/Ideas

- Let's change the current way of thinking and conceive project footprints around healthy marsh - add sediment to marsh that already exists (rather than filling in water) to make it last longer into the future
 - Marsh nourishment is included in marsh creation analysis.
 - Filling in healthy marsh is determined by what the marsh will look like at year 10. Can the model help anticipate need versus waiting for marsh to collapse to then fill it in, focus on areas on the verge of collapse?
- When thinking about projects, first think about what can be done hydrologically (add freshwater intake and try to capture sediment e.g., with terracing to capitalize on efficiencies).
- A large, multi-parish idea is to put the weir back and force tidal exchange through Southwest Pass. Suggestion to look at the Acadiana Bays model for information on salinity flux.
- Updated master plan models will be calibrated and validated based on current day conditions.

Next Steps

- The MPDT will send the presentation slides and meeting summary notes to the RW.
- RW Meeting #3 will occur in Spring 2020
 - Discuss full list of proposed projects and how to combine or adjust to best meet regional priorities.



Terrebonne Regional Workgroup

Regional Workgroup Meeting 2 Summary

July 9, 2019 (9:00 a.m. to 12:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Tim Allen (Apache), Todd Baker (LDWF), Mart Black (Terrebonne Parish), Dwayne Bourgeois (North Lafourche Levee District), Brady Carter (LDWF), Cindy Cutrera (Port of Morgan City), Quenton Fontenot (Nicholls State University), Jennifer Gerbasi (Terrebonne Parish), Alex Kolker (LUMCON), Darin Lee (CPRA – Thibodaux), Greg Linscombe (Continental Land and Fur), Simone Maloz (Restore or Retreat), Ronny Paille (USFWS), Leslie Suazo (Ducks Unlimited), Amanda Voisin (Lafourche Parish), Jonathan Willis (Nicholls State University)

Master Plan Delivery Team (MPDT): Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Denise Reed, Rachele Sanderson, Eric White

Meeting Summary

Welcome – Stuart Brown

Stuart Brown welcomed everyone to the RW Meeting #2 and provided an overview of the meeting's purpose: to review CPRA's initial evaluation of the RW's proposed new project concepts for the 2023 Coastal Master Plan.

Background and Context – Rachele Sanderson

Rachele Sanderson provided a reminder of the background and context of the Master Plan process and land change patterns.

Evaluation of Project Concepts – Stuart Brown, Denise Reed, Eric White

A summary of the RW's proposed project concepts and an explanation of how concepts were initially evaluated using 2017 Coastal Master Plan models was provided.

- 2017 projects will be carried forward and modeled for the 2023 plan.
- For the next project public solicitation CPRA will try to be clearer about what information is needed.

Discussion – Stuart Brown

Western Terrebonne Hydrologic Restoration

- Project Description: direct freshwater away from Superior Canal toward southern Terrebonne (west of Dularge).
- Discussion:
 - Are there other areas where we might want to apply this concept (rerouting or rethinking where we move freshwater)?
 - The model did not show negative impacts to the southwest (the area away from which water is being diverted); due to the project's proximity to the delta, salinities are still fresh.
 - Clarification re: original proposal: Superior Canal effects the system and the headwater in Palmetto. The intention was to neck down Superior Canal to 8-10 feet deep and 100 feet wide. Suggestion to reduce the flow (~ 50%), not completely plugging the canal.
 - This would be a relatively cheap, effective project; how can we increase its benefits?
 - The 2023 plan will consider project benefits over time.
 - For the 2017 modeling, year 0 is 2014; for the 2023 analysis, year 0 will be 2019.
 - It may be risky to assume Increase Atchafalaya will be online for the 2023 plan.
 - The goals of this meeting are to solve large scale issues and to think bigger in Terrebonne; we have not gotten to the heart of issues in Western Terrebonne.
 - Land gain and land maintained were evaluated equally in the 2017 master plan process. However, where land is located is also important.
 - It would be helpful to add a year 40 line to the land change curves to identify where some land change graphs begin to change.
 - Sediment transport and deposition processes are captured in the model.

Greater Terrebonne Bay Landbridge

- Project Description: limit tidal exchange to interior Terrebonne marshes.
- Discussion:
 - The landbridge location was selected as far south as possible to string existing marsh together. The project provides land benefits of the bridge itself and a hydrologic benefit up-basin. A challenge is that there is not a lot of marsh up-basin for the project to maintain.
 - Most of the project benefits are realized on the Lafourche side of Point Au Chien. Do we need the entire landbridge footprint to see benefits to the east, or if we move the project further inland would there be greater benefit to the west?
 - Storms and associated salinities are included in model runs.
 - There are gaps in the landbridge to let salt water out.
 - Barrier Island benefits on tidal prism were not included in the analysis. One of the 2023 model updates is better capturing that feedback.
 - The model captured reducing the tidal prism in a limited way from Morganza to the Gulf. Fluctuations trickle down through the model processes via salinity or vegetation response.
 - Perhaps the landbridge is not performing on the west side of the project due to. The east part of the landbridge collapses between year 40 and 50.
 - Features that face open water (e.g., bays, large lakes) are assumed to include shoreline protection in the model.
 - This is a similar concept to the Central Terrebonne ridge which is in the engineering phase.

Other Adjustments/Ideas

- Consider a third delta into East Terrebonne to proactively address the cause of land loss. There are several discharge options but Grand Bayou/Madison Bay are prime targets.
 - If we tell the model where a pipeline ends, i.e., where the marsh creation project will occur, it can be modeled. Sediment delivery method/location will also influence project cost.
 - The 50-year time scale of the master plan limits the realized benefits from a third delta.
- Focus on improving the accuracy of Morganza to the Gulf's hydrology.
- Use the most current census data for the 2023 plan. Partial results should be available by December 2020, with remaining data to be released by March 2021.
- Explore how to maximize structures to move more freshwater down basin versus focusing on keeping saltwater out.
- Operational regimes and feedbacks are needed for HNC Lock and Increase Atchafalaya.
- Planned updates for the 2023 models include incorporating nuisance flooding and population/demographic changes.

Next Steps

- The MPDT will send the presentation slides and meeting summary notes.
- RW Meeting #3 will occur in Spring 2020
 - Discuss full list of proposed projects and how to combine or adjust to best meet regional priorities.
 - Input on updated model calibration and validation, which will be based on current day conditions.



Barataria Regional Workgroup

Regional Workgroup Meeting 2 Summary

August 21, 2019 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Craig Gothreaux (NOAA), Richard DeMay (BTNEP), Kevin Roy (USFWS), Robert Spears (Plaquemines Parish), Matt Benoit (BTNEP), Julie Whitbeck (NPS – Jean Lafitte), Alisha Renfro (NWF), Lauren Averill (Jefferson Parish), Amanda Voisin (Lafourche Parish), Melissa Hymel (CPRA), Todd Baker (LDWF), Earl Matherne (St. Charles Parish), Brady Carter (LDWF)

Master Plan Delivery Team (MPDT): Stuart Brown, Catherine Fitzpatrick, Elizabeth Jarrell, Denise Reed, Eric White

Meeting Summary

Welcome – Stuart Brown

Stuart welcomed everyone and provided an overview of the meeting's purpose: to review initial evaluation of project concepts proposed by the RW.

Background and Context – Catherine Fitzpatrick

Catherine provided a reminder of context on the Master Plan process and regional land change patterns.

Evaluation of Project Concepts – Stuart Brown, Denise Reed, Eric White

A summary of project concepts proposed by the RW and how they were initially evaluated was provided.

General notes on this modeling effort:

- Project concepts were evaluated with existing models from the 2017 Master Plan; projects will be evaluated for 2023 with updated models that may produce different results.
- Model results show effects of Future With Action (FWA) compared to Future Without Action (FWOA), not the future compared to the present.
- Davis pond and Caernarvon diversions and Naomi and West Point a la Hache siphons are on for all model runs. There is also exchange in the model through the GIWW. All runs include sea level rise.
- Existing ridges were modeled at their current elevations, but marsh creation was substituted in areas where ridges were proposed for landbridge features. Ridges can be modeled for the 2023 evaluation.
- These runs do not capture the storm surge effects, but the 2023 evaluation will.
- The barrier island model (BIMODE) was not active, so induced land loss on at the beach and/or dune may be inaccurate for these runs. Barrier island modeling will be active for the 2023 evaluation.

- In the 2017 model, the initial landscape (at Year 1) represents 2015. For the 2023 evaluation, the initial landscape will be built using 2018 data, and any additional projects that are expected to be constructed or funded for construction by 2021 will be imposed as “FWOA projects” on the landscape.
 - CPRA has a database of state-funded projects but needs help from the RW to identify others (e.g., projects funded by Port Fourchon).
 - Mid-Barataria sediment diversion (MBSD) will likely be considered a “FWOA project”.
- For these runs, projects were added to the landscape at Year 7. For the 2023 evaluation, the Planning Tool will select projects given a certain amount of money available for each implementation period. Selected projects will be added to the landscape at different times based on the implementation period for which they are selected as well as the estimated construction time for each project.
- For these runs, sediment availability was assumed. For the 2023 evaluation, the Planning Tool will determine the cheapest/closest sediment source for each project from a map of available sediment sources. Additional sediment sources can be added (e.g. sediment from deepening/dredging at Port Fourchon).
- Note that an approach is being tested to look at project benefits over time for the 2023 evaluation rather than near-term (Year 20) and long-term (Year 50) benefits.

Discussion – Stuart Brown

Caminada Headland Marsh Creation

Project Description: create marsh at Caminada Headland.

Discussion:

- This project would be expensive (probably in the ballpark of \$1B based on costs for similar projects)

Lower Barataria Landbridge

Project Description: maintain the hydrology of mid to lower Barataria Basin by creating marsh along Bayou L’ours that continues east across the Bay. Note that MBSD is located inside of this landbridge.

Discussion:

- Without MBSD, the landbridge does not survive to Year 50 (but note that it might if we added elevation). Land loss in the upper basin is due to saltwater intrusion killing floating organic peat masses.
- With MBSD on, some of the landbridge lasts to Year 50. Some salinity impacts are observed, but there is not much effect on stage.
- Graphs of land change over time demonstrate that the diversion and the landbridge have overlapping benefits (i.e., greater divergence of FWOA and FWA lines without MBSD).
- [Additional land change graphs have been added to the slide deck \(slide 52\) as asked for in the workgroup discussion](#)

Mid-Barataria Landbridge

Project Description: limit tidal exchange to mid and upper Barataria Basin by creating marsh just south of MBSD.

Discussion:

- Without MBSD, some difference in salinity and a slight increase in stage is observed. This landbridge results in less land benefit than the Lower Barataria landbridge. It is also smaller (about 6,500 acres vs. about 10,000 acres) and should be cheaper to construct because it has a smaller footprint and because it crosses more existing land rather than filling areas of open water.

- With MBSD on, salinity and land effects are observed in the Upper Barataria and Lower Terrebonne regions (due to the connection via the GIWW).
- In a comparison of FWOA without MBSD to a FWA with both the landbridge and MBSD, results show that the feature remains intact at Year 50, with land gained and sustained (and a small amount of induced loss).
- Graphs of land change over time show that overall MBSD is more beneficial alone than in combination with this landbridge, but the projects may show benefits in different areas.
- Suggestion to duplicate the graph (FWOA, FWA diversion on, FWA diversions + landbridge, FWA landbridge only) the Lower Barataria Landbridge (added to slides).
- Note that salinity maps are useful when thinking about fisheries
- Note that the continuity of landbridge features is important for providing benefits beyond the project footprints.
- Observation that the lower landbridge performs a lot like Pointe-aux-Chenes - every time it gets hit, it comes back quickly - expect a better vegetative response above the mid-Barataria landbridge.
 - Suggestion to try building up elevation (e.g. with ridges) to help maintain features over time
 - Note that anticipated changes to marsh collapse thresholds in the model should lead to a different vegetation response in updated models.
- In the model, more diverted water held in a basin leads to more sediment deposition. However, that deposition may remain sub-aqueous under higher water levels.
- Suggestion to model the mid and lower landbridges together to compare performance and understand the overlap in benefits.

Upper Barataria Landbridge

Project Description: limit tidal exchange to upper Barataria Basin by creating marsh just south of Lake Salvador.

Discussion:

- This landbridge location results in much less effect on landbuilding compared to the other 2 locations tested and little effect on salinity.

Additional Project Concepts and Regional Priorities

Questions for the RW:

- Where should we build marsh creation and/or landbridge features to maximize regional benefits (e.g., follow existing ridges)?
- Can we combine pieces of different projects to maximize regional benefits?
- Can we narrow the focus for landbridge projects to increase feasibility?
- Can we prioritize project concepts to reduce the range of possibilities for additional analysis?
- Can we identify ways to modify existing projects to maximize regional benefits?

Suggestions:

- Consider adding a ridge component to projects.
- Consider filling in deeper water with a hard substrate that would encourage settling species like oysters in partnership with marsh creation or shoreline protection (will add to project cost)
- Consider using protection features in combination with restoration features/identifying projects that incorporate multiple methods or multiple lines of defense (i.e. marsh creation with living shorelines or shoreline protection, Morganza to control salinity up-basin using control structures that are already in place on the levee system, etc.)
- Identify 2 or 3 large projects and then work toward programmatic commitment across funding sources

Next Steps

- The MPDT will send presentation slides and meeting summary notes to the RW
- RW members should send information on projects to be constructed or funded for construction by 1/1/2021 (regardless of acreage) to masterplan@la.gov.
- Second public solicitation – late 2019
 - Reminder that concepts are more important than project details (i.e., no need to hire consultants to provide engineering information)
- Modeling webinar – Winter 2019/2020
- RW Meeting #3 - Spring 2020
 - review all potential projects (e.g., from 2017 plan, from RWs, and submitted through the public solicitation process)
 - Consider prioritization of projects, how to combine, timing and sequencing, etc.



Pontchartrain/Breton Regional Workgroup

Regional Workgroup Meeting 2 Summary

June 24, 2019 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Barret Fortier (USFWS), Carol Franze (LA Sea Grant), John Lopez (Lake Pontchartrain Basin Foundation), George Ramseur (Mississippi Department of Marine Resources), Robert Spears (Plaquemines Parish); Danielle Richardi (CPRA)

Additional Participants: Brian Lezina (CPRA), Henry Peterson (Associated Branch Pilots)

Master Plan Delivery Team (MPDT): Stuart Brown, Catherine Fitzpatrick, Elizabeth Jarrell, Krista Jankowski, Denise Reed, Rachele Sanderson, Eric White

Meeting Summary

Welcome – Stuart Brown

Stuart welcomed everyone and provided an overview of the meeting's purpose: to review CPRA's initial evaluation of the RW's proposed new project concepts for the 2023 Coastal Master Plan.

Background and Context – Elizabeth Jarrell

Elizabeth provided a reminder of background and context related to the master plan process and land change patterns for the region.

Evaluation of Project Concepts – Stuart Brown, Denise Reed, Eric White

Results from the evaluation of proposed project concepts using the 2017 Coastal Master Plan Integrated Compartment Model (ICM) were provided.

Discussion – Stuart Brown

Biloxi Marsh Reconnection

- Project Description: Cuts in the Mississippi River – Gulf Outlet (MRGO) spill bank to allow water circulation.

- Discussion:
 - This project was intended to increase salinity south of the MRGO, but model output shows the opposite. Should the project still be considered?
 - Model outputs show average annual salinity.
 - Caernarvon Diversion is operating in the model.
 - With Mid-Breton Diversion in operation, there could be benefits to getting freshwater further out, especially under future conditions with more land loss and higher salinity expected from sea level rise.
 - Salinity changes could lead to a reduction in oyster habitat/productivity.
 - Model runs for this effort focused on land change and salinity and did not incorporate Habitat Suitability Indices (HSIs).
 - In addition to maintaining and gaining land, it is a master plan objective to maintain habitat statewide.
 - Economic and other risk assessment metrics are considered for strategic selection of projects over time as part of the master plan process.
 - Need to consider timing for when to implement projects.

South Breton Landbridge

- Project Description: Landbridge project across Breton Sound to maintain hydrology and protect interior marshes.
- Discussion:
 - Landbridge projects are “integrated projects” because they incorporate aspects of several traditional project types (e.g., marsh creation and hydrologic restoration). These projects also fill deeper open water than traditional marsh creation projects, leaving only major bayous/canals open.
 - Consider how this project would work in tandem with others and try to find synergies between projects. For example, an intention of this project concept was to maintain salinities similar to historic conditions, but the Mid-Breton Diversion will also impact salinities – does that change the need for this project?
 - Consider the feasibility and timing of construction to think more realistically about potential benefits (e.g., talk to engineers about realistic timeline for construction, identify an optimal sequence for building in phases).
 - Water builds up behind landbridge projects, more so in Breton than in Baratavia.
 - Existing projects (e.g., CWPPRA projects) constructed or funded for construction by a set date before model runs start are included on the landscape (by January 2021 for the 2023 modeling effort). We want to consider holistic approaches that work with existing projects and programs where possible.
 - Potential adjustments to project features:
 - Increase the size of the exchange points across MRGO.
 - Assess the sensitivity of the exchange to location(s) of the reconnection.

Manchac Landbridge

- Project Description: Existing landbridge feature to target for restoration to prevent future loss.
- Discussion:
 - Under the medium scenario with the current model, the landbridge is not lost at Year 50, but swamp converts to marsh – reforestation could be beneficial and should be considered in the design phase of project development.

- Consider mining the Bonnet Carre Spillway to make the project more cost effective.
- Focus restoration efforts on the narrowest part of the landbridge by Ruddock to help prevent breaching.
- Restoration projects are not modeled individually to assess surge reduction benefits as part of the master plan process for project selection. LPBF has model results that show surge reduction and can send those.

Biloxi Marsh Projects

- Biloxi Marsh is seen as an important “bump in the road” for protecting the Northshore from surge. Is there a way to save any of it? Can we model what happens if we restore it?
 - Project was borderline for selection in 2017 - surge reduction benefits were not considered in the project selection process, but benefits are expected to be minimal based on analysis with a few storms for 2017 (see [Chapter 4 – Model Outcomes and Interpretations](#)).
 - Other models show that restoring Biloxi Marsh reduces storm surge - a marsh creation and hydrologic restoration project was submitted to restrict 3 Mile Pass with the hope of reducing the initial setup of surge and maintaining salinities in the marsh. If 3 Mile Pass continues to erode, we will lose oysters and a source of mineral sediment.
 - In the 2017 Coastal Master Plan, effects of the Lake Pontchartrain Barrier project overshadow benefit from these projects.
 - Noted that the existing models use historic rates for edge erosion that do not increase over time as fetch changes.
- There were multiple submissions for different versions of restoration projects in Biloxi Marsh – what should we prioritize?
 - Is the northwest facing side more important than the eastern facing side?

Other Adjustments/Ideas

- CPRA will follow-up with a list of projects concepts submitted through the public solicitation.
- Does the Lake Pontchartrain Barrier project keep more freshwater in the basin when Bonnet Carre is open? Would Mississippi benefit from not having as much freshwater?
 - The barrier is operated based on water levels (e.g., closed when a hurricane comes). In the highest scenario for sea level rise, opening may occur under non-hurricane scenarios.
- Model improvements are underway. When we get ready to calibrate and validate the updated model, we want input from this group.

Next Steps

- Follow-up from Meeting #2
 - The MPDT will send the presentation slides, meeting summary notes, and public solicitation project concepts list to the RW.
- RW Meeting #3 will occur in Spring 2020
 - Discuss full list of proposed projects and how to combine or adjust to best meet regional priorities.



Chenier Plain Regional Workgroup

Regional Workgroup Meeting/Webinar 3 Summary

March 24, 2020 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Kara Bonsall (Cameron Parish Police Jury), Greg Linscombe (Continental Land and Fur), Kevin Savoie (Louisiana Sea Grant), Phillip Trosclair (LDWF), Jenneke Visser (Retired-University of Louisiana Lafayette); Leigh Anne Sharp (CPRA)

CPRA/Master Plan Team: Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Krista Jankowski, Elizabeth Jarrell, Sam Martin, Denise Reed, Rachelle Sanderson, Eric White

Meeting Summary

Welcome & Overview

Stuart Brown welcomed everyone and thanked the Regional Workgroup (RW) members for their flexibility in participating via webinar. Stuart also reiterated the purpose of the RWs and provided an overview of the meeting's focus: to review the goals of candidate projects and discuss refinements.

Background and Context

Stuart provided a reminder of background and context related to the master plan process and land change patterns for the region. He reviewed the results of EDF's study of the 2017 model's causes of land loss. In Calcasieu/Sabine, Mermentau, and Teche/Vermilion land loss was driven by inundation collapse and fairly consistent edge erosion loss across all of the basins. The projects that move forward should address these major types of land loss. Stuart also reiterated that the master plan is not a program or funding source and that for the 2023 plan CPRA is seeking larger scale, integrated projects with benefits on the basin/sub-basin scale.

Potential Candidate Projects

Stuart gave an overview of proposed large-scale drainage projects, and Eric White shared corresponding maps to help show how projects could be represented in the model. The discussion that followed was to make sure CPRA captures what was intended by the project submissions. It was explained that following the webinar, CPRA will share the hydrologic compartment maps for the RW to mark-up with additional ideas.

Calcasieu/Sabine – Regional Workgroup proposal, Fenstermaker proposal, and Wildhorse Marsh Creation

- Historically, Calcasieu and Sabine were separate basins, divided by Gum Cove Ridge. Plans for restoration include a structure on the GIWW, canal plugs, cleaning canals, and re-assessing operations of existing structures
- RW confirmed the points on the map represent locations for plugs.
- Clean out Willow Bayou to evacuate tidal water as quick as possible.
- Back Ridge Canal is currently plugged; potentially being addressed and maintained for a CWPPRA project.
- Gum Cove Ridge restoration/lock on GIWW - challenging and expensive from a feasibility standpoint; the lock is not critical from a management perspective, there might still be value in the project even if a lock is not put on the GIWW.
- Eric to follow up with Leigh Anne Sharp. The Fenstermaker version can be modeled with the existing infrastructure, and Eric can conduct a spreadsheet analysis to explore larger structures (e.g., see how big a Long Point Bayou one-way structure would have to be).
- Look at structures along the Calcasieu Lake to see if there is any way to improve them and/or the operations (being managed for salinity, not floodwaters).
- Cleaning out the canals and allowing water to evacuate as quickly as possible is a good suite of projects.
- While a lock system is not feasible due to navigation and fishermen concerns, it might be worth modeling to see if a lock or alternative structure could reduce the inflow of Gulf water into Calcasieu Lake and what the impacts are. Will coordinate with Calcasieu Ship Channel Salinity Control Measures project investigations.
- Wildhorse Marsh Creation in conjunction with a massive hydrologic restoration project would be interesting to see – CPRA and the RW to work through the idea over email.
- This area is projected to be marsh in the future with, or without, action.
- What are the key landscape features we want to maintain in the area; what areas do we want to preserve?
- Chenier Plain landowner proposal includes a water flow reduction structure that focuses on the main channels to increase the outgoing flow. The structure would still allow for navigation while dealing with the sources of the land loss problem.
 - Putting marsh creation along the Intracoastal might solve the issue of water flowing north; however, water tends to flow north to drain. It will be important to see what impact the marsh creation will have.
 - Include a roller arm gate to close on incoming tides and open for outgoing tides. Terraces would reduce the amount of volume in the deeper water areas.
 - Phillip to sketch out locations for terracing and marsh creation areas.
 - CPRA to do preliminary calculations and research on what is feasible.

Cameron-Creole: Highway 27 + Cameron Creole Outfall Canal Drainage Opportunities

- Regional water management is key in this area.
- The inundation aspects of the Cameron Creole basin are being reanalyzed in the context of the Calcasieu Ship Channel Salinity Control Measures project.
- RW clarified that additional structures were put on Highway 27 to release water out of the basin.

- Ideally, water needs to get to a super structure (either a new one or opening up an existing one) via the Creole Canal in order to evacuate water.
- RW confirmed structures on the Creole Canal were recently reconstructed/remodified in the last three to five years; additional structures off to the side were also added.
- RW informed CPRA of a project going out to bid for maintenance dredging of Kings Bayou.
- LDWF is looking at a project on the Intracoastal levee system that would flow into the Catfish locks to reduce water from flowing into system. The existing infrastructure (levee system) could hopefully keep up.
- RW confirmed there is connectivity via a small bayou between Kings Bayou and the Creole Canal.
- Old River is a possible opportunity to evacuate water but due to slack tides it will either need a jetty or dredging maintenance built into the project because it will silt in; however, a jetty could cause shoreline erosion.
- CPRA will take the latest available information from the CS-65 project to use as a lake rim drainage idea for the master plan.
- In order to drain the lower Mermentau, a retention basin or pool would need to accompany a jettied super structure to keep it open. As there is only a very small window to get water to the Gulf of Mexico, water needs to be evacuated in the most direct way possible.
- If there is a way to drain both the Mermentau and Calcasieu-Sabine basins through a super structure it might make the cost of the structure more feasible.

Mermentau: Chenier Plain Hydrologic Restoration Project

- The East End Lock is a good project concept in that it is working with existing infrastructure.
- Goal is to take water north of the highway and get it to the refuge's drainage and canals.
- Freshwater Bayou is the source of the problem of the marsh inundation; it needs to be controlled and reverse the flow.
 - If CPRA approaches landowners with the idea of making additional connections to the Gulf, the landowners will make it a condition that Freshwater Bayou is fixed first.
- Connect with Billy Broussard re: Dewitt Canal – it often silts in but if it could be kept open it might be possible to move water out of the system.
- If there was a solid levee on the west side that went to Schooner Bayou structures could be put in and take advantage of a low tide.
- The basin's water level would significantly drop if drainage could be improved from Rockefeller to the western end of Pecan Island and if the movement of water from the north side of the highway to the south could be improved.
- Projects on the east of White Lake would free up water that used to only have the Mermentau River as an outlet. Anything west of the Creole Canal flap gates on the lake rim would further reduce stress on the Mermentau River.

Other Discussion

- Shoreline Protection as restoration technique has been, and continues to be, effective particularly in the southwest; it will be consistent with 2023 Coastal Master Plan.
- If landowners or others run into permitting issues with respect to projects being consistent with the master plan, let CPRA know; a project/activity should only be considered inconsistent for permitting if it directly interferes with the construction of a master plan project.

Next Steps

- Follow-up from Meeting #3
 - CPRA will send the presentation slides, meeting summary notes, copies of the marked-up regional maps, and RW ground rules.
 - RW to return marked-up regional maps with any additional ideas by Wednesday, April 15th.
 - CPRA to connect with Billy Broussard re: Vermilion part of the Chenier Plain and any others to think through how the models are working and to incorporate their knowledge.
- RW Webinar #3 will occur in Spring 2021



Central Coast Regional Workgroup

Regional Workgroup Meeting/Webinar 3 Summary

April 20, 2020 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Todd Baker (LDWF), Ron Boustany (USDA-NRCS), Anne Howard (LDWF), Cassidy Lejeune (Ducks Unlimited), Tim Matte (St. Mary Levee District), John Nyman, Scott Saunier (Iberia Parish), Karen Westphal (Audubon); Tommy McGinnis (CPRA)

Additional Participants: Ralph Libersat (Vermilion Parish)

CPRA/Master Plan Team: Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Krista Jankowski, Elizabeth Jarrell, Sam Martin, Denise Reed, Rachele Sanderson, Eric White

Meeting Summary

Welcome & Overview

Stuart Brown welcomed everyone and thanked the Regional Workgroup (RW) members for their flexibility in participating via webinar. Stuart reiterated the purpose of the RWs and provided an overview of the meeting's focus: to review the goals of candidate projects and discuss refinements.

Background and Context

Stuart provided a reminder of background and context related to the master plan process and land change patterns for the region. He reviewed the results of EDF's study of the 2017 model's causes of land loss. In Mermentau and Teche Vermilion inundation collapse is the dominant cause of land loss. Land loss in the Atchafalaya Delta is also driven by inundation collapse, but it is on a different scale (two orders of magnitude smaller than the other basins). The projects that move forward should address these major types of land loss. Stuart also reiterated that the master plan is not a program or funding source and that for the 2023 plan CPRA is seeking larger scale, integrated projects with benefits on the basin/sub-basin scale.

Potential Candidate Projects

Stuart gave an overview of proposed hydrologic and marsh creation projects. The discussion that followed was to make sure CPRA captures what was intended by the project submissions. It was explained that following the webinar, CPRA will share the hydrologic compartment maps for the RW to mark-up with additional ideas.

Regional Workgroup Submitted Projects: Avoca Island and Charenton Diversion

- Stuart shared maps of the Avoca Island and Charenton Diversion projects that were discussed at the last RW meeting.

Regional Workgroup Submitted Project: Central Coast Coastal Barrier

- Three proposed alignments for Marsh Island (a 2017 project alignment, RW submission, and a new project from the public solicitation).
- 23,000 acre marsh creation project discussed at the last RW meeting intends to maintain the east-west orientation.
- It is clear that a project is needed/desired on Marsh Island but combining all submitted sections is not a realistic or effective option.
 - RW suggested CPRA evaluate an east-west alignment in conjunction with a portion of the eastern marsh creation proposal; anchoring into that side would be a good option as it appears more robust at year 50.
 - RW to share a marked-up map to help define and clarify the revised proposal.
- Point aux Fer also included two alignments for marsh creation (a 2017 project alignment and RW recommendation).
 - RW discussed how the project performs for the first 40 years and then the land disappears which is characteristic of the region at year 40.
 - RW discussed if a similar concept of maintaining an east-west alignment should be used for Point aux Fer. CPRA shared that Terrebonne is also interested in bolstering the land mass on the other side of Four Leaf Bay.

New Public Solicitation proposal: Fenstermaker Hydrologic Project

- Proposal map indicates inserting flapgates; however, the marked locations are not where flapgates would be built. CPRA requested clarity on the project's intention.
- RW members on the webinar were not familiar with the proposal but confirmed that Vermilion Parish has placed plugs in pipeline canals that breached on the north shore of Vermilion Bay. In addition, the Parish is using surplus dollars for shoreline protection to reinforce where the breaches occurred.
- RW discussed goal for the area – direct a one-way flow of water from the Gulf Intracoastal Waterway (GIWW) into Vermilion Bay and limit the exchange.
- RW confirmed Vermilion Parish is not thinking of placing a plug on the Boston Canal.
- RW suggested CPRA look at PPL 29 and 30.
- CPRA to talk to Ducks Unlimited regarding a structure on the other side of Boston Canal.

New Public Solicitation proposal: Vermilion/Acadiana Bays Hydrologic Restoration

- Received proposals with various concepts:
 - Maintain Southwest Pass
 - Insert a GIWW lock at Highway 317 bridge
 - Re-establish Cote Blanche Bay Reef(s)
- A wide range of proposals have been submitted for the area over the years; need to think through the goals and what controls can be used to achieve those objectives.
- Reviewed the LCA project that previously modeled reef alternatives – the feasibility study concluded there would be relatively modest-to-no impact as a stand-alone structure, a negligible effect on waves, no significant dampening of storm surge, and a slight increase in salinity.

- The controls available to manage the area are: cross-bay reef, lock to limit water moving to the west, dredging the GIWW to potentially convey more water to the west, reduce/maintain the cross-section at Southwest Pass, and a control at the Freshwater Bayou lock.
- Need to rethink the plumbing in the region – water from other parishes comes into Vermilion and cannot drain due to sea level rise.
- RW noted that there is a federal levee system from the Wax Lake output to the Charenton Canal; however, similar protection does not exist across the canal. In addition, the Charenton Canal is not draining as well as it used to.
- RW discussed how putting a control on the GIWW will not address the region’s issue. If a structure traps water, the water needs a way out; whatever action is taken must not create a bigger problem than already exists.
- Goal of the cross-bay reefs is mainly to control salinity for habitat – to limit freshwater from Wax Lake and keep the bay at a higher salinity. An additional intent of the reef is to dampen storm surge.
- It is possible to do individual test runs to see if the reef impacts surge for particular storms, but this project would not be run with the whole suite of storms as for levees. There might be a modest impact on Bayou Salé but it is not likely to impact the larger region.
- Goal of constricting Southwest Pass is changing the salinity regime – would reduce salinity, but that could be balanced by also reducing freshwater influence from Wax Lake.
- Suggestion to group the Southwest Pass constriction and cross-bay reef features together as an integrated restoration project to model impacts the landscape and test for impacts to storm surge.
- CPRA and Louisiana Watershed Initiative (LWI) models are designed for different scales and purposes. CPRA models evaluate what happens when a large storm pushes surge onshore; LWI models are being designed to simulate what will happen with rain-based flooding and the impacts on drainage.
 - At this time, the Master Plan models do not account for the joint probability of flooding from storm surge and flooding due to upstream conditions.
 - Results from models that capture risk of flooding from multiple sources in the coastal transition zone currently being developed for LWI are not likely to be available in time to inform project selection for the master plan. CPRA is coordinating with LWI on this effort.
 - Master plan models will provide project effects on water level in the bay, which might lead to inferences for how drainage projects could be impacted.

Other Discussion

- RW to inform CPRA of projects that should be included in FWOA modeling (i.e., projects that will be constructed or funded for construction by 2021).

Next Steps

- Follow-up from Meeting #3
 - CPRA will send the presentation slides, meeting summary notes, copies of the marked-up regional maps, and RW ground rules.
 - RW to return marked-up regional maps with any additional ideas by Tuesday, May 12th.
- RW Webinar #3 will occur in Spring 2021



Terrebonne Regional Workgroup

Regional Workgroup Meeting/Webinar 3 Summary

March 30, 2020 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Timothy Allen (Apache Louisiana Minerals LLC), Dwayne Bourgeois (North Lafourche Levee), Todd Baker (LDWF), Matt Benoit (BTNEP), Mart Black (Terrebonne Parish), Brady Carter (LDWF), Glen Curole (CPRA – Thibodaux), Quenton Fontenot (Nicholls State University), Jennifer Gerbasi (Terrebonne Parish), Darin Lee (CPRA – Thibodaux), Greg Linscombe (Continental Land and Fur), Simone Maloz (Restore or Retreat), Ronny Paille (USFWS), Daniel Dearmond (CPRA – Thibodaux), Leslie Suazo (Ducks Unlimited), Amanda Voisin (Lafourche Parish), Jonathan Willis (Nicholls State University)

CPRA/Master Plan Team: Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Krista Jankowski, Elizabeth Jarrell, Sam Martin, Denise Reed, Rachelle Sanderson, Eric White

Meeting Summary

Welcome & Overview

Stuart Brown welcomed everyone and thanked the Regional Workgroup (RW) members for their flexibility in participating via webinar. Stuart also reiterated the purpose of the RWs and provided an overview of the meeting's focus: to review the goals of candidate projects and discuss refinements.

Background and Context

Stuart provided a reminder of background and context related to the master plan process and land change patterns for the region. He reviewed the results of EDF's study of the 2017 model's causes of land loss. In the Terrebonne basin land loss was driven largely by inundation collapse followed by edge erosion loss around bay- and gulf-facing islands. The projects that move forward should address these major types of land loss. Stuart also reiterated that the master plan is not a program or funding source and that for the 2023 Coastal Master Plan, CPRA is seeking larger scale, integrated projects with benefits on the basin/sub-basin scale.

Potential Candidate Projects

Stuart gave an overview of the large-scale projects in western and eastern Terrebonne and Eric White shared the corresponding maps to show how the landscape is represented in the model. The discussion that followed was to make sure CPRA is capturing what was intended by the project submissions. It was

explained that following the webinar, CPRA will share the hydrologic compartment maps for the RW to mark-up with additional ideas.

Western Terrebonne – Regional Workgroup proposal, Hydrologic Restoration

- Performed test runs using the 2017 model; the project illustrated it is effective in the long-term in fighting sea level rise under the medium scenario.
- RW concern regarding the predicted and current salinities in the model for the Penchant Basin. CPRA will examine the calibration outputs and follow up with the RW.
- CPRA confirmed the model accounts for and routes sediment throughout the coastal zone.
- Bayou Chene Floodgate and Increase Atchafalaya Flow to Terrebonne projects were not included in the test model run. For the 2023 Master Plan runs, the Bayou Chene Floodgate will likely be considered part of the Future Without Action (FWOA).
- In the area between Lake Decade and Lost Lake, marsh creation or nourishment could be successful if land is built to an appropriate elevation (land lost there in FWOA mainly due to inundation)
- Need to think about and model how smaller hydrologic restoration projects might interact with the Increase Atchafalaya Flow to Terrebonne project. If the area is going to be constricted, need to make sure there is enough capacity to move water out.

Western Terrebonne – Regional Workgroup proposal, Marsh Creation

- Think about where land loss is projected and the key landscape features we want to maintain in the future.
- CPRA clarified how a landbridge is modeled differently from marsh creation. Modeling for marsh creation assumes water greater than 2.5 ft. in depth is not filled due to construction and cost considerations.
 - Therefore, when considering where to put marsh creation we need to consider where there is deep water.
- The idea of a landbridge is to manage water flow back and forth when tied into robust features on either side.
- Calliou Headlands was looked at as marsh creation in the past, could be an idea for a landbridge. Due to deep water it appears it would be very expensive; in order to have up basin benefits it would have to be completely built.
- Question from RW about the feasibility of restoring ship shoal as a living shoreline, landbridge, or “underwater ridge” to create a speedbump and oyster habitat.
- The objective near Dularge is to limit the exchange point because it is very deep. Ideally, ridges would be constructed from Coon Point to maintain Caillou Lake and somehow hold Big Bayou Dularge and Grand Bayou at their current depths. However, due to the environment it might not be feasible to maintain a ridge that ties into Dularge.
- Suggestion to bolster Four League Bay around Carencro (south of Lost Lake and tie into Dularge Ridge) as there is more land left in the 50-year projections.
- Suggestion to look at implementing a living shoreline along Bayou Dularge Ridge in the future as marsh erodes in front.

Eastern Terrebonne

Regional Workgroup proposal, Greater Terrebonne Bay Landbridge

- The landbridge was modeled in conjunction with the north-south ridges that were proposed and resulted in projected salinity reductions. However, maintaining the tidal connections at their current width is more plausible than necking the connections down to a single boat bay.
- The project goal is to alter the hydrology in a way that benefits the basin. The challenge is that there is little marsh left to maintain.
- Project can be modeled several ways for the 2023 plan:
 1. Model the whole project from Golden Meadow to Bayou Terrebonne
 2. Model Bayou Terrebonne (including ridges) to Point Aux Chenes
 3. Model Point Aux Chenes Ridge to Golden Meadow
 4. Model the project as marsh creation. This would not have the hydrologic benefit associated with a landbridge project but would provide habitat value.
- While treating Terrebonne and western Lafourche as one project is ideal, allowing them to be modeled separately and potentially selected separately (for cost purposes) is a good approach for this prioritization exercise.
- From a wildlife standpoint, there is greater benefit as a landbridge due to the loss of nesting habitat in the area.
 - CPRA clarified that the project does not include a ridge feature; while a landbridge could have higher elevation relative to other marsh creations CPRA typically constructs, it would not be significantly higher or support woody species.
 - During feasibility it might be an option to see if there are critical areas that can be built up as ridges with marsh creation on either side for habitat value.
- CPRA does not have a forecast for how to handle pipeline infrastructure in the future; often landowners maintain plugs in the canals themselves.

Regional Workgroup proposal, Marsh Creation

- Areas of deep water are very important to consider.
- There might be ecological value in doing marsh creation along the north side of Lake Boudreaux; even though it is inside the Morganza to the Gulf alignment, the area is fairly shallow.
- Terrebonne Parish is doing 300 acres of terracing above Lake Boudreaux. The area is freshening and people are interested in planting cypress trees. However, marsh creation would be difficult in that area due to being so far from a sediment source.
- Terrebonne Parish would be interested in investing in marshes that skirt the Morganza alignment; they know it will be difficult and expensive due to deep water but it cannot be abandoned. If we could armor the reaches of Morganza and create marsh there it will help overall.
- If the landbridge is not selected for the 2023 plan, everything north of the landbridge up to Morganza will likely be lost.

Other Discussion

- RW to inform CPRA of projects that should be included in FWOA modeling, projects that will be constructed or funded for construction by 2021.
- CPRA to follow up with the levee boards regarding their existing levee elevations/projects.

Next Steps

- Follow-up from Meeting #3

- CPRA will send the presentation slides, meeting summary notes, copies of the marked-up regional maps, and RW ground rules.
- RW to return marked-up regional maps with any additional ideas in Friday, May 1st.
- CPRA to examine the calibration outputs in Penchant Basin.
- RW Webinar #3 will occur in Spring 2021



Barataria Regional Workgroup

Regional Workgroup Meeting/Webinar 3 Summary

April 6, 2020 (1:00 p.m. to 4:00 p.m.)

Meeting Participants

Regional Workgroup (RW) Members: Todd Baker (LDWF), Sam Bentley (LSU), Dwayne Bourgeois (North Lafourche Levee), Brady Carter (LDWF), Michelle Gonzales (Jefferson Parish), Craig Gothreaux (NOAA), Earl Matherne (St. Charles Parish), Alicia Renfro (NWF), Seamus Riley (Jefferson Parish), Joni Tuck (Shell), Julie Whitbeck (NPS – Jean Lafitte); Melissa Hymel (CPRA), Darin Lee (CPRA)

CPRA/Master Plan Team: Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Krista Jankowski, Elizabeth Jarrell, Sam Martin, Denise Reed, Rachelle Sanderson, Eric White

Meeting Summary

Welcome & Overview

Stuart Brown welcomed everyone and thanked the Regional Workgroup (RW) members for their flexibility in participating via webinar. Stuart reiterated the purpose of the RWs and provided an overview of the meeting's focus: to review the goals of candidate projects and discuss refinements.

Background and Context

Stuart provided a reminder of background and context related to the master plan process and land change patterns for the region. He reviewed the results of EDF's study of the 2017 model's causes of land loss. In Barataria, land loss was driven initially by edge erosion for the first 10-15 years; in later years inundation is the dominant cause of land loss. The large increase in land loss seen at year 44 is an artifact of the hydrograph used. The projects that move forward should address the major causes of land loss versus trying to solve for a particular event. Stuart also reiterated that the master plan is not a program or funding source and that for the 2023 plan CPRA is seeking larger scale, integrated projects with benefits on the basin/sub-basin scale.

Potential Candidate Projects

Stuart gave an overview of new project ideas from the public solicitation and RW projects previously reviewed. The discussion that followed was to make sure CPRA captures what was intended by the project submissions. It was explained that following the webinar, CPRA will share the hydrologic compartment maps for the RW to mark-up with additional ideas.

New Project Idea: Upper Barataria Hydrologic Restoration

- Includes a pump/siphon from Bayou Lafourche to the Upper Barataria basin, moving 750 cfs to the upper basin.
- Consider if the pump on the Mississippi River has enough capacity to send water downstream to provide benefit to the swamps/marshes as well as drinking water.
 - There also needs to be capacity to move water from the river to the pump station to make sure communities downstream are not negatively impacted.
- The proposal is only for the input of water into the basin; no drainage improvements were included in the proposal, but outfall management should be explored.

New Project Idea: Three Ridge Restoration Projects (Grand Bayou, Bayou Long, & Dry Cypress Bayou ridges)

- Proposal for the ridges to extend to the barrier islands.
- Primary project goal seems to be storm attenuation, although projects have been proposed in the past to use north-south ridges to manage salinity.

New Project Idea: Marsh Creation South and East of Bay Dos Gris to East of Barataria Waterway

- This area included a new proposal from Bay Dos Gris to the east, as well as components of a 2017 project that is being revisited for consideration because a portion of the project narrowly missed being selected due to budget.

New Project Idea: Restoring East Bank Ridges

- Goal is to reduce storm surge on the West Bank River Levee.
- CPRA has technical questions regarding management of the natural levee; is it possible to build immediately on the footprint of the levee or would anything built have to be offset if it is maintained by USACE for river management?

New Project Idea: Lower Plaquemines Plan

- Proposal involves ridges, siphons, marsh creation, terraces and vegetated plantings, and sediment injection.
- Marsh creation and siphons will be modeled as far down as siphons will work in the lower river; however, due to the differential head, a pump might be more effective. The use of siphons is intended to enhance associated marsh creation.
- Modeled siphons will capture sediment in the river, but sediment loads will not be enhanced. "Sediment injection" is not a technology that has been demonstrated and will not be evaluated for the master plan.
- For the master plan evaluation, the Mississippi River is used as a borrow source, and CPRA generally supports beneficial use of dredged sediment, but cost savings for beneficial use are not applied in our evaluation due to the uncertainty of its availability.

- Intent is to model this suite of projects as a single project; if there are parts of the project identified as critical for the basin, they could be modeled as their own project(s) or part(s) of other projects.
- The parish has operated the existing siphons on the landscape fairly consistently over the last ten years with the exception of the NOV improvements.
- In previous master plans the Mississippi River flow was applied as a boundary condition. For the 2023 Master Plan, the river will be modeled dynamically from Baton Rouge to the Bird’s Foot Delta.

Regional Workgroup proposal: Caminada Headland Marsh Creation

- CPRA clarified that modeling for marsh creation assumes water greater than 2.5 ft. in depth is not filled due to construction and cost considerations (whereas modeling for a “landbridge” project assumes that the entire project footprint is filled).
 - Therefore, when considering where to put marsh creation we need to consider where there is deep water.
- The Barrier Island model was not on for these test runs; ignore impacts to barrier islands
- Currently marsh creation projects are only evaluated individually for land gained/sustained benefits, not reduction in storm surge. The cost of conducting runs to look at storm surge attenuation for individual restoration projects is extreme.

Regional Workgroup proposal: Lower Barataria Landbridge

- Proposal tries to string together the lowermost contiguous area of land.
- With the Mid Barataria Diversion on, there is net land maintained in the upper basin at year 50.
- For the 2023 Master Plan, modeling should better capture impacts of hydrologic projects due to refinement of hydro compartments.
- Options for modeling for the 2023 Master Plan – three alignments:
 1. Entire Landbridge
 2. Bayou L’ours alone to see if there is impact without having the full hydrologic constriction and to see if there is an impact in the immediate vicinity of Bayou L’ours. Would be good to see if there are benefits that can be captured while only a piece of the landbridge is built.
 - 3. Eastern Alternative
 - Is there an alternative alignment? Tie into the Lake Hermitage projects?
- Need to decide/discuss how wide the landbridge sections should be.
- If the landbridge were to be built a foot higher, the ridge/additional elevation might add value by increasing the project’s longevity.
- Clarified a landbridge concept seals off smaller exchange points and only leaves major ones open (vs. ridge projects).

Regional Workgroup proposal: Mid Barataria Landbridge

- Options for modeling for the 2023 Master Plan – three projects/alignments:
 1. Entire landbridge
 2. Eastern section alone (large part has recently been built)
 3. Western section alone

- Confirmed the Mid Barataria Diversion is on the south side of this landbridge.
- Confirmed that while the Lower and Mid Barataria Landbridges are being looked at separately, it would be possible to model the Mid Barataria Landbridge with the western part of the Lower Barataria Landbridge project. However, there is a limit to the number of alternatives that can be run, so we need to think critically if that combination is one we want to model.
- Landbridge concepts should be modeled in a way that assumes they are intact at year 50. One alternative is to assume a slightly higher initial elevation compared to how CPRA typically constructs marsh creation projects. Another option is to include maintenance costs, which is likely more realistic in how the project would be implemented; this would also limit the sediment demand for initial construction.
- CPRA confirmed that barrier islands are largely lost in the Future Without Action (FWOA) at year 50. However, at the map scale presented, there might also be a resolution issue.
- For the 2023 Master Plan, maintenance of barrier islands will be considered programmatically; CPRA will continue to invest in the barrier islands through the BISM program.

Upper Barataria Landbridge

- Concept is located along the GIWW between Lake Salvador and Bayou Rigolettes.
- Modeled concept has little to no impact.

Barataria Potential Candidates discussion

- What are the key features or key areas that are not addressed with the projects discussed, keeping in mind areas of deep water?
- Clarified that there is net land gain with landbridges overall, but there is induced land loss in some areas. By looking at the landbridges in pieces we will have a better idea of how they perform and impact the basin.
- Confirmed that when modeling with “diversion on”, only the Mid Barataria Diversion is included. Davis Pond is also on in both runs (with and without diversions).
- RW suggested potential synergies with pipeline groups in terms of restoration as they make improvements to their infrastructure.

Other Discussion

- RW to inform CPRA of projects that should be included in the elevation for FWOA modeling, projects that will be constructed or funded for construction by 2021.

Next Steps

- Follow-up from Meeting #3
 - CPRA will send the presentation slides, meeting summary notes, copies of the marked-up regional maps, and RW ground rules.
 - RW to return marked-up regional maps with any additional ideas by Friday, May 1st.
- RW Webinar #3 will occur in Spring 2021



Pontchartrain/Breton Regional Workgroup

Regional Workgroup Meeting/Webinar 3 Summary *April 7, 2020 (1:00 p.m. to 4:00 p.m.)*

Meeting Participants

Regional Workgroup (RW) Members: Mike Bengé (Delacroix Corp.), Brady Carter (LDWF), Devin Foil (St. John Parish), Barret Fortier (USFWS), Carol Franze (LA Sea Grant), Annie Howard (LDWF), John Lopez (Lake Pontchartrain Basin Foundation), George Ramseur (Mississippi Department of Marine Resources), Jay Watson (St. Tammany Parish); Danielle Richardi (CPRA)

CPRA/Master Plan Team: Stuart Brown, Ashley Cobb, Catherine Fitzpatrick, Krista Jankowski, Elizabeth Jarrell, Sam Martin, Denise Reed, Rachelle Sanderson, Eric White

Meeting Summary

Welcome & Overview

Stuart Brown welcomed everyone and thanked the Regional Workgroup (RW) members for their flexibility in participating via webinar. Stuart also reiterated the purpose of the RWs and provided an overview of the meeting's focus: to review the goals of candidate projects and discuss refinements.

Background and Context

Stuart provided a reminder of background and context related to the master plan process and land change patterns for the region. He reviewed the results of EDF's study of the 2017 model's causes of land loss. In Pontchartrain and Breton land loss was driven by marsh edge erosion for the first twenty years, while inundation collapse is the dominant cause in later years. The projects that move forward should address these major types of land loss. Stuart also reiterated that the master plan is not a program or funding source and that for the 2023 plan CPRA is seeking larger scale, integrated projects with benefits on the basin/sub-basin scale.

Potential Candidate Projects

Stuart gave an overview of proposed hydrologic and marsh creation projects. The discussion that followed was to make sure CPRA captures what was intended by the project submissions. It was explained that following the webinar, CPRA will share the hydrologic compartment maps for the RW to mark-up with additional ideas.

New Public Solicitation proposal: St. James-Ascension Parishes Storm Surge Protection

- Proposal to provide region-wide storm surge-based flood risk reduction through structural projects (levees, pump stations, flood walls, and flood gates); feasibility work included in the proposal.
- Received proposals for increasing level of service for existing levees. Some of the east bank levees in Plaquemines are built to a 50-year level of service, and CPRA has been asked to evaluate those to a 100-year level of service.

New Public Solicitation proposal: Manchac Landbridge Marsh Creation

- Proposal for approximately 22,781 acres of marsh creation/nourishment and shoreline revetment along the northwest Lake Pontchartrain Basin.
- Proposal does not include a borrow source. The Planning Tool includes a borrow source in eastern Lake Pontchartrain that is limited to 10 million cubic yards. While this is likely not enough to complete the entire landbridge, the suggested borrow source would be Lake Pontchartrain for modeling.
- For modeling, projects are assigned multiple borrow areas that are ranked by cost effectiveness. If another project is selected first and uses the available sediment in a borrow source, later projects would have to use a different borrow source, which could increase project cost.

New Public Solicitation proposal: LaBranche Diversion

- Proposal to direct some flow from the Bonnet Carre Spillway (when open) into the adjacent swamps and brackish marshes to increase nutrient and sediment input and improve water quality.
- The proposal includes many large culverts to evacuate as much water as possible; however, in reality the railroad tracks limit the amount of flow that could be introduced into the LaBranche area without significantly investing in elevating the railroad tracks.
- Need to take the railroad into account when thinking about how to size the connection to maximize the water and sediment that can be diverted into the LaBranche wetlands. We will likely model as one or two structures.
- An additional challenge is that the Bonnet Carre Spillway guide levees are considered an extension of the MR&T system, so changes may require US Congressional approval.
- Note that there is a remediated zone of contamination along the Bonnet Carre Spillway guide levees. For modeling this is not consequential; however, if the project moves into feasibility, it will be important to consider specific location.

New Public Solicitation proposal: Additional Marsh Creation

- Proposals include: North Fritchie Marsh, Pearl River Island Marsh Creation, North Lake Lery (will likely be evaluated as stand alone project), and Carlisle Marsh Creation.
- Others marsh creation projects in the area that have similar goals will be added.

New Public Solicitation proposal: Black & Eloi Bay Barrier Project

- Proposal includes a horizontal cross section to include 600 ft of foreshore ridge stability foundation, 100 ft of vegetated ridge, and 1,000 ft of back-marsh.
- An armoring and/or protection feature is not included; however, CPRA would add this cost to the project due to the potential wave energy in the area.
- In terms of cost and construction for the modeling effort, the project will be constructed like a barrier island but will not be modeled like one (in terms of sediment dynamics, etc.).

New Public Solicitation proposal: Lower Plaquemines Plan

- Proposal includes marsh creation, siphons, and ridge restoration.
- A max of 2,000 cfs; only to be operated from Dec 1 to April 30.
- Modeled siphons will capture sediment in the river, but sediment loads will not be enhanced. “Sediment injection” is not a technology that has been demonstrated and will not be evaluated for the master plan.

South Breton Landbridge – Biloxi Reconnection

- CPRA clarified that modeling for marsh creation assumes water greater than 2.5 ft. in depth is not filled due to construction and cost considerations (whereas modeling for a “landbridge” project assumes that the entire project footprint is filled).
 - Therefore, when considering where to put marsh creation we need to consider where there is deep water.
- The ‘landbridge’ proposal includes building a contiguous land feature (regardless of water depth) and maintaining exchange points at their current dimensions.
- Goal is to reduce salinity and land loss up basin.
- Confirmed that Caernarvon and Davis Pond are included in model runs using the 2017 model. In addition, real time controls of operations based on the salinity in the estuary will be included in modeling for the 2023 plan.
- Mardi Gras Pass is not included in model runs using the 2017 model because the model calibration period ended before it opened; however, it will be included in the modeling for the 2023 plan; Mardi Gras Pass will be held constant for the 2023 Master Plan modeling effort.
- For the 2023 plan, the Mississippi River will be hydrologically modeled, whereas for the 2017 plan it was treated as a point source boundary condition for flow. For the 2023 modeling, feedback between the river and the estuary will be included.
- Due to other projects planned for the area, there is an opportunity to look at this project in smaller sections that could perform better in the modeling. Important to look at this project in segments because in practice it will take 20 years to build; make sure there is independent utility while the entire project is completed.
- Suggestion to look at the area west of Terre aux Boeufs to Mississippi River Gulf Outlet (MRGO); make sure including this section does not change the pattern of the diversion outfall and/or prevent it from wrapping around.

Biloxi Marsh Alternatives

- Proposals include three projects:
 - 2012/2017 Plan Biloxi Marsh Project
 - Biloxi Marsh Complex Integrated Project – meant to function similarly to a landbridge project
 - 3-Mile Pass Marsh Creation and Hydrologic Restoration – meant to limit the exchange into the interior Biloxi Marsh from the north; largely located in deep water
 - Goal of the project is to create/maintain good oyster habitat to help capture mineral sediment to keep the Biloxi Marsh healthy for as long as possible (oysters are not for commercial interests).
- For the Biloxi Marsh Corporation it is important to limit the exchange from Lake Borgne to the interior of the Biloxi Marsh.
- RW confirmed it is important to maintain the integrity of the north alignment.
- Concentrated area of marsh west of Biloxi Marsh is the backbone of the marsh.
- The east marsh in the proposal may be adjusted due to deep water.

Other Discussion

- Shoreline Protection as a restoration technique has been, and continues to be, effective; it will be consistent with 2023 Coastal Master Plan.
- 2023 Future Without Action (FWOA) condition assumes maintenance for the barrier islands, to be considered programmatically for the master plan.
- The Chandeleur Islands will be part of the BISM (Barrier Island System Management) program with special consideration of how projects would actually be implemented.
- RW to inform CPRA of projects that should be included in FWOA modeling (i.e., projects that will be constructed or funded for construction by 2021).

Next Steps

- Follow-up from Meeting #3
 - CPRA will send the presentation slides, meeting summary notes, copies of the marked-up regional maps, and RW ground rules.
 - RW to return marked-up regional maps with any additional ideas by Friday, May 1st.
- RW Webinar #3 will occur in Spring 2021

CHENIER PLAIN/CENTRAL COAST RW MEETING #4

DATE: 2021-02-10

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Laurie Cormier (Cameron Parish), Glen Harris (USFWS), Cassidy Lejeune (Ducks Unlimited), Greg Linscombe (Continental Land and Fur), Andy Nyman (LSU Ag Center), Scott Saunier (Iberia Parish), Phillip Trosclair (LDWF), Jenneke Visser (Retired-University of Louisiana Lafayette), Tommy McGinnis (CPRA - Lafayette), Leigh Anne Sharp (CPRA - Lafayette)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Elizabeth Jarrell, Eric White, Krista Jankowski, Sam Martin, Catherine Fitzpatrick, Madeline LeBlanc, Forrest Town, Denise Reed

WELCOME AND INTRODUCTION

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Stuart recapped the discussion and information shared at the previous meetings and provided an update on the plan development schedule. Stuart also discussed some updates on model inputs and scenario assumptions.



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MODEL IMPROVEMENTS

Elizabeth Jarrell provided an overview of the changes made to the predictive models used for master plan analysis: the Integrated Compartment Model (ICM), which includes ICM-Hydro, ICM-Morph and ICM-LAVegMod, ICM-BI, and ICM-HSIs; the storm surge and waves models; and the risk assessment model (CLARA). The following items were discussed:

- Wetland processes are only modeled in the coastal zone of the ICM-Hydro subroutine; upland areas (extending to Lake Charles for Chenier Plain region) are included in the model to capture upstream drainage, but wetland processes are not modeled there.
- Suggestion to consider what happens when an area is hit by two back-to-back storms.
 - The ICM storm sequence includes 12 years with 2 storms
- Multiple pre-recorded modeling presentations will be posted to the CPRA website at the end of February, including one with more details on ICM-LAVegMod updates, including changes in vegetation transitions. An email will be sent to advisory groups to notify them once the presentations have been posted.

CANDIDATE PROJECTS

Stuart described some of the candidate projects in the Chenier Plain and Central Coast basins, including:

Chenier Plain:

- Wildhorse Marsh Creation
- Calcasieu/Sabine Basin Hydrological Restoration
 - When Toledo Bend is released, CRMS sites observe water working its way into the interior Calcasieu/Sabine basin from the northwest corner down to Holly Beach. The idea is to separate the two hydrologic basins at least in the canal system so that when there is a surge of water it stays on the west side and works its way out faster than the 3+ weeks it currently takes to drain.
 - Model runs will include effects of Toledo Bend opening for high water years (based on data from 2015)
- Cameron-Creole to the Gulf Hydrologic Restoration
 - Check project features to ensure we capture increased conveyance into Creole Canal (via the “stub” shown on the map)
- Mermentau Basin Hydrological Restoration
- White Lake Wetlands Conservation Area Restoration Plan
- Mud Lake Marsh Creation

- Chenier Ridges Restoration

Central Coast:

- Charenton Diversion
 - The project's benefit areas are an output rather than an input into the model. This has not been modeled with the new 2023 Coastal Master Plan model yet. When tested using the 2017 model, land gain was seen in the Jaws area and a little bit in the Cote Blanche marshes.
 - Southwest Pass Tidal Prism Control and Acadiana Bay Hydrologic Restoration
 - Avoca Island
 - Marsh Island Barrier Marsh Creation
 - Central Coast Marsh Creation – Point Au Fer
-
- An additional project concept involving a massive pump system was proposed for consideration and discussed.

CLOSING

Meeting notes will be shared in the coming weeks and members were asked to provide any additional feedback and/or thoughts to masterplan@la.gov. The next RW meeting will take place in Spring 2021 once Future Without Action model results are available.

BARATARIA & TERREBONNE RW MEETING #4

DATE: 2021-02-08

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Tim Allen (Apache), Matt Benoit (BTNEP), Mart Black (Terrebonne Parish), Brady Carter (LDWF), Windell Curole (South Lafourche Levee District), Reggie Dupre (Terrebonne Levee & Conservation District), Quenton Fontenet (Nicholls State University), Michelle Gonzales (Jefferson Parish), Craig Gothreaux (NOAA), Alex Kolker (LUMCON), Greg Linscombe (Continental Land and Fur), Simone Maloz (Restore or Retreat), Earl Melancon (LA Sea Grant), Ronny Paille (USFWS), Alisha Renfro (NWF), Kevin Roy (USFWS), Robert Spears (Plaquemines Parish), Leslie Suazo (Ducks Unlimited), Joni Tuck (Shell), Amanda Voisin (Lafourche Parish), Julie Whitbeck (NPS – Jean Lafitte), Jonathan Willis (Nicholls State University), Glen Curole (CPRA – Thibodaux), Daniel Dearmond (CPRA – Thibodaux), Melissa Hymel (CPRA – New Orleans), Darin Lee (CPRA – Lafayette)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Elizabeth Jarrell, Eric White, Krista Jankowski, Sam Martin, Catherine Fitzpatrick, Madeline LeBlanc, Forrest Town, Denise Reed



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WELCOME AND INTRODUCTION

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Stuart recapped the discussion and information shared at the previous meetings and provided an update on the plan development schedule. Stuart also discussed some updates on model inputs and scenario assumptions, including:

- Clarified that all four sea level rise scenarios being considered are being run in the ICM. The goal is to select two curves for project selection that cover a wide spread in order for the Planning Tool to select projects that will perform well across a range of possible future scenarios.
- Regarding incorporating environmental justice into decision making, the 2023 Coastal Master Plan is considering new metrics to decouple exposure and economic damages in order to test different ways to prioritize projects and avoid the pitfalls of typical cost-benefit type of analysis that often prioritizes wealthier areas.

MODEL IMPROVEMENTS

Elizabeth Jarrell provided an overview of the changes made to the predictive models used for master plan analysis: the Integrated Compartment Model (ICM), which includes ICM-Hydro, ICM-Morph and ICM-LAVegMod, ICM-BI, and ICM-HSIs; the storm surge and waves models; and the risk assessment model (CLARA).

CANDIDATE PROJECTS

Stuart described some of the candidate projects in the Barataria and Terrebonne basins, including:

Barataria:

- Edgard Diversion
 - For a number of projects, including this one, a placeholder cost for improving the capacity to drain through the Upper Barataria Risk Reduction System is included to account for other projects in the area that could increase the volume of water being added to the system.
 - Risk reduction projects should not be delayed in any way because of a candidate project in the master plan's prioritization effort.
- Freshwater Delivery to Western Barataria
 - The problem this project is trying to address might already be solved by the Mid-Barataria project and Davis Pond.
- Upper Barataria Hydrologic Restoration

- Bayou Barataria Ridge and Marsh Creation
- Caminada Bay Marsh Creation and Fifi Island Ridge
- Lower Barataria Landbridge
- Lower Plaquemines River Sediment Plan
- Mid-Barataria Landbridge
- East Bayou Lafourche Marsh Creation
- Bayou L'ours Ridge Restoration
- Southeast Golden Meadow Marsh Creation
- Caminada Headlands Ridge Restoration
- Three Ridges Restoration
- Oakville to La Reussite
- St. Jude to City Price

Terrebonne:

- Western Terrebonne Hydrologic Restoration
- Eastern Terrebonne Landbridge
- Eastern Terrebonne Fringing Marsh
- Central Coast Marsh Creation – Point Au Fer
- Fourleague Bay – Blue Hammock Bayou Marsh Creation
- Greater Terrebonne Bay Rim Ridge Restoration with Marsh Creation
- West Terrebonne Marsh Creation

CLOSING

Meeting notes will be shared in the coming weeks and members were asked to provide any additional feedback and/or thoughts to masterplan@la.gov. The next RW meeting will take place in Spring 2021 once Future Without Action model results are available.

PONTCHARTRAIN/BRETON RW MEETING #4

DATE: 2021-02-09

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Brady Carter (LDWF), Devin Foil (St. John the Baptist Parish), Barret Fortier (USFWS), Carol Franze (LSU Ag Center), Ioannis Georgiou (The Water Institute), Michael Hopkins (Pontchartrain Conservancy), John Lane (St. Bernard Parish), Rene Pastorek (St. John the Baptist Parish), Randy Pausina (St. Tammany Parish), George Ramseur (MS DMR), Robert Spears (Plaquemines Parish), Danielle Richardi (CPRA)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Elizabeth Jarrell, Eric White, Krista Jankowski, Sam Martin, Catherine Fitzpatrick, Madeline LeBlanc, Forrest Town, Denise Reed

WELCOME

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Stuart recapped the discussion and information shared at the previous meetings and provided an update on the plan development schedule. Stuart also discussed some updates on model inputs and scenario assumptions.



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MODEL IMPROVEMENTS

Elizabeth Jarrell provided an overview of the changes made to the predictive models used for master plan analysis: the Integrated Compartment Model (ICM), which includes ICM-Hydro, ICM-Morph and ICM-LAVegMod, ICM-BI, and ICM-HSIs; the storm surge and waves models; and the risk assessment model (CLARA).

CANDIDATE PROJECTS

Stuart described a handful of candidate projects in the Pontchartrain/Breton Basin, including:

- Labranch Diversion
- Union Freshwater Diversion
- Western Maurepas Sediment Diversion
- Biloxi Marsh Hydrologic Restoration
- Black and Eloi Bay Ridge and Marsh Creation
 - Aside from the ridge and marsh creation footprint, the project includes shoreline revetment, or some type of articulated concrete mat, to hold up to the wave energy on the bay side. The template is similar to a barrier island template with revetment on the front side.
- Lake Pontchartrain Marsh Protection Shoreline Protection
- Manchac Wetland Restoration and Maurepas Landbridge
- New Orleans East Marsh Creation
- South Breton Landbridge Marsh Creation
- Three Mile Pass Marsh Creation and Hydrologic Restoration
- Western Biloxi Marsh Complex
- North and East Lake Lery Marsh Creation
- West Delacroix Marsh Creation
- Five East Bank Ridge Restoration
- Phoenix to Bohemia Back Levee Structural Protection
- Braithwaite to White Ditch
- St. James-Ascension Parishes Storm Surge Protection

CLOSING

Meeting notes will be shared in the coming weeks and members were asked to provide any additional feedback and/or thoughts to masterplan@la.gov. The next RW meeting will take place in Spring 2021 once Future Without Action model results are available.

CHENIER PLAIN/CENTRAL COAST RW MEETING #5

DATE: 2021-10-14

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Billy Broussard (Vermillion Corporation), Lance Campbell (LDWF), Cassidy Lejeune (Ducks Unlimited), Greg Linscombe (Continental Land and Fur), Phillip Trosclair (LDWF), Jenneke Visser (Retired-University of Louisiana Lafayette), Leigh Anne Sharp (CPRA)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Forrest Town, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Ashley Cobb welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Ashley recapped the discussion and information shared at the previous meetings and reminded members of the RW ground rules. Stuart Brown then provided a storm update reporting that in general, CPRA-built projects appear to have performed well if they were not under construction during Hurricane Ida.



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UPDATES AND CONTEXT

CANDIDATE PROJECTS & SCHEDULE UPDATE

Stuart reviewed the draft candidate projects map and the distribution of projects by estimated costs, explaining that nonstructural projects are an output of the risk model, versus an input like the structural and restoration projects. The candidate project list is being used to start the Future With Action (FWA) model runs which begin this week; it is anticipated that risk modeling outputs will be available by early 2022 for nonstructural project development. Stuart clarified that ridge restoration is not a type of levee refurbishment but rather restoration of historical ridges, mostly on the cheniers or bayou ridges in the eastern part of the state, where the goal is to create a forested ridge. Lastly, Stuart explained the parameters around initial conditions and the two-year model spin-up period.

ENVIRONMENTAL SCENARIOS

Krista Jankowski described the 2023 master plan environmental scenarios approach for project selection and how it differs from what was done for the 2017 plan. The goal for the 2023 plan is to select projects that perform well under both selected scenarios to account for a range of possible future conditions, whereas projects for the 2017 plan were selected based on the high scenario.

The following items were discussed:

- The scenario approach is used to account for uncertainty in what future environmental conditions will actually occur. Each environmental scenario includes inputs for subsidence and sea level rise rates, temperature and precipitation anomalies, values for evapotranspiration, Mississippi River and tributary hydrographs, and storm intensity (which is applied in the risk assessment modeling).
- Subsidence values for project selection in the 2023 plan are comprised of a deep and shallow component and differ from each other in the relative contribution of shallow processes to the rates.
 - 2023 subsidence values were compared to the values and conditions used in both the 2012 and 2017 plans.
 - It was noted that the process for identifying subsidence rates between the plans is very different. For the 2012 and 2017 plans, a range of values was used for subsidence that were determined by an expert panel, whereas the 2023 rates were derived directly from observational data.
 - The 2012/2017 range of subsidence values used for the western part of the coast are consistent with the values being used for the 2023 plan.
- Two sea level rise curves for the project selection scenarios were chosen from a set

of 19 plausible curves, including the 3 curves from the 2017 plan and 16 additional curves from recent literature.

- It was noted that the 2023 environmental scenarios were selected before the IPCC AR6 values were published, but fall within the plausible range of rates reported.

ICM FUTURE WITHOUT ACTION (FWOA) RESULTS

OVERVIEW OF PROCESS & UPDATES

Stuart provided a summary overview of the ICM model improvements introduced during the February RW meeting, noting that the update to the ICM Hydro compartment delineations is particularly important and relevant to the Chenier Plain, in addition to the new vegetation dispersal rules and updated accretion algorithms.

COASTWIDE OUTPUTS

Stuart shared coastwide land change and vegetated habitat classification outputs for the lower (S07) and higher (S08) scenarios by decade. The land change pattern is similar between the two scenarios, with the higher scenario seeing greater, more extreme land loss earlier in the modeling period.

The following items were discussed:

- It was noted that the “land change mechanism cumulative through year 50” maps display the initial cause of land loss; however, due to the improved vegetation rules for the 2023 plan, bareground is able to be revegetated (vs. being immediately lost as it was for the 2017 plan) and can therefore be ‘lost’ multiple times over the 50-year period. The team is also considering mapping the cause of persistent land loss.
- While the model outputs are fairly new and have been QA/QC enough that the Master Plan Team feels comfortable discussing them with the RW, the team has not had enough time to dig in and understand all of the causes for change.
 - The team will revisit and investigate the causes of land loss at Marsh Island/Cote Blanche but the initial thinking is that it is due to a combination of factors. For example,
 - It is classified as the Chenier Plain ecoregion, which applies lower organic matter accumulations rates, and the subsidence rates may be higher than for 2012/2017 plans,
 - It could be a function of high initial elevation where the marsh is not receiving organic matter accretion when marshes are not inundated in the earlier decades,
 - Shallow subsidence may put it past the tipping point for land loss. There is also deep subsidence in the area. Shallow subsidence is

applied by ecoregion and is derived from CRMS data.

REGIONAL/LOCAL OUTPUTS

Eric White stepped through the same land change and vegetation habit classification datasets but discussed the outputs at the regional level.

The following items were discussed:

- Land loss in the Sabine is caused by prolonged inundation due to hurricanes.
- An improvement from the 2017 plan is being able to better reflect water level variability that differentiates fresh and forested fresh marsh, and the updated hydro compartments that allow for improved control structure operations.
- The land loss maps do not differentiate between floating or attached marsh, but the model tracks several different types of land.
 - Developed land is left static in the model.
 - Floating marsh transitions to open water when conditions prevent the vegetation persisting (note: floating marsh does not transition to attached marsh due to lack of data to support/include this in the model).
- The model takes into account shoreline erosion that impacts the interior water bodies by calculating and applying variable historic retreat rates (which is held constant in time and across scenarios) to the future landscape.
- Re: the area between ridges near Pecan Island, it was clarified that the model predicts vegetation, not land loss. The vegetation change to saline could be an evapotranspiration signal. In the model the area is not assumed to be pumped but to only drain by gravity. The Master Plan Team was informed that as long as the levees are maintained the area will always be pumped to be used for cattle pasture.
- Confirmed that the striping/banding visible in the maps is an artifact from the initial DEM that represents the initial 2018 landscape.
- Widespread land loss across the region is due to eustatic sea level rise.
- It was generally agreed that if projects such as hydrologic restoration, pumps, shoreline protection, etc. continued to be funded the relatively flat lines on the “land area over time” graphs may be able to be extended instead of dropping off at ~Year 30.
 - Although the model is displaying marsh, it is inundated; how to correct/fix this issue in real life will be the big challenge.
 - Changes to rainfall are taken into account in the future but is coupled to a radiative forcing scenario (e.g., RCP 4.5 or RCP 8.5). An additional storyline analysis could be to examine what land change would look like under really wet or dry conditions.
- Confirmed that the model domain does not shift to show a new coastal zone; north of

the model domain in gray is held constant.

- Important to note that areas displayed as newly open water does not mean it is deep water, they could be very shallow and/or vegetated water bodies.
- The updated approach to project prioritization allows for continuous benefits to be measured over time between FWA and FWOA so that the time period when land loss occurs has less impact (e.g., if land is lost at year 30 vs. 45).

CLOSING

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

TERREBONNE RW MEETING #5

DATE: 2021-10-18

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Matt Benoit (BTNEP), Mart Black (Terrebonne Parish), Victoria Bourque (Restore or Retreat), Brady Carter (LDWF), Reggie Dupre (Terrebonne Levee & Conservation District), Alex Kolker (LUMCON), Greg Linscombe (Continental Land & Fur), Simone Maloz (Restore or Retreat), Leslie Suazo (Ducks Unlimited), Daniel Dearmond (CPRA), Glen Curole (CPRA), Darin Lee (CPRA)

CPRA/MASTER PLAN TEAM:

Brian Lezina, Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Forrest Town, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Ashley Cobb welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Ashley recapped the discussion and information shared at the previous meetings and reminded members of the RW ground rules. Brian Lezina then provided a storm update reporting that in general, CPRA-built projects appear to have performed well if they were not under construction



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during Hurricane Ida.

UPDATES AND CONTEXT

PROGRESS & SCHEDULE UPDATE, ENVIRONMENTAL SCENARIOS

Krista Jankoskwi gave an update on the schedule and model progress, noting that the ICM Future With Action runs have started and outputs will be shared at the next meeting. Krista then described the environmental scenarios approach for the 2023 plan project selection and how it differs from what was done for the 2017 plan. The goal for the 2023 plan is to select projects that perform well under both selected scenarios to account for a range of possible future conditions, whereas projects for the 2017 plan were selected based on the high scenario.

The following items were discussed:

- The scenario approach is used to account for uncertainty in what future environmental conditions will actually occur. Each environmental scenario includes inputs for subsidence and sea level rise rates, temperature and precipitation anomalies, values for evapotranspiration, Mississippi River and tributary hydrographs, and storm intensity (which is applied in the risk assessment modeling).
- Two sea level rise curves for the project selection scenarios were chosen from a set of 19 plausible curves, including the 3 curves from the 2017 plan and 16 additional curves from recent literature.
- The 2023 plan environmental scenarios were selected before the IPCC AR6 values were published and are based on the CMIP5 outputs; however, the selected scenarios for project selection fall within the plausible range of rates reported.
- Model inputs are based off the 2018 landscape; therefore, the effects of recent storms (e.g., Hurricane Laura, Ida) will not be reflected in the 2023 Coastal Master Plan modeling. In addition, the asset and population database will not be changed to account for the storm. These storm impacts will be acknowledged and addressed as part of the storyline analysis.
 - While the inputs/outputs cannot be changed, understanding the impacts of the storms will influence how model results are interpreted. For project selection, the model's storm suite includes very large storms to account for such events and outcomes.
 - A snapshot today is not predictive of the assets/population that will exist in 10 or 50 years from now. While there is temporary displacement, we do not know what the long-term story is going to be.
 - It is important to remember that the master plan is a statewide, data driven plan and that data is not yet available; we are planning for a successful

recovery in the absence of other data.

- Delaying the master plan's release until 2024 would not allow for the necessary data collection to take place in order to incorporate Hurricane Ida's impacts. There are different ways to highlight the region's needs after Hurricane Ida without re-doing the modeling. Looking closely at certain areas is not inconsistent with the statewide master plan.
- The Community Engagement Workgroup (CEW) is an advisory group that was convened around the same time as the RWs. The CEW is meant to be a venue for sharing master plan information as well as for members to advise on how to better frame messages/visuals surrounding risk and to help identify coastal communities and groups that we should engage, including those that have historically been marginalized or not explicitly brought into the master plan conversations for broader communications.

ICM FUTURE WITHOUT ACTION (FWOA) RESULTS

OVERVIEW OF PROCESS & UPDATES

Denise Reed provided a summary overview of the ICM model improvements introduced during the February RW meeting, in addition to the new vegetation dispersal rules and updated accretion algorithms.

COASTWIDE OUTPUTS

Denise shared coastwide land change and vegetated habitat classification outputs for the lower (S07) and higher (S08) scenarios by decade. The land change pattern is similar between the two scenarios, with the higher scenario seeing greater, more extreme land loss earlier in the modeling period.

The following items were discussed:

- It was noted that the "land change mechanism cumulative through year 50" maps display the initial cause of land loss; however, due to the improved vegetation rules for the 2023 plan, bareground is able to be revegetated (vs. being immediately lost as it was for the 2017 plan) and can therefore be lost multiple times over the 50-year period. The team is also considering mapping the cause of persistent land loss.
- Confirmed that one of the factors for why some areas experience both land loss and maintenance is that marsh is lost due to sea level rise but there is also a large volume of water coming down the Mississippi River to maintain the salinity gradient.
- Important to note that areas displayed as newly open water does not mean it is deep water, they could be very shallow and/or vegetated water bodies.
- Despite the fresh water coming out of the Atchafalaya River in Upper Terrebonne

floating marsh is lost due to the model rules for floating marsh to survive. Water level variability and salinity is what controls which species is present; water level depth only influences whether the area is vegetated or not.

REGIONAL/LOCAL OUTPUTS

Eric White stepped through the same land change and vegetation habit classification datasets but discussed the outputs at the regional level.

The following items were discussed:

- An improvement from the 2017 plan is being able to differentiate between fresh and forested fresh marsh and the updated hydro compartments that allow for improved control structure operations.
- Confirmed that the striping/banding visible in the maps is an artifact from the initial DEM that represents the initial 2018 landscape.
- The model does not differentiate between floating or attached marsh, but tracks several different types of land.
 - For land types that are eligible for change, floating marsh transitions to open water (note: floating marsh does not transition to attached marsh due to lack of data to support/include this in the model).
- A variety of factors contribute to why marsh west of the Atchafalaya River is maintained vs. east of the river – it could be due to a combination of elevation, and both organic accretion and subsidence rates that are assumed in the model and applied as a function of the ecoregion boundaries. Different input values represent the Penchant Basin vs. Atchafalaya Delta ecoregion and hydrology signals on how water is moving sediments and inundation signals also comes into play.
- The model improvements appear to handle the wooded areas to the north of the Penchant Basin much better than the 2017 model.
- The land loss situation in the Mandalay area has not been fully diagnosed yet but the signature looks like it is a function of the hydrology outputs and/or representations of impoundment in the model. The team will investigate this further.

CLOSING

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

BARATARIA BASIN + PONTCHARTRAIN/BRETON RW MEETING #5

DATE: 2021-10-20

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Sam Bentley (LSU), Brady Carter (LDWF), Craig Gothreaux (NMFS), Michael Hopkins (Pontchartrain Conservancy), Tara Lambeth (St. John the Baptist), Earl Matherne (St. Charles Parish), Randy Pausina (St. Tammany), George Ramseur (MS DMR), Alisha Renfro (NWF), Joni Tuck (Shell), Julie Whitbeck (NPS – Jean Lafitte), Melissa Hymel (CPRA), Darin Lee (CPRA), Danielle Richardi (CPRA)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Madeline LeBlanc, Sam Martin, Forrest Town, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Ashley Cobb welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Ashley recapped the discussion and information shared at the previous meetings



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and reminded members of the RW ground rules. Stuart Brown then provided a storm update reporting that in general, CPRA-built projects appear to have performed well if they were not under construction during Hurricane Ida. Stuart confirmed that recent hurricanes are not incorporated into the 2023 Coastal Master Plan landscape modeling; while the model input data cannot be changed, recent events do and will affect how model outputs are interpreted (e.g., taking into account the areas and/or timing for when projects would be beneficial).

UPDATES AND CONTEXT

PROGRESS & SCHEDULE UPDATE, ENVIRONMENTAL SCENARIOS

Stuart reviewed the updates to the model progress and schedule and explained the parameters around the initial conditions and the two-year model spin-up period. Stuart then described the 2023 master plan environmental scenarios approach for project selection and how it differs from what was done for the 2017 plan. The goal for the 2023 plan is to select a robust suite of projects that perform well under both a moderate and a more extreme, but possible, scenario to account for a range of possible future conditions, whereas projects for the 2017 plan were selected based on the high scenario.

The following items were discussed:

- The scenario approach is used to account for uncertainty in what future environmental conditions will actually occur. Each environmental scenario includes inputs for subsidence and sea level rise rates, temperature and precipitation anomalies, values for evapotranspiration, Mississippi River and tributary hydrographs, and storm intensity (which is applied in the risk assessment modeling).
- Two sea level rise curves for the project selection scenarios were chosen from a set of 19 plausible curves, including the 3 curves from the 2017 plan and 16 additional curves from recent literature.
- The environmental scenarios used one Mississippi River hydrograph (RCP 4.5); the RCP 8.5 hydrograph was not available in time to incorporate into the master plan modeling. However, there are plans to do sensitivity testing on different, or potentially a range of Mississippi River hydrographs.
- The lower (S07) and higher (S08) scenarios will be used for project selection. Additional scenarios will be run to see how the selected projects for the draft plan perform.

ICM FUTURE WITHOUT ACTION (FWOA) RESULTS

OVERVIEW OF PROCESS & UPDATES

Stuart provided a summary overview of the ICM model improvements introduced during the February RW meeting, in addition to the new vegetation dispersal rules and updated accretion algorithms.

COASTWIDE OUTPUTS

Stuart shared coastwide land change and vegetated habitat classification outputs for the lower (S07) and higher (S08) scenarios by decade. The land change pattern is similar between the two scenarios, with the higher scenario seeing greater, more extreme land loss earlier in the modeling period.

The following items were discussed:

- The list of projects included in FWOA will be included as part of the meeting's follow-up materials.
- A future landscape map that does not include unconstructed FWOA projects is planned to illustrate what the future might look like if CPRA's construction program were to stop today (e.g., no land would be shown as being maintained by the diversion, etc.).
- It was noted that the "land change mechanism cumulative through year 50" maps display the initial cause of land loss; however, due to the improved vegetation rules for the 2023 plan, bareground is able to be revegetated (vs. being immediately lost as it was for the 2017 plan) and can therefore be lost multiple times over the 50-year period. The team is also considering mapping the cause of persistent land loss.
- Areas displayed as newly open water does not mean it is deep water, it could be very shallow and/or vegetated water bodies.

REGIONAL/LOCAL OUTPUTS

Eric White stepped through the same land change and vegetation habit classification datasets but discussed the outputs at the regional level.

The following items were discussed:

- Barrier Island restoration is treated programmatically for the 2023 plan. The model automatically assumes restoration/maintenance when the width criteria for each island is no longer met. The Planning Tool removes the volume of sediment used to restore/maintain the island(s) from the available sediment resources, which then

affects the available sediment supply for the construction of marsh creation projects, for example. The estimated costs to restore/maintain the islands will be used to determine the amount of programmatic funds for the Barrier Island program.

- The mixture of fresh and intermediate marsh in the Lake Salvador area is due to the model weighting a mixture of species and the fact that it is a niche model; something has to open up before other vegetation can come in.
 - The vegetation model's species have different behavior and responses to salinity. Each species has its own probability of a preferred salinity regime with some having wide tails on their preferred salinity zones where the vegetation might persist longer.
 - The vegetation not only responds to salinity but responds to water level variability as well.
- The open water area on the north shore of Lake Pontchartrain is likely due to an inundation signal from the model spin-up period but needs to be diagnosed further.
- The Mid-Breton Diversion is modeled at a peak diversion flow rate of 55k cfs for FWOA. Varying flow rates were tested but an average operations regime was determined to be most appropriate for the FWOA assumptions vs. being maxed out for the whole 50 years at 75k cfs (the peak diversion in the permit and IES currently) or at the minimum flow of 35k cfs (which was used in the 2017 plan).
 - The Mid-Barataria Diversion is modeled at a 75k cfs peak flow rate.
- The general net increase in land area during the spin-up period is primarily a function of the intertidal zone in the DEM and the classification of land or water that does not align with its elevation in the tidal frame.
 - The land-water definitions that define the true year zero areas are from a percentage of satellite observations where areas were classified as land or water. Depending on what time of day the satellite flew over with respect to the tidal cycle determines the land/water classification.
 - Important to remember that project selection will involve comparing the difference between the FWOA and Future With Action (FWA) curves; the spin-up response will not be informing any project selection decisions.
- The tentative plan is to share a draft list of projects summer of 2022 and the draft plan at the end of the year 2022. The team will look into and pull out individual points that are on constructed projects that have additional elevation capital.

CLOSING

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

CHENIER PLAIN + CENTRAL COAST RW MEETING #6

DATE: 2022-04-19

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Ron Boustany (USDA-NRCS), Lance Campbell (LDWF), Ann Howard (LDWF), Greg Linscombe (Continental Land and Fur), Andrew MacInnes (USACE), Tim Matte (St. Mary Levee District), Phillip Trosclair (LDWF), Jenneke Visser (Retired-University of Louisiana Lafayette), Tommy McGinnis (CPRA), Leigh Anne Sharp (CPRA – Lafayette)

ADDITIONAL PARTICIPANTS: Ralph Libersat (Vermilion Parish)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Forrest Town, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Stuart recapped the discussion and information shared at the previous meetings



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and reminded members of the RW ground rules. Stuart requested that members not share the presentation information outside of the RW as it is still draft and subject to change.

PROGRESS & SCHEDULE UPDATES

Krista Jankowski reviewed the model progress and schedule updates as well as the status of QA/QC of model runs. Krista also described the plans for upcoming outreach with various stakeholders, reviewed the status of the master plan's documentation, and described the planned updates to the Master Plan Data Viewer. The current schedule also takes into account printing contingencies in the event of State Printing Office supply chain issues. [Webinars](#) and [technical reports](#) resources will continue to be added to the CPRA website as they become available and are finalized.

FLOOD RISK: FUTURE WITHOUT ACTION

STORM SURGE AND WAVE MODELING

Stuart provided a summary overview of the storm surge and wave model (ADCIRC+SWAN) improvements which include an updated landscape, new storm suite, and updated parameter values consistent with the US Army Corp of Engineers (USACE). Stuart shared the updated 1% Annual Exceedance Probability (AEP) flood maps for initial conditions and the lower (S07) and higher (S08) environmental scenarios by decade. The maps show increased flood depths and a greater extent of northern flooding starting in earlier decades. The potential use of the ADCIRC+SWAN model for the proposed Cameron Parish storm gate system was discussed. Stuart advised the parish to use the ADCIRC+SWAN model if interested in storm surge/barrier protection; DOTD/The Watershed Initiative is also developing a model that looks at localized drainage or riverine flooding.

RISK MODELING

Stuart discussed the updates to Risk Assessment (CLARA) which include redefined community boundaries, structure inventory data, asset growth model using population projections, and a new approach for system fragility.

Stuart gave an overview of risk metrics and explained the differences between the previously used Expected Annual Damages metric (now denoted as EAD\$) and the new Expected Annual Structure Damage (EASD) metric: EAD\$ provides an annualized estimate of risk using a dollar value, while EASD is based solely on the proportional structure damage without considering its value.

EAD\$ and EASD correlation by community for single family residences shows that some communities have similar EASD but different EAD\$ as there is a greater dollar risk associated with flooding in certain areas. EAD\$ projections for the 2023 plan are higher compared to 2017 due largely to the increase in projected flood depths, a result of improved storm surge modeling. The Future Without Action (FWOA) Year 50 coastal risk maps in both the lower and higher scenario show that most of the risk is concentrated in a few areas such as parts of southwest Louisiana and around the Slidell, Luling, and Houma areas. Of the 68 communities in the Central Coast and Chenier Plain regions represented in the risk results, Morgan City/Berwick and New Iberia experience the highest risk with New Iberia significantly increasing in risk over 50 years, even in the lower scenario.

NONSTRUCTURAL

Sam Martin provided an overview and update on the nonstructural approach, explaining that nonstructural will be considered programmatically in the 2023 Coastal Master Plan. Potential effectiveness of nonstructural will be evaluated under the same first floor elevation targets and choice of nonstructural investment criteria as 2017.

ICM: FUTURE WITH ACTION

Eric White gave an overview of candidate projects being considered for the 2023 Coastal Master Plan and noted that all the information being shared was subject to change. Eric and Denise Reed discussed sample FWA project outputs. The following projects were discussed:

- Project 348: Calcasieu/Sabine Hydrologic Restoration (G629)
 - Lower scenario inundation depths at 3 selected locations show increased inundation depth across the board.
 - CRMS0635 has a slight increase due to flow being restricted to one-way drainage.
 - QAQC0609 has the largest increase of inundation depth, of the three selected, due to the flow paths being enforced with spoil banks and ridges. Placing a plug in the flow path forces the water to pile up in order to be able to drain out to tidal waters in West Cove.
 - The western point, CRMS0665, has a slight increase due to the removal of the eastward flow path.
 - There is very little effect on land-water distribution in the lower scenario.
 - In the higher scenario on the western side of the basin, there is a slight reduction in salinity in some areas (e.g., at QAQC0676), and an increase in inundation (e.g., at CRMS0665) over the 50 years. In Year 45 there are some areas in the southwest where salinity is slightly decreased and land

- that would have been lost without the project is retained.
- In the higher scenario on the eastern side of the basin, there is an increase in inundation over the 50 years at CRMS0641 and QAQC0609. At Year 45 inundation reaches a threshold where land is lost.
 - Project 349: Cameron-Creole to the Gulf Hydrologic Restoration (G626)
 - At Year 50 under the lower scenario there are large areas of land maintained that would have been lost in addition to some new land gain in the detention pool where the pump is located in the southern area as well as a few points throughout the whole area. This land gain is areas of presently intratidal land that transitions to vegetated subaerial land once water levels in the Creole canal and the detention pool are maintained at MLW.
 - At Year 50 under the higher scenario there is a much larger area of benefits with land maintained throughout the majority of the Cameron-Creole Watershed as well as the lower portion of the Mermentau.
 - When the project goes online (Year 7) there is an immediate area of land gain which persists into the future. This is caused by drawing down water levels due to pumps being installed and water levels being maintained at low tide. The footprint of this land gain is located in the immediate outfall area where the pumped detention pool is located (lower Mud Lake/old Mermentau outlet) as well as within the interior of the Cameron-Creole watershed.
 - East Hwy 27 there is a small reduction in water level due to the large culverts that connect the eastern side to the Creole canal on the west of the road. There are also small reductions in water levels in the lower Mermentau by freeing up drainage opportunities to the southeast. There is a very small reduction of water levels in the interior of the Army Corp lock systems and in White Lake. On the eastern side of the lock between the lake and Freshwater Bayou there is no discernable impact.
 - Clarified that the CS-87 (formerly CS-65/Calcasieu Salinity Controls project) informed the way that lake-rim structures were handled in FWOA (not how they are operated in the field currently).
 - Exact logistics of the pumping areas were considered when costing. The intent of the project seems to be in line with the conversation an RW member had with DOTD on pumps in the area. If the project is selected, feasibility and engineering and design will determine how it is built.
 - Project 293: Freshwater Bayou North Marsh Creation (G605)
 - In the lower scenario at Year 50 vegetated wetland is maintained in a large area west of Freshwater Bayou and shallow areas have been filled in.
 - The higher scenario at Year 30 is a very similar result as the lower scenario Year 50.
 - In the higher scenario from Year 40 to Year 45 land-maintained increases while there is a great deal of loss in the surrounding areas.

- The project assumes surface elevations within the created/nourished areas are within the tidal range 10 years after construction. Once that is reached, the lower scenario sees organic accretion and increases in elevation paralleling the rate of the rise in water level (around Year 14). In the higher scenario the project maintains its elevation, but water levels still increase and the marsh ultimately collapses to open water.
- The accretion rates are related to the vegetation mixture and may change over time.
- Confirmed that the area's salinity is based on the locks and the area's limited connectivity to the Gulf.
- Project 346: Marsh Island Barrier Marsh Creation (G634)
 - In the lower scenario in Years 40 and 50 a large area of marsh is maintained that would have been open water without the project. The higher scenario Year 40 looks similar to the lower scenario Year 50; however, the higher scenario Year 50 shows the area collapsing into open water except for a small sliver.
 - When the project is built in the lower scenario there is ~30 cm of elevation capital followed by a period of steep decline and then it declines similar to the rate without the project. The initial steeper rate is due to a lack of organic accumulation when the surface is not within the tidal range. Organic accumulation begins again after inundation increases.
- Project 343: Southwest Pass Tidal Prism Control & Acadiana Bays Hydrologic Restoration (G641)
 - In the lower scenario Marsh Island sees marsh creation begin at Year 20 and by Year 50 that same area has land gain; however, surrounding areas experience loss due to increased salinity from the limiting of freshwater flows from Wax Lake Outlet and Atchafalaya Delta into Vermillion Bays, which reduces inundation tolerance.
 - In the higher scenario at Year 20 there is a small amount of gain in the same location of Marsh Island but there is also a speckled pattern of loss throughout Marsh Island. At Year 40 on Marsh Island there is the same small area of gain but also loss that would not have occurred without the project. This is also due to increased salinities. Impact is reduced in the last few years due to Marsh Island converting to open water.
 - On the north side of the bay salinity increases in later decades. At Year 45 in the higher scenario loss is due to inundation as salinity increases reducing inundation tolerance.
- Project 341a: Charenton Diversion (G609)
 - In the lower scenario at Year 25 there is immediate land gain near the diversion. There is a speckling of land loss toward the west due to increasing water levels. At Year 45 the diversion outfall areas build up as well as the nearby shoreline. There is still slight loss in the same areas in the west.

- When the project comes online in the higher scenario there is an increase in surface elevation at CRMS0543. Without the project there would be a decrease in surface elevation over time until Year 39 when organic accretion begins again, and it starts to gain.
- In the higher scenario at Year 25 there is movement of water to the west, which results in slight increase in salinity in Penchant Basin and some change in water level variability. This leads to some loss of flotant. At Year 43 there is a similar event just east of the Atchafalaya River.

CLOSING

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

TERREBONNE RW MEETING #6

DATE: 2022-04-20

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Mart Black (Terrebonne Parish), Victoria Bourque (Restore or Retreat), Lance Campbell (LDWF), Brady Carter (LDWF), Windell Curole (South Lafourche Levee District), Greg Linscombe (Continental Land & Fur), Earl Melancon (LA Sea Grant), Leslie Suazo (Ducks Unlimited), Amanda Voisin (Lafourche Parish), Glen Curole (CPRA)

CPRA/MASTER PLAN TEAM:

Brian Lezina, Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Forrest Town, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Ashley Cobb welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Ashley recapped the discussion and information shared at the previous meetings and reminded members of the RW ground rules. Ashley requested that members not share the presentation information outside of the RW as it is still draft and subject to change.



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PROGRESS & SCHEDULE UPDATES

Krista Jankowski reviewed the model progress and schedule updates as well as the status of QA/QC of model runs. Krista also described the plans for upcoming outreach with various stakeholders, reviewed the status of the master plan's documentation, and described the planned updates to the Master Plan Data Viewer. The current schedule also takes into account printing contingencies in the event of State Printing Office supply chain issues. [Webinars](#) and [technical report](#) resources will continue to be added to the CPRA website as they become available and are finalized.

FLOOD RISK: FUTURE WITHOUT ACTION

STORM SURGE AND WAVE MODELING

Stuart Brown provided a summary overview of the storm surge and wave model (ADCIRC+SWAN) improvements, which include an updated landscape, new storm suite, and updated parameter values consistent with the US Army Corp of Engineers (USACE). Stuart shared the updated 1% Annual Exceedance Probability (AEP) flood maps for initial conditions and the lower (S07) and higher (S08) environmental scenarios by decade. The maps show increased flood depths and a greater extent of northern flooding starting in earlier decades.

RISK MODELING

Stuart discussed the updates to Risk Assessment (CLARA) which include redefined community boundaries, structure inventory data, asset growth model using population projections, and a new approach for system fragility.

Stuart gave an overview of risk metrics and explained the differences between the previously used Expected Annual Damages metric (now denoted as EAD\$) and the new Expected Annual Structure Damage (EASD) metric: EAD\$ provides an annualized estimate of risk using a dollar value, while EASD is based solely on the proportional structure damage without considering its value.

EAD\$ and EASD correlation by community for single family residences shows that some communities have similar EASD but different EAD\$ as there is a greater dollar risk associated with flooding in certain areas. EAD\$ projections for the 2023 plan are higher compared to 2017 due largely to the increase in projected flood depths, a result of improved storm surge modeling. The Future Without Action (FWOA) Year 50 coastal risk maps in both the lower and higher scenario show that most of the

risk is concentrated in a few areas such as parts of southwest Louisiana and around the Slidell, Luling, and Houma areas.

NONSTRUCTURAL

Sam Martin provided an overview and update on the nonstructural approach, explaining that nonstructural will be considered programmatically in the 2023 Coastal Master Plan. Potential effectiveness of nonstructural will be evaluated under the same first floor elevation targets and choice of nonstructural investment criteria as 2017.

ICM: FUTURE WITH ACTION

Eric White gave an overview of candidate projects being considered for the 2023 Coastal Master Plan and Eric and Denise Reed discussed sample Future With Action (FWA) project outputs. The following projects were discussed:

- Project 108: Atchafalaya River Diversion (G607)
 - There is maintenance of flotant marsh at Year 20 in both the lower and higher scenarios south of Gulf Intracoastal Waterway (GIWW) and west of Minors Canal project as the project reduces salinities. In the higher scenario there is also an area of land maintained in Avoca Island that would have been lost in FWOA in the lower scenario. This area is maintained at Year 35 in the lower scenario but not in the higher scenario. In Year 45 there are large areas lost to open water in the higher scenario and there are areas close to the river where land is created in open water. There is a flickering of some interactions near Avoca Island that are an artifact of modeling and can be ignored.
 - In Hydro Compartment 638 in the lower scenario a land loss even occurs in Year 17 in FWOA and the project delays this land loss event to Year 38.
 - This delay of the loss will be reflected in the average annual benefits of the project.
 - At the same location in the higher scenario there is similar behavior but the delay in loss is only around 10 years.
 - At CRMS 0382 land area and salinity are the same in Year 50 in both FWA and FWOA. However, the project delays the loss for 1-2 years for around 45 years of the 50 that will show as a benefit to the project. This occurs as fresher salinities with fresher vegetation have higher organic accumulation and can tolerate a higher level of inundation.
 - The project maintains vegetated wetlands in areas designated as 'active

- delta’.
- An RW member noted that channels with high traffic in the area that are already being dredged are showing filling with the project.
 - Additional discussion occurred regarding the dynamics and impacts on thin mat marsh in Avoca Island. CPRA can look into QAQC data points in that area.
 - CPRA noted that the MIKE model from Moffat and Nichol’s hydraulic model is more detailed but their wetland morphology, and vegetation model is the 2012 version and does not yet incorporate CPRA updates, so comparing these results to the MIKE model may not be appropriate.
 - Project 139: Increase Atchafalaya Flow to Terrebonne (G608)
 - Maps of peak salinity at Year 40 shows freshening to the east and a slight increase in salinity to the west in both scenarios.
 - Inundation at Year 40 shows widespread increase to the east and north and a slight reduction to the southwest, which is intuitive with diversion operations.
 - Annual mean salinity at CRMS 2887, QAQC 1061, and QAQC 0091 each show a reduction of salinity with the project at different amounts. There is a greater reduction in later years with salinity increases in FWOA with accelerated relative sea level rise.
 - In the higher scenario there is an increase of inundation at QAQC 0781 of around 10 cm in the GIWW to the east which results in greater inundation stress to the wetlands. The project is able to maintain salinity at CRMS 2887 under 2 ppt throughout whereas in FWOA there are increases up to 4.5 ppt.
 - At QAQC 0098 there are changes in water level variability and salinity, which result in altered vegetation between FWOA and FWA. Increased inundation results in slightly earlier loss. There are similar results in CRMS 2887 with very small impacts on inundation and slight salinity reductions.
 - There are negative impacts in Upper Verret at QAQC0188 with water level inundation increases of around 20 cm in both scenarios.
 - Project 337: Fourleague Bay – Blue Hammock Bayou March Creation (G603)
 - At Year 40 in the lower scenario land is maintained throughout the project footprint. In the higher scenario the footprint is the only area not lost to open water.
 - At CRMS 0399 there is an increase of elevation with the project that then maintains over time at a similar rate to FWOA. There is a decrease of inundation with the project that then increases over time at a similar rate to FWOA.
 - There are three distinct slopes in the elevation timeseries plot:
 - The steepest is deep subsidence + shallow subsidence + bareground collapse – this occurs after the marsh is constructed

- but while it is still high in the tidal frame
 - The shallowest slope is deep subsidence + shallow subsidence + mineral deposition and organic accretion – this occurs when the footprint is wetland within the tidal frame
 - The middle slope is deep subsidence + mineral deposition – this occurs after vegetation has been lost
- Project 342: Western Terrebonne Hydrologic Restoration (G632)
 - At Hydro Compartment 921 there is not much effect on land area.
 - At QAQC 0701 QAQC 0061 there is a reduction in salinity, but it is not enough to affect land area.
 - At Hydro Compartments 775 and 662 there is a very slight increase in land area.
 - The project has slight benefits that need to be weighed relative to the cost to determine whether it is worthwhile.
- Project 335a: Eastern Terrebonne Landbridge (G620)
 - This and other landbridge projects are split into portions to allow the Planning Tool to evaluate whether strategically choosing individual segments could be the preferred approach considering relative cost and project effect.
 - At QAQC 1067 the project leads to an increase in elevation and a decrease in inundation. The transition from open water to land decreases the mineral accretion and organic accretion occurs when the elevation is low enough for the marsh to be inundated.
 - At QAQC 1071 there is a small effect from the project on interior water levels and some reduction in salinity in later decades.
 - At Year 40 in the lower scenario the project shows both decreases and increases of salinity different areas. The effect is not enough to make a difference in land loss.
 - At Year 40 the project footprint remains but disappears by Year 50 in the higher scenario. There are benefits over time in both scenarios, but not change in land area by Year 50 in the higher scenario.
- Project 284: Grand Bayou Hydrologic Restoration (G616)
 - In the lower scenario at Year 20 the project already shows land maintenance relative to FWOA. At QAQC 1089 the project decreases salinity but does not change inundation. The decreased salinity results in higher inundation tolerance. At both Year 15 and Year 40 there is an increase of salinity to the north/west and a decrease of salinity throughout the southeast.
 - In the higher scenario at Year 20 there is loss of floatant in the marshes east of Bayou Lafourche. At QAQC 1859 shows the increase in salinity causing this loss. At QAQC 1089, and CRMS 0338, in the eastern Terrebonne basin there is a consistent slight decrease of salinity. Overall the area's salinity trends show higher salinity in the northwest and lower salinity through to the southeast with marginal effects through Year 40.

- Hydro compartment 159 the project results in a loss of land area while in compartments 750 and 719 it results in gain throughout that tapers off at the later decades. The Planning Tool will look at the net benefit over time.
- An RW member gave an update that this project is in the Engineering and Design phase at the parish level. Model results and assumptions can be compared between the parish and the ICM.

CLOSING

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

PONTCHARTRAIN/BRETON & BARATARIA RW MEETING #6

DATE: 2022-04-29

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Brady Carter (LDWF), Craig Gothreaux (NMFS), Tara Lambeth (St. John the Baptist), Earl Matherne (St. Charles Parish), Alisha Renfro (NWF), Joni Tuck (Shell), Julie Whitbeck (NPS – Jean Lafitte), Melissa Hymel (CPRA), Darin Lee (CPRA), John Lopez (Delta Science LLC), MICHELLE Gonzales (Jefferson Parish), Kevin Roy (USFWS)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Forrest Town, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Ashley Cobb welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). To help orient RW members, Ashley recapped the discussion and information shared at the previous meetings and reminded members of the RW ground rules. Ashley requested that members not share the presentation information outside of the RW as it is still draft and subject to change.



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PROGRESS & SCHEDULE UPDATES

Krista Jankowski reviewed the model progress and schedule updates as well as the status of QA/QC of model runs. Krista also described the plans for upcoming outreach with various stakeholders, reviewed the status of the master plan's documentation, and described the planned updates to the Master Plan Data Viewer, which should be available with the draft plan's release. The current schedule also takes into account printing contingencies in the event of State Printing Office supply chain issues. [Webinars](#) and [technical report](#) resources will continue to be added to the CPRA website as they become available and are finalized.

FLOOD RISK: FUTURE WITHOUT ACTION

STORM SURGE AND WAVE MODELING

Stuart Brown provided a summary overview of the storm surge and wave model (ADCIRC+SWAN) improvements, which include an updated landscape, new storm suite, and updated parameter values consistent with the US Army Corp of Engineers (USACE). Stuart shared the updated 1% Annual Exceedance Probability (AEP) flood maps for initial conditions and the lower (S07) and higher (S08) environmental scenarios by decade. The maps show increased flood depths and a greater extent of northern flooding starting in earlier decades. The landscape data incorporated is the best available which is out of date in certain locations. Therefore, there may be some areas that show land loss where land has already been lost. The model does not show overtopping of the HSDRRS system in the 1% AEP scenario.

RISK MODELING

Stuart discussed the updates to Risk Assessment (CLARA) which include redefined community boundaries, structure inventory data, asset growth model using population projections, and a new approach for system fragility.

Stuart gave an overview of risk metrics and explained the differences between the previously used Expected Annual Damages metric (now denoted as EAD\$) and the new Expected Annual Structure Damage (EASD) metric: EAD\$ provides an annualized estimate of risk using a dollar value, while EASD is based solely on the proportional structure damage without considering its value.

EAD\$ and EASD correlation by community for single family residences shows that some communities

have similar EASD but different EAD\$ as there is a greater dollar risk associated with flooding in certain areas. EAD\$ projections for the 2023 plan are higher compared to 2017 due largely to the increase in projected flood depths, a result of improved storm surge modeling. The Future Without Action (FWOA) Year 50 coastal risk maps in both the lower and higher scenario show that most of the risk is concentrated in a few areas such as parts of southwest Louisiana and around the Slidell, Luling, and Houma areas.

NONSTRUCTURAL

Sam Martin provided an overview and update on the nonstructural approach, explaining that nonstructural will be considered programmatically in the 2023 Coastal Master Plan. Potential effectiveness of nonstructural will be evaluated under the same first floor elevation targets and choice of nonstructural investment criteria as 2017.

ICM: FUTURE WITH ACTION

Eric White gave an overview of candidate projects being considered for the 2023 Coastal Master Plan and Eric and Denise Reed discussed sample Future With Action (FWA) project outputs. The following projects were discussed:

- Project 244: Union Diversion (G603)
 - Benefits shown in both scenarios with the project with increased benefits over time in the higher scenario. Accumulation rates change based on designation of active delta which changes between FWA and FWOA.
 - At CRMS 5167 the project results in an initial peak in inundation that is then maintained around the same value throughout the model, whereas the FWOA scenario increase steadily over time. Salinity is maintained over time and vegetation is maintained fresh and moves toward fresh forested. With the project there are higher levels of accretion connected with the active delta designation.
 - At CRMS 6299 decreased salinity due to the diversion leads to fresher vegetation, higher accretion, and less inundation. This leads to maintenance of land in the LaBranche wetlands through Year 50 in the higher scenario. There is also some infilling in the Blind River system but also inundation due to higher tailwaters on most upper stream portions of the basin.
- Project 305: West Maurepas Sediment Diversion (G647)
 - This project is a different operational regime at the same location as Union Diversion. It leads to inundation effects in both scenarios at higher levels in

- the higher scenario.
- At QAQC 0812 organic accretion increases with the active delta but water levels rise dramatically. Land loss in Year 12 increases mineral sediment deposition and the area returns to land in Year 20 and after elevation keeps pace with water levels.
 - At CRMS 0047 (further from the diversion) water levels rise dramatically resulting in loss and lower levels of sediment deposition. This area is considered outside the active delta.
 - This diversion has a widespread effect on salinity that is greater to the east. There are small reductions of salinity in the upper basin that were already fresh with larger magnitude reduction east of the Pontchartrain.
 - An RW member inquired about whether the potential conversion of forested wetlands to marsh is being captured, particularly for Black Willow. It was clarified that Black Willow and other trees are included in the model but changes in species are determined by salinity and water level variability and there may be species factors not included in the model.
 - Project 243: Ama Sediment Diversion (G613)
 - This project results in an immediate loss of land area in both scenarios that then maintained for around a decade before returning to net zero. This is followed by another pattern of loss and maintenance in the lower scenario and dramatic loss in the higher scenario.
 - Testing to help the immediate inundation loss has been done but it does not necessarily improve tail-water effects.
 - In the lower scenario Davis Pond sees temporary near-field inundation loss that returns to vegetated by Year 25. Far-field inundation is persistent north and upstream of the Gulf Intracoastal Waterway (GIWW).
 - In the higher scenario there are widespread tail-water effects of inundation on the upper basin with some small areas of land building and maintenance.
 - The project has widespread impacts on salinity. It causes slight freshening of already fresh waters and larger freshening of areas throughout Pontchartrain as well as slight increases in salinity in areas on the Breton side of the Mississippi River.
 - Inundation loss is determined with an empirical curve based on CRMS observations that do not see any fresh marshes surviving 2 meters of inundation.
 - Project 323: Edgard Diversion (G605)
 - This project maintains around net zero land in both scenarios until around Year 30 at which point the higher scenario shows a bump in benefits followed by a large drop off. The lower scenario remains around zero before seeing an increase in benefits in the last decade.
 - Year 40 under the lower scenario shows very slight land maintenance and

- the higher scenario shows a fair amount of land maintenance as well as some negative interactions.
- In Year 50 the project has operated under the Bonnet Carre operation rule multiple times in the higher scenario, and resulting in negative impacts in the northwest but maintenance closer to the GIWW and Lake Salvador.
 - In Year 40, which includes the opening of the Bonnet Carre, there are widespread inundation impacts including a reduced inundation signature in the Bonnet Carre outflow, indicating positive intended impacts on Bonnet Carre flow.
 - Salinity increases in the Pontchartrain areas and out to Lake Borgne in years when Bonnet Carre is opened.
 - Project 325a: Lower Barataria Basin Landbridge (G618, G642, G643)
 - Landbridge projects are divided into sections; they are evaluated as a whole project and in sections to allow the Planning Tool to select all or part of the project based on benefits and cost.
 - The lower scenario shows direct footprint effects at Year 10 with indirect benefits increasing over time. In the higher scenario Year 30 is similar to Year 40 in the lower scenario and indirect benefits increase before diminishing in the last decade.
 - Salinity in Year 40 in the lower scenario shows some areas of decrease in the north and some of increase in the mid-basin. This is similar to Year 30 in the higher scenario. The patterns are a result of how the landbridge interacts with the Mid-Barataria Sediment Diversion. Area to the north of the landbridge tend to be fresher as freshwater is retained, and salinity shows a relative increase to the south as the diversion waters are not freshening the mid-lower basin.
 - At QAQC 1373, south of the landbridge, there is a very minor difference in salinity until the last decade when salinity is slightly higher with project.
 - At QAQC 1226, north of the landbridge but on the western side of the basin more distant from the diversion, the project lowers salinity and then maintains fresh where without the project salinity would continually increase.
 - Land area in Hydro compartment 226, the diversion outfall area, decreases with the project in the last decade as inundation due to the landbridge makes it harder for the Mid-Barataria Sediment Diversion to fill in the area.
 - If only the western section of the landbridge is implemented there are still substantial benefits on the western side of the basin in the lower scenario.
 - If only the eastern section of the landbridge is implemented there are diminished benefits on the western basin with benefits maintained in the eastern basin.
 - Project 327: Lower Plaquemines River Sediment Plan
 - At QAQC 1321 on the west bank between one of the ridges and the levee

- there is a decrease in inundation with the project but a dramatic increase of salinity that ultimately leads to land loss.
- At QAQC 0312 on the east bank the Phoenix Siphon increases mineral accretion.
 - At QAQC 1663, south of Fort St Philip on the east bank, marsh creation at Year 18 builds and maintains land.
 - In the higher scenario the same ridge increases salinity close to the Mississippi River (QAQC 1321) and there is freshening in the Birdsfoot Delta. The Boothville Siphon decreases salinity and increases inundation in the receiving area.
 - QAQC 1687 is designated active delta without the project. The project increases the FFIBS (Forested, Fresh, Intermediate, Brackish, Saline) score beyond the range applicable for active delta and accretion decreases, leading to increased inundation and loss at Year 44.
 - Project 307a: South Breton Landbridge (G649, G606, G623, G650)
 - At Year 25 in both scenarios there is relative land gain throughout the footprint. The higher scenario shows areas of loss near the Mississippi River up basin of the landbridge feature.
 - At QAQC 0323, on the project footprint, surface elevation is increased by the construction and then lowered through subsidence until organic accretion begins, once the elevation is within the tidal frame, and maintains the elevation.
 - At QAQC 0325 behind the landbridge there is an increase in inundation which results in the loss
 - When the entire land bridge is built there is some loss in Hydro compartment 111, but when only the central section of the landbridge is constructed the effect on loss is lessened.
 - At QAQC 0367, up basin of the landbridge, near MRGO species transition from brackish to intermediate in the higher scenario with the complete landbridge. Without only the eastern or central section, more brackish species remain. This suggests an interaction with the Mid-Breton diversion whereby the landbridge retains the freshwater in that area only when the eastern portion is in place.
 - At Year 50 both scenarios showed net land gain in the landbridge footprint as well as some indirect land loss. At the higher scenario indirect loss is greater and the southern end of the landbridge is lost to open water at Year 50.
 - An RW member mentioned the potential benefit of evaluating landbridges in sections with the way that surge behaves.

CLOSING

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

CHENIER PLAIN + CENTRAL COAST RW MEETING #7 SUMMARY

DATE: 2022-09-14

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Kara Bonsall (Cameron Parish Police Jury), Ron Boustany (USDA-NRCS), Billy Broussard (Vermilion Corp), Chad Courville (Miami Corporation), Chad Lege (Vermilion Parish Police Jury), Greg Linscombe (Continental Land and Fur), Phillip Trosclair (LDWF), Tommy McGinnis (CPRA)

ADDITIONAL PARTICIPANTS: Ralph Libersat (Vermilion Parish)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Eric White, Denise Reed

WELCOME AND INTRODUCTION

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). Stuart requested that members not share the presentation information outside of the RW as it is still draft and subject to change.



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IMPLEMENTATION PERIOD 1 (IP1) PROJECT EVALUATION AND SELECTION UPDATE

RISK REDUCTION PROJECT EVALUATION AND SELECTION

Stuart provided a summary overview of the risk metrics being used for the 2023 Coastal Master Plan: expected annual damage dollars (EADD) provides an annualized estimate of risk using a dollar value, while expected annual structure damage (EASD) is based solely on the proportional structure damage without considering the structure's value. Both metrics are largely driven by single family homes.

Stuart described how the 2023 Coastal Master Plan will not select specific geographic areas for nonstructural mitigation to avoid unintentionally limiting access to funding. Instead, nonstructural and structural projects will compete in the 2023 Planning Tool to ensure structural projects are the best investment for the areas they influence. The analysis is not region specific, rather structural projects compete for funds with nonstructural projects across the coast to identify if there are better nonstructural investments somewhere on the coast vs. a particular structural project. The plan will note the types of nonstructural mitigation that could be employed, i.e., floodproofing, elevation or voluntary acquisition, and will describe the residual risk that exists for communities.

The following items were discussed:

- Oil and gas infrastructure is included in both EASD and EADD however the oil and gas infrastructure is hardened, therefore experiences less damage.
- All projects are modeled in isolation; there is an additive assumption which means that if two projects affect the same area some benefits may be double counted.
- Emphasized that risk will not be eliminated, e.g., the Slidell Ring Levee is projected to reduce ~40% of risk, but a lot of risk would still remain in the area, it is not zeroed out.
- USACE South Central Coastal study and CPRA's Iberia/St. Mary Levee do not follow the same analysis. For example, CPRA captures displacement costs, lost wages/rents, damaged vehicles, and does not use a discount rate; it could also be due to differences in projected flood depths, assumptions about sea level rise (SLR), or the storms modeled in the area. While both CPRA and USACE are aware that there are differences, it will take longer than the 2023 plan timeline to determine exactly which pieces of the analysis that are driving the differences. In the near-term, USACE and CPRA agree that nonstructural is the best path forward, but CPRA does not want that to preclude structural protection being considered in the future. CPRA's position is that structural protection is a worthwhile investment in the south/central part of the coast.
- Confirmed that it is too late in the process to include the Risk Rating 2.0 insurance aspects in the economic analysis for the 2023 plan. However, it is being discussed in

the plan.

- Discussed if it is worth considering to include the Larose to Golden Meadow project, although it does not have a large effect on reducing flood risk it could have a large impact on insurance bills.
- Confirmed that marsh stability in front of levees is incorporated in the master plan analysis; the projected landscape from the ICM is input into the surge model.

ICM FUTURE WITH ACTION

Eric White provided an overview of the IP1 projects introduced at the last RW webinar and described a list of caveats for the Future With Action model outputs. He clarified that IP1 projects come onto the landscape at different times but are all built within the first 20 years of the model simulation; IP2 projects go onto the landscape between Year 21-50. For selection, projects are modeled in isolation. For Future With Action, projects are on the landscape with other projects and the analysis looks at the interactions and how benefits might have changed. IP2 project benefits are estimated relative to IP1 projects on the landscape (FWIP1).

CHENIER PLAIN DRAINAGE IP1 PROJECT INTERACTIONS

- Cameron-Creole to the Gulf Hydrologic Restoration: looking at the higher scenario (S08) single project results there is a substantial reduction in water levels draining out the back of the Cameron-Creole system.
- When looking at project benefits within the Cameron-Creole watershed, there is not a large difference between the project implemented in isolation as compared to when implemented with all of the other FWIP1 projects. This signifies that the project impact within the Cameron-Creole watershed benefits mainly from the Cameron-Creole to the Gulf Hydrologic Restoration project; there is little evidence of obvious synergistic effects with other FWIP1 projects.
- However, beyond the Cameron-Creole watershed, there are minor increases in project benefits seen throughout the Mermentau Basin, there are benefits with respect to water levels but it expands/changes depending on where you are on the coast.
- Both Cameron-Creole to the Gulf Hydrologic Restoration and Mermentau Basin Hydrologic Restoration projects work together well; the marginal benefit is not redundant; there are synergistic benefits in areas east of the Creole Canal, in the interior of the Mermentau Basin; reducing the water level in the Mermentau River via new drainage pathways to the west and east gives the entire basin incremental more time to drain.

WHITE LAKE CONSERVATION AREA RESTORATION PLAN

- White Lake Conservation Area marsh creation/ridge restoration project is not selected for IP1 but will be reanalyzed for potential selection in IP2.
- Water levels are slightly higher with the project and annual mean salinities increase as well – this is not an intuitive response.
- As SLR increases, salinity increases. The area is connected through drainage canals to the GIWW. USACE lock operations are modeled with rainfall and evapotranspiration.
- Interior loss comes from areas of floating marsh; accretion is not applied to floating marsh as the marsh tracks with water levels. There are two mechanisms of floating marsh loss in the model: acute salinity stress above 5.5 ppt (even for a short time) causes floating marsh to become bare thin mat which can then be lost to open water, and long-term salinity regimes 2-3 ppt results in vegetation mortality and land loss if no other species establish.
- Salinities increase in the area due to changes in the volume of freshwater that drains from the impounded area once marsh are rebuilt.
 - An RW member expressed reservations if there is sufficient time for gravity draining to occur.
- Confirmed that Jenneke Visser reviewed the most up to date information available from satellite data and confirmed the area is floating marsh.
- An RW member expressed that the biggest issue in the area is erosion and that shoreline protection is needed; CPRA confirmed marsh edge erosion rates are included in the model.
- RW members expressed concern that the area is presently fresh and increased salinities seem unlikely; it was noted that the increase in salinity is not seen until several decades in the future, which is when there would be a half meter of SLR. Salinity can intrude into the interior of the lock system due to the required opening of the locks to relieve flood stress on the interior; even though flow will be draining from the interior of the system, there can still be chemical diffusion (contra-flow) of salinity into the interior of the system. The larger the salinity gradient, the stronger the chemical diffusion will be. After decades of SLR, the salinities in the Vermilion bays are quite high - resulting in salinities of ~ 3 ppt on the interior along the GIWW.

PENCHANT AREA

- The dynamics of having all the FWIP1 projects on the landscape in the Penchant area is very different from what it would be without any of them implemented. Due to these condition changes, the Charenton Diversion might be selected for IP2.
- When comparing the Charenton Diversion performance in IP2 vs. FWIP1 there is floutant loss in different locations but this loss also occurs in FWIP1 at a later period, so the negative net project effect is temporary. There is a net benefit for the rest of the 50-year time period.

- The group discussed the effect of ridges on water level and salinity.

REGIONAL STORYLINES

Krista Jankowski summarized the original 2018 RW discussions regarding regional challenges and concerns and explained that the regional section of the master plan is intended to share region specific content, not just a project list. CPRA wants to ensure the master plan document reflects back to the coastal citizens who are reading the plan and to paint a more comprehensive picture of the coast.

The following items were discussed:

- This is a place to describe what is important to the community; can use storylines to connect to the projects.
- Included topics do not necessarily have to be something that falls within CPRA's mission or that there is a known solution for (e.g., high tide flooding).
- This is a way to give people additional tools/topics to think about to make decisions for their future in the region.
- Message is not just directed at CPRA; opportunity to tell broader audience what the region need to be successful.
- Agricultural practices that remove water quickly off of land puts it into the marsh/wetlands faster and they cannot drain.
- High tide flooding impedes access to work which can happen up to twice a day.
- Issues with projects getting through the system (e.g., permitting process); incredible obstacles at the local level outside of CPRA's control.
- Value in mentioning the Just Imagine groups, a regional project with a lot of public input that is looking to do a feasibility study to construct a hurricane protection berm upon existing cheniers. RW expressed the region will not receive outside investment until this work starts/is completed.
- RW suggested an outreach effort to landowners outside of LLA to avoid push back at public meetings.
- RW requested to provide comment on the outline/structure and to review content.
- Due to the meeting time constraint, CPRA will follow up with an email to solicit feedback for this section.

CLOSING AND NEXT STEPS

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

TERREBONNE RW MEETING #7 SUMMARY

DATE: 2022-09-20

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Tim Allen (Apache Louisiana Minerals LLC), Matt Benoit (BTNEP), Mart Black (Terrebonne Parish), Brady Carter (LDWF), Reggie Dupre (Terrebonne Levee and Conservation District), Jennifer Gerbasi (Terrebonne Parish), Alex Kolker (LUMCON), Greg Linscombe (Continental Land and Fur), Leslie Suazo (Ducks Unlimited), Glen Curole (CPRA), Daniel Dearmond (CPRA)

ADDITIONAL PARTICIPANTS: Henri Boulet (Morganza Action Coalition), Cindy Cutrera (Port of Morgan City), Haley Gambill (LA Sea Grant), Scott Graham (Ducks Unlimited), Angela Hidalgo (Terrebonne Levee and Conservation District), Mitch Marmande (Delta Coast Consultant)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Eric White

WELCOME AND INTRODUCTION

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). Stuart requested that members not share the presentation information outside of the RW as it is still draft and subject to change.



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IMPLEMENTATION PERIOD 1 (IP1) PROJECT EVALUATION AND SELECTION UPDATE

RISK REDUCTION PROJECT EVALUATION AND SELECTION

Stuart provided a summary overview of the risk metrics being used for the 2023 Coastal Master Plan: expected annual damage dollars (EADD) provides an annualized estimate of risk using a dollar value, while expected annual structure damage (EASD) is based solely on the proportional structure damage without considering the structure's value. Both metrics are largely driven by single family homes.

Stuart described how the 2023 Coastal Master Plan will not select specific geographic areas for nonstructural mitigation to avoid unintentionally limiting access to funding. Instead, nonstructural and structural projects will compete in the 2023 Planning Tool to ensure structural projects are the best investment for the areas they influence. The analysis is not region specific, rather structural projects compete for funds with nonstructural projects across the coast to identify if there are better nonstructural investments somewhere on the coast vs. a particular structural project. The plan will note the types of nonstructural mitigation that could be employed, i.e., floodproofing, elevation or voluntary acquisition, and will describe the residual risk that exists for communities.

The following items were discussed:

- The 2023 Coastal Master Plan will include caveats speaking to the acute disruption Hurricane Ida. However, there is not an opportunity for new projects to be included in the plan; demographic shifts as a result of Hurricane Ida are not incorporated into the master plan analysis, we do not want the risk model to be hyper-responsive to a single event.
- Reminded RW that the master plan is a high-level modeling effort, specific project problems and/or concerns are addressed during Feasibility and Engineering & Design.
- Confirmed if projects are funded for construction they are considered in future without action (FWOA) and put on landscape.
 - If no action was taken on a project from the 2017 plan the projects were reanalyzed for the 2023 plan.
- Moving the location of marsh polygons cannot be done at this point in the 2023 plan process but is something that can be discussed after the draft plan is released; similar to how the Bayou Chene floodgate was added last time.
- Multifamily residences cannot be parsed out at this level of analysis; they are sometimes lumped with commercial structures.
- An example of the gap between a master plan project concept and feasibility is the effort to try to connect Morganza to the Gulf (MTTG) to Upper Barataria Risk Reduction; projects are modeled individually to assess their benefits but we do not expect to see the same benefits when projects are modeled together.

- The most cost-effective projects for reducing risk coastwide are MTTG, Slidell Ring Levee, and Upper Barataria Risk Reduction. The Lake Pontchartrain Barrier also looks effective in our modeling but will require further study and feasibility work before that begins to move forward.
- Larose to Golden Meadow is not a selected IP1 project, though it appears to be a strong candidate to be selected in IP2 as it reduces risk within the polder at the 100- and 50-year return interval.
- Confirmed that rainfall associated with tropical storms is included in flood depths, but compound flooding from a high river event interacting with a storm is not included in the master plan modeling. However, the Louisiana Watershed Initiative (LWI) is developing H&H models for the entire state. The next step would be to marry the master plan models to LWI's.
 - In Larose rain-based flooding is captured; a pumping capacity of 50% is assumed for the analysis.
- Confirmed that water moving from Verret Basin into Terrebonne is not included in the master plan models; LWI is doing transition zone modeling.
- An extensive amount of time was spent finding the most up to date levee elevations and comes from a variety of sources. Existing structures go into FWOA based on the 2016 LA Sea Grant survey, updates from local levee authorities, and USACE.
- Confirmed damages only account for flood damages and the associated costs (e.g., displacement, etc.). Wind damage is not included in the CLARA model since it is not solved by large civil service projects such that are included in the master plan, but instead is best handled by building codes and design standards. This is discussed in storylines in the master plan.
- The Amelia levee improvement system induces flooding in Terrebonne and Larose to Golden Meadow induces flooding in Amelia; when alternatives are analyzed we will see if the influence is limited, but even with that project there is a net positive benefit.
- Upper Barataria Risk Reduction increases flood depths outside of the system; although it has decreasing benefits in the out years it still has a net positive benefit.

ICM FUTURE WITH ACTION

Eric White provided an overview of the IP1 projects introduced at the last RW webinar and described a list of caveats for the Future With Action model outputs. He clarified that IP1 projects come onto the landscape at different times but are all built within the first 20 years of the model simulation; IP2 projects go onto the landscape between Year 21-50. For selection, projects are modeled in isolation. For Future With Action, projects are on the landscape with other projects and the analysis looks at the interactions and how benefits might have changed. IP2 project benefits are estimated relative to IP1 projects on the landscape (FWIP1).

- In the higher scenario (S08) the last few decades shows the Bayou Decade – Lake Mechant area having a higher salinity; this is a departure from the lower scenario (S07) trend.
 - For hydro compartment 476, there is a downward trend of land area until Year 38 when a large loss precipitous event occurs that changes the salinity dynamics in the area.
 - This area sees regular inundation loss as water levels rise and the inundation depth steadily climbs above the inundation collapse threshold depths. The steady decline in wetland area is a function of the elevation profile of this area. The large drop in Year 38 is the wholesale collapse of the remaining portions of the TE-072 (Lost Lake MC & HR) project. This FWOA project was assumed to be built to the design elevation - and it is the last piece of land remaining in hydro compartment 476. A large portion of the project footprint is all at the same elevation, therefore when the inundation finally gets too deep over that portion, a large area is lost to open water and shows up as a non-linear event in the land-area timeseries curves on slide 52.
 - Slight salinity impacts can result in areas of land loss/increases in open water due to floating marsh mechanisms and model improvements made to salinity stress rules. CRMS stations data were used to support the vegetation model.
 - Fresh floating marsh is the only coastal area that still sees conversion to open water as a result of short-term salinity stress in the model. Thin mat has a slightly higher salinity tolerance (up to 3 ppt). Minor decreases in salinity from a project can keep an area below the salinity threshold short-term spike.
- Both the TE-110 Increase Atchafalaya Flow to Terrebonne and the Atchafalaya River Diversion projects were modeled and were mutually exclusive in the master plan analysis. The master plan will discuss both projects but TE-110 will be presented in the plan as the model shows it is very beneficial. However, if there are difficulties in feasibility with the TE-110 project, the Atchafalaya River Diversion is a good alternative. Both projects are currently being looked at through the TE-110 process.
- The ICM includes sediment deposition in the channel; this is a big component of sediment dynamics. However, the ICM lacks the resolution and is not appropriate to do that type of analysis in highly channelized areas; a smaller, more specific model would be needed and is being planned for TE-110.
- Each project is based on certain elements that include high-level estimates of engineering and construction phases that determine when a project is put on the landscape as a finished project in the model. All projects start the process at model Year 1, but depending on how complex the projects are, they will go on the landscape at different times. IP2 follows this same process but starts at model Year 21.

- For IP1 project selection, each project started at Year 1 and had to perform as best as possible in order to be selected – the project had to have the greatest amount of land area (either built or maintained) with project compared to FWOA. All projects had an acre-year value for benefits analysis. The Planning Tool takes into account benefits and costs in prioritizing projects (it determines possible sediment borrow sources, which each have a finite amount of sediment available; costs increase as the borrow source to project distance increases).
- IP1 is the cost benefit over 20 years; IP2 is the cost benefit over 30 years.

REGIONAL STORYLINES

Krista Jankowski summarized the original 2018 RW discussions regarding regional challenges and concerns and explained that the regional section of the master plan is intended to share region specific content, not just a project list. CPRA wants to ensure the master plan document reflects back to the coastal citizens who are reading the plan and to paint a more comprehensive picture of the coast.

The following items were discussed:

- Very important to talk about sea food harvesting; historically the area has provided 23% of the nation’s domestic shrimp.
- Emphasize systems based thinking, not just project by project.
- The master plan does a great job with the biophysical aspects but need to talk more about the human dynamic – what is happening to the people who live on the coast is important.

CLOSING AND NEXT STEPS

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.

BARATARIA + PONTCHARTRAIN/BRETON RW MEETING #7 SUMMARY

DATE: 2022-09-19

RE: 2023 COASTAL MASTER PLAN

MEETING PARTICIPANTS

REGIONAL WORKGROUP (RW) MEMBERS:

Mike Bengé (Delacroix Corporation), Brady Carter (LDWF), Michelle Gonzales (Jefferson Parish), Craig Gothreaux (NOAA NMFS), Michael Hopkins (Pontchartrain Conservancy), John Lopez (Delta Science LLC), Amanda Voisin (Lafourche Parish), Julie Whitbeck (NPS), Theron Henkel (CPRA), Danielle Richardi (CPRA)

CPRA/MASTER PLAN TEAM:

Stuart Brown, Ashley Cobb, Krista Jankowski, Madeline LeBlanc, Sam Martin, Eric White



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WELCOME AND INTRODUCTION

Stuart Brown welcomed everyone and reviewed the purpose of the Regional Workgroup (RW). Stuart requested that members not share the presentation information outside of the RW as it is still draft and subject to change.

IMPLEMENTATION PERIOD 1 (IP1) PROJECT EVALUATION AND SELECTION UPDATE

Stu Brown went over the IP1 project selection schedule through the timeline of the master plan.

RISK REDUCTION PROJECT EVALUATION AND SELECTION

Stuart provided a summary overview of the risk metrics being used for the 2023 Coastal Master Plan: expected annual damage dollars (EADD) provides an annualized estimate of risk using a dollar value, while expected annual structure damage (EASD) is based solely on the proportional structure damage without considering the structure's value. Both metrics are largely driven by single family homes.

Stuart described how the 2023 Coastal Master Plan will not select specific geographic areas for nonstructural mitigation to avoid unintentionally limiting access to funding. Instead, nonstructural and structural projects will compete in the 2023 Planning Tool to ensure structural projects are the best investment for the areas they influence. The analysis is not region specific, rather structural projects compete for funds with nonstructural projects across the coast to identify if there are better nonstructural investments somewhere on the coast vs. a particular structural project. The plan will note the types of nonstructural mitigation that could be employed, i.e., floodproofing, elevation or voluntary acquisition, and will describe the residual risk that exists for communities.

The following items were discussed:

- All projects are modeled in isolation; there is an additive assumption which means that if two projects affect the same area some benefits may be double counted.
- Emphasized that risk will not be eliminated, e.g., the Slidell Ring Levee is projected to reduce ~40% of risk but a lot of risk would still remain in the area, it is not zeroed out.
- The Lake Potchartrain Barrier project reduces projected flood depths by about 1.5-2.5 ft. in communities around the lake including Mandeville/Madisonville in the lower

scenario with slightly lower benefits in the higher scenario, but remains beneficial.

- The analysis includes both surge and rainfall but further work can be done on joint probability. Rainfall is only included with a tropical event, not post-storm during drainage and a lot of rates are functions of pumping scenarios.
- Discussed feasibility of the Lake Pontchartrain Barrier project and high tide closures.
- The Greater New Orleans High Level project was not selected in IP1. With assumed maintenance, the system that is in place is projected to be effective to the 1% AEP at year 50 even under the higher scenario.
- Lafitte Ring Levee was not selected in 2017 mainly due to induced risk to nearby communities. Due to the levee improvements in surrounding areas we no longer see that induced risk and now have a more beneficial project, although expensive.
- Larose to Golden Meadow was not selected in IP1 but is likely to be selected in IP2 as it performs fairly well in the current design and results in a marginal increase in protection.

ICM FUTURE WITH ACTION

Eric White provided an overview of the IP1 projects introduced at the last RW webinar and described a list of caveats for the Future With Action model outputs. He clarified that IP1 projects come onto the landscape at different times but are all built within the first 20 years of the model simulation; IP2 projects go onto the landscape between Year 21-50. For selection, projects are modeled in isolation. For Future With Action, projects are on the landscape with other projects and the analysis looks at the interactions and how benefits might have changed. IP2 project benefits are estimated relative to IP1 projects on the landscape (FWIP1).

BRETON BASIN

- The immediate vicinity of the outfall maintained a relatively high water level and had a downward trend in accretion with mineral accretion decreasing but organic accretion remaining constant at 2cm/yr. The Marsh Creation projects in the area (Tiger Ridge/Maple Knoll/West Delacroix/Oak River to Delacroix/etc) increase the inundation depth but increase elevation behind the footprint faster.
- On the exterior of FWIP1 Marsh Creation projects further from the diversion impacts there is only negligible difference in water levels between FWA and FWIP1.
- Sediment sources were discussed. There are second choice sources in the analysis but costs increase if the source is farther away. No permanently placed long distance pipelines are assumed. There are three relatively small interior borrow areas in Terrebonne, Lake Borgne, and Lake Pontchartrain and an update for this master plan includes several navigation channels as borrow areas.
- South Breton Landbridge constructed in IP2 results in increased inundation up basin

and land is lost earlier than in FWIP1. This trend occurs in both the higher and lower scenarios.

- Some negative effects of the landbridge could be offset by future operations of the diversion.
- The tidal prism increases with marsh declining.

EAST OF BAYOU LAFOURCHE

- Mean salinity reduces slightly under both S07 and S08 and projects maintain more solid land. There is less of an influence on maximum 2-week salinity, which is an important threshold for some vegetated species.
- Grand Bayou Hydrologic Restoration increases flows from GIWW south through the Grand Bayou system. Increases in salinity are seen east of Bayou Lafourche. The lower scenario has net positive benefits but the higher scenario results in high net negative loss and it is ultimately not selected for IP1. It is also unlikely to be selected in IP2.
 - An RW member mentioned that a version of this project has funding and is in engineering and design but is different than what we modeled. The Master Plan analysis should not be used against this project. Effectiveness in the lower scenario in the Master Plan suggests that certain operations could be effective.

REGIONAL STORYLINES

Krista Jankowski summarized the original 2018 RW discussions regarding regional challenges and concerns and explained that the regional section of the master plan is intended to share region specific content, not just a project list. CPRA wants to ensure the master plan document reflects back to the coastal citizens who are reading the plan and to paint a more comprehensive picture of the coast.

The following items were discussed:

- This is a place to describe what is important to the community; can use storylines to connect to the projects.
- Included topics do not necessarily have to be something that falls within CPRA's mission or that there is a known solution for (e.g., high tide flooding).
- This is a way to give people additional tools/topics to think about to make decisions for their future in the region.
- Message is not just directed at CPRA; opportunity to tell broader audience what the region need to be successful

- Due to the meeting time constraint, CPRA will follow up with an email to solicit feedback for this section.

CLOSING AND NEXT STEPS

Meeting notes and slides will be shared in the coming weeks and members are asked to provide any additional feedback and/or thoughts to masterplan@la.gov.