

## Louisiana-Mississippi Gulf Coast Ecosystem Restoration Working Group

### Roadmap for Restoring Ecosystem Resiliency and Sustainability

March 2010

#### I. Introduction

*“And here on the Gulf Coast, we're working to make sure this region is protected in the event of a 100-year storm. We've already seen 220 miles worth of levees and flood walls repaired, and we are working to strengthen the wetlands and barrier islands that are the first line of defense for the Gulf Coast. This isn't just critical to this region's physical protection, it's critical to our environment, it's critical to our economy. That's why we're establishing an interagency working group that will be responsible for coordinating our restoration efforts across the Gulf at all levels of government.”*

*- President Barack Obama, October 15, 2009*

Coastal Louisiana and Mississippi face profound challenges. The degradation of coastal ecosystems (including wetlands and barrier islands) and the services they provide has direct and indirect impacts on the economy, communities, and environment of the region. Future impacts associated with storms, subsidence, and sea level rise will serve to only amplify the region's vulnerability. Unless we stem the rapid rate of ecosystem loss in the region, the ecosystems and the services they provide will collapse, with negative consequences for the marine and terrestrial environment, national commerce, the maritime industry, energy security, fisheries, and the rich cultural legacy of the Louisiana and Mississippi Gulf Coast.

The Gulf Coast ecosystems are highly complex and dynamic and provide immense aesthetic, economic, and environmental value. Barrier island and wetland complexes of this region provide critical infrastructure and the first line of defense for coastal communities against powerful and persistent storms. They are also rich havens of biodiversity that provide essential habitat to a number of commercially and recreationally important species of fish, invertebrates, mammals, and birds. Moreover, wetlands can provide a flood attenuation function, which reduces the impacts of flooding associated with storms, and they could also reduce potential future impacts associated with climate change. These ecosystems also perform critical water filtration functions, removing and trapping contaminants and storing carbon. Collectively, the functions and services provided by these systems are considered key “ecosystem services” of the Louisiana and Mississippi coastal ecosystems.

Bold and decisive action is needed now to curtail the rate of wetland loss and barrier island erosion in the area and to restore some of these lost features and ecosystem services. Coastal Louisiana and Mississippi need a broader, more comprehensive approach than in the past that establishes joint Federal-State priorities and implements projects on the basis of both the best science available and the critical need of the region for multiple lines of defense against storms, floods, and land loss. Throughout the coast, but particularly with respect to the Mississippi

River, the Federal Government and States must work in partnership to recast river and coastal management priorities so that ecosystem restoration and sustainability are considered on a more equal footing with other priorities such as manmade navigation and structural approaches to flood protection and storm risk reduction. These important priorities are interrelated and cannot be considered in isolation, but rather must be viewed in the larger context of the region.

### **A. Brief History**

Home to more than two and a half million people, the historically and culturally diverse coastal regions of Louisiana and Mississippi provide innumerable economic, social, and environmental benefits to the nation. The region handles more water-borne commerce by volume than any other place in the country, produces or transports nearly one-third of the nation's oil and gas supply, is tied to 50% of the nation's refining capacity, and is home to the largest commercial fishery in the contiguous United States. The commercial value of the region is intimately tied to the major rivers and navigation channels in this region, including the Mississippi River, which are lifelines of our domestic economy. Additionally, this is an area of immense environmental value, where winding bayous, numerous bays and estuaries, and barrier islands provide sanctuaries and nurseries for fish and wildlife and for the people who depend upon the coast for their livelihood.

Sediment is the lifeblood of the Louisiana coastal ecosystem. Coastal Louisiana was formed over the course of seven thousand years by deltaic processes, including intermittent flooding of the Mississippi River, which delivered sediment to coastal regions. River management priorities greatly restricted the natural process, leading to the staggering loss of coastal ecosystems. In Louisiana, communities, commerce, and ports have long relied on the extensive network of man-made flood protection and navigation structures for their existence. River management priorities thus historically centered on navigation and flood control. While clearly successful in meeting those two goals, those priorities created unintended consequences to the surrounding environment by accelerating wetland and barrier island erosion and sapping the flow of vital sediments that had sustained the system over time. Oil and gas industry canals, pipelines, and other infrastructure crisscrossed the landscape to accommodate exploration, development, and commercial activity related to these enterprises. As a consequence, since 1930 when much of this activity began, Louisiana has lost over 2,000 square miles of coastal wetlands, including barrier islands, marshes, and bottomland hardwood forests.

Mississippi's coastal priorities are somewhat different than Louisiana's. In light of the catastrophic impacts from Hurricanes Camille to Katrina, the State has focused on the goal of storm damage risk reduction. In the past, Mississippi's barrier islands and coastal wetlands served to absorb or reduce some of the impacts from coastal storms. Unfortunately, the Mississippi coast is increasingly vulnerable because tropical storm events, changes in hydrology and freshwater inflow, and rapid coastal development have severely diminished the ecosystem services provided by wetlands and barrier island complexes. The State's vulnerability is multiplied by the shallow bathymetry of the Mississippi Sound and the "funneling effect"

caused by the protrusion of the Mississippi Delta. In addition, loss of mainland ecosystems and freshwater flow due to rapid development has resulted in reduction of various ecosystem functions, including habitat for critical and endangered species, storm surge attenuation, loss of flood storage capacity, and degradation of water quality. Maintenance of the barrier islands is critical to the continued existence of the Mississippi Sound estuary and the critical ecosystem services it provides, as well as to the reduction of the effects of coastal storms.

Over the past forty years, the Federal Government and States have come to better understand the value of these coastal wetland and barrier island ecosystems and the services they provide. As a result, we are now committed to the importance of restoring and protecting these coastal ecosystems. Yet, despite this commitment, coastal ecosystems continue to deteriorate at an extraordinary annual rate, threatening the communities and nationally significant infrastructure of the region while also making them more vulnerable to hurricanes and tropical storms. The region’s lucrative commercial and recreational fishing industries are equally threatened. The continued loss of wetlands and barrier islands threatens not only the economies of Louisiana and Mississippi, but also the economy of the nation as a whole. The impacts to this ecosystem will likely be exacerbated by climate change, particularly sea level rise. Actions are needed that will ultimately improve the economic, ecosystem, and community resilience of this region.

**B. Existing Federal Actions and Commitments**

A number of congressionally authorized, Federal programs exist to help restore and protect Gulf Coast ecosystems. However while these efforts provide tangible benefits, they touch only a relatively small portion of the Louisiana and Mississippi coastal area. Further, many of these projects are still quite a long way off from implementation, demonstrating that the implementation process may simply be too lengthy to deal with the urgency of the coastal situation. Federal programs include:

<u>Initiative</u>	<u>Year Commenced</u>
Coastal Wetlands Planning Protection and Restoration Act (CWPPRA)	1990
Coastal Impact Assistance Program (CIAP)	2005
Louisiana Coastal Protection and Restoration Plan (LACPR)*	2005
Mississippi Coastal Improvements Program (MsCIP)*	2005
Louisiana Coastal Area Program (LCA)*	2007

\*Additional authority and appropriations are required for most construction activities included in these initiatives.

The **Coastal Wetlands Planning Protection and Restoration Act (CWPPRA)** focuses on marsh creation, restoration, protection, and enhancement as well as barrier island restoration. The program is the oldest and largest Federally funded restoration program in Louisiana and

currently provides approximately \$80M (Federal) for small -scale coastal restoration projects from revenues from sport fishing and small-engine gas taxes (Sport Fisheries Restoration and Boating Trust Fund). The State of Louisiana cosponsors the program at a 15% cost share rate. To date CWPPRA has authorized 144 active restoration projects including 82 that have been completed and 15 that are under construction. CWPPRA has also planned and designed several larger-scale projects which may be constructed by CIAP or LCA (see below). CWPPRA features Federal/State interagency decision-making and well-established stakeholder involvement.

The **Coastal Impact Assistance Program (CIAP)** was authorized in the Energy Policy Act of 2005 and is administered by the Minerals Management Service (MMS) under the Department of the Interior (DOI). It provides grants to coastal oil and gas producing States from Outer Continental Shelf (OCS) revenues for coastal restoration and infrastructure construction to mitigate activities arising from mineral exploration.

The **Louisiana Coastal Protection and Restoration (LACPR)** Final Technical Report will outline the potential tradeoffs that would need to be made in order to implement comprehensive solutions in coastal Louisiana for hurricane and storm damage risk reduction. The report is undergoing final review by the U.S. Army Corps of Engineers (USACE), after which it will be reviewed by the Assistant Secretary of the Army for Civil Works. Feedback has been requested from the State of Louisiana on the State's priorities regarding the tradeoffs among various restoration and protection alternatives. Further feasibility analysis is required to support project authorization.

The **Mississippi Coastal Improvement Program (MsCIP)** Comprehensive Plan was developed to analyze and design comprehensive improvements or modifications to existing improvements in the coastal areas of Mississippi to reduce storm damage, prevent saltwater intrusion, preserve fish and wildlife, prevent erosion, and for other purposes. The Final Comprehensive Plan and Chief's Report have been completed and transmitted to Congress by the Assistant Secretary of the Army for Civil Works. Significant parts of the Program include:

- Fifteen "interim" projects that were authorized, and funded (\$110 Million) in 2006 following Hurricane Katrina. Most of those fifteen projects are now either underway or complete.
- In 2009 Congress authorized and appropriated \$439 million for barrier island restoration and other restoration opportunities. The USACE is currently completing the planning, engineering and design of the barrier islands component of MsCIP with a view towards initiating construction in 2011.
- Fifteen additional long-term elements that are recommended in the Final Comprehensive Plan, twelve for implementation and three for further study. Once the MsCIP Comprehensive Plan is authorized, implementation of the program elements can be funded and initiated.

The **Louisiana Coastal Area (LCA)** Near-Term Plan was developed to protect, preserve, and restore all of coastal Louisiana. The Plan was authorized by Congress in the Water Resources Development Act of 2007, but most of the Plan's elements have yet to be fully studied and

developed. The USACE and the State of Louisiana have initiated studies on two program elements and twelve of the fifteen project elements that were included in Title VII of the 2007 Water Resources Development Act, and have set out the following timeline:

- The study for the Beneficial Use of Dredged Material Program is expected to be completed in spring of 2010.
- The Barataria Basin Barrier Shoreline Restoration project study is scheduled to be completed in early 2011.
- Six projects (Terrebonne Basin Barrier Shoreline, Small Diversion at Convent/Blind River, Amite River Diversion Canal Modification, Medium Diversion at White's Ditch, Convey Atchafalaya River Water, and Multi-Purpose Operation of Houma Navigation Canal Lock) are being combined into a single study that will be completed by December 2010. Study results may require reauthorization for these elements due to their total costs.
- Four project elements (Land Bridge between Caillou Lake and the Gulf, Gulf Shoreline at Point au Fer Island, Modification of Caenarvon Diversion, and Modification of Davis Pond Diversion) are being combined in a study that will be completed in 2011. Study results may require reauthorization due to their total costs.
- The Demonstration Project program will be initiated in 2011 through the Science and Technology Program of the LCA Program.
- In addition one element, Small Diversion at Hope Canal, is being considered for implementation under the CWPPRA program.
- The MRGO de-authorization was completed in July 2009. USACE is further developing an ecosystem restoration plan for the area.
- Though not technically an element of Title VII, USACE is engaged in the evaluation of a diversion at or near Violet that is consistent with the project that is authorized under section 3083 of WRDA 2007.
- USACE is also engaged in Southwest Louisiana with the Southwest Coastal Feasibility Study, which investigates several types of coastal restoration and protection measures.

Most of these projects are intended primarily to improve ecosystem function but also provide some incidental benefits such as flood attenuation and storm damage risk reduction. These projects are not necessarily meant to provide large-scale restoration or sustainability functions. Rather, they are meant to serve as an interim response to prevent damage beyond a “point of no return” so that future projects – selected on the basis of a shared long-term Vision – will have a better chance of success.

In addition to these programs, the Mississippi River Commission, established by Congress in 1897, is charged with improving the condition of the Mississippi River, fostering navigation, promoting commerce, and preventing destructive floods. In the discharge of its responsibilities providing water resources engineering direction and policy advice to the Administration, Congress, and the Army, it is in a key position to help support the Working Group implement the goals of this Roadmap.

There is an ongoing Federal process to modernize the 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G), which serves to guide USACE actions. Within this revision there is a proposed commitment that Federal water resources planning and development should both protect and restore the environment and improve the economic well-being of the nation for present and future generations. The revised P&G also seeks to consider both monetary and non-monetary benefits to justify and select a project that has the greatest net benefit, and to avoid unwise use of floodplains through the evaluation of the services gained and lost by an action.

Beyond these USACE initiatives, Federal agencies also implement restoration and protection actions through a variety of other means. These include the Environmental Protection Agency's (EPA) Gulf of Mexico Program and National Estuary Program, and the National Oceanic and Atmospheric Administration's (NOAA) Coastal and Estuarine Land Conservation Program. Federal agencies are actively involved with and supported by regional entities such as the Governors' Gulf of Mexico Alliance. Federal land management includes two units of the National Park System, fourteen units of the National Wildlife Refuge System, and the National Estuarine Research Reserve at Grand Bay, Mississippi. Moreover, Federal agencies are funding and implementing restoration projects in Grand Isle, Louisiana and Bayou DuPont, Louisiana under the American Recovery and Reinvestment Act (ARRA). A common theme of these efforts is the shared understanding of the need for restoration and protection of the coastal system, the benefits of collaboration among Federal and State agencies, and the importance of science to improve shared understanding of ecosystem function.

In addition to investments in wetland restoration arising out of ARRA and the supplemental appropriation of \$439 million for barrier island restoration in Mississippi, the President's Fiscal Year 2011 Budget supports a number of ecosystem restoration activities on the Gulf Coast, including \$35.6 million in coastal restoration activities for the USACE in Louisiana, a \$5 million increase for Fish and Wildlife Service activities along the Gulf Coast, and a \$5 million joint initiative between NOAA and DOI for integrated ocean and coastal mapping. Within the USACE budget, \$19 million was requested for construction on the LCA Program elements such as the Beneficial Use of Dredged Material Program and the Demonstration Projects. This is one of only two new construction starts in the President's FY2011 budget for the USACE. The remaining \$16.6 million will be dedicated for ongoing studies and design work for LCA projects, as well as the related Science and Technology program focusing on coastal wetland restoration.

## **II. An Interim Roadmap for Louisiana-Mississippi Coastal Restoration**

### **A. The Working Group**

The Obama Administration has brought new energy and focus to Federal work in the Gulf Coast. The President has helped to cut through bureaucratic red tape to make sure residents of the Gulf Coast have access to the tools and funds they need to rebuild their lives and communities.

In 2009, President Obama established the Louisiana-Mississippi Gulf Coast Ecosystem Restoration Working Group (“Working Group”) to coordinate Federal actions among the various agencies, working groups and task forces working within the region, and to work with the States to develop a shared long-term Vision for the region. Comprised of high-level political appointees from NOAA, EPA, the Departments of the Army, Homeland Security, the Interior, and Transportation, the Office of Management and Budget (OMB), and the Council on Environmental Quality (CEQ), the Working Group expects that their enhanced focus on Louisiana and Mississippi will achieve concrete, measurable, and significant restoration and protection results.

The most important aspect of the Working Group is the Federal Government’s reaffirmation of its partnership with the States of Mississippi and Louisiana and its commitment to coordinate its actions with those of the States. The Administration applauds the ongoing leadership that the congressional delegations and States have shown in making coastal restoration and protection a priority and commends the States for developing and implementing long term restoration plans. In particular, the Louisiana State Master Plan and the Federal-State partnership of the Final Comprehensive Plan for MsCIP represent important steps in addressing the challenges facing the region. The Working Group acknowledges and values the efforts of the States and congressional delegations to date and does not seek to duplicate those efforts. Rather, the Working Group envisions a partnership in which shared restoration priorities are selected on the basis of the best available science and through the lens of adaptive management.

This document will serve as a Roadmap for guiding the immediate near-term actions to be undertaken by the Working Group. The Roadmap will help to coordinate Federal restoration and protection activities and complement longer-term planning processes already underway. Given the high-priority, high-visibility nature of coastal Louisiana and Mississippi issues, the Working Group will provide leadership and oversight in implementing the actions described in this document and will draw on the expertise of staff from across the agencies, congressional delegations, and States. Recognizing however that providing for sustainability of the region will take a committed effort over many years, it may be necessary to establish a new and enduring entity to provide long-term leadership, shared responsibility, and coordination to resolve the difficult challenges facing the region.

Federal agencies recognize and expect that their enhanced focus on Louisiana and Mississippi coastal restoration and protection will translate into concrete, measurable, and timely results. Toward that end, this Roadmap includes in Section III a list of specific actions that are designed to yield meaningful results. To gauge the success of specific initiatives in this Roadmap – and to define the success of Federal activities overall – the agencies will develop clear and concrete milestones and measures of success.

This Roadmap represents only one step in the Federal Government’s renewed commitment to the region, and this Roadmap will require periodic re-evaluation and revision to be effective. Federal agencies will carefully monitor progress on the actions set forth in this Roadmap, gauge

the success of existing efforts, and realign, curtail, or cancel those efforts not achieving results. Additionally, as Federal, State, and local priorities evolve, and as this process drives toward a shared long-term Vision, the Roadmap and its actions will be revised to fit these evolving priorities.

## **B. Strategic Approach**

### **1. Work with Federal and State Partners to Articulate a Shared Long-Term Vision**

Prior to developing this Roadmap, the Working Group met with the States, congressional offices, local governments, and the public to assess the most critical needs in the region. Numerous planning efforts in the past twenty years have contributed to a sense of frustration and “plan fatigue.” Many stakeholders sought immediate action to address the urgency of coastal land loss and the failure of critical ecosystem services. However, these stakeholders also stated that prior planning efforts were largely ineffective because they took place in different regional, district, or other administrative divisions across Federal and State agencies that were subject to a wide variety of mandates and planning, decision-making, or approval processes.

This Working Group seeks to define a shared Federal-State Vision for ecosystem sustainability of the lower Mississippi River, its delta, and the Louisiana and Mississippi coastal plains. This shared Vision will be the framework by which trade-offs or conflicting goals may be addressed and decisions made.

The process going forward will require more robust collaboration and cooperation between the Working Group, the States, Congress, Tribes, local governments, and the public, including community leaders, non-profit organizations, the business community, and the scientific community. A shared Vision will help reconcile many of the inconsistencies in existing planning and prioritization efforts and provide a framework for jointly evaluating necessary trade-offs. The Vision will allow the Federal Government and its partners to collaboratively set realistic and measurable goals for protection, conservation, and restoration of wetlands, barrier islands, and the coastal ecology.

This Vision for successful restoration and sustainability should focus on:

- **Enhancing essential coastal processes and the ecological services they provide.** Successful restoration of coastal ecosystems and the services they provide will require bold action, smarter use of natural resources (such as the Mississippi River), and targeted investment of public funds. Although more can certainly be done to restore ecological sustainability, we must not overstate our ability to restore some historic configuration of the coast, and it is unlikely that the current map of coastal Louisiana and Mississippi will be maintained.
- **Incorporating a multiple lines of defense strategy.** Ecosystem sustainability and resilience should be considered on a more equal footing with other priorities such as navigation, and structural approaches to floodplain management, and storm risk



reduction. An integrated water resource management approach is necessary because it recognizes the inherent role that the ecosystem plays in protecting these other interests but also acknowledges the critical role of structural and non-structural solutions. This integrated approach would reduce impacts on valuable infrastructure (including costly deterioration and diminished capacity) and would address the inevitable tradeoffs which will be part of achieving long term coastal sustainability and resilience.

- **Safeguarding the region’s rich cultural history and economic resources.** Coastal restoration must achieve more than just ecological benefits. Restoration of the ecosystems and the services they provide is needed to maintain the region’s rich cultural tradition, to sustain the lives and livelihoods of communities, and to contribute to the protection of critical infrastructure.
- **Addressing the potential impacts of accelerated sea level rise and subsidence as a strategy to protect communities, infrastructure, and to restore ecosystems and the services they provide.** Portions of coastal Louisiana and Mississippi are experiencing higher rates of relative sea level rise than anywhere else in the country. Due in part to subsidence, the potential impacts of climate change threaten to accelerate the rate of sea level rise and coastal land loss even further, leaving coastal communities and infrastructure more exposed to the impacts of coastal storms. Addressing these challenges in the Gulf region can serve as a case study for how we address climate adaption in other regions where bold action is needed.

Based on these considerations, the Federal Government and States must reconcile many of the inconsistencies in existing planning and prioritization efforts, jointly evaluate trade-offs that will likely be necessary, and collaboratively set realistic and measureable goals for protection, conservation, and restoration of wetlands, barrier islands, and other coastal features.

## **2. Promoting Science-based Decisions**

To successfully sustain and enhance the coastal areas of Louisiana and Mississippi, the Federal Government and States must be able to leverage limited resources in a manner that yields maximum benefits to the ecosystem, consistent with the shared Vision.

Ultimately, successful implementation of the shared Vision must be based on access to the best available science in such a form as to be useful for management decisions. This Working Group will assess current capacities and identify gaps in science so to be able to sufficiently implement the Federal-State Vision on the basis of the best scientific information. Furthermore, priorities must be implemented according to the principle of adaptive management to account for uncertainties that will undoubtedly arise. This will ensure that State and Federal investments can be altered if they are not achieving the desired results, ultimately improving the overall effectiveness of restoration and protection efforts.

To optimize efficiency, this Working Group will assess both internal and external efforts and capabilities to ensure that it is not duplicating scientific and technical studies. Within the Federal Government, the Working Group will seek mutually beneficial partnerships with other

Federal agencies, entities, and initiatives currently at work in the region, including the Long-Term Disaster Recovery Work Group, the Interagency Ocean Policy Task Force, the Geospatial Data Working Group, the Federal Interagency Floodplain Management Task Force, the Hypoxia Task Force, and the Climate Change Adaptation Task Force. In particular, the Working Group will ensure that activities identified in the Roadmap are consistent with the priorities, approaches, and Work Plans of these entities and will not result in a duplication of efforts. Outside the Federal Government, the Working Group will actively engage with entities such as the Gulf States through the Gulf of Mexico Alliance (GOMA) on a range of issues, including sediment management.

### **3. Resolve Policy and Process Obstacles Impeding Progress**

The Working Group will also evaluate a suite of barriers that have hindered implementation of past restoration efforts. Every plan proposed in the region in the last twenty years has recognized the extraordinary rate of coastal wetland and barrier island ecosystem loss in Louisiana and Mississippi and the importance of large scale action to address the problem. A range of policy and procedural barriers have persisted in preventing the promised protection, conservation, and restoration actions from fully materializing.

A number of these barriers were raised during Working Group meetings with key stakeholders both in the region and in Washington, DC. Inadequate coordination within and among Federal agencies impedes movement of projects to construction. Water resource policies in some cases inhibit ecosystem restoration efforts such as those designed to use sediment to greater ecosystem benefit. Inconsistent or opaque priority-setting undermines cooperation and support for projects. Incomplete research needs and science challenges all aspects of planning, priority setting, and project design. In addition, budget constraints can compound these impediments and delay restoration efforts.

Improving cooperation and coordination between various Federal and State entities through a new governance model will help align and move forward restoration plans and projects. A greater emphasis on research and data sharing will improve project planning and design as well as adaptive management over time. Considering possible statutory changes needed to address obstacles that cannot be overcome through administrative remedies will ensure greater alignment of Federal actions. Reconsidering critical policies, regulations, and even statutes such as those governing sediment management and mitigation will help, rather than hinder, restoration efforts. The exploration of alternative financing mechanisms could foster progress on projects.

The resolution of these issues will not solve all of the problems in the region, but they do represent the most urgent short-term objectives and actions identified by the Working Group as necessary to advance restoration and protection efforts in the region.

### **III. Short-term Objectives and Actions**

This Roadmap outlines a set of near-term actions to align ongoing programs and projects in support of the approach set forth by the President in creating the Louisiana Mississippi Gulf Coast Ecosystem Restoration Working Group. In implementing the Roadmap, the Working Group will take action, in cooperation with Federal and State entities and with affected stakeholders, to cut across and coordinate among the program- or issue-specific “stovepipes” common to the Federal Government, emphasizing agencies’ enhanced commitment to collaborative and interdisciplinary solutions both among Federal agencies and with State and local authorities. It is intended to complement existing efforts in the region and, operating within existing authorities, to develop an integrated Vision and reformed governance structure to catalyze action on certain high priority issues and projects.

**1. Develop an integrated State-Federal long-term Vision for the future of the Louisiana and Mississippi coastline and recommend a governance structure or other State-Federal entity needed to execute the Vision.**

In the near-term, the Working Group will partner with the States of Louisiana and Mississippi, to develop the shared Vision for ecosystem sustainability described in Section II.B.1. Prior to releasing this Vision, the Working Group and State partners will review the numerous regional and national collaborative efforts currently underway and evaluate potential long-term changes that could aid in implementing the Vision. Federal agencies and their State counterparts will identify joint priorities and opportunities for more robust collaboration.

Federal Action:

- i. In spring 2010, CEQ and OMB will request that Louisiana and Mississippi designate senior State officials to collaborate with the Working Group to develop a long-term vision and recommend a governance structure or other forum for Federal-State decision-making.
- ii. By summer 2010, conduct outreach and listening sessions with the public and key stakeholder groups to receive input on defining the Vision and goals and developing governance recommendations.
- iii. By fall 2010, complete a shared long-term Vision for the future of the coasts of Louisiana and Mississippi.
- iv. In spring 2011, release a proposal outlining recommendations for a governance structure or entity to implement the Vision. This proposal may include immediate actions that may be undertaken by the Administration or recommendations for legislative changes.

**2. Identify near-term interim projects and the actions needed to expedite implementation.**

While the States and Working Group engage in developing the Vision for the coast, they will also work toward the implementation of interim projects that contribute to reversing the extent of ecosystem degradation. Ongoing studies, mapping, and data collection – among other efforts – will help to inform the identification of near-term priority projects. The Working

Group should draw these near-term priority projects from relevant project lists, including CWPPRA Project Priority Lists, the LCA Ecosystem Restoration Study, and MsCIP. The Working Group should select from among these projects carefully, with special consideration for areas with the most critical need and potential long-term benefits, consistent with a strategy that accounts for a diversity of structural and non-structural solutions to storms, floods, and land loss.

#### Federal Actions

- i. By fall 2010, in consultation with the States and other affected stakeholders, produce a list of near-term priority projects the Federal Government should prioritize for implementation, focusing on most critical need and long term benefits.

### **3. Improve science, analytical, and data management efforts.**

Louisiana and Mississippi need long-term sustainable solutions, and decisions must be made to allocate resources to areas of highest need that also have the highest likelihood of success. Future actions must be prioritized according to scientifically and technically valid criteria for what will constitute future priority actions.

Within the future defined by the Vision, priorities must be guided by science. The Working Group should assess decision-makers' most critical needs for scientific data and analysis, and work toward resolving those deficiencies. In working towards resolving those deficiencies, however, special care must be taken not to duplicate efforts and studies already underway or completed. Therefore, the Working Group must ensure that data is managed in a way that encourages the free exchange, sharing, and integration of this information. The Working Group should also strive wherever possible to partner with Federal and non-Federal entities such as the LCA Science and Technology Program, the Gulf of Mexico Alliance, the Louisiana and Mississippi Coastal Science Consortium, and various Federal working groups and task forces (such as the CWPPRA Task Force, the Ocean Policy Task Force, the Climate Change Adaptation Task Force, etc.) to engage in mutually beneficial studies, data sharing, data management, etc. With a common Vision, information, and tools that resource managers can use, the Federal Government and States will be able to more effectively and transparently make future decisions for the coast.

#### Federal Actions:

- i. By fall 2010, work with Federal, State, academic, and other geospatial experts to identify, inventory, and assess data relevant to restoration and protection and to assess where critical gaps exist and to begin to identify data and analysis needs to support project selection criteria. Work closely with the LCA Science and Technology Program and other related Federal and non-Federal programs in these actions.
- ii. By fall 2010, complete a review of existing economic data and work with experts to identify mechanisms needed to more fully incorporate values for ecosystem services into decision processes, including cost-benefits analyses.

- iii. By winter 2010, present a draft approach for assessing ecosystem services provided by federally supported coastal ecosystem restoration projects in the region. This approach will improve agency decision-making and build off of a summer 2010 workshop on regional ecosystem services sponsored by the Gulf of Mexico Alliance. The approach will also examine agency-led efforts to assess ecosystem services for restoration projects in the region (e.g., CWPPRA).
- iv. By fall 2011, conduct a regional assessment and workshop to identify relevant ocean and coastal data management issues for the region, determine the availability and characteristics of existing topographic and bathymetric data, prioritize and coordinate geospatial data collection activities for the region and assess technologies needed for data acquisition, and provide easy access to and disseminate all topographic and bathymetric data, including associated metadata. This effort will include a review of existing information concerning the potential for coastal inundation as a result of sea level rise, land subsidence, and storm surge associated with a changing climate.

#### **4. Improve sediment management.**

The wise management of sediments for wetland creation, enhancement, and sustainability is of critical importance to the region, especially given the high rate of subsidence and the potential future impacts of climate change. To successfully sustain and enhance coastal ecosystems, a broad sediment management effort is needed that may include large scale diversions, supplemented by dedicated (sediment) dredging, the beneficial use of material dredged for channel maintenance, and other means of capturing all available sediment resources. However, since any new, large-scale diversion project is realistically still several years away, in the near-term sediment will be returned to the system primarily through the beneficial use of dredged material or dedicated dredging. In the meantime, the Working Group will continue to work with the marine transportation community and other stakeholders to address potential impediments to implementing diversion projects, such as induced shoaling.

Beneficial use of dredged material is strongly supported by both the Federal and State Governments, but remains an issue primarily because of the related expense and cost share implications. Many Federal, State, and local stakeholders argue that beneficial use is often not practical because the current application of the Federal Standard places too much cost burden on the non-Federal partner since the non-Federal partner must share in the costs of any disposal method that is more costly than the Federal standard. Including consideration of the long term costs, in addition to initial disposal costs, in decision making might indicate that beneficial use is the less costly alternative.

#### **Federal Actions:**

- i. By summer 2010, convene an agency roundtable to coordinate with the USACE on its upcoming annual Operations and Maintenance dredging activities and identify opportunities, priorities, and available funding with the goal of increasing the amount of dredged material that is used beneficially. Thereafter, consult with the States to ensure alignment of Federal and State dredged material placement priorities.

- ii. By summer 2010, coordinate with the Governors' Gulf of Mexico Alliance to assist in their ongoing effort to develop a sediment management plan.
- iii. By fall 2010, produce a review of Federal and non-Federal funding, including:
  - Federal programs and funding available for sediment management in the region.
  - Non-Federal sponsor cost-sharing requirements, and other non-Federal funding.
  - Opportunities to leverage Federal and non-Federal funds for more beneficial use and sediment management projects.
  - Opportunities for other Federal agencies to purchase dredged material.
- iv. By fall 2010, hold a forum to engage restoration experts and the navigation industry to articulate both the immediate and long-term challenges and needs facing navigation interests.
- v. By fall 2010, the USACE will review the basis for, and consistency of, its application of the existing statutory "Federal Standard" and "Base Plan" and will present to the Working Group its conclusions and any recommendations for possible changes. The Working Group, in collaborative discussions, will provide input to the Army on the way ahead.
- vi. By winter 2010, provide policy and process recommendations that address immediate safety and channel stability concerns while allowing for project implementation.

**5. Improve the effectiveness of mitigation policies in support of the long-term Vision for the Louisiana and Mississippi coasts.**

Coastal restoration activities in Mississippi and Louisiana may benefit from alternative mitigation approaches, such as pooling resources to increase the scale of some restoration projects (as the State of Louisiana has requested for the New Orleans Hurricane and Storm Damage Risk Reduction System). In some situations these actions could increase the chance that restoration undertaken for compensatory mitigation purposes will better complement larger regional restoration priorities.

Federal Actions:

- i. By fall 2010, assess the benefits and consequences of aggregating compensatory mitigation funds for better ecosystem results, and make a policy recommendation on their use for project construction based on legal consultation.
- ii. By winter 2010, review the feasibility of using mitigation banks and other methods of combining and using mitigation funds for larger scale, higher impact projects. In addition, review Federal compensatory mitigation policies and procedures to ensure they support speedy and effective implementation of coastal restoration projects.

**6. Recommend modifications/improvements to existing Federal funding programs or funding streams to facilitate an improved Federal investment strategy for the coast.**

A number of funding sources exist to support needed restoration and protection activities, including CIAP, managed by MMS, oil and gas revenue sharing payments to the Gulf Coast States under the Gulf of Mexico Energy Security Act of 2006 (GOMESA), various Natural

Resource Conservation Service programs, the North American Wetlands Conservation Act (NAWCA), various mitigation programs, disaster assistance programs, and Community Development Block Grants. These programs have the potential to provide the States with hundreds of millions of dollars annually to support and complement coastal restoration efforts; however, in some cases, the States have encountered various obstacles in receiving funds due or in accessing these funds for restoration activities. For example, because of the current fiscal crisis facing many States, various laws requiring non-Federal cost share amounts may be impeding or delaying construction or restoration activities. Further, various laws governing non-Federal cost share might intentionally or unintentionally impede or delay construction of many needed restoration activities. In addition, other fiscal laws limit the extent to which activities funded by a particular appropriate may be supported by other, more general Federal funding sources.

There is a great need for targeted and effective use of available money. Additionally, States and agencies should seek to expand funding opportunities beyond traditional mechanisms and agency budgets (e.g., annual appropriations for the USACE). Although it is acknowledged that an infusion of additional funds may be required to fully address the ecosystem restoration and protection needs in the region, these interim actions will seek to ensure that all existing available funding mechanisms are being used to their greatest effect.

#### Federal Actions:

- i. By summer 2010, the MMS will commence an outreach effort to provide technical assistance to States and local governments on how to apply for these funds so that they can access them more efficiently.
- ii. By summer 2010, work with the Long-Term Disaster Recovery Working Group to assess the existing Federal hazard mitigation and related programs and develop options for promoting non-structural mitigation in support of restoration and protection (e.g., an interagency program, coordinated funding guidance for grant programs).
- iii. By winter 2010, catalogue other Federal and non-Federal funding mechanisms that might be available to fund coastal restoration activities in Louisiana and Mississippi and develop a process for ensuring that any such funds provided go toward projects that are coordinated with Federal-State priorities.
- iv. By winter 2010, make a final determination about whether CIAP and GOMESA may be used as the non-Federal share for other Federal restoration projects. If the Working Group determines that the funds can be used for the non-Federal share of projects, it will develop the guidance and process for doing so.
- v. By winter 2010, determine feasibility of streamlining the CIAP process and recommend proposed changes for eliminating delays and streamlining duplicative reviews.
- vi. By spring 2011, identify cost-sharing requirements that could be modified to facilitate efficient and effective progress on priority restoration projects.

#### **IV. Conclusion**

Restoring coastal ecosystems in the region for the many services they provide will require clarity of purpose, cooperation and coordination, accountability, and creative approaches that are guided by science. Success in this endeavor isn't just critical to this region's physical protection, it's critical to our environment and to our economy.

This Roadmap is but the first step toward a goal that will require sustained effort and engagement well past the date that these actions are completed. As such, the most important aspect of the Roadmap is the Federal Government's reaffirmation of its partnership with the States of Louisiana and Mississippi and its commitment to coordinate its actions with those of the States. The Obama Administration is firmly committed to developing an effective long-term partnership. Together, the Federal Government and its State partners can engineer the fundamental changes necessary to sustain and enhance this national treasure.