

COASTAL AMERICA 2012 AWARDS PROGRAM

PARTNERSHIP AWARD

NOMINATION FORM

1. Full Name of Nominated Team: Master Plan Delivery Team

2. Nominator Contact Information:

Title: (circle one) Mr. Mrs. Ms. Dr. Name: Jenny Kurz

Title or Position: Outreach and Engagement Director

Agency or Organization: Coastal Protection and Restoration Authority of Louisiana

Street Address: P.O. Box 44027

City, State and Zip: Baton Rouge, Louisiana, 70804-4027

Work phone: 225.342.0168

Cell phone: 225.610.9737

Email: jenny.kurz@la.gov

3. What is the lead Federal Agency for this project? This is a State-led effort; Coastal Protection and Restoration Authority of Louisiana

4. Brief Abstract Overview of the Project Team (1 page max)

Include a short abstract (200 words max) describing the project, including its objectives, scope and longevity. Also, please address how the project supports Coastal America's mission and goals. Questions to consider are: How does the project demonstrate the "value added" of a partnership effort? (i.e. how did the partners collaborate to accomplish what a single entity could not accomplish alone?) This section should also describe how (if at all) the partners have worked with the Coastal America Regional Implementation Team and/or Regional Learning Center in the development of the project.

The 2012 Coastal Master Plan aims to achieve five objectives that were developed to reflect the key issues affecting people along the Louisiana coast, which are: (1) reduce economic losses from flooding, (2) use natural processes, (3) provide coastal habitats, (4) sustain our cultural heritage, and (5) promote a working coast.

The master plan reflects an 24-month in depth technical analysis informed by an ongoing conversation with the citizens of Louisiana. CPRA assembled a highly skilled team to develop a rigorous and forward thinking plan. The process brought together nationally and internationally known experts, a wide array of stakeholders and governmental partners to serve on advisory boards, framework development team or focus groups. CPRA engaged the general public through ten community meetings, three public hearings attended by 1,350 people, and over a hundred presentations to community and civic groups.

The result of this unprecedented collaborative effort is an actionable 50 year, \$50 billion plan that will substantially increase flood protection for communities and move Louisiana towards a sustainable coast. Unanimously approved by the Louisiana Legislature, the Master Plan is a resource-constrained plan that utilized a science-based decision making process and incorporation of public input to help galvanize Louisiana and national partners around a common vision.

5. Project Need and Resource Benefits/Outputs (2 pages max.)

Provide a summary of the project background and the expected resource benefits. For restoration projects, describe any long-term monitoring/management program. For education and outreach projects, describe how the project supports the conservation goals of the partnering organizations. If appropriate, include a description of how the project supports existing Federal, State, and local conservation plans, projects and programs.

In response to Hurricanes Katrina and Rita in 2005, the Louisiana legislature formed the Coastal Protection and Restoration Authority (CPRA) and directed it to develop, implement and enforce a comprehensive protection and restoration master plan for coastal Louisiana. The legislature further directed that the plan include large scale projects, take the needs of the entire coast into account and be updated every five years to ensure that the state is building on success and taking maximum advantage of new science and innovation. The 2007 Comprehensive Master Plan for a Sustainable Coast was the first plan that integrated coastal protection and restoration, and the 2012 Coastal Master Plan was the first 5-year update.

Since the master plan process began, the state has exponentially increased its financial commitment to the coast. In partnership with federal, state and local government, including levee districts, CPRA is working to establish a safe and sustainable coast to protect our communities, the nation's critical energy and shipping infrastructure and our bountiful natural resources for generations to come.

Since 2007, CPRA has:

- Built or improved 159 miles of levees
- Benefited 19,405 acres of coastal habitat
- Constructed 32 miles of barrier islands/berms
- Secured approximately \$17 billion in state and federal funding for projects
- Identified and used dozens of different federal, state, local and private funding sources
- Moved over 150 projects into design and construction
- Constructed projects in 20 parishes

Making realistic, on the ground progress toward restoring coastal habitats and protecting communities – demonstrating our commitment to the coast – is at the heart of the 2012 Coastal Master Plan. Louisiana's 2012 Coastal Master Plan is an example of a large-scale planning effort that applied the methods of science-based decision making and extensive outreach and science communication to produce a compelling plan which made comprehensible the highly complex problem of coastal land loss and the strategies that can be used to restore our coast.

Development of 2012 Coastal Master Plan was guided by the articulation of a clear mission, refinement of the 2007 Master Plan objectives to reflect lessons learned, and development of principles agreed upon by a wide range of stakeholders on the Framework Development Team. The five master plan objectives are (1) to reduce economic losses from storm surge based flooding, (2) to promote a sustainable coastal ecosystem by using natural processes, (3) to provide habitats suitable to support an array of commercial and recreation activities coastwide, (4) to sustain the unique cultural heritage, and (5) to promote a viable working coast.

The Predictive Models and Planning Tool developed for the master plan are exciting new tools for coastal planning. A series of integrated, coast wide Predictive Models was developed to provide data for a new Planning Tool which was used to identify the suite of projects that would make the greatest progress toward meeting the master plan objectives. The level of modeling in the 2012 Coastal Master Plan is a significant technical achievement - in a systems approach, the linked nature of the models and in the breadth of subjects evaluated. The Predictive Models were organized into seven linked groups, involving the work of over 60 scientists and engineers, and included ecohydrology, wetland morphology, barrier island morphology, vegetation, storm surge and waves, risk assessment and 19 ecosystem services. The models provided terabytes of information on the next 50 years with or without action for nearly 400 individual projects under 2 different future condition scenarios.

The Planning Tool was designed to provide an analytical and objective basis for comparing different risk reduction and coastal restoration projects and for developing groups of projects for consideration for the master plan. CPRA used the Planning Tool to develop and analyze hundreds of different alternatives that together would best meet Louisiana's two key decision drivers: (1) reducing hurricane flood risk and (2) achieving a sustainable landscape. In order to ensure that all of the master plan objectives were being considered, a set of decision criteria were defined to reflect aspects of the Master Plan's five objectives. The Planning Tool then enabled CPRA to specify planning parameters such as total available funding, funding splits between risk reduction and restoration projects, and minimum levels of projected achievement of goals for ecosystem service and decision criteria. The Planning Tool's flexible capabilities allow it to analyze and display complex trade-offs among different alternatives. CPRA was able to use these capabilities of the Planning Tool to support its selection of a specific alternative that serves as the foundation of Louisiana's 50-year \$50 billion 2012 Coastal Master Plan. The Planning Tool and supporting models will be used to guide implementation of the Master Plan in the years ahead.

Recognizing that the success of the plan hinges on stakeholder support as well as science, the State also implemented a comprehensive outreach plan to obtain input and feedback from the public, science and engineering community, Federal and state agencies, NGOs, and elected officials. In addition to over 120 public meetings and presentations, CPRA utilized structured and on-going advice from key stakeholder groups through the Framework Development Team, Focus Groups (oil and gas, fisheries and navigation), Science and Engineering Board and Technical Advisory Committees. The embedded partnership with stakeholders and extensive engagement of the public resulted in unanimous approval of the 2012 Coastal Master Plan by the Louisiana Legislature in May 2012.

CPRA's state-of-the-art, holistic and systems approach to coastal planning galvanized the State around a single plan that effectively invests limited financial resources to make the greatest progress toward achieving a sustainable coast.

6. Partnership functioning - Funding & Other Support (1 page max.) *Provide an overview description of each of the partners involved in the project. Include a breakout of the financial and in-kind support provided by each of the individual partners along with a one sentence summary of each element's contribution(s).*

Master Plan Delivery Team

This team, comprised of CPRA staff along with consulting engineers and other advisors, was responsible for developing the Master Plan. The financial support for development of the Master Plan was provided by CPRA.

Predictive Modeling Workgroups

A series of linked models provided terabytes of data to the decision-making process. Over 60 state and national scientists and engineers worked closely with the Planning Team to develop and implement the modeling framework.

Science and Engineering Board (SEB)

This group, made up of experts with national and international experience, provided independent review of plan elements and recommended ways that we can improve our work. The SEB participated in five multi-day meetings, as well as 13 webinars. Individual board members worked intensively with the Planning Team on focused elements of the plan, providing guidance at every juncture of the process.

Technical Advisory Committees (TAC)

The TACs were three to four member groups of nationally known experts who were responsible for advising the state on how to conduct the analysis in the most technically sound manner. We had three committees, one that assisted us with our modeling analysis, one that advised us on the best use of our Planning Tool, and one that gave us advice about incorporating cultural heritage appropriately in the plan. Each of these committees has met many times with the team to provide in depth guidance and feedback

Framework Development (FDT)

The FDT consisted of 33 representatives from business and industry, federal, state, and local governments, nongovernmental organizations, and coastal institutions. The group advised the state on the Master Plan process and offered specific guidance on all of the major elements of the 2012 Coastal Master Plan. The time and effort of these representatives was voluntary and considered in-kind.

Focus Groups

Large-scale coastal protection and restoration will affect businesses and industry in south Louisiana. In order to integrate the perspectives of those in key business sectors, we created three focus groups: ports and navigation, fisheries and oil and gas. Leaders in each sector met multiple times to discuss the issues facing their industries and to explore productive options for the coast. The time and effort of these group members was voluntary and considered in-kind.

Subsidence Advisory Panel

To identify plausible ranges of future subsidence rates and assess spatial variation across the coast, a panel of technical experts was convened in September 2010. The product of this panel was a spatially explicit map that represented future ranges of subsidence rates.

Marsh Collapse Advisory Panel

In order to predict future land loss or gain in coastal Louisiana, it is necessary to try and predict the ability of a given marsh type to persist in response to sea level rise, subsidence and changing storm patterns. An expert panel was convened to determine primary drivers and thresholds behind the collapse of coastal wetlands.

Please see Appendix 1 for a full listing of participants.

7. Team Partners: List all partners and identify project/team leads with an asterisk (*). Please provide all contact information using the format as shown in question 2 above.

IMPORTANT: If approved; only team members identified in this form will be eligible to receive the Coastal America Award. Please ensure that you correctly identify ALL TEAM MEMBERS.

Name: **Kirk Rhinehart***
Title or position: Chief of Planning
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501
City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-2179
Cell: 225-278-8436
Fax: 225-342-9417
Email: Kirk.Rhinehart@LA.GOV

City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-1357
Cell: 337-257-3192
Fax: 225-342-9417
Email: Mandy.Green@LA.GOV

Name: **Karim Belhadjali***
Title or position: CPRA Program Manager
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501
City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-4123
Cell: 225-907-2417
Fax: 225-342-9417
Email: Karim.Belhadjali@LA.GOV

Name: **Melanie Saucier**
Title or position: Team Member
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501
City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-4577
Fax: 225-342-9417
Email: Melanie.Saucier@la.gov

Name: **Carol Parsons Richards**
Title or position: Team Member
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501
City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-9430
Cell: 225-773-7275
Fax: 225-342-9417
Email: Carol.Richards@LA.GOV

Name: **Natalie Snider**
Title or position: Science Communicator
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501
City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-8786
Cell: 225-302-5887
Fax: 225-342-9417
Email: Natalie.Snider@LA.GOV

Name: **Mandy Green**
Title or position: Team Member
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501

Name: **Andrea Galinski**
Title or position: Team Member
Agency or Organization: CPRA
Address: 450 Laurel Street; Suite 1501
City, State and Zip Key: Baton Rouge, LA 70801
Tel: 225-342-4117
Cell: 215-262-5523
Fax: 225-342-9417
Email: Andrea.Galinski@LA.GOV

Appendix 1:

Master Plan Delivery Team

The 2012 Coastal Master Plan was developed by an interdisciplinary team from the CPRA, academia, and the private sector led by William “Kirk” Rhinehart.

Karim Belhadjali, CPRA	Cindy Paulson, PE, PhD, Brown and Caldwell
Travis Byland, CPRA	Ted Pruett, Brown and Caldwell
Kristin DeMarco, CPRA	Ann Redmond, Brown and Caldwell
Michele Deshotels, CPRA	Lucila Silva, Brown and Caldwell
Sydney Dobson, CPRA	Leslie Suazo, Brown and Caldwell
Tye Fitzgerald, CPRA	Joseph Wyble, Brown and Caldwell
Andrea Galinski, CPRA	Ken Ying, PhD, PE, Brown and Caldwell
Kyle Graham, CPRA	Amy Clipp, AC Writing
Mandy Green, CPRA	Ross Delrio, UNO
Joseph Guillory, CPRA	Denise Reed, PhD, UNO
Jacob Haffner, CPRA	Jordan Fischbach, PhD, RAND Corporation
Noah Hasslock, CPRA	David Groves, PhD, RAND Corporation
Russ Joffrion, PE, CPRA	Debra Knopman, PhD, RAND Corporation
Dave Lindquist, CPRA	Chris Sharon, RAND Corporation
Carol Parsons Richards, CPRA	Sally Sleeper, PhD, RAND Corporation
Melanie Saucier, CPRA	Christel Slaughter, SSA Consultants
Natalie Snider, CPRA	Nick Speyrer, SSA Consultants
Billy Wall, CPRA	Jason Byrd, USGS
Anna Wojtanowicz, CPRA	Scott Hemmerling, USGS
Jerome “Zee” Zeringue, CPRA	Rocky Wager, USGS
Joanne Chamberlain, PE, Brown and Caldwell	Robert Twilley, PhD, ULL
Hal Clarkson, Brown and Caldwell	Travis Creel, USACE
Stephanie Hanses, PE, Brown and Caldwell	Keven Lovetro, USACE
Brett McMann, Brown and Caldwell	Tawanda Wilson-Prater, USACE
Alaina Owens, Brown and Caldwell	

Acknowledgements

We would like to thank the citizens, legislators, parish representatives, and stakeholder groups who met with us to share ideas about how to protect and restore coastal Louisiana. We would also like to offer our special thanks to the participants of the 2012 Coastal Master Plan Framework Development Team; the Fisheries, Oil and Gas, and Navigation Focus Groups; the Science and Engineering Board, the Technical Advisory Committees; the Predictive Modeling Workgroup Members; the Subsidence Advisory Panel; and the Marsh Collapse Advisory Panel who took time away from work and family to give us their perspective on coastal protection and restoration issues.

Framework Development Team

Dan Borne, Louisiana Chemical Association
Robert P. Bourgeois, Louisiana Department of Wildlife and Fisheries
Ron Boustany, Natural Resources Conservation Service
Mike Carloss, Louisiana Department of Wildlife and Fisheries
Steve Chustz, Louisiana Department of Natural Resources
Darryl Clark, United States Fish and Wildlife Service
Joseph Cocchiara, Port of New Orleans
Laurie Cormier, Parishes Against Coastal Erosion
Tim Doody, Southeast Louisiana Flood Protection Authority East
Carlton Dufrechou, Southeast Louisiana Flood Protection Authority East
John Ettinger, United States Environmental Protection Agency
Heather Finley, Louisiana Department of Wildlife and Fisheries, Retired
Paul Frey, Louisiana Landowners Association
Pat Gallwey, Port of New Orleans
Karen Gautreaux, The Nature Conservancy
Henry Graham, Louisiana Chemical Association
Clint Guidry, Shrimp Task Force
P.J. Hahn, Parishes Against Coastal Erosion
Richard Hartman, National Marine Fisheries Service
Tina Horn, Parishes Against Coastal Erosion
Brad Inman, United States Army Corps of Engineers
Joe Jewell, Gulf of Mexico Alliance/Mississippi Division of Marine Resources
Chris John, Mid Continent Oil and Gas Association
Paul Kemp, National Audubon Society
Quin Kinler, Natural Resources Conservation Service
Ryan Lambert, Cajun Fishing Adventures
Merritt Lane, Canal Barge Company
Cecelia Linder, National Marine Fisheries Service
Greg Linscombe, Louisiana Landowners Association
John Lopez, Lake Pontchartrain Basin Foundation
Keith Lovell, Louisiana Department of Natural Resources
Mike Lyons, Mid Continent Oil and Gas Association
Michael Massimi, Barataria-Terrebonne National Estuary Program
Doug Meffert, Coastal Sustainability Consortium /Tulane University
Earl Melancon, Nicholls State University
Spencer Murphy, Canal Barge Company
David Muth, National Wildlife Federation
Ronald Paille, United States Fish and Wildlife Service
Corky Perret, Gulf of Mexico Alliance/Mississippi Division of Marine Resources
Steven Peyronnin, Coalition to Restore Coastal Louisiana
Bryan Piazza, The Nature Conservancy
Charlotte Randolph, Parishes Against Coastal Erosion
Kerry St. Pé, Barataria-Terrebonne National Estuary Program
Paul Sawyer, Louisiana Department of Economic Development

Eric Shaw, Foundation for Louisiana
Joey Shepard, Louisiana Department of Wildlife and Fisheries
Jim Stark, Gulf Intracoastal Canal Association
Chris Swarzenski, United States Geological Survey
Torbjörn E. Törnqvist, Coastal Sustainability Consortium/ Tulane University
Jim Tripp, Environmental Defense Fund
Bob Turner, Southeast Louisiana Flood Protection Authority East
Bill Walker, Gulf of Mexico Alliance/Mississippi Division of Marine Resources
Steve Wilson, Pontchartrain Levee District
Mark Wingate, United States Army Corps of Engineers
Marnie Winter, Parishes Against Coastal Erosion
Janet Woolman, Coastal Sustainability Consortium/McNeese State University

Fisheries Focus Group

Danny Babin, Shrimp Task Force
George Barisich, United Commercial Fisherman's Association
Gary Bauer, Blue Crab Task Force
Robert P. Bourgeois, Louisiana Department of Wildlife and Fisheries
Daryl Carpenter, Recreational Saltwater Fishing Task Force
Dan Coulon, Oyster Task Force
Buddy Daisy, Oyster Task Force
Allen Dugas, Wild Caught Crawfish Industry
Daniel Edgar, Wild Caught Crawfish Industry
Heather Finley, Louisiana Department of Wildlife and Fisheries, Retired
Clint Guidry, Shrimp Task Force
Richard Hartman, National Marine Fisheries Service
Ryan Lambert, Cajun Fishing Adventures
Earl Melancon, Nicholls State University
John Tesvich, Oyster Task Force
Borden Wallace, Menhaden Industry

Oil and Gas Focus Group

Gifford Briggs, Louisiana Oil and Gas Association
Neil Buckingham, Shell
Dave Cagnolatti, Conoco Phillips
Kurt Cheramie, El Paso
Tim Croxdale, Strategic Petroleum Reserves
Brian Farenthold, Spectra
Locke Loeb, Chevron
Mike Lyons, Mid Continent Oil and Gas Association

Navigation Focus Group

Chris Accardo, United States Army Corps of Engineers
Joe Accardo, Ports Association of Louisiana
David Allain, Port of West St. Mary
Sharon Balfour, Department of Transportation and Development Port Program
Chett Chaisson, Greater Lafourche Port Commission
Z. David Deloach, Louisiana Association of Waterways and Shipyards
Sean Duffy, Big River Coalition
Pat Gallwey, Port of New Orleans
A.J. Gibbs, Crescent Port Pilots
Karl Gonzales, Greater New Orleans Barge Fleeting Association
Channing Hayden, Port of Lake Charles

Jerry Hoffpauir, Port of Morgan City
Lynn Hohensee, Port of West Calcasieu
Merritt Lane, Canal Barge Company
Mike Lorino, Associated Branch Pilots
Spencer Murphy, Canal Barge Company
Roy Pontiff, Port of Iberia
Jim Stark, Gulf Intracoastal Canal Association

Science and Engineering Board

William Dennison, PhD (Co-Chair), University of Maryland, Center for Environmental Science
Charles Groat, PhD (Co-Chair), University of Texas, Austin
Greg Baecher, PhD, PE, University of Maryland
Ed Barbier, PhD, University of Wyoming
Philip Berke, PhD, University of North Carolina
Mark Brinson*, PhD, East Carolina University
Virginia Burkett, PhD, United States Geological Survey
Robert Dalrymple, PhD, PE, Johns Hopkins University
Jos Dijkman, MSc, PE, Dijkman Delft
Katherine Ewel, PhD, University of Florida
Ed Houde, PhD, University of Maryland, Center for Environmental Science

Technical Advisory Committees

Predictive Modeling

Steven Ashby, PhD, Mississippi State University
John Callaway, PhD, University of San Francisco
Charles 'Si' Simenstad, MS, University of Washington
Fred Sklar, PhD, South Florida Water Management District

Planning Tool

John Boland, PhD, PE, Professor Emeritus, Johns Hopkins
Ben Hobbs, PhD, Johns Hopkins University
Len Shabman, PhD, Professor Emeritus, Virginia Tech

Cultural Heritage

Carl Brasseaux, PhD, Professor Emeritus, University of Louisiana at Lafayette
Don Davis, PhD, Professor Emeritus, Louisiana State University, Sea Grant
Maida Owens, Louisiana Office of Cultural Development

Predictive Modeling Workgroup Members

Eco-Hydrology

Ehab Meselhe, PhD, PE, University of Louisiana at Lafayette
Stokka Brown, C.H. Fenstermaker
Mallory Davis, C. H. Fenstermaker
Jeff Shelden, PE, Moffatt & Nichol
Mark Dortch, PhD, PE, Moffatt & Nichol
Peter Elkan, Moffatt & Nichol
Zhanxian Wang, PhD, Moffatt & Nichol
John McCorquodale, PhD, University of New Orleans
Jennifer Schindler, University of New Orleans

Barrier Shoreline Morphology

Mark Kulp, PhD, University of New Orleans
Ioannis Georgiou, PhD, University of New Orleans
Dallon Weathers, University of New Orleans

Duncan FitzGerald, PhD, Boston University

Zoe Hughes, PhD, Boston University

Wetland Morphology

Greg Steyer, PhD, United States Geological Survey

Brady Couvillion, United States Geological Survey

Hongqing Wang, United States Geological Survey

Bill Sleavin, United States Geological Survey

John Rybczyk, PhD, Western Washington University

Nadine Trahan, United States Geological Survey

Holly Beck, United States Geological Survey

Craig Fischenich, PhD, United States Army Corps of Engineers - ERDC

Ron Boustany, Natural Resources Conservation Service

Yvonne Allen, United States Army Corps of Engineers - ERDC

Vegetation

Jenneke Visser, PhD, University of Louisiana at Lafayette

Scott Duke-Sylvester, PhD, University of Louisiana at Lafayette

Whitney Broussard, PhD, University of Louisiana at Lafayette

Jacoby Carter, PhD, United States Geological Survey – National Wetlands Research Center

Upper Trophic Level

Andy Nyman, PhD, Louisiana State University/LSU AgCenter

Donald Baltz, PhD, Louisiana State University

Michael Kaller, PhD, Louisiana State University/LSU AgCenter

Paul Leberg, PhD, University of Louisiana at Lafayette

Robert Romaine, PhD, Louisiana State University/LSU AgCenter

Thomas Soniat, PhD, University of New Orleans

Nutrient Uptake

Victor Rivera-Monroy, PhD, Louisiana State University

Benjamin Branoff, MS, Louisiana State University

Risk Assessment

David Ortiz, PhD, RAND Corporation

Jordan Fischbach, PhD, RAND Corporation

David Johnson, RAND Corporation

Benjamin Bryant, RAND Corporation

Matthew Hoover, RAND Corporation

Jordan Ostwald, RAND Corporation

Storm Surge/Waves

Hugh Roberts, PE, Arcadis

Anu Acharya, Arcadis

John Atkinson, PhD, Arcadis

Ryan Clark, Arcadis

Zachary Cobell, Arcadis

Jerry Mohnhaupt, Arcadis

Shan Zou, PhD, Arcadis

Storm Surge/Waves and Risk Assessment

Joseph Suhayda, PhD, Independent Consultant

Model Uncertainty Analysis

Emad Habib, PhD, University of Louisiana at Lafayette

Planning Tool

David Groves, PhD, RAND Corporation

Christopher Sharon, RAND Corporation

Debra Knopman, PhD, RAND Corporation

Sally Sleeper, PhD, RAND Corporation

Data Integration

Craig Conzelmann, United States Geological Survey

Josh Bridevaux, United States Geological Survey

Sumani Chimmula, United States Geological Survey

Mark McKelvy, United States Geological Survey

Dustin Roszell, United States Geological Survey

Kevin Suir, United States Geological Survey

Subsidence Advisory Panel Members

Louis Britsch, PhD, PG, United States Army Corps of Engineers

Roy Dokka*, PhD, Louisiana State University

Joseph Dunbar, PG, United States Army Corps of Engineers- ERDC

Mark Kulp, PhD, University of New Orleans

Michael Stephen, PhD, PG, Coastal Engineering Consultants

Kyle Straub, PhD, Tulane University

Torbjörn Törnqvist, PhD, Tulane University

Marsh Collapse Advisory Panel Members

Matthew Kirwan, PhD, United States Geological Survey/ University of Virginia

Karen McKee, PhD, United States Geological Survey

Irv Mendelsohn, PhD, Louisiana State University

Jim Morris, PhD, University of South Carolina

Charles Sasser, PhD, Louisiana State University

Gary Shaffer, PhD, Southeastern Louisiana University

*deceased