



# GULF OF MEXICO ALLIANCE

## GOVERNORS' ACTION PLAN

For Healthy and  
Resilient Coasts

March 2006 - March 2009







# GULF OF MEXICO ALLIANCE



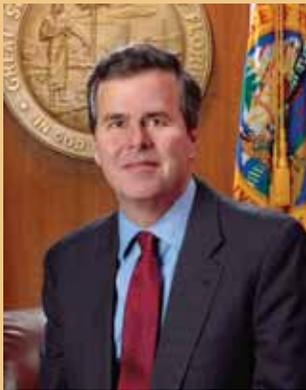
## GOVERNORS' ACTION PLAN

### Contents

	Letters from the Governors of the Gulf States and Jim Connaughton	4
	Executive Summary	6
	Water Quality for Healthy Beaches and Shellfish Beds	12
	Wetland and Coastal Conservation and Restoration	16
	Environmental Education	20
	Identification and Characterization of Gulf Habitats	24
	Reducing Nutrient Inputs to Coastal Ecosystems	26
	Gulf Coast Community Input	30
	Acronyms & Gulf of Mexico Alliance Contacts	32



Governor Bob Riley, Alabama



Governor Jeb Bush, Florida



Governor Kathleen Blanco, Louisiana



Governor Haley Barbour, Mississippi



Governor Rick Perry, Texas

## *The Gulf of Mexico Alliance*

March 28, 2006

The 2005 hurricane season shattered records and communities as 27 named storms and 13 hurricanes impacted America's coastal areas from Key West, Florida to Corpus Christi, Texas. Each one of the five Gulf States – Florida, Alabama, Mississippi, Louisiana and Texas were impacted by the devastating and destructive forces of the storms.

With each passing storm we were reminded how vulnerable the Gulf Coast and its citizens, industry and natural resources are to hurricanes. And each storm demonstrated how closely linked our quality of life is to the health of our coasts. These events brought worldwide attention to the Gulf of Mexico region and underscored the economic impact the coast has on the rest of the nation. Ultimately, last year's hurricane season demonstrated the need for a strong alliance between the Gulf States to strengthen our response to common challenges.

As a result of a shared vision for a healthy and resilient Gulf of Mexico coast, the Gulf States, together with our federal partners, formalized the Gulf of Mexico Alliance. The first action taken by our new partnership is the development of the Governors' Action Plan for Healthy and Resilient Coasts. This far-reaching Action Plan, supported in President George W. Bush's U.S. Ocean Action Plan, December 2004, challenges the Gulf of Mexico Alliance to make tangible progress over the next 36 months on several critical issues, including water quality, wetland and coastal conservation, environmental education, characterization of Gulf habitats and reductions in nutrient inputs, all of which will supplement ongoing recovery efforts across the Gulf region.

The Governors' Action Plan is intended to be a dynamic starting point for effective regional collaboration. As we move forward, we encourage and expect additional collaboration and contributions from other interested partners or organizations. Through our initial teamwork, the Governors' Action Plan will begin to set the stage for a long-term regional partnership that can address an expanded suite of issues, culminating in an improved Gulf of Mexico ecosystem and sustained economy. In addition, the Plan proposes several actions to be implemented in conjunction with the six Mexican Gulf States allowing for the Alliance to serve as a forum for effective bi-national partnership.

By working together on targeted resource management issues, we can increase governmental effectiveness, better prepare for future natural emergencies and support an improved quality of life. Together, our accomplishments as an Alliance will serve as a lasting legacy for all Gulf State coastal residents and visitors alike.

Sincerely,

Bob Riley      Jeb Bush      Kathleen Blanco

Governor of Alabama    Governor of Florida    Governor of Louisiana

Haley Barbour      Rick Perry

Governor of Mississippi    Governor of Texas

# *Realizing the Gulf of Mexico Regional Partnership*

March 28, 2006

The Gulf of Mexico Alliance Governors' Action Plan for Healthy and Resilient Coasts released today is the culmination of 12 months of collaboration between the Gulf States Governors, the Bush Administration, interested citizens and numerous other partners. The Action Plan firmly establishes a practical framework and guide for meaningful and sustained progress in our shared economic and ecological stewardship of the Gulf of Mexico region.

In the U.S. Ocean Action Plan, released in December 2004, President George W. Bush highlighted the importance of the new Gulf of Mexico Alliance established with the leadership of the Governors of Alabama, Florida, Louisiana, Mississippi and Texas. President Bush called for increased integration of resources, knowledge and expertise to help make this regional collaboration a success. Thirteen federal agencies committed to supporting the Gulf of Mexico Alliance and formed a new Federal Workgroup in early 2005, coordinated by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA).

Developed using input from Gulf citizens and supported by specific state and federal agency resource commitments, the Action Plan sets out eleven areas of concrete projects that will deliver significant on-the-ground results over the next 36 months. These include efforts to support ongoing hurricane recovery, increase the resilience of Gulf coast communities to future hurricanes and strengthen the Alliance as a forum for ongoing, high-level regional collaboration and increased governmental effectiveness.

Yours Sincerely,

Jim L. Connaughton

Chairman  
White House Council on Environmental Quality



*“The Action Plan firmly establishes a practical framework and guide for meaningful and sustained progress in our shared economic and ecological stewardship of the Gulf of Mexico region.”*

*Jim Connaughton  
Chairman, CEQ*





# Executive Summary

## **The Gulf of Mexico Alliance**

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The Gulf of Mexico Alliance is a partnership, initiated in 2004, of the states of Alabama, Florida, Louisiana, Mississippi and Texas, intent on significantly increasing regional collaboration to enhance the ecological and economic health of the Gulf of Mexico. The Bush Administration's U.S. Ocean Action Plan (USOAP) recognizes the leadership that the five Gulf States have demonstrated in forming the Alliance and calls for the increased integration of resources, knowledge and expertise to address regional priorities.

The Alliance has identified five issues that are regionally significant and can be effectively addressed through increased collaboration at the local, state and federal levels. These priorities represent an initial focus for action through the Alliance:

- Water quality for healthy beaches and shellfish beds;
- Wetland and coastal conservation and restoration;
- Environmental education;
- Identification and characterization of Gulf habitats, and
- Reductions in nutrient inputs to coastal ecosystems.

In addition, the Gulf of Mexico Alliance can potentially serve as a forum for effective bi-national regional collaboration with the six Mexican Gulf States – Tamaulipas, Veracruz, Tabasco, Campeche, Yucatan and Quintana Roo. To this end, the Alliance currently coordinates closely with the Gulf of Mexico States Accord and this Action Plan proposes several activities to be implemented in partnership with the Mexican Gulf States.

## ***Supporting Gulf Coast Recovery***

The Gulf of Mexico Alliance strongly emphasizes actions that support current recovery and rebuilding efforts, while increasing the resilience of Gulf communities from future hurricanes and other coastal hazards. The recovery efforts provide the opportunity for an ecologically-sound and well planned recovery that will result in a stronger Gulf Coast. The Action Plan presents a suite of activities that will further the recovery and rebuilding effort and ensure that our collective response to the next inevitable hurricane will be faster, more effective and better coordinated.

### ***The Gulf of Mexico Regional Partnership Federal Workgroup***

Thirteen federal agencies have committed to actively support the Gulf of Mexico Alliance. This Federal Workgroup, coordinated by the U.S. Environmental Protection Agency (EPA) and the National Oceanic and Atmospheric Administration (NOAA), will:

- Support regional leadership of the five Gulf States;
- Supplement Gulf Coast recovery and rebuilding efforts in a coordinated manner;
- Provide local resource managers with state/federal data and decision-support tools, and
- Build upon existing partnerships in the Gulf, including the non-regulatory EPA Gulf of Mexico Program.

#### ***Federal Workgroup***

- ▶ Council on Environmental Quality
- ▶ National Aeronautics and Space Administration
- ▶ National Science Foundation
- ▶ U.S. Army Corps of Engineers
- ▶ U.S. Department of Agriculture
  - Natural Resources Conservation Service
  - U.S. Forest Service
- ▶ U.S. Department of Commerce
  - National Oceanic and Atmospheric Administration
- ▶ U.S. Department of Defense
  - U.S. Navy
- ▶ U.S. Department of Energy
- ▶ U.S. Department of the Interior
  - Minerals Management Service
  - National Park Service
  - U.S. Fish and Wildlife Service
  - U.S. Geological Service
- ▶ U.S. Department of Health and Human Services
  - U.S. Food and Drug Administration
- ▶ U.S. Department of State
- ▶ U.S. Department of Transportation
- ▶ U.S. Environmental Protection Agency

## ***Soliciting Input from Gulf Coast Citizens***

Eight Gulf of Mexico Alliance Community Workshops were hosted in conjunction with the development of the Action Plan: one in Louisiana, one in Mississippi/Alabama, two in Texas and four in Florida.

Working around the intensive response to Hurricanes Katrina and Rita, the Gulf States conducted all eight workshops prior to the release of this plan. This input is incorporated throughout the document and represents the opinions of homeowners, recreational fishermen, local leaders, scientists and a variety of others that are dedicated to the environmental and economic health of the Gulf of Mexico.



Look for the Gulf Coast Citizen Input logo for specific citizen recommendations.





*What makes the Governors' Action Plan significant is that both state and federal agencies and other partners have already made specific commitments to achieve the 36-month outcomes.*

## The Governors' Action Plan

The Governors' Action Plan for Healthy and Resilient Coasts outlines 11 actions under the Alliance's five priority issues. Each of these actions presents specific 36-month outcomes – results to be realized within three years – and an Action Blueprint which describes critical steps to achieve the 36-month outcomes. What makes the plan significant is that both state and federal agencies and other partners, have already made specific commitments to achieve these 36-month outcomes. These commitments are detailed in an associated Implementation Activities Matrix available online at <http://www.gulfofmexicoalliance.org>. The Alliance's progress in achieving the Actions will also be tracked on this Web site.

As stated in the introductory letter from the Governors, the Governors' Action Plan is intended to be a dynamic starting point for effective regional collaboration and adjustments to the Actions and Action Blueprints are expected. In addition, collaboration and contributions from any other interested partners are always invited. Contact information is provided at the end of the document.

### **Water Quality**

To improve water quality, the Alliance proposes to improve the detection and forecasting of harmful algal blooms (HABs) in the Gulf of Mexico and to better understand the public health and socio-economic effects of bloom events. These efforts will take the form of investments in existing and new technology, on-going research and training. To improve beach water quality management, the Alliance proposes to select two promising bacterial source tracking methodologies for testing and validation in five different Gulf estuaries. The selection of the most effective test methodologies and site determination will be carried out at workshops. Finally, the Gulf States and partner federal agencies will take steps to standardize and coordinate water quality data collection and analysis.

#### **Water quality for healthy beaches and shellfish beds**

- WQ-1: Improve harmful algal bloom detection and forecasting in the U.S. and Mexican Gulf States
- WQ-2: Improve beach water quality management
- WQ-3: Improve government efficiency in water quality monitoring

## ***Wetland Restoration***

To restore and conserve coastal habitat, the Alliance first proposes to streamline coastal conservation and restoration processes. This will be accomplished by convening a Gulf of Mexico Alliance Regional Restoration Coordination Team and holding a series of workshops to address existing policy, regulatory and funding frameworks that either facilitate or impede conservation and restoration of Gulf habitats. Second, increased funding for conservation and restoration will be sought through a proposed expansion of the Corporate Wetlands Restoration Partnership. Last, the Alliance proposes to develop a prototype decision-support tool that allows Gulf resource managers to integrate storm surge, localized sea level rise and subsidence information and develop a pilot Community Resiliency Index for Gulf coastal communities.

### **Wetland and coastal conservation and restoration**

- R-1: Streamline coastal restoration and conservation efforts
- R-2: Increase the safety of Gulf communities by better understanding the risks of localized sea level rise, storm surge and subsidence

## ***Environmental Education***

To increase awareness about the Gulf of Mexico, the Alliance proposes a comprehensive multi-year public awareness campaign to create a “sense of place” among Gulf residents and firmly establish the link between the health of the Gulf and the quality of life of residents. The Alliance also proposes to convene a bi-national Gulf of Mexico Alliance Education and Outreach Network to better coordinate existing education efforts. Supported by a full-time coordinator, the Network will consist of existing staff and facilities engaged in translating research and management activities into stewardship. Finally, the Alliance recommends expanding the existing Coastal Ecosystem Learning Center network so that one facility exists in each of the five U.S. Gulf States and the Mexican Gulf State of Veracruz and developing an environmental education pilot program targeted toward underrepresented and underserved communities in the Gulf region.

### **Environmental education**

- ED-1: Galvanize local communities to protect the Gulf of Mexico through targeted education
- ED-2: Conduct a public awareness campaign for the Gulf of Mexico

*To increase awareness about the Gulf of Mexico, the Alliance proposes a comprehensive multi-year public awareness campaign to create a “sense of place” among Gulf residents and firmly establish the link between the health of the Gulf and the quality of life of residents.*





*To reduce nutrient inputs to coastal watersheds in the Gulf, the Alliance proposes to increase regional coordination in the development of nutrient criteria by the Gulf States.*

## ***Characterization of Gulf Habitats***

To improve the management of Gulf habitats, the Alliance proposes to provide public access to a prototype distributed, meta-data driven data management platform and Internet portal that provides a geospatial data viewer and facilitates data downloads of local, state and federal habitat data in the Gulf region, beginning with seagrass beds. This effort will involve an inventory and gap analysis of existing habitat data in the region and Alliance partners working together to standardize and integrate local, state and federal habitat data, including metadata and to make these data available through a single regional data management portal.

### **Identification and characterization of Gulf habitats**

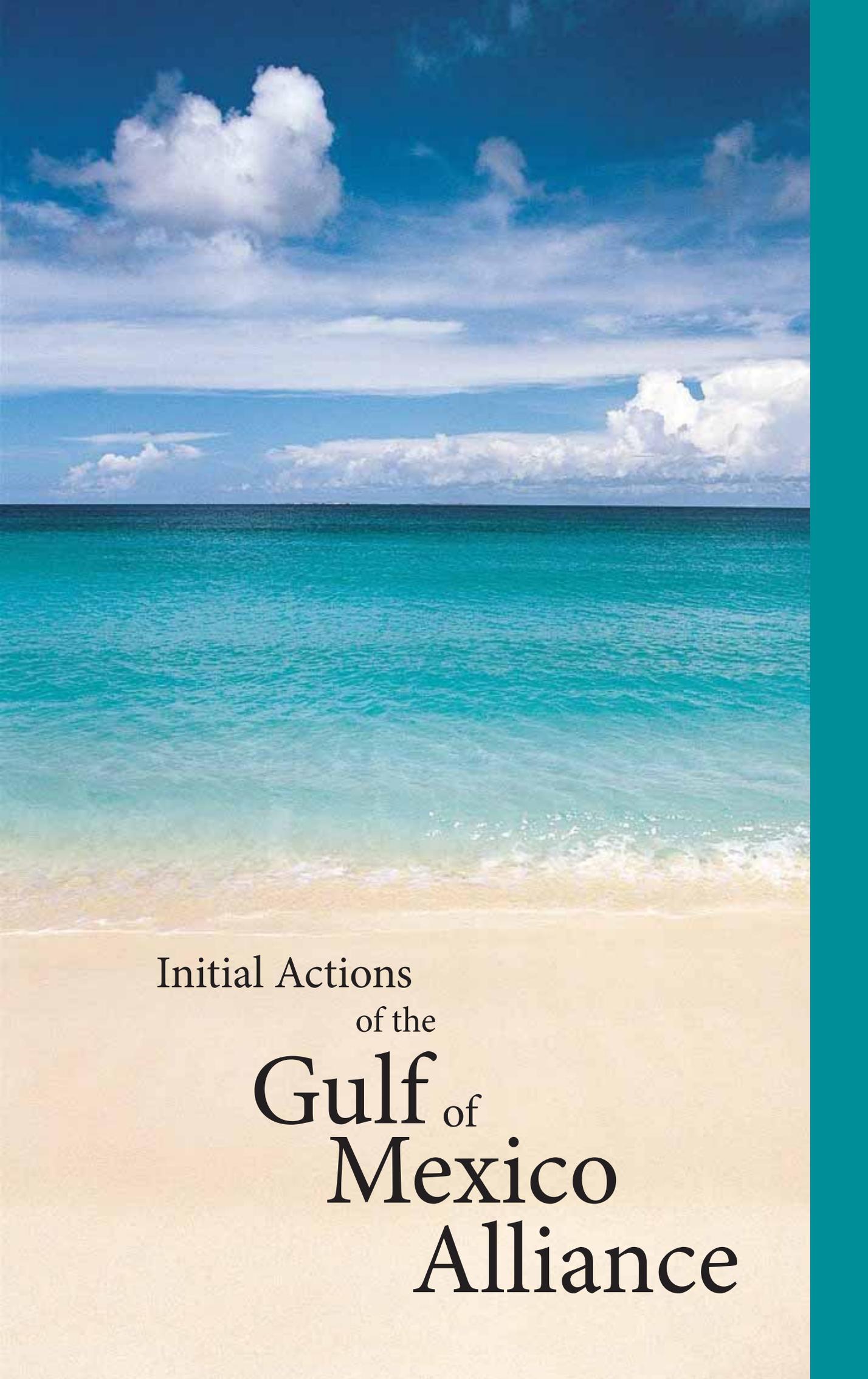
- ID-1: Create and provide access to interactive habitat maps for priority Gulf of Mexico habitats

## ***Reduction of Nutrient Inputs***

To reduce nutrient inputs to coastal watersheds in the Gulf, the Alliance proposes increasing regional coordination in the development of nutrient criteria by the Gulf States. In light of the ongoing recovery and rebuilding efforts in response to the 2005 hurricane season, the Alliance also proposes to find and act upon opportunities to implement nutrient prevention and reduction projects during the rebuilding of coastal infrastructure. Finally, the Alliance proposes to assert a unified position shared by all Gulf States to advocate actions – by all 31 states in the Mississippi River Watershed – to reduce Gulf hypoxia.

### **Reduction of nutrient inputs to coastal ecosystems**

- N-1: Increase regional coordination in the development of nutrient criteria
- N-2: Implement nutrient reduction activities during Gulf recovery and rebuilding
- N-3: Assert an aligned five Gulf State position on the need to address Gulf of Mexico hypoxia



Initial Actions  
of the  
**Gulf** of  
**Mexico**  
**Alliance**



# Water Quality for Healthy Beaches and Shellfish Beds

## Water Quality Challenges and How the Gulf Alliance Can Help

Gulf of Mexico coastal waters exhibit a variety of problems that can degrade the quality of life for Gulf residents and negatively impact the regional economy. For example, recent articles have shown that harmful algal blooms, including red tides, can impair recreational experiences at area beaches for both Gulf residents and tourists. Maintaining healthy beaches is vital to the economic well-being of the Gulf States' tourism industries. At the same time, shellfish growing waters closed due to bacterial impacts or from algal toxins can limit commercial and recreational harvest of popular Gulf oysters and shrimp.

Despite these challenges, the beauty and bounty of the Gulf coast will certainly spur continued population growth and increased human activities in coastal waters, potentially increasing pressure on the very natural resources that attract and sustain this growth. In response, the Gulf of Mexico Alliance will advance key actions to ensure safe bathing experiences at Gulf beaches, healthy Gulf seafood and resilient coastal ecosystems that provide Gulf residents a high quality of life and vibrant economy.

The five Gulf States face similar water quality problems in many critical and shared watersheds and can recognize the value of a collaborative regional approach to address these issues. A better scientific understanding of problems, as well as shared successes, will result in cost-savings and more effective management.

### ***Long-term Alliance Partnership Goal***

Provide critical water quality information to Gulf of Mexico resource managers, in near-real time where appropriate, to help protect human health at beaches and to help ensure healthy shellfish growing waters.

#### ***How does this support Gulf recovery and build resilience to future hurricanes?***

Following a hurricane, accurate and immediately available water quality information will allow emergency managers to strategically target mitigation and recovery efforts. In addition, this information can greatly reduce the time it takes for local public health officials to reopen bathing beaches and shellfish growing waters in the aftermath of hurricanes, red tides and other coastal hazards.

**Gulf State Lead for Regional Coordination:** Florida

**Action Leads:** Texas, EPA and NOAA

**Contributors and Collaborators:** Alabama, Louisiana, Mississippi, GCOOS, Gulf of Mexico States Accord, National Water Quality Monitoring Council, FDA, MMS, NASA, NRL, NSF, State Department, USACE, USFWS, USGS and Papaloapan River Basin Development Council (Veracruz)



### Water Quantity & Quality

Participants at all Community Workshops identified water quality and quantity as a priority issue, specifically non-point source pollution, excessive nutrient inputs and an appropriate supply of freshwater inflow to sustain healthy estuaries. It was recognized that no single entity or individual is responsible for the problem, therefore no single entity or individual can fix the problem.

In fact, citizens acknowledged the need for a “holistic look at the Gulf system” to evaluate cumulative impacts and recommended that a regional approach be taken to link pollution sources to negative impacts. Ultimately, the workshops demonstrated that there is a strong, united Gulf-wide community voice supporting efforts to address water quality issues.

## WQ-1: Improve harmful algal bloom detection and forecasting in the U.S. and Mexican Gulf States

**Action:** Establish a cooperative bi-national coastal observing and decision support system in the Gulf of Mexico for the advanced detection and forecasting of red tide (*Karenia brevis* or *K. brevis*) and for notifying public health managers. Educate the public to help reduce the human health, natural resource and economic impacts of bloom events.

### WHY DO THIS?

Harmful algal blooms (HAB) cause public health advisories, halt commercial and recreational shellfish harvesting, limit recreation, exacerbate human respiratory problems and cause fish kills. The U.S. Ocean Action Plan calls for a forecasting capability for harmful algal blooms as better predicting initiation and transport of these blooms will benefit regional tourism and seafood industries.

### 36-Month Outcomes:

- Improve the current HAB Forecasting System off the Southwest Florida coast to better identify the onset of blooms and better predict the transport of blooms.
- Develop a satellite detection, forecasting and Internet-based notification capability for *K. brevis* off the southern coast of Texas.
- Develop a satellite detection and Internet-based notification capability for *K. brevis* off the coast of the Mexican Gulf state of Veracruz.

### Action Blueprint and Commitments: 2006 – 2009

1. Improve the operational HAB Forecasting System off the Southwest Florida coast to better identify the onset of blooms and better predict the transport of blooms.
2. Conduct an interagency workshop to review scientific advances related to red tide in the Gulf of Mexico and identify future priorities for the region.
3. Hold workshops with local, state and federal expert scientists to train personnel in HAB field sampling and microscopic identification methods and to demonstrate toxin-detection methods.
4. Advance technologies for rapid field screening and enhanced real-time remote sensing, platform sensing and autonomous sensing of HABs.
5. Independently evaluate and compare the multiple methods of HAB detection technologies under development for *K. brevis* against microscopic identification methods.
6. Conduct studies to determine the public health, natural resources and socio-economic impacts of HABs in the Gulf region.
7. Test and provide the Alliance and GCOOS with the results of an



# Gulf Coast Citizen Input

## Red Tide

Participants at the Sarasota, Florida Community Workshop identified red tide as a priority issue. Citizens identified the need to develop comprehensive strategies to deal with this problem, including research, education and funding. Citizens also reported actively seeking reliable sources of information and need the tools to help control harmful algal blooms.

in situ optical early warning HABS system off the coast at Corpus Christi, Texas.

8. Research the relationship between anthropogenic activities and planktonic cell counts – environmental conditions that lead to bloom conditions and test new HAB detection and tracking technologies for routine use in observation, monitoring and forecasting programs.
9. Collaborate with existing Gulf State programs to inform and educate the public about HABS and management actions taken to protect public health. Expand educational and outreach methods used to inform the public about HABS and their impacts.
10. Implement the operational HAB forecasting capability for the South Texas coast.
11. Develop a satellite detection and Internet-based notification capability for *K. brevis* off the coast of the Mexican Gulf State of Veracruz.
12. Supplement meteorological stations in the near coastal zone where required to forecast surface currents.

## WQ-2: Improve beach water quality management

**Action:** Ensure safe bathing beaches by advancing a practical, field-ready standardized bacterial source tracking method(s) to determine coastal waters with public health impairment and to identify the priority sources of bacterial pollution to remediate.

### WHY DO THIS?

Bacterial contamination of streams, bayous, beaches and shellfish growing waters results in the posting of advisories or warnings at bathing beaches and the closure of shellfish-growing waters to harvesting for human consumption. At present, no standardized bacterial source tracking method(s) is available to managers, which would allow them to better understand, communicate and mitigate bacterial contamination of coastal waters, protecting human health and the economic well-being of Gulf tourism industries.

### 36-Month Outcomes:

- Conduct a peer-reviewed field evaluation of current bacterial source tracking capabilities in an estuarine recreational area and select two methodologies for intensive field-testing/validation.
- Implement pilot testing of these two methods in five Gulf of Mexico estuaries with varying environmental conditions (preferably one location in each Gulf state).

## Action Blueprint and Commitments: 2006 – 2009

1. Conduct a “State of the Gulf” workshop on pathogen indicators in recreational marine waters, epidemiological correlations and bacterial source tracking research with an endpoint of selecting the site and designing the study and the parameters for evaluation.
2. Conduct a comprehensive field evaluation of current bacterial source tracking capabilities.
3. Conduct a workshop to evaluate the field evaluation results and select two methods for use in the pilot studies. Select the pilot study areas.





***Bacteria Tracking & Monitoring***

Participants at the Galveston, Texas Community Workshop emphasized the need for a real-time bacteria tracking and monitoring program to better guide local management responses such as beach closures and shellfish harvest closures. These citizens also identified a need for improved coordination and communication.

4. Pilot test the two preferred bacterial source tracking methodologies in five Gulf estuaries (with varying environmental conditions).
5. Evaluate bacterial sources responsible for the contamination of shellfish growing waters in each of the five pilots.
6. Conduct a final workshop to evaluate the results of pilot studies and prepare a final report.
7. Equip state laboratories and train state and local personnel in specific bacterial source tracking methods.

**▶ WQ-3: Improve government efficiency in water quality monitoring**

**Action:** Maximize the efficiency and utility of water quality monitoring efforts for local managers by coordinating and standardizing state and federal water quality data collection activities in the Gulf region.

**WHY DO THIS?**

The President’s U.S. Ocean Action Plan calls for the use of regional ocean observing systems to provide a real-time decision-support tool for beach and shellfish bed closings. Acting as partners, state and federal agencies can greatly increase the utility of collected water quality data by coordinating and standardizing monitoring efforts. In addition, there are potential cost savings by ensuring regional comparability and eliminating duplication of effort.

**36-Month Outcome:**

- Implement a regional pilot effort to coordinate and standardize state and federal water quality data collection activities in the Gulf region for one or more nutrient parameter(s) and/or one or more pathogens.

**Action Blueprint and Commitments: 2006 – 2009**

1. Host an annual Gulf of Mexico Forum for Environmental Monitoring to promote coordination of water quality monitoring by local, state and federal agencies.
2. Comprehensively survey local, state and federal agencies for types of water quality data being collected, methods of collection, analytical methods, quality assurance protocols, proprietary restrictions and database platforms.
3. Develop accountability tools and accreditation standards for laboratories performing analyses included in Gulf-wide monitoring databases.
4. Facilitate the selection of a pilot parameter for monitoring coordination and standardization by state and federal water quality agencies and GCOOS (leverage possible linkage to National Water Quality Monitoring Council regional pilot activities).



# Wetland and Coastal Conservation and Restoration

## Restoration Challenges and How the Gulf Alliance Can Help

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Intact coastal wetlands, dunes, forests, prairies and seagrass meadows are invaluable to Gulf Coast residents as wildlife habitat, areas for recreation and buffers from hurricanes and storm surge. Coastal wetlands and estuarine ecosystems are threatened throughout all five Gulf States by a combination of human activities and natural processes such as hurricanes, subsidence and localized sea level rise. For example, in 2005, Hurricanes Katrina and Rita disrupted coastal habitats across Louisiana, Mississippi and Alabama transforming 100 square miles of marsh to open water in southeastern Louisiana.

Wetland regulations in the Gulf region are not consistent and, as a result, have been too narrowly focused to adequately protect the full range of regional functions and values of coastal wetlands. Coordination could improve mitigation efforts, enhance monitoring and enforcement and address gaps in wetland regulatory coverage. Cooperative monitoring will also enhance regional abilities to address, as appropriate, regulated activities and detect changes and trends in natural processes. The Gulf of Mexico Alliance will enhance cooperative planning and programs across the Gulf States and federal agencies to protect wetland and estuarine habitat.

### *Long-term Partnership Goal*

Increase coordination among the Gulf States and local, federal, business and non-profit partners to better conserve and restore coastal wetlands and other vital habitats throughout the Gulf of Mexico.

*How does this support Gulf recovery and build resilience to future hurricanes?*

Healthy barrier islands and coastal wetlands serve as substantial natural buffers to hurricanes and storm surge. Strategic conservation and restoration efforts will help to protect homes, businesses and levee systems and maximize flood protection for our communities and critical infrastructure.

*Gulf State Lead for Regional Coordination:* Louisiana

*Action Leads:* Louisiana Spatial Reference Center at LSU, EPA, NOAA, USACE, USFWS and USGS

*Contributors and Collaborators:* Alabama, Florida, Mississippi, Texas, Gulf of Mexico Foundation, Coastal America, MMS, NSF, State Department, USACE, USFWS, University of Colorado Natural Hazards Center, The Nature Conservancy and NPS



### *Habitat Loss*

Participants at all Community Workshops identified habitat loss as a priority issue. They recognized the magnitude and rate of wetland loss in the Gulf region and specifically identified the protection of isolated wetlands as a common concern. These citizens cited a lack of regulation and enforcement of existing rules as a concern related to habitat loss and advocated for both habitat conservation and restoration. Lastly, they recognized that habitats other than wetlands, such as coastal prairies, dunes and riparian forests, also needed protection in order to secure the Gulf coastal ecosystem as a whole. In particular, citizens at the Thibodaux, Louisiana Community Workshop warned that the alarming rate of land loss in coastal Louisiana is threatening the area's unique Cajun culture and traditional ways of life along the bayou.

## **R-1: Streamline coastal restoration and conservation efforts**

**Action:** Convene a Gulf of Mexico Alliance Regional Restoration Coordination Team, where Gulf States, federal agencies and other private sector partners can work together to identify regional priority sites for conservation and restoration, fund conservation and restoration projects more efficiently and resolve policy roadblocks to successfully conserve and restore vital coastal habitat.

### **WHY DO THIS?**

The President's U.S. Ocean Action Plan calls for an overall increase in America's wetlands each year. The principal barrier to wetland restoration and land acquisition facing the Gulf States is cost. Coastal land acquisition costs \$10,000 to \$150,000 or more per linear foot of waterfront and wetland creation costs between \$10,000 and \$50,000 per acre. Corporate wetlands partnerships will help states to leverage federal funding.

### **36-Month Outcomes:**

- Establish a Gulf of Mexico Alliance Regional Restoration Coordination Team.
- Through the Restoration Coordination Team, hold a series of meetings between federal agencies and Gulf States to review existing regulatory, funding and policy frameworks and identify mechanisms that help facilitate or impede wetland conservation and restoration efforts.
- Hold a workshop on the importance of freshwater inflows.
- Enhance efficiency of conservation and restoration projects through extension of the Corporate Wetlands Restoration Partnership and coordination of federal grant cycles.
- Develop a Gulf Regional Sediment Management Master Plan to enable more effective use of dredged material.

### **Action Blueprint and Commitments: 2006 – 2009**

1. Establish a Gulf of Mexico Alliance Regional Restoration Coordination Team, including local, state and federal representation.
2. Host workshops of the Gulf of Mexico Alliance Regional Restoration Coordination Team to determine Gulf-wide issues, inventory current restoration successes and identify priority sites for restoration.
3. Host a Gulf of Mexico interstate workshop on the importance of freshwater inflows to maintaining estuarine health including wetlands.
4. Using the Gulf of Mexico Alliance Regional Restoration Coordination Team, resolve state/federal environmental compliance issues that affect habitat restoration and conservation efforts, such as essential fish habitat, Endangered Species Act





## Gulf Coast Citizen Input

### Critical Conservation & Restoration Sites

Participants at numerous Community Workshops identified the value of partnerships in conserving and restoring coastal habitat and the need to develop priority-setting mechanisms that focus resources on critical conservation and restoration sites. Participants at the Tampa, Florida Community Workshop suggested forming partnerships with entertainment media to promote funding and recognition of restoration efforts, perhaps through a reality show or a fundraiser. Overall, these citizens advocated for improved coordination and communication among agencies to reduce duplication of effort and gaps in management and improve consistency across agency lines.

- requirements and Clean Water Act (e.g., Total Maximum Daily Loads).
- 5. Devise a strategy to streamline certain federal permitting requirements for wetland restoration.
- 6. Identify administrative and legal processes in granting agencies that may either facilitate or impede wetland restoration and conservation project planning and implementation.
- 7. Further develop public-private partnerships, such as the Corporate Wetlands Restoration Partnership, and incentives that support landowner conservation to increase funding opportunities for restoration. Ensure state and local governments are well-informed about partnership and incentive programs.
- 8. Develop a Gulf Regional Sediment Management Master Plan to enable more effective use of dredged material, such as sand, to protect and restore important and vulnerable resources and habitats. Involve local, state and federal representatives in the planning process.
- 9. Provide current statistics on population growth to help states determine conservation actions.

### R-2: Increase the safety of Gulf communities by better understanding the risks of localized sea level rise, storm surge and subsidence

**Action:** Increase the Gulf States' scientific understanding of the implications and risks of localized sea level rise, storm surge and subsidence through development of tools that integrate these processes, such as integrated models.

#### WHY DO THIS?

Acceleration in localized sea level rise, land subsidence and increased storm vulnerability cause serious challenges to restoration efforts and threatens public safety and infrastructure. In southern Louisiana, sediment deprivation combined with subsidence causes approximately 24 square miles per year of wetland loss from the Mississippi River delta system.

#### 36-Month Outcomes:

- Develop a prototype decision-support tool that allows Gulf resource managers to integrate critical storm surge, localized sea level rise and subsidence information for at least one pilot area on the Gulf Coast.
- Develop a pilot Community Resiliency Index for Gulf coastal communities.

#### Action Blueprint and Commitments: 2006 – 2009

1. Enhance the coast-wide network of elevation benchmarks, including the Continuously Operating Reference System, to deliver subsidence rates accurate to one millimeter per year.
2. Obtain information on projected relative sea level rise, subsidence and storm vulnerability to help prioritize conservation projects, including restoration, enhancement and acquisition.
3. Develop and apply ecosystem models to forecast the habitat structure and succession following hurricane disturbance and changes in ecological functions and services that impact vital socio-economic aspects of coastal systems.

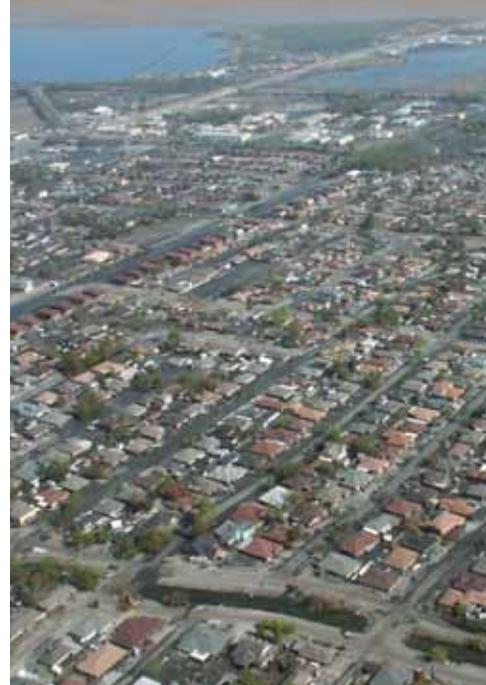
# Gulf Coast Citizen Input



## *Growth Management*

Participants at all Community Workshops recognized the need for effective growth management as the Gulf region population continues to expand. Data and map products that can help account for the impacts of hurricanes and other coastal hazards are needed to assist public safety and natural resource managers and local land use planners. Citizens at the Apalachicola, Florida Community Workshop recognized the need to better manage building infrastructure in coastal hazards zones.

4. Develop a management tool that enhances resiliency of Gulf Coast communities to storm surge and flooding through improved data, models, tools and methodologies for at least one pilot study area in the Gulf region, including the Pensacola, Florida area.
5. Develop an inventory of existing NOAA storm surge and other storm related products and services that includes data and observations, models, tools and outreach and education activities over different time scales.
6. Inventory and integrate topographic and bathymetric data for improved storm surge and inundation modeling for one or more pilot areas in the Gulf region.
7. Determine how to enhance coastal communities' resilience to disaster and begin to identify a methodology for the development of a resiliency index.
8. Coordinate, as appropriate, unified five Gulf State support for the collection of comprehensive shallow water bathymetry data (e.g., LIDAR) to support improved storm surge modeling and more accurate emergency evacuation assessments.





# Environmental Education

## Education Challenges and How the Gulf Alliance Can Help

Education and outreach are essential to accomplish the Gulf of Mexico Alliance’s overall goals and are integral to the other four Alliance priority issues. It is critical that Gulf residents and decision-makers understand and appreciate the connection between the ecological health of the Gulf of Mexico its watersheds and coasts, their own health, the economic vitality of their communities and their overall quality of life. In addition, there is a nationwide need for a better understanding of the link between the health of the Gulf of Mexico and the U.S. economy. Many residents already have a positive personal connection with the Gulf, which is a powerful tool for increasing awareness, interest and responsible action toward Gulf ecosystems. The Alliance aims to contribute to building the Gulf stewardship ethic, strengthening the region’s science literacy and empowering a new generation of informed leaders.

### *Long-term Alliance Partnership Goals*

- Increase awareness of Gulf coastal resources.
- Increase stewardship of Gulf coastal resources.

#### *How does this support Gulf recovery and build resilience to future hurricanes?*

Building awareness among Gulf Coast residents is critical to hurricane preparedness and will help to save lives in future hurricanes. However, a greater understanding of the inexorable link between healthy coastal ecosystems, a strong economy and increased resiliency to hurricanes and other coastal hazards will create regional public support for immediate rebuilding efforts and longer-term development practices that result in a healthier Gulf of Mexico and communities that are less susceptible to hurricane damage.

*Gulf State Lead for Regional Coordination:* Alabama

*Action Leads:* Florida, Louisiana, Mississippi, Texas, Network Coordinator, BTNEP, EPA and NOAA

*Contributors and Collaborators:* NASA, NSF, State Department, USACE, USFWS, USGS and as potential members of the Gulf of Mexico Alliance Environmental Education Network: NERRs, NEPs, COSEEs, CELCs, state parks, units of the National Park System, state wildlife refuges, units of the National Wildlife Refuge System, marine laboratories, aquaria, Sea Grant colleges, NGOs and appropriate organizations in the six Mexican Gulf States.

## ED-1: Galvanize local communities to protect the Gulf of Mexico through targeted education

**Action:** Build awareness and a stewardship ethic among Gulf citizens by coordinating education and outreach activities across the Gulf States to increase access to materials and programs that address Alliance priority issues. Translate, communicate and disseminate relevant scientific data and information to the public, including students, educators, resource managers, local decision-makers and the business community.

### WHY DO THIS?

An environmentally literate citizenry understands the relevance of the Gulf of Mexico watersheds and coasts to the quality of their everyday lives and to the economic vitality of the region and the nation. Effective environmental education across the Gulf Coast is hindered by a disparity among the five Gulf States in opportunities and capabilities. The impacts of hurricanes such as Katrina and Rita have served to heighten this disparity. A Gulf of Mexico Alliance Environmental Education Network will facilitate information sharing at multiple levels, transfer successes among members and maximize the impact of limited educational resources.

### 36-Month Outcomes:

- Convene a bi-national Gulf of Mexico Alliance Environmental Education Network, with dedicated staff, to coordinate educational and outreach activities that address Alliance priority issues and establish effective methods to disseminate materials and programs throughout Gulf coastal communities.
- Expand the existing Coastal Ecosystem Learning Center network so one facility exists in each of the five U.S. Gulf States and the Mexican Gulf State of Veracruz.
- Develop an environmental education pilot program targeted towards underrepresented and underserved communities in the Gulf region.

### Action Blueprint and Commitments: 2006 - 2009

1. Hold a series of Community Workshops, at least one in each Gulf State, to solicit citizen input into Alliance priorities and actions.
2. Identify a Network Coordinator for a term of at least three years to serve as staff to the Network, facilitate Alliance communications and coordinate regional education and outreach activities.
3. Formalize Network membership by formal invitation.
4. Host a planning workshop of the newly established Network at Florida's Rookery Bay NERR to review priority goals, actions and funding needs in Gulf coast education and outreach and build an



### Environmental Education

Participants at numerous Community Workshops identified environmental education as a priority issue, particularly the importance of understanding the link between a healthy Gulf of Mexico and the quality of life of residents. They readily acknowledged that public awareness is essential for local communities to see themselves as part of the solution and advocated for educational opportunities at all levels and stages of life, including children, adults, retirees, the general public and elected officials. These citizens reinforced the need to be aware of how activities in their own back yards impact the Gulf of Mexico and how the Gulf sustains their quality of life.





## Gulf Coast Citizen Input

### *Improved Education Coordination*

Participants at numerous Community Workshops requested improved coordination among existing education and outreach providers, citing the value of sharing successful models and case studies. Strengthening a stewardship ethic among individuals and local communities, especially underrepresented and underserved populations, was a key idea supported by citizens. Reaching out to minority populations was also recognized as critically important. Participants at the Port Aransas, Texas Community Workshop acknowledged a “Science and Spanish” middle school club that reaches out specifically to local Hispanic communities.

effective communications strategy for the Alliance. The workshop will culminate in the formulation of a strategic plan that will guide the initial activities of the Network.

5. In accordance with the U.S. Ocean Action Plan, establish a Coastal Ecosystem Learning Center in each of the five Gulf States and in one Mexican State that borders the Gulf.
6. Develop and host a pilot program to engage underrepresented and underserved communities in Gulf stewardship activities related to the Alliance strategic priorities.
7. Design and host a Web site to support education and outreach efforts of the Network, including an electronic clearinghouse to disseminate effective Gulf coast related educational information and materials via the Internet.

### **ED-2: Conduct a public awareness campaign for the Gulf of Mexico**

**Action:** Promote an environmentally literate citizenry who understands the relevance of the Gulf of Mexico watersheds and coasts to the quality of their everyday lives and to the economic vitality of the region and the nation. Increase environmental stewardship in the practices and activities of Gulf coast local governments and businesses.

#### **WHY DO THIS?**

To successfully rebuild sustainable Gulf Coast ecosystems and economies, it is critical that Gulf coast residents and decision-makers understand and appreciate the connection between the environmental health of the Gulf of Mexico and its watersheds and coasts to their own health and quality of life. In addition, this will yield a greater regional and national understanding of how the health of the Gulf of Mexico is tied to the nation’s economic vitality.

**36-Month Outcome:** Develop and implement a comprehensive, 36-month (minimum) public awareness campaign to promote stewardship messages associated with the other four Alliance priority issues and community hurricane preparedness.

#### **Action Blueprint and Commitments: 2006 - 2009**

1. Design and conduct a strategic public awareness campaign that will encourage Gulf stewardship and coastal hazard identification and prevention.
2. Identify strategies for sustaining the public awareness campaign in the short-term (within 36 months) and long-term (after 36 months).

## HOW EDUCATION CONNECTS WITH OTHER ALLIANCE PRIORITY ISSUES

- *The Alliance Education Network can coordinate training for local decision-makers, including land use planners, local government officials and development interests, in new technologies and tools developed by the Alliance partnership, for example, storm surge models that help manage hurricane evacuations.*
- *The Network can facilitate dissemination of information gathered by the Gulf Coast Ocean Observation System that will contribute to improved decision-making in Gulf coastal communities.*
- *In developing an education program for harmful algal blooms, information gleaned at the Alliance Community Workshops about where citizens go for information can be utilized to prioritize best possible mechanisms to provide Gulf communities with accurate, real-time updates.*
- *The Network can help increase education of “upstream” communities, so that people comprehend the relationship between individual actions and larger-scale impacts, such as Gulf hypoxia.*



### Stewardship

Participants at several Community Workshops voiced the need for a consistent stewardship message across the Gulf region. They recommended an entertaining and engaging multimedia approach that reveals diverse perspectives related to each issue. Participants at the Galveston, Texas Community Workshop recommended developing a recognizable brand or insignia for the Gulf of Mexico that resonates with all Gulf residents. Another innovative suggestion from the Mississippi/Alabama Community Workshop was to engage a famous regional personality to champion the awareness campaign. Citizens at the Naples, Florida Community Workshop suggested distributing free textbook covers to all middle and high school students that feature Gulf of Mexico facts. In general, these citizens were concerned about reaching out to their ‘upstream’ neighbors who may not understand the national importance of the Gulf of Mexico and how their actions affect this important resource.



# Identification and Characterization of

# Gulf Habitats

## Habitat Characterization Challenges and How the Gulf Alliance Can Help

The Gulf Coast supports a diverse array of coastal, estuarine, nearshore and offshore ecosystems, including sea grass beds, wetlands and marshes, mangroves, barrier islands, sand dunes, coral reefs, maritime forests, bayous, streams and rivers. These ecosystems provide numerous ecological and economic benefits including improved water quality, nurseries for fish, wildlife habitat, hurricane and flood buffers, erosion prevention, stabilized shorelines, tourism, jobs and recreation. The Gulf of Mexico contributes almost 20 percent of U.S. commercial fish landings, with an estimated annual value of more than \$1 billion and as much as 30 percent of U.S. saltwater recreational fishing trips. The coastal habitat that supports these fisheries is a vital resource to the regional economy and the quality of life for Gulf residents. The ability to evaluate the extent and quality of these habitats is critical to successfully managing these for sustainability, as well as better determining threats from hurricanes and storm surge.

### ***Long-term Partnership Goal:***

Identify, inventory and assess the current state of and trends in priority coastal, estuarine, nearshore and offshore Gulf of Mexico habitats to inform resource management decisions.

### ***How does this support Gulf recovery and build resilience to future hurricanes?***

An accurate and comprehensive inventory of Gulf coastal habitats, such as barrier islands and coastal wetlands, will allow resource managers to target conservation and restoration projects to maximize flood and storm surge protection benefits. In addition, this information will allow rapid impact assessments immediately following hurricanes and other coastal hazards.

Participants at all Community Workshops recognized habitat degradation and loss as a priority issue and identified the need to define and describe the full suite of Gulf habitat types from tidally influenced coastal rivers to the Gulf's blue waters. Creating this baseline data was strongly encouraged to accurately understand impacts from both human activities and natural events, such as hurricanes; manage these vital resources using a solid scientific approach; and help resource managers "tell the complete story" to decision-makers and Gulf residents.



### Maps

Participants at the Community Workshops consistently recommended that maps characterizing all critical habitats at the local and state level be easy to access, user-friendly and updated frequently with the most current information. Similarly, these citizens advocated for an online inventory that not only describes various habitats but also identifies influencing factors such as existing land uses. It was suggested that standardized data collection and mapping techniques across the five states and among all levels of government would also make good use of limited resources.



**Gulf State Lead for Regional Coordination:** Texas

**Action Leads:** NOAA, USACE and USGS

**Contributors and Collaborators:** Alabama, Florida, Louisiana, Mississippi, EPA, MMS, NASA, NPS, State Department and USFWS

## ID-1: Create and provide access to interactive habitat maps for priority Gulf of Mexico habitats

**Action:** Identify and assess the location, extent, variation and condition of priority coastal, estuarine, nearshore and offshore Gulf habitats and establish a baseline information and mapping system. The system will provide comprehensive access to uniform, quality-assured coastal habitat observations in the Gulf region by developing an Internet-accessible, geospatial database of local, state and federal data sources.

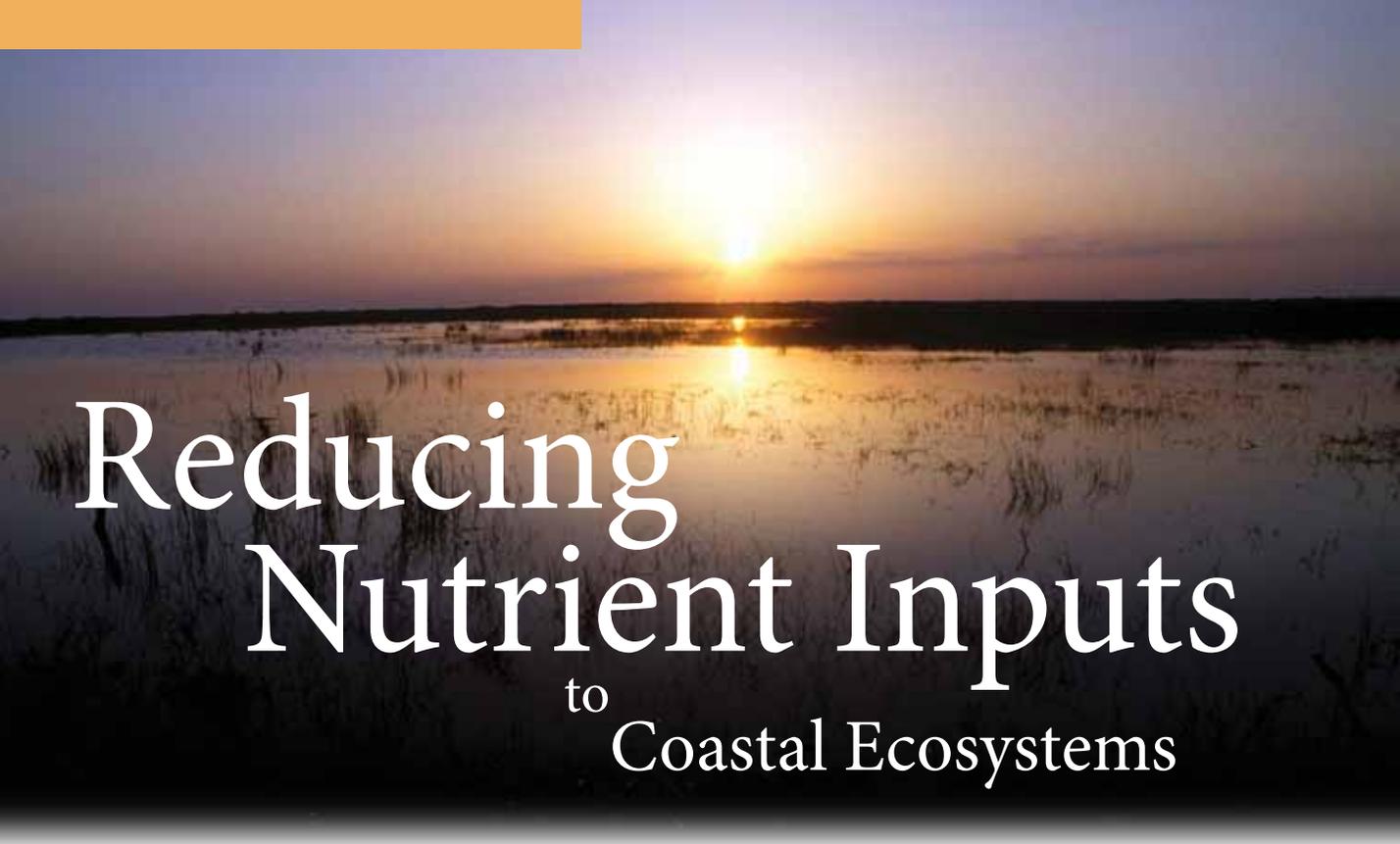
### WHY DO THIS?

Coordinating data collection and data management activities, sharing habitat mapping data and eliminating duplication of effort will maximize the effectiveness of limited resources used to understand and manage the extent and condition of Gulf habitats.

**36-Month Outcome:** Produce a prototype Web portal to provide public access to and delivery of current and historic local, state and federal Gulf of Mexico habitat data with the initial focus on sea grass beds. Users will be able to search a digital library for habitat information by keyword or geographic location, preview geospatial data and download selected data products. The portal will also demonstrate the feasibility of building a distributed system that will enable users to request and retrieve data directly from the agencies holding the original data.

### Action Blueprint and Commitments: 2006 - 2009

1. Coordinate state and federal collection of information and complete an inventory of existing habitat data and initiate a gap analysis. This inventory will identify available data and associated metadata. The inventory will have both a regional and local scope and will focus on mapping and restoration projects. Products will include:
  - a) User Needs Assessment
  - b) Inventory of Gulf of Mexico Habitat Data
  - c) Assessment of Priority Gulf of Mexico Habitat Data Needs
2. Establish the Federal Data Management Group, a team to work with local, state and federal entities to identify specific requirements for a regional data management platform and portal.
3. Establish a standard metadata format to streamline metadata development and maintenance at the local, state and federal level.
4. Establish a data management platform and portal that will provide access and delivery of existing local, state and federal data.
5. Provide data management training, software and hardware acquisition to Gulf state agencies.
6. Provide GIS and metadata training to the state and local Gulf States resource managers.
7. Evaluate the types of technologies and procedures needed to map Gulf of Mexico seafloor habitats and establish a baseline information and mapping system.



# Reducing Nutrient Inputs to Coastal Ecosystems

## Challenges to Reducing Nutrient Inputs and How the Gulf Alliance Can Help

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Gulf of Mexico estuaries and near coastal waters support critical fish and wildlife habitats that contribute more than \$1.75 billion annually to the national and Gulf State economies. Healthy estuaries and coastal wetlands depend on a balanced level of nutrients; this balance is essential to sustain productive communities of plants, animals and ecosystem services such as absorbing floodwaters, dissipating storm surge, preventing erosion and stabilizing the shoreline. Excessive nutrient levels can have negative impacts, for example, harming Gulf seagrass beds, reducing the abundance of recreationally and commercially important fishery species such as brown shrimp and contributing to harmful algal blooms.

Hurricane recovery and rebuilding efforts present an opportunity to reduce human impacts to vital coastal ecosystems. Rebuilding in communities affected by Hurricanes Katrina and Rita provides an opportunity to prevent excessive nutrients from entering coastal ecosystems through improved public and onsite water treatment systems, relocating effluent discharges from sensitive waters, controlling storm water discharges and infrastructure improvements.

Over the next several years, Gulf States are required by the Clean Water Act to establish criteria for nutrients in coastal ecosystems that will guide regulatory, land use and water quality protection decisions. Because the five Gulf States face similar nutrient management challenges at both the estuary level and as the receiving water for the entire Mississippi River watershed, the Gulf of Mexico Alliance is an important venue to build and test management tools to reduce nutrients in Gulf waters and achieve healthy and resilient coastal ecosystems.

### ***Long-term Partnership Goal:***

Develop nutrient criteria management tools to reduce nutrient pollution to Gulf of Mexico coastal waters and work to ensure that Gulf Coast rebuilding efforts incorporate innovative practices and technologies to reduce the potential for nutrient pollution to coastal ecosystems.

*How does this support Gulf recovery and build resilience to future hurricanes?*

Ongoing recovery and rebuilding efforts in Gulf communities provide excellent opportunities to improve community and onsite water treatment, relocate effluent discharges from sensitive waters and reassess storm water management practices – all helping to reduce excessive nutrient inputs. Readily-available and cost effective tools to assist planning and infrastructure development will expedite recovery and rebuilding while strengthening Gulf coastal ecosystems.

**Gulf State Lead for Regional Coordination:** Mississippi

**Action Leads:** Louisiana and EPA

**Contributors and Collaborators:** Alabama, Florida, Texas, MMS, NOAA, NSF, State Department, USACE, USFWS and USGS

### **N-1: Increase regional coordination in the development of nutrient criteria**

**Action:** Establish a regional coordination venue to coordinate knowledge, resources and tools for the development of nutrient criteria in Gulf coastal ecosystems.

#### **WHY DO THIS?**

Per the Clean Water Act requirement to develop nutrient criteria for estuaries and near coastal waters, the Alliance can bring together state and federal expertise and monitoring data to assist in understanding nutrient levels, reduce duplication of effort and establish compatible nutrient criteria for the Gulf region.

**36-Month Outcomes:** Establish a Gulf of Mexico Alliance Nutrient Criteria Coordination Team of state and federal representatives to meet the needs of the Gulf States through improved coordination among existing local, state, regional and national nutrient reduction programs.

#### **Action Blueprint and Commitments: 2006 - 2009**

1. Convene the Coordination Team and a technical conference to synthesize the state of knowledge regarding nutrient levels and develop a plan for regional coordination.
2. Complete and transfer knowledge gained from the Northern Gulf Estuarine Pilot Project and identify one or more estuaries to apply the methods and lessons learned from the Northern Gulf Estuarine Pilot Project.
3. Identify and coordinate local, state and federal monitoring efforts and data management systems to support development of nutrient criteria.
4. Present a comprehensive assessment of Gulf nutrient monitoring program needs to the National Water Quality Design Team.
5. Inventory modeling needs to deal with nutrient issues under permitting, TMDL development and nutrient criteria development.
6. Develop a library/database of marine and estuarine species for site specific dissolved oxygen criteria development.



#### **Nutrient Inputs**

Participants at all Community Workshops identified water quality as a priority issue and highlighted excessive nutrient inputs as a particular concern. They recognized the need to find the proper balance between the nutrient inputs required to sustain healthy and productive ecosystems and the excessive inputs that pollute their waters with algal blooms and leave dead fish on their beaches. These citizens acknowledged the natural filtering function of wetlands and advocated for a focus on this management technique where feasible.





## N-2: Implement nutrient reduction activities during Gulf recovery and rebuilding

**Action:** During recovery and rebuilding efforts in the Gulf region, apply innovative practices and technologies to restore fishing and recreational uses in key coastal watersheds impaired by excessive nutrient inputs.

### WHY DO THIS?

To effectively use resources to reduce nutrient inputs, actions must be targeted to priority areas and coordinated among existing programs. The Gulf States are in the best position to identify priorities and key areas to target nutrient reduction activities.

**36-Month Outcome:** Implement nutrient prevention and reduction activities in Gulf communities improving or rebuilding infrastructure.

### Action Blueprint and Commitments: 2006 - 2009

1. Identify key coastal watersheds with significant nutrient impacts, sensitive waters and a high likelihood of successful restoration of fishing and recreational uses.
2. Identify communities conducting infrastructure rebuilding activities where nutrient reduction can be achieved through improved infrastructure planning and design.
3. Identify and prioritize implementation and coordination opportunities for existing local, state and federal programs in key coastal watersheds and communities conducting infrastructure rebuilding activities.
4. Provide technical assistance to interested local governments to improve infrastructure planning and design.
5. Evaluate the effectiveness of nutrient reduction activities in key coastal watersheds and rebuilding communities and develop techniques to improve effectiveness.
6. Map communities served by advanced wastewater treatment systems to help develop strategies for remediation activities.

## Gulf Coast Citizen Input

### Water Quality Standards

Participants at several Community Workshops recommended implementing nutrient criteria and adopting state water quality standards for nutrients in all Gulf States. They advocated for increased monitoring, improved data collection coordination and the development of a baseline dataset. Overall, citizens recognized the value of coordinating and sharing data across geographic boundaries and at all levels of government.

### **N-3: Assert an aligned, Gulf States position on the need to address Gulf of Mexico hypoxia**

**Action:** Assert a unified position shared by all Gulf States to advocate actions – by all 31 states in the Mississippi River Watershed – to reduce Gulf hypoxia.

#### **WHY DO THIS?**

The Mississippi River Basin, which drains more than 41 percent of the continental U.S., is a large source of excessive nutrient inputs to the Gulf of Mexico. Reduction in the amount of nutrients from this source is critical but must be coordinated among the many state and federal partners in the Mississippi River Basin.

**36-Month Outcome:** Develop and represent a consistent five Gulf State position on the need to reduce Gulf hypoxia in venues such as the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force.

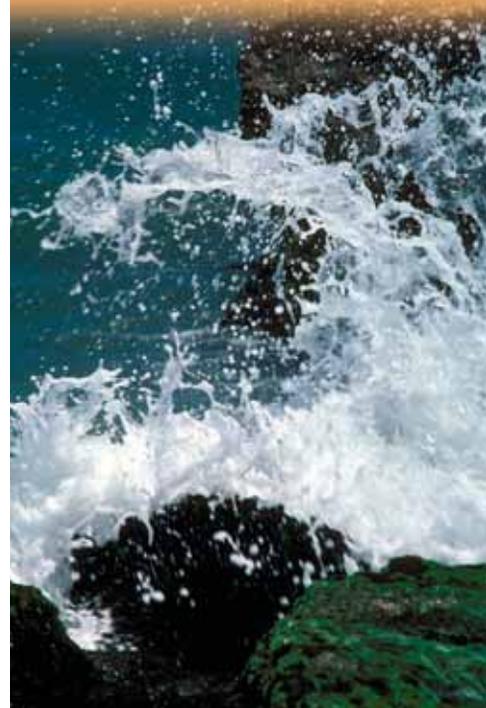
#### **Action Blueprint and Commitments: 2006 - 2009**

1. Assist in the completion of a comprehensive assessment of the Gulf Hypoxia Action Plan.
2. Help bring focus and expertise to the Gulf region by assisting with the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force Sub-basin Committee Symposium and the Gulf of Mexico Hypoxia Symposium (Spring 2006).
3. Provide Gulf State information on point and nonpoint source pollution to the Mississippi River Basin and the ecological and economic impacts of the Gulf of Mexico Hypoxic Zone on natural resources such as fish and shellfish.
4. Establish effective Mississippi River Basin-wide agricultural partnerships to better facilitate strategic voluntary nutrient reductions.
5. Provide annual forecasts of the extent of the hypoxic zone to guide fishing industries and establish a basis for evaluating the validity of hypoxic zone model predictions.



#### ***Nutrient Level Research***

Participants at all Community Workshops consistently recommended further research on the connection between nutrient levels and hypoxia. In particular, participants at the Port Aransas, Texas Community Workshop identified the need to better understand the timing of nutrient loading relative to circulation and seasonal factors that influence hypoxia. Citizens also suggested developing templates, guidelines and consistent measurement standards to allow the Gulf States to speak more effectively on this issue at the regional level. Citizens advocated for increased education, particularly of upstream communities, to better demonstrate the relationship between individual actions and large-scale impacts, such as Gulf hypoxia.





# Gulf Coast Community Input

## The Critical Need for Citizen Involvement

From the early stages of planning for the Governors' Action Plan, it was recognized citizen input is critical for identifying priority issues and affecting on-the-ground change in the Gulf region. It is in local communities, small and large, where the effects of a healthy Gulf are most clearly realized in day-to-day life. To capture this input, a series of eight workshops, plus two evening meetings were open to the general public and hosted in communities across all five Gulf States. While the series was interrupted by Hurricanes Katrina and Rita, the Gulf States managed to conduct all eight workshops prior to the Action Plan's release.

### Goals:

The Gulf of Mexico Alliance Community Workshops were designed to:

- Gain local perspectives on priority issues related to the environmental and economic health of the Gulf region;
- Gain local perspectives on the five issues being tackled by the Gulf Alliance;
- Identify successful programs and partnerships that can support Alliance efforts;
- Build better relationships between local, state and federal entities, and
- Build public awareness about the importance of a healthy Gulf of Mexico to local communities, the Gulf region and the Nation.

A table presenting the top five priority issues identified at each community workshop is presented below to highlight common priorities identified across different workshops. All of the input received at the workshops will be detailed in a separate report available in spring 2006; please view or download the report online <http://www.gulfofmexicoalliance.org/>.

## Top Five Priority Issues Identified During the Alliance Community Workshops

#	Naples, FL 6/9/2005	Tampa, FL 8/23/2005	Apalachicola, FL 8/25/2005	Sarasota, FL 9/14/2005	Galveston, TX 9/20/2005	Port Aransas, TX 1/19/2006	Mississippi/Alabama 2/1/2006	Thibodaux, LA 2/21/2006
1	Habitat Loss	Population Growth and Development	Habitat Loss	Lack of Funding	Lack of Land Use Planning	Habitat Loss	Habitat Loss	Habitat Loss
2	Water Quality and Quantity	Habitat Loss	Water Quality and Quantity	Habitat Loss	Water Quality and Quantity	Population Growth and Development	Education	Hurricane Protection
3	Education	Water Quality and Quantity	Population Growth and Development	Water Quality and Quantity	Habitat Loss	Education	Balancing Environmental and Economic Interests	Education
4	Population Growth and Development	Apathy and Societal Perceptions	Lack of Enforcement	Red Tide	Population Growth and Development	Balancing Environmental and Economic Interests	Invasive Species	Water Quality and Quantity
5	Lack of Enforcement	Education	(tie) Lack of Coordination/ Loss of Cultural & Economic Viability in Coastal Communities	Education	Education	Water Quality and Quantity	Water Quality and Quantity	Implementation: Turning Planning into Action

Top five priority issues for each workshop are based on popular vote by participants at each community workshop. Common issues across workshops are shaded in the same color to show similarities in citizens' concerns across the Gulf.

Although hurricanes and other coastal hazards emerged as a top five priority issue solely at the Louisiana Community Workshop, hurricane and recovery issues permeated all post-storm community workshop discussions. For example, participants at the Mississippi/Alabama Community Workshop acknowledged that devastation from Hurricane Katrina can bring an opportunity to create a new, sustainable vision for Gulf Coast development. Communities directly impacted by the hurricanes recognize that they have almost a clean slate to utilize current knowledge and inspire the use of smart growth principles to rebuild a stronger, more resilient Gulf Coast. Participants specifically recommended creating action teams in local communities to come together and help implement their long-term recovery plans.

This Governors' Action Plan represents the first action of this new Gulf Alliance partnership. It addresses many concerns raised at this first round of Alliance Community Workshops, including water quality, excessive nutrient inputs, habitat loss and environmental education, but other issues raised by Gulf citizens will require future focus. It is the intent of the Alliance to continue this community workshop process to gain local perspectives and direction as the Alliance moves forward.

# Acronyms

BTNEP	Barataria-Terrebonne National Estuary Program	NASA	National Aeronautics and Space Administration
CELC	Coastal Ecosystem Learning Centers	NBII	National Biological Information Infrastructure (USGS program)
CORS	Continuously Operating Reference System	NEP	National Estuary Program (EPA program)
COSEE	Centers for Ocean Science Education Excellence (NSF program)	NERR	National Estuarine Research Reserve (NOAA program)
DOI	Department of the Interior	NGO	Non Governmental Organization
EPA	Environmental Protection Agency	NOAA	National Oceanic and Atmospheric Administration
FDA	Food and Drug Administration	NPS	National Park Service
GCOOS	Gulf of Mexico Coastal Ocean Observing System	NRL	Naval Research Laboratory
GIS	Geographic Information System	NSF	National Science Foundation
GMP	Gulf of Mexico Program (EPA program office at Stennis Space Center)	TMDL	Total Maximum Daily Load
HAB	Harmful Algal Bloom	USACE	U.S. Army Corps of Engineers
LSU	Louisiana State University	USFWS	U.S. Fish and Wildlife Service
MMS	Minerals Management Service	USGS	U.S. Geological Survey
		USOAP	U.S. Ocean Action Plan

## Gulf of Mexico Alliance Contact Information

*General information, Implementation Activities Matrix & Alliance Community Workshops Report:*

<http://www.gulfofmexicoalliance.org>

### Gulf of Mexico Alliance



State of Alabama



State of Florida



State of Louisiana



State of Texas



State of Mississippi

### Federal Workgroup

Council on Environmental Quality  
National Aeronautics and Space Administration  
National Science Foundation  
U.S. Army Corps of Engineers  
U.S. Department of Agriculture  
U.S. Department of Commerce  
U.S. Department of Defense  
U.S. Department of Energy  
U.S. Department of the Interior  
U.S. Department of Health and Human Services  
U.S. Department of State  
U.S. Department of Transportation  
U.S. Environmental Protection Agency

### State Agencies

Florida Department of Environmental Protection  
Alabama Dept. of Conservation & Natural Resources,  
Coastal Section, State Lands Division  
Louisiana Department of Environmental Quality  
Mississippi Department of Environmental Quality  
Texas Commission on Environmental Quality

*Special thanks to the following for photos: Barataria-Terrebonne National Estuary Program in LA, South Florida Water Management District, Texas Council of Environmental Quality, FEMA, Florida Fish and Wildlife Commission and NOAA.*