



# Tides of Change A New Wave of Sustainability May 2012

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## The Plan for Opportunity

The Plan for Opportunity is a collaborative planning project intended to guide the economic growth and development of the Mississippi Gulf Coast and to improve housing, employment and transportation opportunities throughout the region. The three year planning process will be guided by the Constituency for a Sustainable Coast (CSC), a stakeholder working committee including city and county leadership, key community and public partners, and residents of the region. The water subcommittee is charged with examining how the region's water resources can be used to increase economic competitiveness, support existing communities, leverage federal investment and value communities and neighborhoods. The subcommittee undertook a water assessment to understand how water is being used in the region, the quality of the water, and key issues facing the coast. The subcommittee then undertook a stakeholder assessment to engage with many different types of water subcommittee, this solution summary has been undertaken to provide important perspectives on the challenges and opportunities facing the region's water resources.

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Currently ferry service is offered to Ship Island. Providing a regional water taxi service would increase access to coastal destinations.

## Goal 1: Build a Resilient Economy

### **Current Status:**

In recent years the water dependent economy of the Mississippi Gulf Coast has been hit hard by disasters. Hurricane Katrina and the Deepwater Horizon Oil Spill have harmed the Coast in many ways. Several factors, such as insurance rates, which increased after Hurricane Katrina, have stunted growth all along hte coastal counties. Tourism was also affected by the disasters and there has been a significant decline in the amount of people visiting the Coast. Jackson County, for example, saw a decline of 15 percent in tourism between 2008 and 2010.<sup>1</sup> Supported efforts in promotion and accessibility for the tourism industry were cited by stakeholders as vital to the environmental health and successes of the Gulf Coast economy. Stakeholders believe that while there have been some positive efforts to encourage tourism, such as the creation of blueway trails and a fledgling Eco-tourism sector, more can be done to make Mississippi a tourist destination. Key implementers and potential funding sources to implement the strategies identified are listed on page 17.

### **Objectives:**

- Promote and market tourism
- Provide incentives to plan and build resilient communities

### **Indicators**:

- Increase tourism expenditures
- Increase water dependent employment
- Increase in tonnage and value of imports and exports

#### Source: Tatiana Parfenova

The proposed regional blueway system would include a wayfinding signage system that provides users with clear directions.

PASCAGOULA

MISSISSIPPI COAST BLUEWAYS



**Source:** *Miaoyun Zhou* The proposed Eco-tourism Council would work to brand and promote the Mississippi coast's unique ecosystems.

## **Recommended Strategies:**

#### 1. Create a Waterfront Wayfinding Signage System

A wayfinding system should be integrated across the region, including signs at recreational locations and roadway/waterway signs. At recreational locations, such as blueways and beaches, signs with maps of coastal blueways/greenways indicating public access points should be installed. Mile markers should be posted along blueways. Roadway signs are needed at key intersections and river crossings. This information should also be provided online to allow recreational users to map their routes.

#### 2. Organize an Eco-tourism Council

An Eco-tourism Council should be created as a new non-profit organization on the Coast. This council's primary responsibilities would include region-wide branding of Mississippi unique ecosystems, estimating economic impact of the Eco-tourism sector, and advocating for, supporting and developing more Ecotourism options through conservation and cooperation with local businesses.

#### 3. Expand Public Access to Water Quality Information

Monthly monitoring of water quality should be expanded

to fresh water recreational access points on rivers and lakes in addition to saltwater beaches. Volunteer-based organizations would assist with water quality testing and instal water quality signs in major public access points and at fishing locations. Signs should list how to find water quality information, such as text or e-mail. New signs should be updated using current schemes for signs on the beaches by local organizations in charge of a recreational location, e.g. Harrison County Sand Beach Authority, road departments and parks departments.

## 4. Encourage Casinos to Work Together to Connect with Waterfront Activities

Casinos should cooperate with local businesses and tourism agencies to develop strategies that extend the length of vacation stays and connect casino visitors to waterfront activities. This would encourage patrons to experience the breadth of activities available along the coast and provide for a stronger tourism industry.

#### 5. Explore the Feasibility of a Water Taxi Service

A feasibility study should be conducted for a possible waterbased taxi system that would provide service between the casinos and other tourist destinations. The taxis would serve both tourists and residents interested in traveling by water. Service could be



Source: Tatiana Parfenova

The regional blueway system would include signage allowing visitors to understand the types of water sports and outdoor attractions available at the destination.



#### Source: Angel Arroyo-Rodriguez

Waterfront businesses could benefit from the addition of canoe and kayak docks as well as boat parking. This would allow residents to travel by water to popular destinations, promoting active recreation.

expanded over time to provide terminals at multiple locations across the Mississippi Coast.

#### 6. Advocate for Insurance Reform

Representatives from Mississippi should advocate for legislation that reforms insurance on a local, state and national level. Reforms to be considered should include all-perils homeowner insurance, federal reinsurance for state catastrophe funds, federal lending to state catastrophe funds, insurance company catastrophe reserving and homeowner catastrophe savings accounts. This insurance advocacy should create a system that discourages development in tidelands, velocity zones and other high-risk areas and encourages mitigation credit.

## 7. Increase Waterfront Business Access Points Along Coastal and Intercoastal Waterways

Docks should be permitted and constructed along waterways adjacent to restaurants, retailers and other businesses to create access for canoes, kayaks and small motorized boats. Kayak and canoe lockers should be supplied to accommodate the travelers wishing to visit inland destinations. This would also allow residents to commute or travel for recreation and shopping destinations along the region's rivers and bayous.

## 8. Emphasize Waterfront Development that Benefits the Economy and Community

A vibrant and diverse waterfront is important to the long-term sustainability of the Gulf Coast as a community and a tourist destination, but its development should not come at a cost to the industries that occupy the area. Gentrification on the coast could potentially prevent Mississippi from having a working waterfront, which is an important part of its economy and its heritage. Specific policies should be drafted that establish an evaluation procedure for proposed mixed-use zoning on the waterfront based on existing industries and businesses and require the drafting of Community Benefits Agreements for the development of any major waterfront industrial sites.



**Source:** Tatiana Parfenova Designing waterfront amenities for universal use will ensure all residents can enjoy the region's waters.

## Goal 2: Provide Equitable Infrastructure Objectives:

### **Current Status:**

Since Hurricane Katrina, the Mississippi Gulf Coast has taken positive steps towards enhancing its water infrastructure. Specifically, \$582 million helped to provide new or enhanced infrastructure in five southern counties of Mississippi.<sup>2</sup> While the physical infrastructure is being upgraded, stakeholders in the area still raised concerns about the lack of collaboration across state lines, education of residents, and accessibility. Addressing these problems will allow for more innovation, increased knowledge and more opportunities for people to enjoy and visit the coast. While progress has been slow, investing in programs that address these issues will allow the Mississippi Gulf Coast to have a more complete infrastructure system. Key implementers and potential funding sources to implement the strategies identified are listed on page 21.

- Promote regional cooperation
- Manage human impact
- Promote green infrastructure and recycling
- Provide waterfront amenities

### **Indicators**:

- Increase capacity for management of stormwater
- Increase connectivity between water related amenities
- Increase in number of ships embarking at ports
- Reduce Severe Repetitive Loss (SRL)



Source: Bridget Troy

Educating young students about the role of hazard mitigation in reducing risk to life and property will aid in ensuring the resilience of the region.

### **Recommended Strategies**

#### 1. Enable Stormwater Revenue Streams

Legislation should be passed enabling local governments to have the option to implement stormwater revenue streams. At the time of development, a developer would contribute in partnership with the community to ensure that stormwater impacts are addressed. These funds would be collected and used to pay for stormwater infrastructure improvements. Both local governments and the development community can participate in the design of revenue program.

## 2. Encourage the Gulf of Mexico Alliance to Coordinate Policies Among the States

Using connections already available through GOMA, and support from the MS/AL SeaGrant Legal Program to increase participation amongst policy makers, the Alliance should work to create more uniformity in policy throughout the five coastal states. They should seek to represent the interests of the Gulf Coast as a whole on economic and environmental issues which impact all of the coastal states. They might even go so far as to create a council that would draft policy briefs for possible implementation in each state.

## 3. Expand the Digital Inventory of Water, Wastewater and Stormwater Infrastructure

An expanded regional water, wastewater and stormwater infrastructure inventory would provide clear and complete information on existing infrastructure. This process would include digitizing the existing paper records of drainage routes with directionality and connectivity. It would also fill in the data gaps by conducting field verification of culverts, outfalls, bridges, illegal dump sites, and discharge points. The expanded inventory would not only provide useful information for decision making and future capital improvement projects but would also, when incorporated with water flow and quality monitoring data, be used to assess drainage capacity and identify potential sources of pollution.

#### 4. Encourage and Incentivize Development Codes

A new approach should be adopted that provides a development point system to encourage the integration of site and building features that conserve energy, reduce water consumption, promote a healthy landscape, and support public health and safety. It would also provide incentives to increase the use of best practices. Approval of nonresidential, multifamily and mixed use development would be dependent on achievement of a specified number of points and developments that exceed the minimum requirements could be eligible for density and/or height bonuses.

## 5. Encourage Daylighting of Streams through Capital Improvement Planning

Identify opportunities for daylighting streams that have been piped in urban areas, restoring them to a natural state. This would allow for water and organisms to move uninhibited. The process of daylighting should be included as part of capital improvement planning.

## 6. Ensure Expansion and Connection of the Blueway/ Greenway System

Partners in each coastal county have been developing blueway and greenway networks. Over time, these networks should be connected into a regional blueway/greenway network across county lines, throughout the state via upstream connections and across state lines to connect with existing ocean paddling trails, such as the Florida Circumnavigational Saltwater Paddling Trail. This would connect recreational and outdoor educational opportunities to residents and tourists alike. The regional blueway/greenway system should aim to meet requirements set for designation as National Recreational Trails or National Blueway Recreational Trails, if enacted.

#### 7. Ensure Accessible Amenities at Public Waterfronts

Accessible amenities should be added to fishing piers, beaches, and other waterfront recreational destinations. This could include accessible ramps and paths, seating areas, additional trash cans, and emergency phone posts. Trash cans should have lids to minimize blowing trash.



**Source:** The Ohio State University Vegetation provides ecosystem services like conserving the region's natural resources.

## **Goal 3: Conserve Coastal Environment**

## **Current Status:**

The Mississippi Gulf Coast is home to a vibrant, unique ecosystem that depends on its water resources for survival. For example, it is home to the Pascagoula River the largest unimpeded waterway in the country.<sup>3</sup> Because of the intricate relationship between a healthy ecosystem and healthy water resources, negative changes to environmental conditions can affect all elements of the ecosystem, including human health. The ecological functions supported by a healthy environment allow for cleaner water, decreased flooding, shoreline erosion protection, improved air guality and a healthy food supply. Wetlands are a key component in providing these functions, yet they are diminishing. In fact, the average erosion rate in the Hancock County marshes has been 12.8 feet per year over the past seven decades.<sup>4</sup> Stakeholders have raised concerns about diminishing wetlands, habitat loss, the lack of environmental education and water quality. Most of the concerns were focused around the effects of development on the coastal environment, specifically

runoff and sedimentation. By addressing these problems at the source, the Gulf Coast will be able to ensure the overall health of the region and conserve its resources. Key implementers and potential funding sources to implement the strategies identified are listed on page 25.

## **Objectives:**

- Reduce pollution and runoff
- Balance development with preservation
- Raise public awareness of environmental stewardship

## Indicators:

- Reduce household water consumption
- Increase conservation and restoration of streams, wetlands estuaries and bayous
- Improve water quality



**Source:** Miaoyun Zhou A restored natural bank at Moss Point Grand Bay Coastal Research Partnership

## **Recommended Strategies:**

## 1. Implement a Septic System Maintenance Verification System

The state could operate or authorize counties to operate a septic system maintenance verification program, similar to car insurance verification programs in other states. The Mississippi Department of Health, which offers certification for on-site wastewater related professions, could maintain and share a database of septic systems with MDEQ. Together, the agencies can contact residents and/or wastewater professionals in order to obtain information about the maintenance of septic systems. The collection of this information will provide the State with better information on where the greatest problem areas may be located. Public education and septic system regulation enforcement can be focused on areas determined to be high risk.

## 2. Add 12-digit Hydrologic Unit Code-defined Watersheds to Special Management Area Plans

Currently, Section 5 of The Coastal Zone Management Plan establishes three categories of designated special management areas: port and industrial areas, urban waterfronts, and shorefront access areas. A Special Management Areas Plan (SMAP) is a tool for economic development and resource conservation that coordinates the efforts of existing regulatory agencies and jurisdictions. Adding watersheds as defined by 12-digit HUCs as a designated category will allow for outright establishment, facilitate the pursuit of funding, and aid in the distribution of administrative duties.

## 3. Create and Provide Education on a Comprehensive Regional Sediment Control Code

A regional sediment control policy would reduce the amount of sediment reaching waterways and navigation channels and would reduce the need for dredging. While Jackson County has its own sediment control policy, most communities across the rest of the region have differing policies. A single, regional sediment control code would result in better implementation because construction companies would only have to follow one uniform policy. Sediment management BMPs--such as vegetative buffers, port/harbor sediment management techniques and marshland restoration--should be supported by a comprehensive regional sediment control codes that limit pollution, erosion, and sedimentation of rivers and the Sound. If needed, this set of codes could eventually be adopted as a Regional Sediment Management Plan, which could support recommendations made by the Gulf of Mexico Regional Sediment Management Master Plan. The implementation of this code would include a plan for education and enforcement that outlines policies to officials, developers and citizens and delegates authority for enforcement across the region.

## 4. Organize the Gulf-friendly Landscaping & Gardening Coalition

Building on the Gulf of Mexico Alliance Smart Yard Healthy Gulf campaign, businesses and organizations that believe in sound-friendly landscaping and gardening should organize into a coalition to provide home gardeners, landscape professionals, and public agencies with the education and tools necessary to make informed decisions about sustainable landscaping and gardening in their communities. The coalition should capitalize on existing expertise and outreach efforts, and it should help them be organized and efficient by developing educational tools and materials that all can use. The coalition would also provide a venue for integrating expertise with the common goal of reducing the amount of excess nutrients and contaminants that reach waterways. The coalition could promote the use of compost and organic alternatives for lawn care instead of chemical fertilizers, pesticides and herbicides.

## 5. Include Composting of Animal Wastes in the Farm-A-Syst Program

The Farm-A-Syst Program by MSU Extension is an educational outreach effort with the goal of protecting drinking and surface water resources by promoting proper management of manures and other animal wastes. The program has a score sheet for farmers to determine their risk for contaminating water resources. Although composting and compost use is a well known BMP that reduces risk of contamination, the score sheet doesn't include composting and compost use as low risk management options. The score sheet should be updated to include compost. Training on compost use and composting methods would ensure that farmers feel confident using this option.

#### 6. Bring the Master Composter Program to Mississippi

The Master Composter Program is designed to extend composting information to the public through volunteers who have successfully completed a comprehensive training program. Master Composters agree to give back to the community a minimum of 50 hours of volunteer service in the form of approved educational outreach. This can be done in a variety of ways such as giving workshops at schools, community centers, staffing a booth at fairs or writing a news release for a paper.

## 7. Establish Encapsulation Requirements for Polystyrene Floating Structures

Add a requirement in the Army Corps of Engineers general permits delegated to MDMR specifying that no person shall install a submersible polystyrene device on a dock, buoy or float unless the device is encapsulated by a protective covering or is designed to prevent the polystyrene from disintegrating into the waters.

#### 8. Establish a No Disposal Zone in State Waters

Mississippi should work with the EPA to designate a No Disposal Zone (NDZ) across its territorial water in order to prevent ships from placing bilge and sewage into the water. A NDZ is an area in which both treated and untreated sewage discharges from vessels are prohibited. Within NDZ boundaries, vessel operators are required to retain their sewage onboard for disposal at least three miles from shore, or onshore at a pump-out facility. If an NDZ is designated, the EPA regulations are enforced primarily by the Unites States Coast Guard, but the State could also assist with enforcement.

## 9. Implement Policies for Increased Protection of Aquatic Species

Take additional measures to protect riverine, bayou, and Gulf environmentes, such as additional No Wake Zones and expanded submerged aquatic vegetation (SAV) areas. This will require amending current legislation to allow for the protection of more



**Source:** Amanda Meddles Community garden with composting piles.

areas and creating new laws to enforce additional regulations, such as a requirement to tilt boat motors to protect seagrass beds in No Wake Zones. Regulations will need to be implemented in policy at the City and County levels.

#### 10. Institute Region-wide Water Metering and Consumptionbased Water and Sewage Pricing

Meters should be installed for households, businesses, and industries whose water usage is not yet metered, while outdated meters should be replaced to avoid inaccurate readings. Electronic meters that emit wireless signals would significantly improve the efficiency and reduce labor costs related to meter reading. Utilities should consider adopting conservation-oriented rate structures that convey strong "price" signals to encourage water conservation at the consumers' end. Possible rate structures include: increasing block rate (increasing the price for each "block" of water use as consumption increases), seasonal pricing, or correlating sewer charges with water use (high water use results in a high sewer charge). Additionally, water utilities could encourage consumers to regularly check leaks, monitor water usage and adopt conservation measures such as using waterefficient devices at home. All of these measures would also be carried over to sewage utility rates and practices. Comparisons between individual household consumption and average household consumption and tips for reducing water and sewer bills can be disseminated through utility websites and monthly bills. Consumers could expect to realize savings on their utility bill through the use of metering and consumption-pricing.

#### 11. Preserve Deer Island in its Natural State

Deer Island should be maintained as a coastal preserve by the Mississippi Department of Marine Resources and the State of Mississippi. The island is home to many rare and endangered species and is an important habitat on the path of migratory birds. With the constant threat of land loss and sea level rise, Deer Island will need continued restoration efforts in the future.

#### 12. Improve Public Opinion of Mississippi Gulf Coast Waters

A media campaign should focus on education and awareness of water quality through indirect public messaging. This outreach campaign should promote the adoption of environmentally friendly behaviors. Campaign ads should focus on eating fresh seafood and other lifestyle activities that people care about. For example, the promotion of recreational activities such as crabbing and swimming would raise awareness of the environmental



**Source:** Jim Foster Identifing water conservation opportunities.

concerns surrounding the activity, and it could also focus on the impacts of individual behavior on water quality. Another focus should be improving public perception and understanding of the natural appearance of the Mississippi Gulf Coast waters. The existing negative perception may discourage people from engaging in water actives, stir unwarranted concerns over the health of the water and perpetuate desires for the water to be blue. Headlined by a catchy slogan such as "Our water is tinted with tannins," a public campaign would help explain the condition of the water and reduce misconceptions about it. Slogans could be easily incorporated into existing environmental education programs and also marketed on bumper stickers, t-shirts, Frisbees, reusable water bottles and other usable objects to gain public exposure.

## 13. Provide Greater Public Education and Outreach on Water Resources

There are a number of educational efforts on the coast that could be expanded to create more pathways to address complex environmental topics like sea level rise, water conservation and water quality. Programs should be created to reach citizens of all ages, from K-12 students to the Gulf Coast's political and social leaders. New, innovative approaches should be developed, such

as educational podcasts, interpretive signs, hands-on water monitoring programs and outdoor educational residential schools. Podcasts are an innovative way to reach people locally and globally, and they create a technological pathway to education. Interpretive signs improve wayfinding capabilities for residents and visitors, and they also provide opportunities to educate citizens through environmental interpretation. A volunteer water monitoring program, similar to the phytoplankton monitoring network, would create an opportunity for the public to be involved with science in a participatory, hands-on manner. The public would learn about complex environmental concepts like nutrient loading in an accessible, real-world way. Outdoor residential schools would allow students to stay overnight in a place where they can learn about water and ecology first-hand. These activities and others would support a wide array of public development, including eco-tourism, environmental education, physical activity and community engagement for all ages.

## Funding Source

### Goal 1: Build a Resilient Economy

Create a Waterfront Wayfinding Signage System LEAD IMPLEMENTERS: SMPDD, Gulf Coast Convention and Visitors Bureau, residents, Eco-tourism Council, Local Governments, Mississippi Department of Transportation	FHWA - Recreational Trails Program: The Recreational Trails Program (RTP) provides funds to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. <sup>[1]</sup>
	Gulf of Mexico Program: Focuses on the Best Management Practices, Coastal Waters, Economic Development, Fisheries, Monitoring, Nonpoint Source Control, Partnerships, Pollution Prevention, Research, Restoration Source Water Protection, Watershed Management, Wetlands at states of Alabama, Florida, Louisiana, Mississippi and Texas. <sup>[11]</sup>
	Open Spaces Sacred Places: The Healing Power of Nature: National Awards Initiative for Integrated Design and Research. This new award program will fund the creation of significant Open Spaces Sacred Places that are designed specifically with the intent to study and communicate the impact of a specific type of urban public greenspace on users. <sup>[iii]</sup>
	American Canoe Association and L.L. Bean offer water trail Stewardship Grants: The CFS Program provides funding to local and regional paddling clubs that undertake stewardship projects on waterways in their area. <sup>[iv]</sup>
	More information:
	i. http://www.fhwa.dot.gov/environment/rectrails/
	ii. http://cfpub.epa.gov/fedfund/program.cfm?prog_num=103
	iii. http://www.openspacessacredplaces.org/
	iv. http://www.americancanoe.org/?page=LLBean_CFS_Grant

### **Funding Source**

Organize an Eco-tourism Council

#### LEAD IMPLEMENTERS:

Gulf Coast Convention and Visitors Bureau, Mississippi Gulf Coast Chamber of Commerce, Main Street Program, Local Eco-tourism Businesses, Mississippi-Alabama Sea Grant Program

Membership fees would cover administrative costs. The BP Oil Spill Liability Trust Fund could be used to pay for the marketing program.<sup>[i]</sup>

The EPA Gulf of Mexico Federal Funding Program for Watershed Protection focuses on the Best Management Practices, Coastal Waters, Economic Development, Fisheries, Monitoring, Nonpoint Source Control, Partnerships, Pollution Prevention, Research, Restoration, Source Water Protection, Watershed Management, Wetlands at states of Alabama, Florida, Louisiana, Mississippi and Texas.<sup>[ii]</sup>

More Information:

i. http://www.thebpclaimsfund.com/

ii. http://cfpub.epa.gov/fedfund/program.cfm?prog\_num=103

## **Funding Source**

#### **Expand Public Access to Water Quality Information**

#### LEAD IMPLEMENTERS:

Mississippi Department of Environmental Quality, locals organizations in charge of a recreational location, e. g. Harrison County Sand Beach Authority, road department, sand parks departments, University of Southern Mississippi Gulf Coast Research Lab

BEACH Act grants: BEACH Act grants are awarded to eligible coastal and Great Lakes states, territories, and tribes to develop and implement beach monitoring and notification programs.<sup>[i]</sup>

The Hydrologic Sciences grant focuses on the flow of water and transport processes within streams, soils, and aquifers.<sup>[ii]</sup>

Region 4 of the U.S. Environmental Protection Agency (EPA) anticipates awarding 3 to 7 cooperative agreements through its Southeastern U.S. Regional Targeted Watersheds Initiative to support studies of a series of possible approaches to watershed restoration to determine if those approaches produce short-term measurable environmental results in a watershed, or to support demonstration projects to test new and innovative approaches to water quality.<sup>[iii]</sup>

The Gulf of Mexico Federal Funding Program for Watershed Protection focuses on the Best Management Practices, Coastal Waters, Economic Development, Fisheries, Monitoring, Nonpoint Source Control, Partnerships, Pollution Prevention, Research, Restoration, Source Water Protection, Watershed Management, Wetlands at states of Alabama, Florida, Louisiana, Mississippi and Texas.<sup>[iv]</sup>

The Mississippi/Alabama Sea Grant Program offers funding for hydrological restoration projects.[v]

More Information:

i. http://water.epa.gov/grants\_funding/beachgrants/

ii. http://www.grants.gov/search/search.do;jsessionid=wtG2TssQm6 Z1x Gp88HSmL1TkqNxSK7yB1LG2kjL4Cv2yswdBznHX!223240192?oppId=6995 3&mode=VIEW

iii. http://www.grants.gov/search/search.do;jsessionid=wtG2TssQm6Z1xG p88HSmL1TkqNxSK7yB1LG2kjL4Cv2yswdBznHX!223240192?oppId=12155 3&mode=VIEW

iv. http://cfpub.epa.gov/fedfund/program.cfm?prog\_num=103

Strategy and Implementer	Funding Source
Encourage Casinos to Connect Their Development to Waterfront Activities LEAD IMPLEMENTERS: Casino developers, City and County Governments	While some clerical and transportation costs would be incurred during the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations.
Create a Water Based Public Transit System LEAD IMPLEMENTERS: Coastal Transit Authority, Cities, and County Governments	State and Local Taxes would be needed to fund any water taxis or ferry operated by the Coastal Transit Authority (CTA). Funding could also be generated from a special transportation tax. Mississippi allows special districts to be created by municipalities for transportation; the maximum rate for the district is 0.60 percent. Funding needs based on preliminary projections would range in value of about \$16 million dollars a year for a single route. Operating revenue projects at about \$23 million and operating expense projects at about \$29 million. If the Federal government pays with an 80 percent matching grant, the Federal government would cover \$23,200,000 of the approximated operating expense. An additional \$5,800,000 would need to be covered by the local governments. Funding for CTA's operations and capital projects are currently provided by self-generated revenue, the Federal Transit Administration, Harrison County, the City of Biloxi, the City of Gulfport, the City of Ocean Springs and the State of Mississippi. Self-generated funds consist of passenger fares, advertising revenue, charter revenue, contract revenue, vending revenue and sale of surplus equipment.
Advocate for State and Federal Insurance Reform LEAD IMPLEMENTERS: Mississippi Federal Congressional Representatives, MS Insurance Commissioner	The formulation of a workgroup does not require funding. The State may reimburse members for travel and necessary expenses through existing measures and budgets. For example, such reimbursements could be absorbed by participating state and local governmental agencies represented in the workgroup.

## Funding Source

Increase Waterfront Business Access Points Along Coastal and Intercoastal Waterways LEAD IMPLEMENTERS: Chambers of Commerce partner with local businesses and eco-tourism groups	The Mississippi Tourism Rebate Program is a program designed to provide a tax rebate to qualified applicants of new tourism-oriented projects within the State of Mississippi. The Mississippi Tourism Rebate Program allows a portion of the sales tax paid by visitors to the eligible tourism-oriented enterprise project to be paid to the applicant to reimburse the applicant for eligible costs incurred during the construction of the project.
Emphasize Waterfront Development that Benefits the Economy and Community LEAD IMPLEMENTERS: Zoning officials, Land-use planners, City Councils	While some clerical and transportation costs would be incurred during the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations.
Goal 2: Provide Equitable Infrastructure	
Enable Stormwater Revenue Streams LEAD IMPLEMENTERS: State legislature, Cities and Counties	While some clerical and transportation costs would be incurred during the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations.
Encourage the Gulf of Mexico Alliance to Coordinate Policies Among the States LEAD IMPLEMENTERS: Gulf of Mexico Alliance, Governors of the five Gulf Coast states, Mississippi Department of Marine Resources, Mississippi-Alabama Sea Grant Consortium Legal Program	While some clerical and transportation costs would be incurred during the coordination and procurement, these costs should be compensated under normal administrative procedures of the respective organizations.

Expand the Digital Inventory of Water, Wastewater and Stormwater Infrastructure

#### LEAD IMPLEMENTERS:

City and County engineers, County Utility Authorities

watershed protection. The Gulf of Mexico Program, among others, is aimed at assisting governments, governmental agencies, Native American Tribes, and other public or non-profit organizations in developing and implementing strategies to reduce water pollution and restore watershed health in the Gulf of Mexico region. Jurisdictions on the Mississippi Gulf Coast are eligible for applying for this federal grant. Another EPA grant, the Environmental Information Exchange Network and Grant Program, is also a potential funding source. Started in 2002, it provides funding for states, tribes, and other entities to implement information and to standardize, exchange and integrate geospatial information that facilitates work that improves human health and preserves natural resources. These two grants could be used to cover the expenses of hardware/software procurement and operating cost incurred from digitization and field verification.

More Information:

http://cfpub.epa.gov/fedfund/program.cfm?prog\_num=103

Encourage and Incentivize Sustainable Development Codes	While some clerical and transportation costs would be incurred during the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations.
LEAD IMPLEMENTERS:	
Cities, Counties	
Encourage Daylighting of Streams through Capital	NOAA offers funding opportunities for culvert and dam removal. Through
Improvement Planning	NOAA's Open Rivers Initiative, the Restoration Center provides technical
	expertise and financial assistance to remove dams and barriers and to
LEAD INIPLEMENTERS:	restore habitat for the many species that migrate between the ocean and
City and County Governments, Utility Authorities	the nation's freshwater rivers and streams.

More Information:

http://www.habitat.noaa.gov/funding/ori.html.

## **Funding Source**

Ensure Expansion and Connection of the Blueway/ Greenway System

#### LEAD IMPLEMENTERS:

Gulf Coast Heritage Trails, National Parks Service, Land Trust for Mississippi Coastal Plain, Harrison County Sand Beach Authority, Mississippi Gulf Coast Convention and Visitors Bureau, Jackson, Hancock and Harrison Counties Chambers of Commerce and Tourism Bureaus

Rivers, Trails & Conservation Assistance Program (RTCA); The Rivers, Trails, and Conservation Assistance Program, through the National Parks Service, supports community-led natural resource conservation and outdoor recreation projects. The program also provides technical assistance to communities so they can conserve rivers, preserve open space, and develop trails and greenways.<sup>[1]</sup>

Land and Water Conservation Fund (LWCF); The LWCF Program, through the National Parks Service, partners with state a local governments to provide matching grants for the acquisition and development of public outdoor recreation areas and facilities, as well as funding for shared federal land acquisition and conservation strategies.<sup>[ii]</sup>

Paul S. Sarbanes Transit in Parks Program; The Sarbanes Transit in Parks Program is a Federal Transit Authority Grant to reduce traffic in and around national parks by providing money to develop sustainable transit – Buses, Light Rail, Trams, and Bicycle Routes and Mixed Use Paths.[3]

Land Trust for the Mississippi Coastal Plain; A collection of individuals, public and private entities that work to preserve land in Mississippi through the creation of a trust that doesn't allow development on donated land. Much of this land is already in use as a greenway or a blueway.[4]

MDWFP Recreation Trails Program; This Federal Highway Administration funded program awards competitive grants and breaks down the awarded money by earmarking 30% for motorized trails, 30% for non-motorized and 40% for diversified trails. It is administered through the Mississippi Department of Wildlife Fisheries and Parks since 1992, when they became the designated agency from the FHWA.[5]

The Coastal and Estuarine Land Conservation Program/ Coastal and Estuarine Land Conservation Plan for the State of Mississippi; A National Oceanographic and Atmospheric Association (NOAA) program that "protect's coastal and estuarine lands considered important for their ecological, conservation, recreational, historical or aesthetic values. The program provides state and local governments with matching funds to purchase significant coastal and estuarine lands, or conservation easements on such lands, from willing sellers." Currently the CELCP Plan is administered through the Mississippi Department of Marine Resources.[6]

Public Improvement Districts; Public Improvement Districts are enabled by Mississippi Statute 19-31, known as the Public Improvement District Act, and allow, via Statute 19-31-3 to "provide a reasonable alternative" to establish "independent districts to manage and finance basic public improvement services."

- 1. http://www.nps.gov/ncrc/programs/rtca/
- 2. http://www.nps.gov/lwcf/
- 3. http://www.fta.dot.gov/grants/13094.html
- 4. http://www.ltmcp.org/

5. http://home.mdwfp.com/ContentManagement/Html/ htmldownload.aspx?id=278

6. http://coastalmanagement.noaa.gov/land/

http://www.dmr.state.ms.us/CMP/CRMP/pdfs/DRAFT-mississippi-CELCPplan.pdf

## **Funding Source**

**Ensure Accessible Amenities at Public Waterfronts** 

#### LEAD IMPLEMENTERS:

The Sand Beach Authority, MDWFP, MDEQ, City and County Governments, County Utility Providers, Community Level workgroups of handicap individuals and advocates

"Sand Beach Authority's: Sand Beach Authority and DMR work on the Beach Master Plan, which outlines the needs for public beaches and projects.

Public Improvement Districts; Public Improvement Districts are enabled by Mississippi Statute 19-31, known as the Public Improvement District Act, and allow, via Statute 19-31-3 to "provide a reasonable alternative" to establish "independent districts to manage and finance basic public improvement services."

Parking Authorities; Using money that comes from fees for parking along beach areas could be used to improve the beaches and provide additional amenities.

#### **Goal 3: Conserve Coastal Environment**

Implement a Septic System Maintenance Verification System LEAD IMPLEMENTERS: MDEQ, MSDH	Clean Water Act Section 319 Funding, which is used to fund nonpoint source programs that include a variety of components, such as technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and regulatory programs.
Add 12-digit Hydrologic Unit Code-defined Watersheds to Special Management Area Plan	While some clerical and transportation costs would be incurred during the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations.
LEAD IMPLEMENTERS:	
MDMR	
Create and Provide Education on a Comprehensive	While some clerical and transportation costs would be incurred during

Regional Sediment Control Code the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations.

#### LEAD IMPLEMENTERS:

Local and state policy makers, regional planning bodies, USACE, EPA, MDMR, MDEQ

Strategy and Implementer	Funding Source
Organize the Gulf-friendly Landscaping & Gardening Coalition	Education Program, MSU Office of Agricultural Communication, Mississippi Renaissance Garden Foundation, MDEQ, MDMR. <sup>[i]</sup>
LEAD IMPLEMENTERS: The Landscape Management Technology program at MGCCC, MS Master Gardeners, Mississippi Agricultural & Forestry Experiment Station, MSU Extension, Pesticide Safety, garden clubs	This project can qualify for nonpoint source reduction education and training components under Section 319 grants of the Clean Water Act, and for Environmental Quality Incentives Program and Wildlife Habitat Incentives Program of the Natural Resources Conservation Service. <sup>[ii]</sup>
	More Information:
	<pre>i.http://www.deq.state.ms.us/mdeq.nsf/page/nps_section_319_ funding?opendocument</pre>
	ii.http://www.ms.nrcs.usda.gov/
Include Composting of Animal Wastes in the Farm-A- Syst Program	While some clerical and transportation costs would be incurred during the coordination and procurement, these should be compensated under normal administrative procedures of the respective organizations
<b>LEAD IMPLEMENTERS:</b> MSU Extension and other universities, MDEQ, MDMR, Soil and Water Conservation Districts	More Information:
	Updated document will continue to be distributed through MSU Extension website.

## **Funding Source**

Bring the Master Composter Program to Mississippi

#### LEAD IMPLEMENTERS:

The Landscape Management Technology program at MGCCC, MS Master Gardeners, Mississippi Agricultural & Forestry Experiment Station, MSU Extension, Pesticide Safety Education Program, MSU Office of Agricultural Communication, Mississippi Renaissance Garden Foundation, MDEQ, MDMR

The Landscape Management Technology program at MGCCC, MS Master Gardeners, Mississippi Agricultural & Forestry Experiment Station, MSU Extension, Pesticide Safety Education Program, MSU Office of Agricultural Communication, Mississippi Renaissance Garden Foundation, MDEQ, MDMR.<sup>[i]</sup>

This project can qualify for nonpoint source reduction education and training components under Section 319 grants of the Clean Water Act, and for Environmental Quality Incentives Program and Wildlife Habitat Incentives Program of the Natural Resources Conservation Service<sup>[ii]</sup>.

More Information:

i. http://www.ms.nrcs.usda.gov/

ii. http://www.deq.state.ms.us/mdeq.nsf/page/nps

Establish Encapsulation Requirements for Polystyrene	While some clerical and transportation costs would be incurred during
Floating Structures	the coordination and procurement, these should be compensated under
	normal administrative procedures of the respective organizations.

#### **LEAD IMPLEMENTERS:**

MDMR, Army Corps

Establish a No Disposal Zone in State Waters

#### **LEAD IMPLEMENTERS:**

EPA, USCG, MDMR, MCMR

Funding is not required to form the NDZ. Funds derived from fines for bilge/ sewage discharge violations once the NDZ is in place could be used toward greater enforcement or for a grant program to enhance pump out stations.

normal administrative procedures of the respective organizations.

Implement Policies for Increased Protection of AquaticWhile some clerical and transportation costs would be incurred during<br/>the coordination and procurement, these should be compensated underSpeciesProtection of Aquatic<br/>the coordination and procurement, these should be compensated under

#### LEAD IMPLEMENTERS:

Board of County Supervisors, MDMR, Federal Government, USCG

Institute Region-wide Water Metering and Consumption-based Water and Sewer Pricing

#### LEAD IMPLEMENTERS:

Municipalities (Dept. of Public Works), Utility District, other utility service providers, Departments of Health

The Drinking Water State Revolving Fund (DWSRF) Program established by the 1996 Safe Drinking Water Act Amendment and the Clean Water State Revolving Fund (CWSRF) Program established under the Clean Water Act of 1987 are two important financial sources for water infrastructure improvement projects and water quality projects. The DWSRF and CWSRF programs operate in every state and provide low or no-interest loans to publicly or privately owned systems that provide potable water to communities. Installing meters, as an effective way to improve water efficiency, is eligible for these two programs

More information:

http://epa.gov/ogwdw000/dwsrf/pdfs/fact\_dwsrf\_water efficiency03-09-02.pdf

#### **Preserve Deer Island in its Natural State**

#### LEAD IMPLEMENTERS:

Army Corps, MDMR, City of Biloxi

Waters

#### **LEAD IMPLEMENTERS:**

MSU, USM, NPS and Mississippi Coastal Parks, NOAA, MDEQ, Grand Bay National Estuarine Research Reserve

Improve Public Opinion of Mississippi Gulf Coast The Environmental Protection Agency's (EPA) Office of Environmental Education and Office of External Affairs and Environmental Education provides a number of funding opportunities to support environmental education projects that enhance the public's awareness, knowledge, and skills to help people make informed decisions that affect environmental quality.<sup>[i]</sup>

**Funding Source** 

The EPA awarded \$600,000 to River Network to engage communities and increase citizen connection, understanding, and stewardship of urban waterways. This award was made through the Targeted Watershed Grants Program and is an Urban Waters Capacity Building Grant. Under the grant, River Network will form a partnership with Groundwork USA to establish and manage a competitive urban watershed subaward program. As part of the grant, River Network will also provide a wider peer-learning network for other organizations working on urban water issues. The goal is to support a new urban waters movement by building highly capable organizations that are self-sustaining and can carry out programs to protect human health and the environment. The urban waterways in many communities are compromised landscapes, impacted by various sources of pollution and often neglected and ignored. These capacity-building subgrants will provide local organizations, tribal and local governments with skills and techniques to protect their urban waterways and promote more vibrant, economically sustainable communities.<sup>[ii]</sup>

The Community Action for a Renewed Environment (CARE) is a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment.[iii]

NOAA offers funding for Bay Watershed Education and raining Program for the Gulf of Mexico. Funded projects will provide meaningful watershed educational experiences for students, related professional development for teachers, and support regional education and environmental priorities.<sup>[iv]</sup>

Strategy and Implementer	Funding Source
	The National Fish and Wildlife Foundation, in cooperation with the U.S. Fish and Wildlife Service National Wildlife Refuge System and the National Conservation Training Center is funding The Nature of Learning initiative. The initiative utilizes National Wildlife Refuges as outdoor classrooms to promote a greater understanding of local conservation. <sup>[v]</sup>
	The North American Association for Environmental Education (NAAEE) offers funding sources targeted to environmental education. <sup>[vi]</sup>
	The NAAEE offers funding resources for 'greening up your schools'. The 'Make Your World Better' program funds \$1000-\$5000 grants to initiate environmental education projects and encourages multi-disciplinary projects that involve teachers working collaboratively, and projects which focus on the local school, community and ecosystem. <sup>[vii]</sup>
	More information:
	i. http://www.epa.gov/enviroed/grants.html
	ii. http://water.epa.gov/grants_funding/twg/initiative_index.cfm
	iii. http://www.epa.gov/care/
	iv. http://www.oesd.noaa.gov/BWET/BWET_funding.html
	v.http://www.nfwf.org/AM/Template.cfm?Section=Charter_Programs_ List&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=20353
	vi.http://eelink.net/pages/Grants+-+EE+Specific+Resources
	vii.http://www.cee-ane.org/

**Funding Source** 

Water Resources

#### LEAD IMPLEMENTERS:

MSU, USM, NPS and Mississippi Coastal Parks, NOAA, MDEQ, Grand Bay National Estuarine Research Reserve, Mississippi-Alabama Sea Grant Consortium

Provide Greater Public Education and Outreach on The Environmental Protection Agency's (EPA) Office of Environmental Education and Office of External Affairs and Environmental Education provides a number of funding opportunities to support environmental education projects that enhance the public's awareness, knowledge, and skills to help people make informed decisions that affect environmental quality.

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2. Mississippi Engineering Group, Inc. (2007, January 9). Gulf Region Water and Wastewater Plan. Retrieved from http://www.deq.state.ms.us/ MDEQ.nsf/page/About\_MGRWaterWaste waterPlan2006?OpenDocument

3. Red Creek. (n.d.). Land Trust for the Mississippi Coastal Plain. Retrieved from http://www.ltmcp.org/watershed-partnerships/red-creek/

4. Gulf Coast Joint Venture. (2002) Coastal Mississippi Wetlands Initiative. Accessed July 25, 2011: http://www.gcjv.org/docs/CoastalMSpub.pdf