Lake Pontchartrain Basin Foundation

Recreational Water Quality Monitoring, Pollution Source Tracking, and Expanded Education in the Lake Pontchartrain Basin, Louisiana

"Lake Pontchartrain Basin Foundation (LPBF) will continue successful basin-wide water quality monitoring, accelerate pollution source tracking, and expand educational outreach. The goals are to create a more environmentally aware citizenry and have waterways removed from the 303d Impaired Waterbodies List. Objectives of this program include:

1) Collect water quality data and disseminate it to the public on a weekly basis through the use of media such as the internet, newsprint, television, and radio so that they may make informed decisions on the use of these resources.

2) Conduct additional water quality sampling on up to fifteen basin waterways on a bi-weekly basis. Data will be used to locate environmental issues on waterways and within watersheds, to direct the pollution source tracking activities of a wastewater specialist, and to assess progress in cleaning basin waterways over time.

3) Share data with local, state and federal agencies for use in the 303d Impaired Waterbodies List and Total Maximum Daily Load (TMDL) calculations to locate and correct impaired waterways through partnerships.

The water quality program will be shared with the public through LPBF's New Canal Lighthouse Museum and Education Center, with universities, researchers, environmental groups, environmental engineering firms, and students for the study of these waterways. Also, the recipient will use new capabilities of the educational kiosk and web mapping to further share data with the public."

University of Alabama

Characterizing and Addressing Contamination from Septic System Effluent in the Lower Black Warrior River Watershed

Through this project, the University of Alabama Department of Civil, Construction and Environmental Engineering and US EPA Gulf of Mexico Program will bring together five other major stakeholders to characterize and address one of the great environmental and public health challenges (onsite wastewater treatment systems) in rural Alabama. Through this project poor septic tank maintenance and performance will be identified and failing systems will be replaced. In addition, homeowners will be educated on how to carry out timely pumping-out and maintenance on their septic systems. Limited soil and water sampling will also be conducted.

Sarasota Bay Estuary Program

North Water Tower Park Community Restoration and Education Initiative

This project will involve the design and building of bio retention in the North Water Tower Park (NWTP) to provide water quality improvements for the contributing area (38 acres of urban developed land including 3,900 linear feet of North Tamiami Trail / US 41) currently without

water quality treatment. The proposed water quality improvement project would create, restore, and enhance the natural systems in this forested enclave within the urban area. Treatment would be provided by creating bio-swales through the Park and planting them with native vegetation, for the adjacent neighborhood, and the potential use of pervious paver bricks for trails and access roads that improve natural surveillance and connectivity. Low impact design (LID) improvements can be made without impacting the current uses of the NWTP by incorporating them into the existing disc golf course and building them adjacent to the trails to enhance the aesthetic experience of walking through the park. LID improvements would enhance the park by providing additional landscaped features designed as dry retention. LID/Park improvements would also include removing existing nuisance and invasive vegetation which would open the landscape vista and enhance safety in the park. Air potato, an invasive vine which covers and shades beneficial native plants, is taking over the park making it difficult to manage and control the invasive species with volunteer only initiatives.

Louisiana Universities Marine Consortium

Supplemental Support for 2014 Shelfwide Hypoxia Cruise

This project will provide funds so that a shelf wide hypoxia cruise can be conducted in 2014. Future and long-term support for a mid-summer hypoxia mapping cruise remains a critical component of supporting the goals of the Mississippi River/Gulf of Mexico Nutrient Management Task Force, which is co-chaired by NOAA and EPA. The 2014 shelf wide hypoxia cruise will fulfill a 30-year baseline in support of the Task Force's environmental goals.

Lowry Park Zoological Society of Tampa Inc.

Lowry Park Zoo Water Resources Master Plan

The project scope will incorporate nutrient management into the wider goal of integrated water use and conservation that will be described in the master plan. Through the master planning process, the Zoo, with consulting engineers, contractors, environmental organizations, policy leaders, regulatory agencies and area residents, will identify means to enhance the Zoo's water conservation and onsite treatment processes, including options to rehab existing stormwater ponds on and adjacent to the Zoo's property.

Brownsville Public Utilities Board

Cemetery Resaca Restoration Project

The Cemetery Resaca Restoration Project (CRRP) in Brownsville, Texas involves the restoration of one of Brownsville’s many regionally unique wetland areas. It is the first of several resaca restoration efforts being completed and will serve as a model of what can be accomplished with these valuable, coastal resources. The Brownsville landscape is characterized by a broad, fan-shaped delta at the river’s mouth that has been dissected by multiple meandering channels.

These channels carried river flows with heavy sediment loads through the delta to the Gulf. Today these deltaic channels have been abandoned to form fingerlakes throughout Brownsville which are referred to as “resacas” and are classified as wetlands. The Cemetery Resaca targeted in this project is part of the Town Resaca system which eventually flows into the Brownsville Ship Channel and the Gulf of Mexico.

Gulf of Mexico Foundation

Using Fire Along Coastal Gradients to Promote Lateral Migration of Marsh and Enhance Biodiversity

The primary objective of this project is to determine the importance of fire in the maintenance of natural successional pathways and ability of marsh species to expand landward in response to climate change. Specifically, this study will investigate how the effects of prescribed burning will affect the ranges of individual species spanning salt marsh to upland pine forest, a transition of communities that typifies in GoM coastal ecosystems (Battaglia et al. 2012). Responses to these disturbances are species-dependent, and we expect to see new mixtures emerge following disturbance-driven disassembly and reassembly of species. Comparing trends in distribution shifts of individual species and community composition in burned vs. unburned areas along the gradient will provide insight into the role of fire as an ecological driver that maintains diversity and promotes resilience of coastal communites to climate change.

Texas A&M University - Corpus Christi

Use of Seawater Electrolysis to Build Artificial Reef Habitat

The result from this project will be enhanced (restored) ability of the ecosystem to maintain watershed level quality of coastal and ocean waters by reducing net nutrient export to the sea. The project approach will be to build an oyster testbed from artificial and rubble reef in Corpus Christi Bay adjacent to Texas A&M University - Corpus Christi and 1.86 km2 artificial reef in Nueces Bay, Texas. The project will use electrolysis to grow new benthic habitat to stabilize the bottom fostering establishment of a benthic community that will filter overlying water (Heck and Valentine 2007). This project also involves monitoring development of this hard bottom community during the next 1.5 years and comparing it to a traditional recycled oyster shell reef (replicated) constructed nearby.

University of Southern Mississippi

Watershed Education Aboard A Research Vessel

The University of Southern Mississippi will work with partners to develop a learning community that addresses the funding priority “environmental education,” through a watershed educational experience for middle and high school students that takes place both in partner facilities and

aboard one of GCRL's Research Vessels. The proposing partners include groups from underserved or underrepresented populations with which the Marine Education Center (MEC) has worked with in the past or which have expressed an interest in working with the MEC. The watershed educational experience will use evidence-based techniques to develop watershed literacy, enhance awareness of human behaviors that can affect watersheds and foster environmentally responsible behaviors among participants. The learning community will expand to include both groups that participate in fee-based programs and groups that participate in grant-paid programs. The proposed work will focus on the Pascagoula River watershed as a rare example of a large U.S. river system with minimal hydrological modification. Participants will explore the Pascagoula River using maps, internet resources and a research cruise to understand its environmental condition and threats caused by human actions. They will use similar resources to compare their own watershed to the Pascagoula River.

Weeks Bay Foundation Inc.

A Gulf of Mexico Coastal Training Program Initiative

The Coastal Training Program (CTP) Coordinators at the five Gulf Coast National Estuarine Research Reserves (Reserves) propose a regional collaborative program offering targeted training and technical assistance to resource managers and decision-makers on the Gulf coast. These training events and direct assistance will employ proven educational methodologies to increase regional awareness and action on program priorities and strategic goals identified by the EPA Gulf of Mexico Program and the region's coastal decision-makers.

Florida Aquarium

Watershed Investigations: Engaging Underserved Youth in Exploring Climate Change

The Florida Aquarium will develop and implement Watershed Investigations for upper elementary students to investigate how climate change impacts the Gulf region and how it will affect the water supply and coastal habitats in the future. Providing hands-on, minds-on exploration of the health of coastal ecosystems of Tampa Bay and the Gulf of Mexico, Watershed Investigations will introduce students to the local watershed, water quality, coastal habitats, climate change and the role students can play in protecting our water resources. Students will gather data to capture a snapshot of current conditions at the Florida Center for Technology and Conservation, a unique partnership among the Aquarium, Tampa Electric Company, and the Florida Fish and Wildlife Conservation Commission. This site in Apollo Beach features diverse watershed habitats that students will study, then use critical thinking skills to predict how climate change will impact their region in five years as well as 50 years from now. Activities and curriculum will align with state science standards for the year, as well as principles of climate literacy.

Houston-Galveston Area Council

Designing For Impact

This project will advance techniques to mitigate coastal development within the context of market constraints. The Low Impact Development (LID) site plans will serve as tangible examples of cost-effective strategies to mitigate the impacts development has on water quality, wildlife habitat, and flooding. The design techniques described will not only be usable in the Houston-Galveston area, but could be used by communities throughout the Gulf of Mexico watershed. The project will provide designers, policymakers, and developers with tools they can use to support development that is designed, built, and managed to preserve valuable natural areas and systems, allowing the region to accommodate a growing population without negatively impacting air quality, water quality, or overall community health. Promoting the use of LID practices and supports several of the program priorities and objectives of the EPA Strategic Plan.

University of Mississippi

Enhancing Community Resilience and Saving Money: Assisting Communities Through 2013 Rating System

This Project proposes to work with local coastal communities participating in the National Flood Insurance Program (NFIP) to facilitate the transition to the 2013 CRS Coordinators' Manual and provide technical assistance in maintaining and improving the class rating under the new manual with emphasis on outreach, such as the creation of a Program for Floodplain Team (SWIFT) to strategically develop materials that best address the needs of Public Information (PPI). The Team will work through the Mississippi Gulf Coast Coastal Hazard Outreach Strategy Team (C-HOST) and the Louisiana Southwest Informational Floodplain Team (SWIFT) to strategically develop materials that best address the needs of communities participating in the Community Rating System (CRS). Materials developed through this project will serve as a model for other coastal communities throughout the Gulf.