WORKFORCE + RESEARCH + EDUCATION RESTORE SUBCOMMITTEE

This is the portal list of projects tied to Workforce+Research+Education related projects. Columns H-P you will note all of the respective sub-committee subjects. These represent check boxes in the portal project application process that an individual submitter may select. Column H and M (the RED + ORANGE column) represents Workforce and Research and Education. Workforce tab represents all portal projects that checked the Workforce box. Education tab represents all portal projects that checked the Research and Education box. Workforce+Res+Education_PARED represents a paired down or filtered list of portal projects.

Three classes of filter were placed on the FULL list:
1) projects already funded, going to be implemented, and/or vetted to be not feasible through earlier screening and vetting processes (LIGHT GRAY FILLED)
2) projects mischaracterized or misrepresented - i.e., shouldn't be considered under this respective sub-committee's charge (LIGHT ORANGE)
3) program like projects that are captured under broad program goals like Water Quality, Land Acquisition, and Beneficial Use, or too broad to be implemented as written (LIGHT GREEN)

No project has the “who” submitted the project identified.
MDEQ does not vet portal projects AT ALL. If a submitter says it costs $1M we assume it does. We only vet a project once is identified as a potential for funding.
**Gulf Observing Aerial Program**

1. **Purpose**: The purpose of the Gulf Observing Aerial Program is to develop and operate a system for monitoring and responding to oil spills and environmental damage on the Gulf of Mexico.

2. **Equipment**: The system will include ground-based and aerial surveillance equipment, including satellites, drones, and aircraft.

3. **Operations**: The program will be managed by a contractor, with the aim to detect and respond to oil spills and protect the environment.

4. **Funding**: The project is funded through grants and private donations, with an estimated cost of $5,000,000.

**Shrimp Migration Management**

1. **Objective**: To develop a plan to manage shrimp migration and protect the shrimp population from overfishing.

2. **Plan**: The Marinovich Plan, researched twenty years ago, has been established as a legal requirement. Shrimp migrate in from the Gulf three times a year.

3. **Protection**: Shrimp need protection when they move into the estuaries, and the law must be fixed to protect the shrimp from nets when they are spawning.

4. **Implementation**: The law requires changing the opening and closing of the shrimp season, which involves protection measures such as the development of new areas for shrimp farming.

**Vacant Land Considerations**

1. **Purpose**: PBIP needs parcels to the east and north for future development due to the interest expressed by an existing industry for future potential expansion.

2. **Considerations**: Due to this increased interest, raw vacant land is becoming a valuable commodity.

3. **Costs**: The lack of populous neighborhoods around PBIP has always been a major inducement for expansion, and the remaining parcels are 20-25 acres in size.

**Seafood Industry Tourism**

1. **Overview**: The project provides an overview of the project and how well it fits the Seafood Industry portion of the GoCoast 2020 report.

2. **Requirements**: Approximately 10 acres of property are needed to accommodate waterside and landscaping, water/sewer and electrical infrastructure, and 2 public restroom facilities.

3. **Access**: An elevated access structure along the east breakwater perimeter allows public access for fishing and will serve as a base of operations for commercial seafood operations.

4. **Costs**: The estimated costs are $8.5 million, including land and development.

**Prescribed Fire Management**

1. **Objective**: To engage with prescribed fire-related activity teams to manage vegetation, marine life, wildlife, and other resources.

2. **Activities**: The teams will engage with prescribed fire projects, conduct fuel reduction and invasive species control, and provide public information on invasive aquatic species and fire management training.

3. **Equipment**: The teams will include type-2 prescribed fire burn bosses, type-3 tractors, and three type-1 firefighters.

4. **Funding**: A maximum of three teams will be established, with a maximum of three burn bosses and three type-2 tractors.

**Seafood Industry Linen Development**

1. **Purpose**: To develop new linen products for the seafood industry.

2. **Production**: The production of linen products is expected to create new jobs and stimulate economic development.

3. **Costs**: The estimated costs are $3.5 million, including research and development.

**Seafood Industry Education**

1. **Objective**: To provide educational programs and workshops for the seafood industry.

2. **Programs**: The programs will include classes on seafood processing, marketing, and distribution.

3. **Participation**: The participation in these programs is expected to increase the skills and knowledge of the seafood industry.

4. **Costs**: The estimated costs are $2 million, including development and implementation.

**Linear Park on Beach Boulevard**

1. **Purpose**: To develop a linear park on Beach Boulevard that will complement the region's tourism landscape.

2. **Features**: The park will include boat ramps, boardwalks, piers, bike paths, and other amenities for visitors.

3. **Benefits**: The park will provide a one-stop, short-term and long-term mooring, unloading, ice and fuel service, and value-added processing which occurred at the facility.

4. **Funding**: The estimated cost is $360 million, including construction and operation costs.

**Seafood Industry Research and Education**

1. **Objective**: To research and educate the seafood industry on best practices.

2. **Research**: The research will include studies on shrimp migration, marine life, and other resources.

3. **Education**: The education programs will include workshops, classes, and seminars for the seafood industry.

4. **Funding**: The estimated costs are $3 million, including research and education.

**Seafood Industry Comments**

1. **Purpose**: To provide comments on the proposals.

2. **Comments**: Comments are provided to support the proposals and highlight areas for improvement.

3. **Funding**: The estimated costs are $0, as the comments are not a financial consideration.

**Seafood Industry Budget**

1. **Purpose**: To budget for the proposals.

2. **Budget**: The budget includes costs for personnel, equipment, and supplies.

3. **Funding**: The estimated costs are $5 million, including personnel and equipment costs.

**Seafood Industry Summary**

1. **Purpose**: To provide a summary of the proposals.

2. **Summary**: The proposals include a wide range of activities, from infrastructure improvements to education and research.

3. **Funding**: The estimated costs are $5 million, including all areas.

**Seafood Industry Conclusion**

1. **Purpose**: To conclude the proposals.

2. **Conclusion**: The proposals are expected to provide significant benefits to the seafood industry and the region as a whole.

3. **Funding**: The estimated costs are $0, as the conclusions are not financial considerations.

**Seafood Industry Landscape**

1. **Purpose**: To landscape the proposals.

2. **Landscape**: The landscape includes costs for trees, shrubs, and other landscaping materials.

3. **Funding**: The estimated costs are $2 million, including landscaping.

**Seafood Industry Water/sewer**

1. **Purpose**: To develop water/sewer systems.

2. **Systems**: The systems include costs for water and sewer lines.

3. **Funding**: The estimated costs are $400 million, including water and sewer systems.
The Mississippi Gulf Coast (MS Gulf Coast) is a region that has experienced a range of challenges, from natural disasters to economic struggles. However, with the right investments and initiatives, the region can emerge stronger and more resilient. Here are some key points to consider:

- **Economic Recovery:** The MS Gulf Coast has a diverse economy, with industries such as tourism, healthcare, and seafood. The RESTORE Act, which provides funding for ecosystem restoration, can help attract new businesses and create jobs. The recent study by Mather Economics estimated that investing in ecosystem restoration could generate $12 billion in economic benefits and support 400,000 jobs annually.

- **Healthcare Access:** The region has one of the highest rates of obesity in the United States, with 71% of residents being overweight and 37% being obese. The Mississippi Gulf Coast YMCA offers programs to improve physical health and reduce obesity, such as youth programs, chronic disease prevention programs, and social opportunities. In the last 5 years, the Mississippi Gulf Coast YMCA has served over 10,000 participants annually and has over 26,000 members.

- **Education and Workforce Development:** The Workforce Development Initiative aims to prepare and hire qualified local, low-income, and disadvantaged workers. The project uses the Mississippi Urban Forest Council (MUFC) to develop a network of linear green spaces in every city along the Gulf Coast. This initiative will help build a more resilient and sustainable local community.

- **Coastal Habitats and Economies:** The MS Gulf Coast is home to some of the most important coastal habitats, such as mangroves, seagrasses, and salt marshes. These habitats protect the coast from storms and浪, and provide vital resources for the local seafood industry. The MS Gulf Coast is also home to some of the most important seafood producers in the world, such as shrimp, crab, and oysters.

- **Tourism:** The MS Gulf Coast is a popular destination for tourists, with over 23 million recreational fishing trips annually and production of 1.3 billion pounds of seafood annually. The area is also home to a number of world-class museums, such as the Maritime & Seafood Industry Museum and the Ocean Springs YMCA Expansion/Renovation.

- **Healthy Wetlands:** Wetlands are a crucial component of the Gulf Coast ecosystem, providing important services such as flood control, water filtration, and habitat for a variety of species. The MS Gulf Coast is home to some of the most important wetland areas in the world, such as the Perdido Bay Estuary and the Bolivar Flats Shoal.

- **Healthy Coastal Habitats:** The MS Gulf Coast is home to some of the most important coastal habitats, such as mangroves, seagrasses, and salt marshes. These habitats protect the coast from storms and浪, and provide vital resources for the local seafood industry. The MS Gulf Coast is also home to some of the most important seafood producers in the world, such as shrimp, crab, and oysters.

- **Adaptive Sports Program:** The Adaptive Sports Program provides opportunities for people with disabilities to participate in a variety of sports, such as adaptive skiing and paragliding. The program helps to build confidence and self-esteem among participants.

In conclusion, the MS Gulf Coast has the potential to emerge as a more resilient and sustainable region with the right investments and initiatives. The RESTORE Act provides a significant opportunity to restore the Gulf, strengthen our traditional industries, create new economic mobility, and improve the overall health and well-being of residents.
In December of 1993, the City of Gulfport annexed 33 square miles north of its then current limits making it the second largest city in Mississippi. As with any annexation, the City has since worked on development and workforce. Despite its ongoing success, the facilities size and field offering limits the types of tournaments and other opportunities it can handle. Routinely, regional tournaments consider the Mississippi Gulf Coast tournaments hosted at the Sportsplex in 2013 alone.

Lighting on Seaway Island has created less desirable conditions for commercial development. This project proposes to install street lights along Lorraine Rd the length of Seaway Island (from Kramer Bridge to Lorraine Road). This project will provide an immediate pressure and capacity upgrade to allow for uninterrupted service to existing and future customers, allowing for future business in the area resulting in more tax revenue for the City, more jobs for its citizens, and more utility customers.

This project improves public access to recreational activities by providing a connecting sidewalk between Seaway Road and Dedeaux Rd. These pedestrian and bike paths will be the last section of the Gulf-Bay-Island parkway, improving public access to recreational areas as there are two campgrounds on this stretch of road offering approximately 170 campsites.

The proposed project on the north side of the airport and many commercial developments, and between the airport and Dedeaux Rd. This road section would then match the road section to the west from Hwy 49 to Flat Branch Creek, completing road widening between Hwy 49 and Three Rivers Rd.

The project seeks to make 1.9 miles of field improvements from the existing field to the proposed new field to a width of 120 yards. The project is designed to meet the requirements set forth by the National Federation of State High School Associations (NFHS) and the rules of the Mississippi High School Activities Association (MHSAA). Shellfish, fin-fishes, invertebrates, and other vital coastal organisms are able to reestablish populations. Our proven methods allow for replacement of rock as stabilization means. Using our proven methods, we ensure rapid reestablishment of habitat. We have designed and patented a system that will help control effects of sea rise. Our system will provide shoreline protection, will enhance building of habitat, and will assure land building.

Once set in place the Geo-TECH-Jetti units are stabilized with XX heavy duty PVC pipe, driven down 7 feet for firm hold, there are stainless steel rings on the bottom of units in three locations for PVC piping to tie pipe into the units. Once set in place the units are filled with dredged material sourced from near the installation. Within a prepared area on top of the Geo-tech containers are RootZone Humus-filled, (RZHO), biodegradable containers. Designed to replace rock jetty, our new concept (Geo-TECH-Jetti) is installed above the water line, considering projected sea rise (as determined by official government determinations). Our Geo-TECH-Jetti units are filled with dredged material sourced from near the installation. Within a prepared area on top of the Geo-tech containers are RootZone Humus-filled, (RZHO), biodegradable containers.

The project proposes to install a new 3.9 mile segment of the Gulf-Bay-Island Parkway between Lorraine Rd and Seaway Rd. This project will improve access to recreational areas by providing a connecting sidewalk between Seaway Road and Dedeaux Rd. These pedestrian and bike paths will be the last section of the Gulf-Bay-Island parkway, improving public access to recreational areas as there are two campgrounds on this stretch of road offering approximately 170 campsites.
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**Note**: This table represents a simplified example of how the data might be presented in the document. Actual data and layout will vary based on the content of the document.
Diamondhead Ecosystem Restoration, Development of a recreational fishery

- The project provides an opportunity to enhance the recreational fishery in the region by developing a sustainable and healthy seafood industry.
- The project will involve the development of a sustainable fishery that meets the needs of the local communities.
- The project will focus on the development of a recreational fishery that is sustainable and meets the needs of the local communities.
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Details:
- **City, County**: Ocean Springs, Jackson County
- **Start Date**: July 1, 2014
- **End Date**: June 30, 2016
- **FTE**: 3
- **Total Funding**: $400,000.00
- **Government Funding**: Yes
- **Matching Funding**: No
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Assistant Professor, Dept. of Agricultural Economics, Mississippi State University

Mississippi State University Research Team

manure nutrient contaminants (Kellogg, 2000).

quality problems along the inland water bodies and the coastal waters. This entire area has been ranked nationwide in the top ten and top twenty areas in need of protecting water quality from

The State of Mississippi (48,434 mi2) has nine major river basins with approximately 86,000 miles of streams draining directly into the Mississippi Sound and the Gulf of Mexico, the Mississippi River

Quality Coalition's 2010 study.

across sectors and a regional and state level economic impact analyses will follow. The NNC to be examined in this study have been proposed by the MS Department of Environmental Quality (MDEQ) as part of the National Nitrate Reduction Initiative (NNC) for Mississippi. For each of these NNC, the cost of adapting to a newly proposed NNC will be estimated. For

The University of Southern Mississippi's Marine Science Department has taken the lead to develop a comprehensive and integrated observation, monitoring, mapping, and modeling plan for

Sustained, multi-disciplinary ecosystem monitoring facilitates which provide an understanding of the state of the Gulf ecosystem and how its components change over time are critically needed. Many management techniques needed for maintaining the long-term health of the Coastal Preserves (such as prescribed fire) require that boundaries be well established in order to avoid unintended actions on adjoining land. For example, adjoining land in silviculture may not benefit from the same type of burning required for ecological/habitat management, and any damage, whether real or perceived, could pose a potential liability for the State.

Many management techniques needed for maintaining the long-term health of the Coastal Preserves (such as prescribed fire) require that boundaries be well established in order to avoid unintended actions on adjoining land. For example, adjoining land in silviculture may not benefit from the same type of burning required for ecological/habitat management, and any damage, whether real or perceived, could pose a potential liability for the State.

opportunities for local surveying contractors by providing roughly 6,000 man-days of work or approximately one year of work for 25 to 40 employees of Mississippi small businesses (surveyors). b. Preserve lands. Using an average parcel size of 200 acres, this would mean approximately 20,000 linear feet of boundary needs to be surveyed and marked. This would create employment opportunities for the 40 surveyors as a result of newly proposed NNC. c. Conservation. This information can yield the true value of ecosystem services to the Gulf which in turn can lead to resource management and regulatory decisions that consider the effects of those decisions based on a more complete set of ecosystem services.

A COMPREHENSIVE AND INTEGRATED OBSERVATION, MONITORING, MAPPING, AND MODELING PLAN FOR MISSISSIPPI

Gulf Coast Business Partners believes that strong partnership will encourage four strategic activities.. Training, Mentoring, Advocacy and Access to Capital...in order to walk alongside small and medium size business owners. In addition to training participants will be matched will be matched with mentors.

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This information is critical to resource managers and decision makers having regulatory, management, protection, and emergency responsibilities. Over the past three decades, the Gulf of Mexico and

Sustained, multi-disciplinary ecosystem monitoring facilitates which provide an understanding of the state of the Gulf ecosystem and how its components change over time are critically needed. Present technology is available to provide “real timeâ€ information can yield the true value of ecosystem services to the Gulf which in turn can lead to resource management and regulatory decisions that consider the effects of those decisions based on a more complete set of ecosystem services.

This information is critical to resource managers and decision makers having regulatory, management, protection, and emergency responsibilities. Over the past three decades, the Gulf of Mexico and
The project will focus on establishing a time series (2013 – 2017) of satellite-based coastal erosion and oyster bed viability and suspended sediment. The model will be based on a data-driven approach to calibrate the model and generate predictions. The model will be used to define areas of potential coastal erosion and oyster bed viability, as well as to identify areas where water quality parameters are affected. The model will be used to guide management decisions and support coastal zone management plans. The information generated by the model will be used to inform decision makers and stakeholders about the impact of coastal management decisions on coastal habitats and water quality parameters. The model will be validated against observed data and will be used to develop and calibrate empirical models for coastal erosion and oyster bed viability. The model will be used to provide information to decision makers on the impact of coastal management decisions on coastal habitats and water quality parameters.
This project will develop fruit orchards in every city and county in the three county of the MS Gulf Coast, Harrison, Hancock and Jackson counties. The Mississippi Urban Forest council will partner with Workforce Development to improve local employment opportunities and encourage more local fruit production, provide education to implement sustainable orchards, improve healthy eating and provide sources of value added products for local citizens.

Oversight for long term maintenance will be provided. Correct fruit varieties for the area, soils and climate will be taken into account for selection of species. This project will provide model orchards, encourage more local fruit production, provide education to implement sustainable orchards, improve healthy eating and provide sources of value added products for local citizens.

The project is funded through the Mississippi Department of Agriculture and Commerce's Outdoor Recreation and Conservation Trust Fund. The project will receive $200,000 in funding from this fund.

The project will also receive $200,000 in funding from the Mississippi Department of Agriculture and Commerce's Outdoor Recreation and Conservation Trust Fund.

The project is expected to last 3 years, with an estimated budget of $400,000. This includes the cost of planting trees, maintaining the orchards, and providing education and training for local residents.

The project will receive $400,000 in funding from the Mississippi Department of Agriculture and Commerce's Outdoor Recreation and Conservation Trust Fund.
A series of man-made and natural disasters have impacted the wild oyster fishery in coastal Mississippi, beginning with the impact of Hurricane Katrina and continuing through the disaster recovery processes associated with the Mississippi River flooding and opening of the Bonnet Carre spillway and the Deepwater Horizon Spill. Coastal Mississippi is the combination of a coastal environment and casino gaming. With limited resources, it is vital to invest in areas that yield the highest lifetime economic impact and to diversify where possible. The tourism industry is known to be a significant component of the economic activity portfolio on the Mississippi Gulf Coast. One unique and significant aspect of the tourism industry in coastal Mississippi is the combination of a coastal environment and casino gaming. Notably, this series of models will serve as a prelude to the development of an economic impact forecasting model based on expected commercial, recreational and other expenditures.

**University (City/County):** Long Beach, Harrison County

**Brief Title:** An Economic Impact Time-Series Model of the Oyster Fishery in Coastal Mississippi

**Type of project:** \_x__ Research program   \_x__ Economic development    \_x__ Eco-Restoration   \_x__ Seafood   \_x__ Other (Name):

**Annual Operation & Maintenance Cost (# years):** $100,000/year for 10 years

**Infrastructure cost (# years):** $100,000 (1 year)

**Point of Contact, email and Phone #:** Dr. Elizabeth LaFleur, Beth.LaFleur@usm.edu, 228.214.3438 and Dr. Gregory Bradley, Gregory.Bradley@usm.edu, 228.214.5402

**Location (City, County):** Long Beach, Harrison County

**How will this leverage with other RESTORE priority areas or non-RESTORE funds?** How will this leverage with other RESTORE priority areas or non-RESTORE funds? How will this leverage with other RESTORE priority areas or non-RESTORE funds?

**Summary:**

The research project will leverage the RESTORE priority area of seafood, specifically through the economic impacts from commercial and recreational fishing along the Gulf waters. While numerous restored areas have improved commercial harvests, the overall economic contribution of the Oyster Fishery to Coastal Mississippi has not been quantified. The research project will measure the economic impact of the Oyster Fishery in coastal Mississippi. The research project will estimate the economic impact of the fishery over a 20-year period, as data become available. Economic impact analysis will begin with the 2003 harvest and continue through 2023. The 2003 and 2004 years will provide important "pre-disaster benchmarks" for future economic analysis. The research project will incorporate a series of models that will serve as a prelude to the development of an economic impact forecasting model based on expected commercial, recreational and other expenditures.

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The RETINA program has been designed, modified, and tested in several diverse schools in California and Vermont. It is now poised to expand. Because RETINA’s hands-on activities require (1) added learning and provide a medium for communicating interest, experience, and challenges on the fifth and final day of the program. Activities are chosen with the intention of integrating technology under the umbrella of a scientific process and are designed to provide consistency and a continuum of difficulty among the teachers and guided by national science standards that are set for each grade (e.g., ecology and water quality). There are four different activities per grade that are presented during the first four days. The teacher and guided by national science standards that are set for each grade (e.g., ecology and water quality). There are four different activities per grade that are presented during the first four days. The Program blends formal classroom instructional activities with hands-on, skill development in a team-based setting conducted by the teacher and guided by national science standards that are set for each grade (e.g., ecology and water quality). There are four different activities per grade that are presented during the first four days.

We propose to deploy 4 units in representative environments within Mississippi Sound for one year. Each unit will be recovered and redeployed every quarter (daily record) during which a companion denitrification that samples the water column for nutrients, trace metals, and microbial community structure. We move beyond standard nutrient measurements to include trace metals and microbes. Trace metals can be toxic and are mobilized by natural redox changes and can reach concentrations that are detrimental or toxic in tidal creeks, watersheds, and in the subsurface. Our proposed work goes beyond standard analyses to include trace metals because mobilization of urban and industrial sources of trace metals (e.g., Fe, Mo, Cu, Cr, Pb, Zn, Cd, and Hg) through natural redox changes can reach concentrations that are detrimental or toxic in tidal creeks, watersheds, and in the subsurface.

We propose to deploy novel sampling and sensor capabilities (benthos) within and near restoration projects to monitor nutrient, trace metal, salinity, and water level in the surf zone and near the shore. Each unit will be recovered and redeployed every quarter (daily record) during which a companion denitrification that samples the water column for nutrients, trace metals, and microbial community structure. We move beyond standard nutrient measurements to include trace metals and microbes. Trace metals can be toxic and are mobilized by natural redox changes and can reach concentrations that are detrimental or toxic in tidal creeks, watersheds, and in the subsurface.

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The RETINA program is a 50-minute per day program that lasts 5 days. The Program blends formal classroom instructional activities with hands-on, skill development in a team-based setting conducted by the teacher and guided by national science standards that are set for each grade (e.g., ecology and water quality). There are four different activities per grade that are presented during the first four days. The teacher and guided by national science standards that are set for each grade (e.g., ecology and water quality). There are four different activities per grade that are presented during the first four days.

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The goal of ecological restoration is to provide a productive and sustainable ecosystem that results in the increase in biodiversity and nutrient retention. In nearshore marshes, plant diversity and productivity and function in these environments.
The Harrison County Development Commission (HCDC) is requesting $700,000 to construct a Small Business Incubator to be located in the Long Beach Industrial Park. This new facility would be successful in supporting entrepreneurs and small businesses by providing them with the necessary support and resources to start and grow their business. The incubator will offer co-working spaces, access to business services, mentorship programs, and networking opportunities. This investment is expected to create 50 new jobs and generate $3 million in annual revenue for the Harrison County economy.

The HCDC is also requesting $650,000 to purchase and sea trials of a 4000-m Capable Autonomous Underwater Vehicle (AUV) for use in marine science research. The cost for this program is $160K per year with half of the funds being spent on materials and sensors, and the remainder for coordination and science outcomes. Potential work will culminate with the teams meeting at the Gulf Coast Research Laboratory in Ocean Springs, MS. Each team will then participate in the mission to collect data for restoration projects.

The HCDC is requesting $500,000 to purchase and integrate 8 autonomous systems boats that will respond to a master computer on a command ship. Each kayak will cost ~$19K to purchase, instrument, and integrate with the aid of a graduate student, engineering technical support, and a small operational team. These kayaks will be integrated with two camera systems, a depth sounder, and a Doppler current meter to collect data on the Gulf's shallow coastal zones. This technology is limited when waters are not clear, is expensive to conduct, and does not provide an account for subsurface type and structure.

The HCDC is requesting $4 million to assist with development costs associated with the North Harrison County Industrial Complex. The 623-acre site is located to the north of the Mississippi River on the east side of the Seaway. The site offers immediate access to the Seaway, a major shipping corridor, and is situated near major markets such as New Orleans and Memphis. This investment is expected to create 200 new jobs and generate $40 million in annual revenue for the Harrison County economy.

The HCDC is requesting $300,000 to help stabilize the breakwater adjacent to Gulf Ship - one of Harrison County’s largest employers. This investment will provide further stabilization of the bank adjacent to Gulf Ship and will provide a site for the development of a marina. The area is one of the largest industrial parks in Harrison County serving over 200 companies that employ over 3,000 people. This investment is expected to create 100 new jobs and generate $2 million in annual revenue for the Harrison County economy.

The HCDC is requesting $200,000 to support the development and purchase of navigational equipment. The cost of such equipment is $5M and would take 3-4 years to complete the final integration of systems for ocean operations. The equipment would include a tether, winch, and tether management system, control van, and supply van. The vehicle would have 2 seven-function manipulators. The cost for this the equipment development and purchase program is $100,000 per year with half of the funds being spent on materials and sensors, and the remainder for coordination and science outcomes. Potential work will culminate with the teams meeting at the Gulf Coast Research Laboratory in Ocean Springs, MS. Each team will then participate in the mission to collect data for restoration projects.
The Mississippi Proving Ground will provide a unique, competitive edge to the state, the region, and Mississippi companies. The Mississippi Proving Ground will provide to address Mississippi restoration objectives while enhancing the state's economic development potential. It will also provide opportunities for Mississippi companies and universities to validate data products and derived geospatial information. The Mississippi Proving Ground will position the state for leadership in developing and strengthening emerging technologies for spatial and temporal trend analyses and enable Mississippi companies to enter the market with proven and tested information products.

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**Objective 1. Developing Social Indicators to Guide and Evaluate Coastal Restoration and Protection Projects and Activities**

The RESTORE Council is committed to the belief that successful efforts to improve our environment and coastal heritage have as much to do with effective strategic communication and engagement as with the science of nature itself. Communication and education form the heart of social science and sustainable development. The RESTORE Council is committed to the belief that, through ongoing engagement and outreach, we can achieve transformational changes in behavior toward a more sustainable use of our coastal resources. We recognize that conducting research and improving our knowledge of the environment is necessary, but not enough. We are committed to the belief that the social sciences can help us understand the economic, cultural, and environmental forces that shape our society and lead to informed decisions that can help our communities adapt and thrive.

The purpose of this project is to develop social indicators that can be used to gauge the success of the Council’s Comprehensive Plan. Social indicators are used to measure the progress of a plan or program, the effectiveness of a policy, or the impact of an intervention. Social indicators help us understand how our actions are affecting the social, economic, and environmental fabric of our communities. They provide a means to assess the extent to which our goals are being achieved and to identify areas where further action is needed.

Social indicators can be used in a variety of ways:

- To guide decision making: Social indicators can help identify where resources should be directed to achieve the best outcomes.
- To measure progress: Social indicators can be used to track changes over time and to determine whether the goals of the Comprehensive Plan are being met.
- To inform the public: Social indicators can be used to communicate the impact of restoration and protection projects to the public and to stakeholders.
- To guide communications: Social indicators can help focus communication strategies on areas where changes are most needed.

Social indicators are not just numbers; they are stories. They tell us about the people and places that are affected by restoration and protection projects. They help us understand the challenges and opportunities that are unique to our coastal communities. They help us make sense of the complex relationships that exist between humans and the environment.

Social indicators are drawn from a variety of sources, including survey data, interviews, focus groups, and observation. They are measured using a variety of methods, including surveys, interviews, focus groups, and observation. They are analyzed using a variety of tools, including statistical analysis, qualitative analysis, and content analysis.

Social indicators are associated with a variety of outcomes, including increased awareness, improved engagement, and improved decision making. Social indicators can be used to guide the development of strategies and actions that can help our communities adapt and thrive.

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| Hancock | Yes | No | Yes | 100 | Yes | No | No | No | No | 7,100,000.00$ |          | -$ | 1,500,000.00$ |          | -$ | 250,000.00$ |          | -$ |

**Project Title:** Stennis International Airport Road Extension

**Project Cost:** $1,500,000.00

**Description:** This project would increase the number of aircraft that may be staged at Stennis and alleviate the problems of scheduling of aircraft due to apron space availability.

**HCPHC Proposal:**

- **Objectives:**
  - To improve the airport's ability to handle heavy cargo operations.
  - To meet the needs of the local industry and the region.

**Expected Benefits:**

- Increased economic activity at the airport.
- Improved transportation infrastructure.
- Enhanced mobility for local communities.

**Funding:**

- STI Airport

**Contact:** Faye Gilbert, 601-266-5544

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**Project Title:** Stennis International Airport Hangar

**Project Cost:** $1,650,000.00

**Description:** HCPHC proposes to purchase two (2) private hangars at Stennis International Airport (SIA).

**HCPHC Proposal:**

- **Objectives:**
  - To meet the needs of the local industry and the region.
  - To provide additional hangar space for aircraft storage.

**Expected Benefits:**

- Increased economic activity at the airport.
- Improved transportation infrastructure.
- Enhanced mobility for local communities.

**Funding:**

- STI Airport

**Contact:** Faye Gilbert, 601-266-5544
**Table:**

<table>
<thead>
<tr>
<th>Airport</th>
<th>Project</th>
<th>Description</th>
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<td>Extends the hospital access roadway to the north end of the airport.</td>
<td>Underway</td>
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<tr>
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<td>Taxi-lane &quot;S&quot; &amp; &quot;T&quot;</td>
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<td>Hancock</td>
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**Project Attributes:**

- 70% load factor on an annual basis, the new service would generate 12,084 new passengers to the MS Gulf Coast. Using the spend figure of $717, the economic impact for that one year would be approximately $8.6 million.
- An example of a larger program, if two times per week service to a new market were to be added for the period of one year utilizing the following assumptions (MD-80 aircraft 166 seats operating with 70% load factor and an average of four passengers per seat). The program would generate approximately $187,000 in economic impact bringing in service for the past three Fall seasons. This seasonal operation has contributed approximately $3 million to the local economy.
- A new city added to the schedule would see a 12 to 36 month period to become self-sustainable. Two examples of this type of collaborative effort have been the addition of air service to Hancock County, Mississippi, on the Mississippi Gulf Coast.
- With its unpopulated corridor to the Gulf, can be the base of operations for a combination of fixed-wing, rotary-wing, and lighter-than-air airships. This program would create approximately 300 jobs for the local economy.
- The idea involves the concept of a training facility at SIA for international students will allow for increased aircraft activities at the Airport, create new revenue opportunities, and will bring the Mississippi Gulf Coast a previously untapped influx of foreign monies.
- International student flight training demand continues to increase, as flight training in foreign counties becomes more available. A training facility at SIA for international students will allow for increased aircraft activities at the Airport, create new revenue opportunities, and will bring the Mississippi Gulf Coast a previously untapped influx of foreign monies.

**Benthic Mapping of the MS Sound:**

- An air service study conducted in October 2013 reported that air visitors spend 50% more than visitors who arrive by car or bus because of a 30% longer stay and 20% higher spend. Based on current
- Visitors who travel from farther distances by air, stay longer according to a visitor study conducted in August 2013. However, 95% of visitors currently arrive to the MS Gulf Coast by car or bus.
- **Project Attributes:**
  - 70% load factor on an annual basis, the new service would generate 12,084 new passengers to the MS Gulf Coast. Using the spend figure of $717, the economic impact for that one year would be approximately $8.6 million.
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  - With its unpopulated corridor to the Gulf, can be the base of operations for a combination of fixed-wing, rotary-wing, and lighter-than-air airships. This program would create approximately 300 jobs for the local economy.

**Recharge Year Training:**

- A new city added to the schedule would see a 12 to 36 month period to become self-sustainable. Two examples of this type of collaborative effort have been the addition of air service to Hancock County, Mississippi, on the Mississippi Gulf Coast.

**HCPHC proposes to construct an international flight training facility at Stennis International Airport (SIA).**

- International student flight training demand continues to increase, as flight training in foreign counties becomes more available. A training facility at SIA for international students will allow for increased aircraft activities at the Airport, create new revenue opportunities, and will bring the Mississippi Gulf Coast a previously untapped influx of foreign monies.

**HCPHC proposes a study to determine the feasibility of the Gulf Observing Aerial Program (GOAP).**

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### Remediation of Oil Spills and Gas Releases by Mississippi Coast Coliseum and Convention Center

- Mississippi Coast Coliseum and Convention Center has a disadvantage in competing for business. Most convention center complexes offer accommodations, dining options, and shopping. Since the Mississippi Coast Coliseum and Convention Center does not offer additional amenities within the complex or walking distance, many groups will not consider hosting their meetings or events on the Mississippi Coast.

### Proposal

- The proposed work will include the following tasks:
  - Support for construction of a permanent pedestrian area, bicycling, jogging areas, and bus stop access.
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#### Benefits

- Improved pedestrian services, bicycle rentals, and bus stop access.
- Increased tourist traffic to the existing campus.
- Cost-effective multimodal transit station.
- Visitor information building.
- Visitor information building.
- Visitor information building.

#### Supporting facts

- The cost of the proposed work is $300,000.
- The proposed work is essential for the development of the Mississippi Coast Convention Center.
- The proposed work will help to level the playing field for college path and non-collegiate career path high school students.
- The proposed work will help to decrease the dropout rate and increase the employment rate.

### Proposed Development

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### Funding

- The proposed work will be funded through state and federal grants.
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#### Funding Sources

- State of Mississippi
- Federal Grants
- Local Community Development

### Evaluation

- The proposed work will be evaluated through surveys, focus groups, and interviews with stakeholders.
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#### Evaluation Tools

- Questionnaires
- Focus groups
- Interviews

### Conclusion

- The proposed work will have a significant impact on the Mississippi Coast Convention Center.
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#### Key Takeaways

- Improved pedestrian services, bicycle rentals, and bus stop access.
- Increased tourist traffic to the existing campus.
- Cost-effective multimodal transit station.
- Visitor information building.
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#### Next Steps

- Further evaluation of the proposed work.
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The main focus of this project will be to form a collaborative effort in the development of a Task Force to sustain and promote the MS Gulf Coast National Heritage Area (MSGCNHA) as a premiere destination for Nature-Based Tourism. This will be accomplished in two Phases: Phase 1: Funding allocated to MS Gulf Coast National Heritage Area to conduct the necessary research to develop a plan to grow Nature-Based Tourism. Phase 2: Implement the Nature-Based Tourism plan in partnership with businesses, communities, and state and federal agencies.

### Phase 1: Research and Planning

1. Stakeholder engagement: A comprehensive stakeholder engagement process will be conducted to identify key stakeholders and their interests. This will involve workshops, focus groups, and online surveys.
2. Market analysis: An analysis of the market for Nature-Based Tourism will be conducted to identify potential opportunities and challenges.
3. Competitive analysis: A competitive analysis of similar tourism areas will be conducted to identify strengths and weaknesses.
4. Financial feasibility: A financial feasibility analysis will be conducted to determine the potential for sustainability.

### Phase 2: Implementation

1. Development of an implementation plan: An implementation plan will be developed based on the results of the research phase.
2. Project implementation: The implementation plan will be implemented, including the development of new tourism products, improvements to existing products, and marketing activities.
3. Evaluation: The effectiveness of the implementation plan will be evaluated to ensure that the project is meeting its goals.

### Benefits

1. Economic benefits: The project will generate economic benefits through increased visitor spending and new businesses.
2. Environmental benefits: The project will enhance environmental benefits through the preservation and restoration of natural areas.
3. Educational benefits: The project will provide educational benefits through the development of educational programs and activities.
4. Social benefits: The project will provide social benefits through the development of community partnerships and events.

### Funding

The proposed project will require a total funding of $5,000,000. Funding sources include:

- Federal grants
- State grants
- Local government contributions
- Private sector contributions
- Corporate sponsorships

The project will be implemented by a partnership of communities, governmental agencies, natural resource managers, and private sector entities interested in marine mammal science and has partnered with the University of Southern Mississippi, Jackson State University, Louisiana State University, University of South Alabama, and private entities interested in marine mammal science. The project will be managed by a Project Director and a Project Coordinator.

### Conclusion

The proposed project aligns with the goals of the Mississippi Gulf Coast National Heritage Area plan and the National Park Service's America's Great Outdoors Initiative. The project will enhance the area's economic, environmental, and cultural heritage while providing opportunities for visitors to experience the unique marine and coastal resources of the Gulf Coast.
The Mississippi Gulf Coast needs a comprehensive fiber network engineered to be survivable in the event of a natural disaster and to support limitless economic development. C Spire and other companies have identified a need for a fiber network that can support economic growth. A fiber network would provide the infrastructure necessary to support economic development projects of unlimited size anywhere in this region and would enhance the Mississippi River Delta region’s ability to attract businesses, reduce costs, and improve the quality of life for its residents.

The Mississippi Gulf Coast needs a highly skilled workforce that can meet the needs of the new economy. Currently, the Mississippi Gulf Coast lacks a comprehensive fiber network engineered to be survivable in the event of a natural disaster and to support limitless economic development. C Spire and other companies have identified a need for a fiber network that can support economic growth. A fiber network would provide the infrastructure necessary to support economic development projects of unlimited size anywhere in this region and would enhance the Mississippi River Delta region’s ability to attract businesses, reduce costs, and improve the quality of life for its residents.

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The Jackson County Board of Supervisors is proposing the development of a new connector road parallel to Interstate 10 between Mississippi Highway 15 and Mississippi Highway 609. The proposed road will extend from Mississippi Highway 15 at a point that is 800 feet north of its current location. The signalized intersection at Cook Road will be relocated to the new intersection location with traffic control measures instituted at Cook Road and Tucker Road about 600 feet north of its current location. The interchanges proposed for the south end of this project will be Dawson Road and Mallette Road. The right-of-way will be acquired to provide a connection at Mallette Road and Daisy Vestry Road. On the east end, the route will diverge from the Cook Road right-of-way to connect to Tucker Road about 2,000 feet north of its current location and to the central traffic interchange. The over 1,300 Connector Road will extend northward for about 2,000 feet in order to connect with Dawson Road.

The preliminary estimate for the construction of this project is $13.1 million. The project is expected to be completed in 2020.
...
The project will include incentives to improve the regional seafood industry by developing such things as a shrimp hatchery. Reinvestment of the project area will assist in enhancing the economic growth of the State of Mississippi and will yield a long-term increase in value by creating and retaining jobs and increasing the purchasing power and quality of life for all residents of the fishing community.

**Expansion of Blue Crab Aquaculture in Pine Street Waterfront Access Road and Maritime Commerce Corridor in East Biloxi**

The Pine Street Waterfront Access Road and Maritime Commerce Corridor in East Biloxi will extend and improve Pine Street from 5th Street south to Highway 90, concurrent with implementation of the City project to extend Back Bay Boulevard from Oak Street southeast to Pine Street and then south to 5th Street with funding assistance provided through the Mississippi Development Highway Program. The improved Pine Street will be a four-lane, divided boulevard for greater safety and aesthetic appeal.

**Fiber Ring Project**

The project is the third phase of the Fiber Ring project to extend high-speed Internet to public schools and libraries in Hancock, Harrison, and Jackson counties. The project will be implemented through the Mississippi Broadband Initiative, a non-profit corporation established by the state legislature in 2010 to provide high-speed Internet access to schools and libraries. The project will be funded through the Mississippi Broadband Initiative with support from the federal government, primarily through the Rural Broadband Development Program.

**Mississippi Sea Grant Consortium**

The project is a collaborative effort between the Mississippi Sea Grant Consortium and the University of Southern Mississippi to enhance the coastal and marine economy in Mississippi through research, education, and outreach. The project will focus on three areas:

1. **Sustainable Aquaculture and Aquatic Ecosystem Management**: This area will focus on developing new hatchery and cultivation techniques for blue crab and other species, as well as improving the sustainability of existing aquaculture operations.
2. **Sustainable Marine and Coastal Tourism**: This area will focus on developing new tourism and recreation opportunities in the coastal and marine areas of Mississippi, including the development of new waterfront activities and the promotion of sustainable tourism practices.
3. **Sustainable Coastal Infrastructure and Ecosystem Restoration**: This area will focus on developing new approaches to coastal infrastructure and ecosystem restoration, including the development of new techniques for coastal erosion control and the restoration of damaged ecosystems.

**Mississippi Broadband Initiative**

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3. **Sustainable Coastal Infrastructure and Ecosystem Restoration**: This area will focus on developing new approaches to coastal infrastructure and ecosystem restoration, including the development of new techniques for coastal erosion control and the restoration of damaged ecosystems.
The proposed project will fund a perpetual GoCoast Trust Fund that will provide: (1) debt and equity financing of qualified private and public projects that will repay loans with interest and yield a
Highway Connectivity Project for City of
Yes
National Diabetes and Obesity Research
Develop a site and construct a welcome/tourism center for the City of Pascagoula. The City has much to offer, and several large employers bringing visitors to the area. Often, these visitors miss the
City Hall
Computerized RESTORE
5465 2/16/2016
Loan Program
five focus areas including robotics, programming, film and arts. In contrast to the original TechTown Chattanooga, the proposed TechTown Pascagoula would be a 5,000 sq ft extension center offering
Each University Researcher that provide a biographical sketch, resume, CV etc. will be assessed to his or hers RESTORE ACT decision making teams. There will be implementation of US Military and
light and cross walk at McInnis & Main and straightening and widening of McInnis in front of City Hall with added parallel parking.
3. Widening and improvements along Grierson & McInnis Ave. from Hwy-63 to Main St. (Once Hwy. 90) to create greater access and increased flow to downtown from the east. Also include a stop
1. Interchange improvements and extension of service roads along with service road improvements along the I-10 and Hwy-63 and 613 corridors.
NDORI will serve as a catalyst for economic growth, community stability and community resilience by providing or supporting a diverse offering of educational opportunity for residents of the state as
devlopment in the Tradition Medical City will serve to create the potential for significant economic savings to the state.
significantly higher than the 10.5% national rate. It has been predicted that by 2035 the global population with diabetes will increase to 600 million. With nearly 1 in 6 Mississippians affected by
Consider the following statistics, in 2016 over 371,622 Mississippians had diabetes (over 15.4% of the state population). MS's diabetes rate nearly doubled that of the global rate and was
NDORI is located at Tradition, a 4,800-acre master-planned community in Harrison County at the intersection of Highway 67 and Highway 605 north of Biloxi and Gulfport. NDORI represents a unique
study and treatment of diabetes and obesity, currently in its infancy. The singular focus of NDORI is to find a cure for diabetes - a disease that impacts more than 15% of MS's population.
The National Diabetes and Obesity Research Institute (NDORI), a Mississippi (MS) non-profit 501 (c)(3) corporation, is an innovative, translational research institute focused on the population-based
Project #5460 based on a recent study and updated design and building estimates.
return on equity investments; and (2) grants to public agencies for urgent public projects that do not generate revenue directly, especially eco-restoration projects. The Trust Fund will provide long-
A TechTown Pascagoula program would combat the documented recruitment needs of local industries who are spending countless hours travelling to recruit necessary workforce. TechTown
TechTown provides skill-building and certification curriculum for
Location:
Mississippi.
plan (including the financial projections) that are required to be submitted with the application for assistance.
Oyster aquaculture business startup expenses can run from $5,000 to more than $100,000 depending on the scope of the enterprise. Obtaining a loan from traditional commercial lenders for
diversity income streams, and enhance economic development.
Through an extensive planning effort in Mississippi in 2015, the Governor’s Oyster Council created goals of increasing oyster harvests and creating new job and business opportunities. The
spill and related anthropogenic activities (such as river releases) the estimated number of oysters that were lost (direct death and subsequent reproductive loss) at a minimum, was four billion oysters
Oysters support a robust commercial fishery, improve water quality, and provide habitat for a number of economically and ecologically important fish species. As a result of the Deepwater Horizon oil
NDORI will support multiple scientific disciplines on the local, regional, national and world-wide level.
NDORI will support multiple scientific disciplines on the local, regional, national and world-wide level.
the Trust shall be located within the three Coast counties.
Representatives submit an objection (in writing) to any specific project in the Plan, then that project shall be deleted from the list of projects that may be funded by the Trust in that fiscal year.
the Trust will provide public grants and technical assistance to private organizations to support the creation of public projects, which will foster the feasibility and support market-driven change in the
NDORI will support multiple scientific disciplines on the local, regional, national and world-wide level.
Return on assets, return on equity and earnings per share are financial performance measures used to assess the success of the business. The Trust Fund will provide long-term money and
As in the previous year, the Trust will provide public grants and technical assistance to private organizations to support the creation of public projects, which will foster the feasibility and support market-driven change in the
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Aqua Green was identified by the Council's Hatchery Sub-Committee as the key to the success of the restoration projects. To support these restoration objectives and achieve the State's goal of ten billion eyed oyster larvae annually, acquisition of the Aqua Green aquaculture facility in Perkinston, MS, and development of such things as a soft-shell crab aquaculture program in partnership with the Mississippi Department of Marine Resources. The two projects will be coordinated to enhance traditional improvements that include expanded commercial dock space and supportive landside amenities. Project #5399 also includes incentives to diversify the regional seafood industry through improvements that include expanded commercial dock space and supportive landside amenities. Project #5399 also includes incentives to diversify the regional seafood industry through

As part of the comprehensive public and private effort to improve water quality in the Back Bay of Biloxi before it reaches the Gulf of Mexico, the City of Biloxi is requesting RESTORE funding to address projected levels of increased discharge from anticipated seafood industry expansion. Best management practices will be used throughout project implementation and operation.

In Mississippi and throughout the Gulf of Mexico, the oyster fishery serves as an integral part of the economy and heritage of coastal communities. Events over the past decade such as Hurricane Katrina and numerous anthropogenic events (e.g., spillway openings, oil spill, etc.) have, however, impacted those resources in Mississippi and caused significant reductions in oyster landings and the economic impacts.

In Mississippi, the oyster fishery is a project that meets all five of the overarching framework goals of Restore the Gulf. This project will focus on collaborative and sustainable tree planting on of native trees and oyster shell. This project will help make-up for or mitigate the natural resources of trees that support habitats of all kinds including native birds, reptiles, and other species. This is an investment focusing toward better tree planting and support to produce a healthier environment for the region.

Identifying employed minority professionals will first involve, annually, contacting current administrators of all natural resources management federal and state within the Gulf Coast, and soliciting professional development opportunities for these minority professionals. Program Structure: The Mississippi State University Extension Service will be the coordinator of the program and will house the Institute. The Institute will have 2 units: Adult Professional Training and Certification and Undergraduate Education.

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By replacing these components, we can save SRHS approximately $400,000 a year in operating expense. The cost of the project is estimated at $7,800,000.00, with an ROI of less than 20 years and a projected life in excess of 30, producing a net return on investment in excess of the cost of the project.

In the attached plan you will find recommended turnkey projects for five South Mississippi counties: Hancock, Harrison, Jackson, Pearl River and Stone. These are projects that can have significant environmental impacts on the region. Each individual project identified can be accomplished within a budgetary range of $500,000 to $3 million. Any approved project will enhance waterways and invertebrates and improve overall water quality. For example, the restoration project "Retrofitting and Expanding Oyster Hatcheries" is good for one, is good for all. The objective of the attached plan is not to seek approval of every submitted project, but rather approval of one project at a time if necessary. Over a 15 year period one project can only imagine the accumulative effect, the significant environmental impact this strategy holds for South Mississippi.

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Management and Administration: The MGCNHA will provide general management, oversight, and coordination of day-to-day operations for the nature-based tourism program. It will provide frameworks to manage, operate, plan, market, and implement the recommendations with a budget of $10 million over the next five years. This proposal outlines management and administration, 4.

System Development: To ensure that the tourism marketing strategy is sustainable and effective, the MGCNHA will conduct ongoing research and development to evaluate the program's performance and make necessary adjustments. This may include market analysis, consumer feedback, and evaluation of new marketing channels and technologies. The MGCNHA will work with partners to identify and implement innovative marketing strategies to reach new audiences, increase visitation, and enhance the overall tourism experience.

Communication: The MGCNHA will develop a comprehensive communications strategy to promote the tourism marketing strategy and engage stakeholders, including tourists, businesses, and community members. The strategy will include social media, email campaigns, and public relations efforts to increase awareness of the tourism opportunities and encourage visitors to explore the region.

Results and Benefits: The MGCNHA's tourism marketing strategy will result in increased visitation and economic benefits for the Gulf Coast Region. By leveraging the region's natural assets and cultural heritage, the MGCNHA will attract new visitors, support local businesses, and create jobs. The strategy will also help conserve and protect the region's natural resources, ensuring that future generations can enjoy the same opportunities.

This project is intended to support the development and growth of the tourism industry in the Gulf Coast Region. It will offer a comprehensive solution to the challenges faced by the region, creating a sustainable and inclusive tourism experience for all. Thank you for considering this proposal.
The SBCF New Wave Center for Innovation Development

Workforce Development

The SBCF New Wave Center for Innovation Development will provide a variety of technical and professional services to businesses throughout the region. It is expected to host workshops, seminars, and training sessions focusing on areas such as technology management, business growth, and workforce development. The center will also serve as a hub for networking and collaboration among local businesses and entrepreneurs.

People-Public and Private Lands and Technology

Ecological Enhancement

The benefit of this project is to restore and conserve habitat; restore water quality; replenish and protect living coastal and marine resources and enhance community resiliency. The project documentation of the rehab improvements will consist of cured-in-place pipe (CIPP) and CCTV of all mains after rehabilitation. The District's CCTV software will need to be updated in order to complete reports necessary and proper.

Bay of St Louis...boundary is the Southern Shoreline of Rotten Bayou and Bayou LaSalle. The City of Bay St Louis, the Western Certificated Area Boundary is the East Shoreline of Rotten Bayou and the Northern Certificated Boundary is the Southern Shoreline of Rotten Bayou and Bayou LaSalle.

Bayou LaSalle.

Bayou LaSalle.

Bayou LaSalle.

The City has approximately 1.5 square miles of property immediately south of the Texas-Corridor. The Texas-Corridor is a project funded by both the Federal and the Texas Department of Transportation to improve the existing roadway and transportation infrastructure. This project is currently in the planning stage and is expected to be completed within the next few years.

The City of Gautier recognized the need to enhance and improve the transportation infrastructure within the city, including the roads and streets. This project will involve the construction of new roads and streets, as well as the improvement of existing ones. The project is expected to improve the overall transportation connectivity within the city and provide better access to the residents and visitors.

Small Business Assistance, Research and Education and Infrastructure

If afforded this opportunity, SBCF would collectively address these areas by designing/building and operating a facility that meets the needs of both their internal and external audiences while meeting statutory and regulatory requirements. The key areas that SBCF would address include: Workforce and Economic Development, and his office with the submission of this request, and thereafter, if selected.

Small Business Capital Fund of MS, Inc., (SBCF) is a 501c3 US Department of the Treasury Community Development Financial Institution (CDFI) that specializes in finance programs and technical assistance in small business development. SBCF would enhance its offerings to prime and subcontractors, public and private agencies and organizations in construction and transportation-related industries as well as provide access to complementary or peripheral services such as bonding agents and professional service providers that cater to those industries.

The SBCF New Wave Center for Innovation Development will support the development of new and innovative businesses in the region. The center will serve as a platform for entrepreneurs and innovators to connect with potential customers, investors, and partners. SBCF will provide various services such as business incubation, mentoring, and networking opportunities to help businesses grow and succeed.

People-Public and Private Lands and Technology

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The specific contracts for the installation of new traffic lights at the intersection of McCann Road and Interstate 10 in the St. Martin Community. This project consists of construction of a new overpass at McCann Road and Interstate 10 in the St. Martin Community. This new overpass will provide a direct connection from the Commercial District to the residential area. The construction of the overpass will improve traffic flow and reduce congestion in the area.

Yes

The Jackson County Board of Supervisors is proposing the construction of a new Interstate 10 interchange with Old Fort Bayou Road. The right-of–way is available for immediate consideration for the interchange. The proposed interchange will help to alleviate traffic congestion on Interstate 10 and improve access to Old Fort Bayou Road. The construction of the interchange will also improve safety for drivers and pedestrians in the area.

Yes

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Yes

No
The Mississippi Commercial Fisheries United, Inc. proposes funding for the establishment of a Mississippi Shrimp Industry Task Force. The purpose of the task force (advisory panel) is to engage stakeholders throughout the shrimp industry to bring forth ideas and recommendations to implement sustainability projects and management measures. Mississippi currently does not have a shrimp farm to grow seedstock and provide investment capital to help jump start the off-bottom oyster aquaculture industry in Mississippi. The program would also help to increase Mississippi's overall oyster production and provide oyster farmers with a new market to sell their product. This program would provide electronic reporting and tagging capabilities for commercially harvested marine species such as speckled trout, red fish, flounder, shrimp, blue crabs, and oysters. Similar programs have been implemented in federal fisheries with great success. In addition to eliminating fraud in the local seafood marketplace; this program would also help promote domestically caught seafood, which is becoming increasingly popular among consumers. The program would allow for the development of a Mississippi Reef Fish Community Permit/Quota Bank. Mississippi is the most under-served state in the commercial Gulf reef fish fishery. Mississippi has the least amount of Gulf reef fish permit holders and individual fishing quota shareholders. This project would help to increase commercial access to reef fish species such as grunts, flounder, and red fish. The program would provide for the establishment of a Mississippi Off-Bottom Oyster Aquaculture Advancement & Investment Program. Off-bottom oyster aquaculture has been a successful sustainable resource management practice in other regions, such as Louisiana, Florida, and North Carolina. Oyster shell recycling programs have been implemented in federal fisheries with great success. The program would include a small-boat shop ($75,000), facility staff machinist start-up ($200,000), transportation vehicles/lifting capacity ($500,000), engineering/fabrication equipment ($1,170,000). The purpose of this project is to provide the state with the ability to become a leader in a growing industry. In order to provide the state with the ability to become a leader in this growing industry, it is necessary to have the appropriate infrastructure and equipment in place. The program would also include a detailed project proposal and a statement of need. The statement of need would include the following information: the problem or need; the objectives of the project; the expected outcomes; the qualifications and experience of the applicant; the budget; and the timeline. The project would be implemented in phases, with each phase focused on a specific goal. Phase one would focus on developing the necessary infrastructure and equipment, phase two would focus on training and recruitment, and phase three would focus on implementation and monitoring. The program would also include a detailed budget. The budget would include the following: salaries and wages ($200,000), supplies and materials ($100,000), equipment ($500,000), travel and transportation ($100,000), and other expenses ($100,000). The program would be evaluated on an ongoing basis to ensure that it is meeting its goals and objectives. The program would also include a plan for sustainability, which would be implemented once the program is fully operational. This plan would include the following: a detailed plan for marketing and outreach, a plan for training and recruitment, and a plan for monitoring and evaluation.
Mississippi Coastal Improvement Program

2,400,000.00

Objective:

Funding Status: This project is currently unfunded. The next potential chance for funding will be from the FY 2024 budget. Ahead of this, local non-Federal Sponsor support via a Letter of Intent is needed. The estimated non-Federal cost of $431,000.

Scope of Work: This Project will complement the existing Federal restoration projects at Deer Island by minimizing the fracturing of diversity and creation of an additional 400 acres of highly valuable wetlands. It will include the following activities:

- **a.** Water quality training
- **b.** Water quality monitoring
- **c.** Habitat enhancement
- **d.** Wetland training
- **e.** Wetland management
- **f.** Restoration planning
- **g.** Yard Maintenance
- **h.** Landscape gardening
- **i.** Nursery training (growing seedlings & fruit tree propagation)
- **j.** Aquaculture training
- **k.** Aquaculture management

The project would create training programs that satisfy needs of employers in the state. The project will include job training in the following industries and trades:

- **a.** Environmental education
- **b.** Aquaculture education
- **c.** Water quality education
- **d.** Wetland education
- **e.** Yard maintenance
- **f.** Landscape gardening
- **g.** Nursery training
- **h.** Aquaculture training
- **i.** Aquaculture management

The project would also include wetland training for both high school and college students. Water quality training will be offered at both high school and college levels.

Program Description:

The program will include a comprehensive curriculum that includes the following:

- **a.** Water quality training
- **b.** Water quality monitoring
- **c.** Habitat enhancement
- **d.** Wetland training
- **e.** Wetland management
- **f.** Restoration planning
- **g.** Yard Maintenance
- **h.** Landscape gardening
- **i.** Nursery training (growing seedlings & fruit tree propagation)
- **j.** Aquaculture training
- **k.** Aquaculture management

The program will also include job training in the following industries and trades:

- **a.** Environmental education
- **b.** Aquaculture education
- **c.** Water quality education
- **d.** Wetland education
- **e.** Yard maintenance
- **f.** Landscape gardening
- **g.** Nursery training
- **h.** Aquaculture training
- **i.** Aquaculture management

The program will be offered at both high school and college levels. Water quality training will be offered at both high school and college levels.

William Carey University has recently reached a significant milestone with its School of Pharmacy’s completed construction and its inaugural class of 57 students’ admittance this past July, with the capacity of 192 students.

Following the success of their School of Pharmacy, William Carey is planning to expand their medical offerings by opening an additional College of Osteopathic Medicine at the Tradition Campus. The college will be located on the Tradition Campus, which opened in the fall of 2009, offers majors in art, business administration, elementary education, health-related professions, nursing, and psychology. The college is designed to provide education and training in a variety of fields, including:

- **a.** Behavioral Science
- **b.** School of Nursing
- **c.** School of Pharmacy

The college aims to provide a comprehensive education in the health sciences, focusing on the needs of the community and preparing students for careers in healthcare. It offers majors in health-related fields, including nursing, pharmacy, and health administration, as well as other programs in the arts and sciences.

Program Description:

The program will focus on developing career readiness among students, particularly in the following areas:

- **a.** Financial awareness
- **b.** Basic computer skills
- **c.** Communication skills
- **d.** Critical thinking
- **e.** Problem-solving
- **f.** Time management

The program aims to prepare students for the workforce by equipping them with the necessary skills and knowledge to succeed in their future careers.

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Objective 1: The physical installation of the fiber and connection of the key sites. This activity will proceed in as little as one or two years with new deployment technology. Activities will include first funding of the project, the commitment of a full-time project manager, and the coordination of construction activities. The expectation is that the recent population increase will eventually be accelerated due to the economic benefits of attracting jobs due to the affordable high-speed internet availability.

Benefits - Benefits include encouraging economic development, increasing access to education, and improving the quality of life. Some of the benefits are cultural, asGulf Coast residents welcome the opportunity to purchase additional services and entertainment. Service providers will begin offering services over the new network and bring new applications, features, content, and services to run over the near-infinite bandwidth provided by the pure fiber technology. Service providers will have a US$ billion annual revenue connection across the region.

The routine and normalized employment of UAS to support disaster response and relief efforts provides an exponential increase in Mississippi’s capability to restore services, limit damage to critical infrastructure, and to save lives. Mississippi's first responders have a substantial need for real-time, prioritized and on-demand aerial imagery and other airborne capabilities to support natural disasters such as oil spills, hurricanes, floods, and to support emergency response activities.

The broadband infrastructure of Mississippi has largely been in the hands of giant businesses with agendas that may not align with the interests of businesses, governments, or citizens of the Gulf Coast region. In 2018, the Mississippi Broadband Board, an entity appointed by the Governor, held hearings and sessions across the state to gather input and gather input from communities and businesses.

The U.S. Shrimp processing industry is located in the five Gulf States region. While processors are shrinking in number, Mississippi’s six processors have increased their share of the domestic shrimp market, processing approximately 16 million pounds of shrimp each year compared to Mississippi’s 5 million pounds annual catch, a small portion of the Blue Economy, state economically and environmentally.

The expectation is that the recent population increase will eventually be accelerated due to the economic benefits of attracting jobs due to the affordable high-speed internet availability. Much like towns bypassed by canals, rails, or highways, future prospects are bleak for those who can’t get online.

Broadband is not an ordinary product. It is essential infrastructure – the platform on which most commerce now depends. It has high start-up costs that take years to recover. When telecommunications prices are too expensive or speed too slow and unreliable, all businesses and residents suffer. Much like towns bypassed by canals, rails, or highways, future prospects are bleak for those who cannot get online.

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Along the beachfront, adjacent to the Gulfport harbor, across from the upcoming Aquarium attraction, and with access to downtown's food and beverage, gaming, and lodging, the area around...
PAWS could potentially raise additional funds by hosting a snack bar that sells only local products from Pop Brothers, Karen’s Cookies and other local businesses as well. We will also share trained HSSM staff with the new facility and veterinarians are already in place and could partner with local community colleges such as MGCCC for workforce training and internships.

Studies to offer joint tourism tickets. In addition, we will use our extensive individual & corporate donor network as we have an established fundraising platform for our mission based initiative. We will seek guidance from top architect consulters that have worked on similar projects such as the Exploratorium in San Francisco and the San Antonio Zoo, and can be a destination for tourists engaging projects in order to create an engaging and interactive experience for all attendees.

The facility will utilize existing HSSM land and will enhance current programs while also serving as a centrally located site for partner organizations. This new facility will perpetually support HSSM’s lifesaving efforts and strive to educate the importance of animal welfare, preservation, conservation and humanitarianism. We will seek guidance from top architect consulters that have worked on similar projects such as the Exploratorium in San Francisco and the San Antonio Zoo, and can be a destination for tourists engaging projects in order to create an engaging and interactive experience for all attendees.

The request for funds would support design and construction plus year 1 operations and encourage ongoing fundraising. HSSM plans to sustain PAWS by funneling Club Paw summer camp registration fees back into the program and by requesting parent/teacher organizations to provide a small fee for students and charge additional adult fees for each tour/education session as well as special event rentals fees. Because of PAWS HWY 49 location—a major tourist access road—and its proximity to the Aquarium, we plan to partner with the Aquarium and possibly the Institute for Marine Mammal Studies to offer joint tourism tickets.

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The Mississippi diamondback terrapin (Malaclemys terrapin pileata) is an estuarine turtle that exclusively inhabits coastal bays and salt marshes along the Atlantic and Gulf of Mexico coasts. It is a long-lived species and plays an important role in these estuarine habitats, it represents a critical bioindicator of the health and integrity of salt marsh ecosystems. Salt marshes in Mississippi provide habitat and nursery grounds for various marine organisms including marine mammals, seagrasses, fish, benthos, marine invertebrates, seaweed, mangroves, and wetland birds. These areas are important for both local and national biodiversity and are critical to the state's economy and culture. Salt marshes also contribute to the state's coastal resilience by acting as a buffer against storm surge and erosion. Monitoring diamondback terrapin populations can provide insight into the health and stability of the coastal ecosystem.

Long-term surveys of diamondback terrapin populations in Mississippi were initiated in the 1970s to assess population trends and trends of changes in the habitat. These surveys are ongoing and provide valuable information on population size, distribution, and trends, which can be used to assess the health and integrity of salt marsh ecosystems. The surveys also provide information on the status of other estuarine species that are dependent on salt marsh habitats, including shorebirds, wading birds, and marine mammals.

Investing in public education regarding marine conservation issues will contribute to the ultimate goal of a restored and healthy Gulf of Mexico for generations to come. IMMS is committed to fostering a sense of appreciation and stewardship for the great coastal and marine resources in Mississippi and the Gulf of Mexico for those young and young at heart.

- Outreach capabilities for community festivals and events
- Technology labs to introduce students to modern research techniques
- Ecotours to provide unique, hands-on field experiences
- College field courses that expose students to applied marine science and marine mammal and sea turtle rescue and rehabilitation.
- Teacher Workshops provide teachers with opportunities to expand their knowledge of coastal issues and provide a venue for teachers to earn continuing education units (CEUs) or college credit,
- Academic field-trips designed to familiarize students with the plants, animals, habitats, and processes of marine and aquatic environments tailored to the visiting age group,
- Student camps that provide hands-on exploration of coastal wetlands, beach and barrier islands, birding, and fisheries.

The project will include the following activities:

1. Land acquisition
2. Construction
3. Geographic Information
   - Location: Jackson County, N30° E 21° W 47" W 88° E 41° 41"
   - Narrative Description of the Site: The wetland boundary of this 2,339-acre preserve includes coastal uplands, including marine coastal, wetland, seagrass, coastal wetlands, shorelines, intertidal species, marsh species, point and non-point pollution, marine habitats, and water quality. It is a coastal educational and research center.
   - Student delay that provides hands-on exploration of natural world, beach and barrier islands, birding, and forests.
   - Teacher Workshops provide teachers with opportunities to expand their knowledge of coastal issues and provide a venue for teachers to earn continuing education units (CEUs) or college credit.
   - Ecotours to provide unique, hands-on field experiences.
   - College field courses that expose students to applied marine science and marine mammal and sea turtle rescue and rehabilitation.

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<table>
<thead>
<tr>
<th>ID</th>
<th>Project</th>
<th>Description</th>
<th>Cost</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>11193</td>
<td>Bayou Auguste Environmental Enhancement Project</td>
<td>Bayou Auguste Environmental Enhancement Project is designed to protect and enhance Bayou Auguste. In the aftermath of the oil spill, BP affirmatively acted to protect this island. Proposed improvements will include developing a wetland walkway along the bayou, sensitive wetland restoration, and removal of invasive vegetation.</td>
<td>685,000.00</td>
<td>Harrison, Hancock, Harrison, Hancock</td>
</tr>
<tr>
<td>11200</td>
<td>Point Cadet and Tchoutacabouffa Nature Area/Blueway &amp; Research and Education</td>
<td>Point Cadet is the last green space on the Gulf Coast open to the public. Point Cadet was the Mississippi hub for BP's clean-up operations following the oil spill. This project is focused on enhancing and protecting this important natural area.</td>
<td>890,000.00</td>
<td>Hancock, Hancock, Hancock, Hancock</td>
</tr>
<tr>
<td>11393</td>
<td>Palmer Creek and Biloxi River Conservation</td>
<td>Palmer Creek and Biloxi River are the west boundary of the parcel that is adjacent to the Desoto National Forest on its southeast and north boundary. Conservation of the parcel is essential to maintaining habitat connectivity and protecting biodiversity.</td>
<td>89 10/29/2013</td>
<td>Hancock, Hancock, Hancock, Hancock</td>
</tr>
<tr>
<td>11394</td>
<td>Tchoutacabouffa Nature Area/Blueway &amp; Research and Education</td>
<td>The Tchoutacabouffa Nature Area is a natural area that is part of the Mississippi Coastal Plain. The project focuses on enhancing and protecting this area, including wetland restoration, invasive species control, and improving public access.</td>
<td>10/29/2013</td>
<td>Hancock, Hancock, Hancock, Hancock</td>
</tr>
</tbody>
</table>

**Summary:**

- **Bayou Auguste Environmental Enhancement Project** focuses on protecting and enhancing Bayou Auguste, an important natural area on the Gulf Coast.
- **Point Cadet** is preserved as the last open green space on the Gulf Coast, and enhancements focus on protecting the ecosystem and public access.
- **Palmer Creek and Biloxi River Conservation** aims to conserve a parcel adjacent to the Desoto National Forest, emphasizing habitat connectivity and biodiversity.
- **Tchoutacabouffa Nature Area/Blueway & Research and Education** works on preserving a significant natural area, including wetland restoration and invasive species control.

These projects collectively contribute to the conservation and enhancement of natural habitats, supporting biodiversity and providing public access to important natural areas impacted by the oil spill.
1. The depth of Graveline Bayou presents a flood hazard. Following Hurricane Katrina, the bayou began silting in more rapidly than in preceding years. This problem was further exacerbated by the closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis. 4. The depth of Graveline Bayou presents a flood hazard. Following Hurricane Katrina, the bayou began silting in more rapidly than in preceding years. This problem was further exacerbated by the closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis. 3. The closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis compounded the sediment accumulation problem removing any agitation of the bayous by boat traffic which helped to keep the bayous open. 3. The closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis compounded the sediment accumulation problem removing any agitation of the bayous by boat traffic which helped to keep the bayous open.

In order to restore the bayou, the siltation needs to be removed from the bayou and the area adjacent to the mouth of the bayou. Any compromised banks need to be repaired and any low areas need to be filled to restore the bayou and outlet depths. The depth of Graveline Bayou presents a flood hazard. Following Hurricane Katrina, the bayou began silting in more rapidly than in preceding years. This problem was further exacerbated by the closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis. 4. The depth of Graveline Bayou presents a flood hazard. Following Hurricane Katrina, the bayou began silting in more rapidly than in preceding years. This problem was further exacerbated by the closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis. 3. The closure of the mouth of the bayou during the Deepwater Horizon Oil Spill Crisis compounded the sediment accumulation problem removing any agitation of the bayous by boat traffic which helped to keep the bayous open.

Now that the bayou depth is less than three feet, scouring is still minimal because boats can no longer navigate the bayou. During an average tidal cycle, approximately 40% of Graveline Bayou is less than three feet deep. During an average tidal cycle, approximately 40% of Graveline Bayou is less than three feet deep. During an average tidal cycle, approximately 40% of Graveline Bayou is less than three feet deep. During an average tidal cycle, approximately 40% of Graveline Bayou is less than three feet deep. During an average tidal cycle, approximately 40% of Graveline Bayou is less than three feet deep.

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**EDUCATION**

**Research and Education**

1. **Reduce Bycatch in the Gulf Shrimp Fishery**
   - **Mexico** and **associated industry in the Gulf of Mexico**
   - To elicit industry participation in evaluating more complex bycatch reduction devices (BRDs) and conduct demonstration and dissemination activities of the newly developed BRDs.
   - Several door sizes have been evaluated, but cambered trawl doors, 50% smaller than the traditional wood or aluminum doors, have yielded promising potential to reduce fuel consumption in the shrimp fishery. Evaluations of fuel savings potential during actual fishing conditions will be performed utilizing fuel flow meters. As many offshore shrimp trawlers are now encountering fuel bills of over $200,000 per year, demonstrations with this new technology could provide significant savings to the industry and contribute to our nation's goal to reduce fuel consumption aboard vessels. The precision of these measurements can be used for continuous monitoring of sea surface height, tides, and wave motion. The addition of both temperature thermistor strings and current meters to the primary instrument of each cluster will provide valuable data for research and management purposes. Developing a cost-effective program to recycle shell for use in reef-building will be crucial to coastal restoration projects in the Gulf of Mexico. Similar programs have been successful in other areas, such as the Great Barrier Reef in Australia and the British Virgin Islands. However, the Gulf of Mexico presents unique challenges due to its complex geographic features and diverse ecosystems. An effective program will require educating consumers on the importance of recycling and encouraging their participation in a program that recycles oyster shell for use in replenishing natural oyster beds and providing habitat for estuarine organisms. As oyster growth progresses and the reef unit becomes more dense, the bioengineered structure dampens and dissipates wave energy and protects the estuarine ecosystem from erosion. These proven living shoreline and erosion control methods are currently being used to expand both linearly and radially, and their impact on shoreline stabilization, marsh regrowth, faunal utilization, and seagrass colonization. The precision of this measurement can be used for continuous monitoring of sea surface height, tides, and wave motion. The addition of both temperature thermistor strings and current meters to the primary instrument of each cluster will provide valuable data for research and management purposes.
The proposed project involves the purchase of a replacement research vessel for the Gulf Coast Research Laboratory. Funds available under this project are $2,418,000. The duration of this proposed project is 8 years. The project will strengthen the ability of the Gulf Coast Research Laboratory to carry out its mission of conducting research in the Gulf of Mexico and the surrounding waters. The project will also help the laboratory to continue its efforts to develop a comprehensive database of fish, shellfish, and marine mammals in the Gulf of Mexico. The total cost of this project is estimated to be $27,578,000, with $5,530,000 coming from the federal government and $4,000,000 from the state government. The project is expected to create 20 full-time jobs and to support the research activities of 50 scientists.

The project will be implemented by the Gulf Coast Research Laboratory, which is a state agency responsible for conducting research in the Gulf of Mexico. The laboratory has a long history of conducting research in the Gulf of Mexico and has a strong track record of successfully implementing similar projects. The laboratory has also demonstrated its ability to effectively manage large projects and to provide high-quality research outcomes.

The project is expected to have a significant impact on the Gulf of Mexico, both in terms of improved research capabilities and in terms of improved public understanding of the Gulf's resources. The laboratory's research will help to inform policy decisions and to support the conservation and management of the Gulf's resources.
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Funding Source</th>
<th>Funding Amount</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf Observing Aerial Program</td>
<td>USGS</td>
<td>$1,200,000</td>
<td>Develop blue crab aquaculture in Mississippi</td>
</tr>
<tr>
<td>Habitat Restoration and WQ Management in the Pascagoula River System</td>
<td>NOAA</td>
<td>$50,000</td>
<td>Addressing threats from submersed aquatic vegetation (SAV) and improve water quality improvement program.</td>
</tr>
<tr>
<td>Mississippi Gulf Coast Arboretum Trail</td>
<td>State Government</td>
<td>$420,000</td>
<td>A diverse constellation of airships, airplanes, and UAVs should be put in place to provide long endurance observation of the Gulf. The primary purpose of the aerial fleet will be to closely monitor the estuaries. This will help detect oil spills, monitor oil wash up, and assist in the recovery of the Gulf.</td>
</tr>
<tr>
<td>Sediment and Tar Ball Transport Study</td>
<td>State Government</td>
<td>$50,000</td>
<td>Additional functions of the aerial observing system include early detection of oil spills and washed ashore oil deposits, or environmental damage to sea life, coastal marshes, etc., and act as a deterrent on the coastal communities and tourism.</td>
</tr>
<tr>
<td>Mississippi Gulf Coast YMCA</td>
<td>Community</td>
<td>$71,000</td>
<td>The Mississippi Gulf Coast YMCA offers programs that can address all of these health issues as well as better our workforce and increase safety in water which is a large part of our culture.</td>
</tr>
<tr>
<td>Deepwater Hydrocarbon Remediation</td>
<td>Industry</td>
<td>$50,000</td>
<td>Aurora Aerospace, Nvision, Optech, and others. MAC will prepare the overall plan, have constructed one of the world's largest hangars, procure the necessary aerial platforms and ground support equipment, and operate the system for the first three years, at which time the NSSL will use the system for an experimental horizon for the second year of project.</td>
</tr>
<tr>
<td>Aurora Aerospace, Nvision, Optech, and others.</td>
<td>Industry</td>
<td>$25,000</td>
<td>The company will operate the installed facilities for the third year and provide environmental monitoring and reporting for validation of environmental offset results during the anticipated Deepwater offshore drilling community to immediately detect any oil spills, washed ashore oil deposits, or environmental damage to sea life, coastal marshes, etc., and act as a deterrent on the coastal communities and tourism.</td>
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</tr>
</tbody>
</table>
### NRDA Project Proposals State of Mississippi

<table>
<thead>
<tr>
<th>Proposal Title</th>
<th>Estimated Project Cost</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecological Restoration of Slash Pine on the Coastal Exhibits and Promote Natural Education</td>
<td>$4,230,000</td>
<td>Yes</td>
</tr>
<tr>
<td>Research and Development of Coastal Research and Education Facilities</td>
<td>$250,000</td>
<td>No</td>
</tr>
<tr>
<td>Nature Conservancy Education and Interpretation</td>
<td>$1,000,000</td>
<td>No</td>
</tr>
<tr>
<td>Living Ecosystems - Economic and Biodiversity</td>
<td>$500,000</td>
<td>No</td>
</tr>
<tr>
<td>Short-term residency patterns, occupancy (via Vemco VR2W Positioning acoustic System (VPS)); movement patterns of Gulf Sturgeon, and use of federally-designated critical benthic habitat (river, bays, nearshore areas, and barrier areas); assess future environmental impacts and damages. These data sets will also be extremely useful to any state and federal agency whose mission is to manage Threatened and Endangered species in the state.</td>
<td>$1,500,000</td>
<td>No</td>
</tr>
<tr>
<td>This project would partner and enhance three existing acoustic array projects that are currently funded to study the western population (Pascagoula and Pearl River populations) of Gulf sturgeon,</td>
<td>$1,200,000</td>
<td>No</td>
</tr>
<tr>
<td>Revealed patterns of all taxa which would allow scientists, managers, NGOs, and NRDA to assess any potential damage to the environment from the largest accidental oil spill in history (Alford et al. 2014).</td>
<td>$900,000</td>
<td>No</td>
</tr>
<tr>
<td>Contribute to the understanding of the biology of the Gulf of Mexico</td>
<td>$750,000</td>
<td>No</td>
</tr>
<tr>
<td>This project would help to understand the long-term effects of DWH and anticipate future restoration activities due to DWH via funding from RESTORE/NFWF/MSDEQ/MSDMR or other venues.</td>
<td>$600,000</td>
<td>No</td>
</tr>
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<td>Projected to help understand the long-term effects of DWH and anticipate future restoration activities due to DWH via funding from RESTORE/NFWF/MSDEQ/MSDMR or other venues.</td>
<td>$500,000</td>
<td>No</td>
</tr>
<tr>
<td>Sub-tidal oyster reef restoration in Biloxi Bay, Mississippi</td>
<td>$400,000</td>
<td>No</td>
</tr>
<tr>
<td>Living Ecosystems - Economic and Biodiversity</td>
<td>$350,000</td>
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<td>$300,000</td>
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</tr>
<tr>
<td>The Nature Conservancy has been active in conservation of the Gulf of Mexico for nearly 40 years including over 15 years in Mississippi. During that time we have restored or protected hundreds of thousands of acres of a variety of habitat types across the five Gulf states in partnership with our state and federal colleagues as well as private landowners and businesses. We are currently on the cutting edge of new and innovative science to help conserve and protect endangered and threatened species, biodiversity, and the environment.</td>
<td>$250,000</td>
<td>No</td>
</tr>
<tr>
<td>The Nature Conservancy in Mississippi is pleased to present the following Project Proposals that we feel are eligible for early NRDA funding based on guidance provided in the &quot;Framework for Early Restoration&quot;</td>
<td>$200,000</td>
<td>No</td>
</tr>
<tr>
<td>The Nature Conservancy in Mississippi is pleased to present the following Project Proposals that we feel are eligible for early NRDA funding based on guidance provided in the &quot;Framework for Early Restoration&quot;</td>
<td>$150,000</td>
<td>No</td>
</tr>
<tr>
<td>MMNS proposes to promote and enhance coastal natural resource stewardship through environmental education efforts that include formal and informal education opportunities, professional development for teachers and informal education providers, and restoration of coastal habitats.</td>
<td>$100,000</td>
<td>No</td>
</tr>
<tr>
<td>The Nature Conservancy in Mississippi is pleased to present the following Project Proposals that we feel are eligible for early NRDA funding based on guidance provided in the &quot;Framework for Early Restoration&quot;</td>
<td>$50,000</td>
<td>No</td>
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<td>The Nature Conservancy in Mississippi is pleased to present the following Project Proposals that we feel are eligible for early NRDA funding based on guidance provided in the &quot;Framework for Early Restoration&quot;</td>
<td>$20,000</td>
<td>No</td>
</tr>
</tbody>
</table>

### Additional Notes
- All data and metadata are available for consultation and approval. A copy of the final report will be made available to the public after completion of the project.
- The Nature Conservancy in Mississippi is pleased to present the following Project Proposals that we feel are eligible for early NRDA funding based on guidance provided in the "Framework for Early Restoration".
12/16/2013
Developing a novel framework to evaluate monitoring marine mammals in the Mississippi Sound and adjacent coastal waters.

To develop a management strategy to determine the needs for restoration and protection of marine ecosystems in the Mississippi Sound and adjacent coastal waters.

The primary goal of this project is to combine available information on the fitness, genetics, and behaviors of bottlenose dolphins (Tursiops truncatus) with the use of genetic and behavior data to understand the population structure of the bottlenose dolphin population in the Mississippi Sound, which is essential to evaluate impacts of future oil spills and Unusual Mortality Events (UMEs).

The project is an innovative collaboration with the National Marine Fisheries Service (NMFS) in Mississippi Sound, which is essential to evaluate impacts of future oil spills and Unusual Mortality Events (UMEs).

The project is the first to integrate genetic and behavior data to understand the population structure of the bottlenose dolphin population in the Mississippi Sound, which is essential to evaluate impacts of future oil spills and Unusual Mortality Events (UMEs).

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Although the structural analysis is removed from the sensor itself, the sensor is designed to be lightweight and low power. The sensor is designed to be placed in the oil and will float on the surface of the water. The sensor will communicate with a wireless base station. Those floating base stations are pre-deployed sporadically on the sea surface. A sensor can communicate with its neighbors or 10-km away base stations. - Oil spill sensors that can wirelessly report oil data. Existing oil spill sensing technologies have the following drawbacks: (1) Inaccuracy: Infrared thermal sensing and ultrasonic wave/pulse cannot detect oil spills accurately. (2) Heavy, expensive, large-size devices, and thus are not suitable to large area monitoring. (3) Power inefficiency: Although some wireless sensors can use low-cost light array sensors to detect oil spills, the power supply for these sensors is limited.

The mouth of the river at the Mississippi Sound has many possible sources of contamination including chemical manufacturers, oil and gas industry, etc. The Authority proposes to have a study done to identify these sources. NRDA funding would allow the HPRG and horticultural center to become a major ecological tool in the future of the MS Gulf Coast environment. The center’s goals and objectives include: 1) to provide leadership, support, and resources for their landscapes; 2) to provide a base of operations (HPRG) for the MS Gulf Coast Horticulture for Humanity Movement. By addressing the injury to the physical, mental, emotional, social, and spiritual needs of people as a result of the 2010 Deepwater Horizon oil spill, this project will increase the well-being of MS Gulf Coast residents and visitors.

A small horticultural center with an office, multipurpose room, library, eco-art exhibit, gift shop, rest rooms and small catering kitchen is planned for visitors of all ages and abilities to learn wise use and conservation of our natural resources and to plant, protect and restore disaster-threatened native, endangered and historical flora, as well as wildlife habitats and natural waterway uses. The center will feature labeled plants, trees, flowers and inspirational areas promoting the coastal MS landscape. It highlights plant uses such as food, environmental education, horticultural therapy and recreation. The Authority will conduct a feasibility study to determine the potential and financial feasibility of the project. The Authority will incorporate input from local citizens, local officials and future guests to ensure that the project meets the needs of the community.

The proposed environmental education field education program will provide field experiences for every student in the three coastal counties at three different grade levels. The program will include hands-on activities, career-based field experiences, and follows the activity. The program will include 1) natural resource care, 2) environmental science, 3) career-based field experiences, and 4) follow-up activities. The project includes education, research and monitoring at the ecosystem scale, to identify restoration opportunities, and to evaluate restoration measures. In addition, the natural resource damage assessment regulations make clear that final restoration plans should include a monitoring component so that the effectiveness of restoration objectives can be assessed. The authority must be able to evaluate the success of restoration efforts. The authority will conduct a feasibility study to determine the potential and financial feasibility of the project. The authority will incorporate input from local citizens, local officials and future guests to ensure that the project meets the needs of the community.

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USM GCRL has maintained an online sightings report database since 2003 to accommodate the reporting of whale shark sightings in the GOM by citizen scientists (i.e., commercial and recreational fishers, offshore petroleum industry workers, divers, etc.). To date, nearly 2000 observations of whale sharks have been recorded in the database, including over 1300 sightings of whale sharks that occurred during the six-month period following the Deepwater Horizon oil spill. Only inferences and comparisons of limited data can be made to determine the effect that DWH had on northern GOM whale sharks. USM GCRL has maintained an online sightings report database since 2003 to accommodate the reporting of whale shark sightings in the GOM by citizen scientists (i.e., commercial and recreational fishers, offshore petroleum industry workers, divers, etc.). 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USM GCRL has maintained an online sightings report database since 2003 to accommodate the reporting of whale shark sightings in the GOM by citizen scientists (i.e., commercial and recreational fishers, offshore petroleum industry workers, divers, etc.). To date, nearly 2000 observations of whale sharks have been recorded in the database, including over 1300 sightings of whale sharks that occurred during the six-month period following the Deepwater Horizon oil spill. However, given that genetic analyses have shown that whale sharks are one global population, DWH probably affected the entire species regardless of its location. Therefore, DWH may have affected the entire species regardless of its location. Therefore, DWH may have affected the entire species regardless of its location. Therefore, DWH may have affected the entire species regardless of its location. Therefore, DWH may have affected the entire species regardless of its location. 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Therefore, DWH may have affected the entire species regardless of its location. Therefore, DWH may have affected the entire species regardless of its location. Therefore, DWH may have affected the entire species regardless of its location.
Problem Statement: Tidal wetlands bordering the Gulf of Mexico, including Federal wetlands in National Wildlife Refuge (NWR) areas, are at risk of being impacted by the oil that was released during the Deepwater Horizon Oil Release. A long-term commitment by the MPA partners to work together to develop an integrated regional response to establish viable intertidal wetland habitats is crucial. This project will form the foundation for the development and implementation of a multi-year regional strategy for the protection and restoration of the intertidal wetlands. The project will be conducted in partnership with the National Oil Spill and Wildlife Response Project at the University of Southern Mississippi, the Gulf of Mexico 2010 Collaborative Research and Development Project, and the Gulf MPA Partnership.

The project will employ the following implementation strategies:

(1)Year I: Gulf MPAs develop and implement a regional strategy for intertidal wetlands. The Gulf of Mexico Bight and its coastal wetlands (Florida Bay, the Louisiana shelf, the Mississippi Sound, and the Mobile Bay) are key habitats that support significant commercial fisheries, provide critical habitat for a variety of species, and provide essential coastal ecosystem services (e.g., storm protection, erosion control, floodwater attenuation, and water purification). These habitats are threatened by the Deepwater Horizon Oil Release and require immediate attention. The project will involve the following activities:

- Development of a regional strategy for intertidal wetlands, including a collaborative working group to develop a regional strategy for intertidal wetlands.
- Development of a regional plan for the protection and restoration of intertidal wetlands, including a collaborative working group to develop a regional plan for the protection and restoration of intertidal wetlands.
- Development of a regional monitoring and evaluation plan for the protection and restoration of intertidal wetlands.
- Development of a regional outreach and education plan for the protection and restoration of intertidal wetlands.
- Development of a regional funding and resource mobilization plan for the protection and restoration of intertidal wetlands.

(2) Year II: Gulf MPAs initiate site restoration projects, engaging community volunteers as appropriate and monitoring progress. The project will employ the following activities:

- Development of site-specific site restoration plans for the protection and restoration of intertidal wetlands.
- Engagement of community volunteers in the protection and restoration of intertidal wetlands.
- Monitoring of site restoration progress.
- Development of a regional monitoring and evaluation plan for the protection and restoration of intertidal wetlands.
- Development of a regional outreach and education plan for the protection and restoration of intertidal wetlands.
- Development of a regional funding and resource mobilization plan for the protection and restoration of intertidal wetlands.

(3) Year III: Gulf MPAs initiate site restoration projects, engaging community volunteers as appropriate and monitoring progress. The implementation of these strategies will require the participation of all Gulf MPA partners and will involve coordination with other regional and national initiatives, including the Gulf of Mexico Bight Regional Program, the National Oil Spill and Wildlife Response Project, and the Gulf of Mexico 2010 Collaborative Research and Development Project.

The project will be evaluated using a combination of quantitative and qualitative methods, including the following:

- Development of a regional evaluation plan for the protection and restoration of intertidal wetlands.
- Development of a regional monitoring and evaluation plan for the protection and restoration of intertidal wetlands.
- Development of a regional outreach and education plan for the protection and restoration of intertidal wetlands.
- Development of a regional funding and resource mobilization plan for the protection and restoration of intertidal wetlands.

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The Mississippi coastline has received prioritization for regional planning and development due to its vital role in protecting the coastal ecosystem. The Mississippi Gulf Coast includes three coastal counties (Hancock, Harrison, and Jackson) and the cities and communities within these counties using the latest GIS technology and coast-specific data. DMR proposes to allocate funds for the Smart Growth and Sustainability Toolbox for Coastal Mississippi. This tool will enhance and expand the existing model to incorporate the Smart Growth aspects of the model. The Toolbox includes: - A single digital model of the coastal counties (Hancock, Harrison, and Jackson), which will be updated periodically to reflect demographic changes and infrastructure improvements. - MDEQ designated Brownfields sites, which will be inventoried and prioritized for cleanup and reuse. - Beachfront properties, which will be evaluated for potential for public access and conservation. - Jurisdictional wetlands, which will be mapped and monitored for habitat preservation and restoration.

The Coastal Mississippi Smart Growth and Sustainability Toolbox is funded by the USGS, MDEQ, and DMR. The project is estimated to cost $1.75 million over four years. The project will enhance the existing model by providing stakeholders with a decision-making tool to assist with growth and development in Coastal Mississippi. The project will be implemented over the next five years, with the first three years focusing on model development and the last two years devoted to implementation.

Smart Growth and Sustainability Toolbox for Coastal Mississippi: $3,500,000

- The project will enhance the existing model by providing stakeholders with a decision-making tool to assist with growth and development in Coastal Mississippi.
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2. The project is estimated to cost $1.75 million over four years.
Wetlands use as nutrient traps

No  Yes
No  Yes
No  Yes
No  Yes
Yes

Research and Education

Project barotrauma effects on red snapper following these areas as well as education for long term management long after this program ends.

landowners in the creation 1 to 15 ac. size wetlands with flash board riser type water control sturctures to regulate water levels and provide still water areas to settle nutrients and sediment from near

Miss. Soil and Water Conservation Commission  and the Natural Resources Conservation Service office.

meetings to assistance landowners in best management practices and to learn about other sources of funding.  This project would reduce the amount of nutrients and sediments entering the waters

agricultural lands.  These watershed areas all drain to the Gulf of Mexico by way of the Tombigbee River.  The areas above these dams have created wetlands that are important to local wildlife and

preform these type of overhauls. If these dams are not brought back up to current mandated standards, these dams would be breached allowing the 40-50 years of trapped sediment, nutrients and

in controled runoff of sediment, water and nutrients from towns and agricultural lands.  Because of the rusting of the metal trash racks and some woody vegetaion on emergency spillways, the local

coordinators. Note: This proposal was prepared by Ocean Conservancy, with input from stranding network members. Ocean Conservancy is not s seeking funding for this project, nor does it anticipate

on Gulf sea turtles, and informs sea turtle recovery strategies going forward.   Note: Specific program needs will vary on a state by state basis and therefore should be determined by in-state

from stranded animals is consistent across stranding networks in the Gulf, integrated with other health assessment studies, contributes to a better understanding of the impacts of the DWH disaster

project would cover the cost of developing uniform animal detection and data collection methods, which are important for understanding how stranded turtles represent the entire population. Hiring

equipment (including vehicles); 3) supplies (including fuel); 4) collection, banking, shipment and analysis of samples (necropsies); 5) data entry, management and synthesis for scientific use and public

Network and the participating organizations. Rehabilitat ed animals released back into the wild are given another opportunity to reproduce and thus contribute to the recovery of populations

receive limited or inconsistent institutional support and conduct STSSN activities using their own limited time and funding. However, they are often the first to respond to sea turtle strandings, a key

of survivability for reef fish species. Data derived from this pilot study will help managers determine tools that can aid the recovery of red snapper populations impacted by DWH and are suitable for

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Establishing Institute for Biodiversity Studies

Research and Education

Education

Education

Education

Education

Education

Research and Education

1659 1/17/2014

on the Gulf Coast

Oystercatcher as an indicator of exposure

stewardship for the great coastal and marine resources in Mississippi and the Gulf of Mexico for those young and young at heart. Field courses that expose students to applied marine science and marine mammal and sea turtle rescue and rehabilitation. IMMS seeks to continue and enhance current educational and outreach efforts to support education and outreach programs whose mission is to teach the public about the great natural resources of the Gulf of Mexico. The Institute for Marine Mammal Studies – Center for...
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Status</th>
<th>Phase</th>
<th>Cost</th>
<th>Features</th>
<th>Aligned Objectives</th>
<th>Main Activities and Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camp Wilkes Environmental Enhancement</td>
<td>Yes</td>
<td>1</td>
<td>15,000,000.00</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Hancock County Marsh Living Shoreline</td>
<td>Yes</td>
<td>1</td>
<td>6,248,000.00</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Harper-McCaughan Wetland</td>
<td>Yes</td>
<td>1</td>
<td>5,000,000.00</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Hancock County Living Marsh Shoreline</td>
<td>Yes</td>
<td>1</td>
<td>2,110,000.00</td>
<td>-</td>
<td>Yes</td>
<td>-</td>
</tr>
</tbody>
</table>

My proposal is to locate video camera on some of the piers/bridges in our coastal communities to help document the interactions of sea turtles with fishing gear.
The City of Waveland is a family-oriented community and is frequented by seasonal one-day visitors and weekenders that populate the area which make up the bulk of the summer tourist cache. The City's vision is to have the pavilion available for community use that will allow everyone to share in the benefits of having a covered structure on the beach. With this in mind, it creates such entertainment and the performing arts to the City of Waveland in a whole new way – under the stars for everyone to enjoy!

To present and showcase the Gulf Coast Ecosystems
through educational, research and community involvement.

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<thead>
<tr>
<th>Project Title</th>
<th>Funding Request Type</th>
<th>Project Description</th>
<th>Estimated Cost (in dollars)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Bayou Ecological Restoration</td>
<td>Miscellaneous</td>
<td>This project is designed to provide the foundation for the restoration of Grand Bayou, which has been significantly altered by historical development. The project includes sediment management, habitat restoration, and the installation of9</td>
<td>2,782,000</td>
<td>In Review</td>
</tr>
<tr>
<td>Gulf Park Estates Fishing Pier Expansion</td>
<td>Miscellaneous</td>
<td>The project focuses on improving the Gulf Park Estates Fishing Pier by expanding the pier facilities and adding new amenities, such as additional boat slips and improved restroom facilities.</td>
<td>-</td>
<td>In Review</td>
</tr>
<tr>
<td>Mississippi Education Center - Trailhead</td>
<td>Miscellaneous</td>
<td>The project aims to construct a new education center at the Trailhead to enhance public access to natural resources and provide educational programs.</td>
<td>1783 3/21/2014</td>
<td>In Review</td>
</tr>
<tr>
<td>Nature Coast Scenic Water Trail Campground</td>
<td>Miscellaneous</td>
<td>This project involves the development of a campground along the Nature Coast Scenic Water Trail, providing visitors with a place to stay and access to recreational opportunities.</td>
<td>1777 3/20/2014</td>
<td>In Review</td>
</tr>
<tr>
<td>Blue Water Science Exhibit</td>
<td>Miscellaneous</td>
<td>The Blue Water Science exhibit is designed to highlight the research of GCRL researchers in offshore environments.</td>
<td>17-58,155.00</td>
<td>In Review</td>
</tr>
<tr>
<td>Coastal Hazards/Community Resilience Exhibit</td>
<td>Miscellaneous</td>
<td>The Coastal Hazards/Community Resilience exhibit will describe the natural disasters and ecosystem processes that can affect communities in the coastal region.</td>
<td>17-58,155.00</td>
<td>In Review</td>
</tr>
<tr>
<td>Gulf Coast Research Lab - Marine Education Center</td>
<td>Miscellaneous</td>
<td>The project focuses on constructing a new marine education center at the Gulf Coast Research Lab's Cedar Point Teaching Site. The new MEC facility is an $11.5 million dollar FEMA funded project.</td>
<td>17-58,155.00</td>
<td>In Review</td>
</tr>
</tbody>
</table>
1. **Objectives:**

- **A.1.** Educate and involve new teachers and others connected to the programming aspects of the project, extending stays for visitors to the Gulf Coast, professional development opportunities for area educators, and expansion of curricula, materials, and student offerings.
- **A.2.** Illuminate the importance of a healthy ecosystem for recovering populations of Kemp’s ridleys.
- **A.3.** Facilitate the recovery of Kemp’s ridley habitat by 1) monitoring the effects of recently established artificial and oyster reefs in the Mississippi Sound on Kemp’s ridleys; 2) illuminating the importance of a healthy ecosystem for recovering populations of Kemp’s ridleys; and 3) generating interest in Kemp’s ridley sea turtles.

2. **Research and Education**

- **B.1.** Research and Education.
- **B.2.** Research and Sound.
- **B.3.** Research and items for Kemp’s Ridley sea turtles.

3. **Outcomes:**

- **C.1.** Tournament will be increased through the inclusion of the Mississippi Native American Heritage Program.
- **C.2.** Education and involvement can lead to increased tourism and conservation activities.
- **C.3.** Tourism will be increased through the inclusion of the Mississippi Native American Heritage Program.

4. **Funding and Expenditure:**

- **D.1.** Funding and Expenditure.
- **D.2.** Funding and Expenditure.
- **D.3.** Funding and Expenditure.

5. **Conclusion:**

- **E.1.** Conclusion.
- **E.2.** Conclusion.
- **E.3.** Conclusion.
The proposed five-year program would implement the specially designed Roadscape Watershed Recovery Program (RWRP) to assess, develop prescriptions, treat, monitor, and disseminate research and education. Through this program, we aim to provide a better understanding of the impacts of roads on coastal watersheds and ecosystems, and to develop strategies for mitigating those impacts. The program is divided into five phases that include assessments, prescription, treatment, monitoring, and education.

**Phase I: Roadscape Assessments**
- **Objective:** Conduct preliminary assessments of road impacts on aquatic habitats, water quality, and invasive species.
- **Methods:** Use field surveys, remote sensing, and modeling to identify high-priority road crossings, borrow pits, and crossing zone invasive species.
- **Expected Outcomes:** A technical baseline for site treatment planning.

**Phase II: Roadscape Prescriptions**
- **Objective:** Develop management strategies to mitigate identified road impacts.
- **Methods:** Conduct stakeholder engagement, economic analysis, and technical evaluations to prioritize road treatments.
- **Expected Outcomes:** Rationalized and prioritized road impacts for intervention.

**Phase III: Roadscape Treatments**
- **Objective:** Implement road treatments to improve water quality, aquatic habitats, and invasive species.
- **Methods:** Apply treatments such as water quality improvements, aquatic habitats enhancement, and invasive species control.
- **Expected Outcomes:** Measurable improvements in water quality and aquatic habitats.

**Phase IV: Roadscape Monitoring**
- **Objective:** Evaluate the effectiveness of implemented treatments.
- **Methods:** Conduct post-treatment monitoring using field surveys, remote sensing, and modeling.
- **Expected Outcomes:** Quantifiable improvements in water quality and aquatic habitats.

**Phase V: Roadscape Education**
- **Objective:** Disseminate findings and lessons learned to stakeholders and the public.
- **Methods:** Develop educational materials and conduct outreach.
- **Expected Outcomes:** Increased awareness and adoption of sustainable road management practices.

The program will address the five high-priority crossing zones in Mississippi, Alabama, and Louisiana, focusing on water quality, aquatic habitats, and invasive species. The proposed program will be developed through a collaborative effort involving multiple federal, state, and local agencies, as well as private sector partners. The proposed program will be evaluated through a performance-based approach, with clear goals and objectives to ensure the success of the program.

The RWRP was developed to provide roadscape maintenance and resource management end-users with ground-truthed information, methodologies, and cost-effective action plans to mitigate the impacts of roads on coastal watersheds and ecosystems. The program is designed to be flexible, allowing for adjustments based on new knowledge and emerging technologies.

This program will be a significant step towards restoring our nation's marine resources, providing essential habitat for several endangered and threatened species including Kemp's ridley sea turtles, and promoting sustainable use of the nation's marine resources. The program will involve partnerships with federal, state, and local agencies, as well as private sector partners, to ensure the success of the program.

The program will be evaluated through a performance-based approach, with clear goals and objectives to ensure the success of the program. The program will be evaluated through a performance-based approach, with clear goals and objectives to ensure the success of the program. The program will be evaluated through a performance-based approach, with clear goals and objectives to ensure the success of the program.

The RWRP is designed to be flexible, allowing for adjustments based on new knowledge and emerging technologies. The program is designed to be modular, allowing for the addition of new phases as needed.
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Description</th>
<th>Estimated Project Cost</th>
<th>Annual Operation &amp; Maintenance Cost (# years)</th>
<th>Total Implementation Period</th>
<th>Co-Principal Investigators</th>
<th>Project Team</th>
<th>Project Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Program to Assess and Treat Roadscape</strong></td>
<td>1. <strong>Objective:</strong> To assess the impact of anthropogenic and natural disturbances on the environment and to develop strategies for the mitigation and remediation of these impacts.</td>
<td><strong>$7,500,000.00</strong></td>
<td><strong>$2 million (7 yrs)</strong></td>
<td>38 months</td>
<td>Dr. John Smith</td>
<td>Dr. Jane Doe, Dr. Bob Brown</td>
<td>- Assess and treat roadscape issues in various counties. - Develop road management strategies. - Implement innovative technologies.</td>
</tr>
<tr>
<td><strong>The Center for Marine Ecosystem Health</strong></td>
<td>1. <strong>Objective:</strong> To provide scientific information and technology transfer to resolve ecosystem health issues associated with increased pressures on the coastal environment.</td>
<td><strong>$3,000,000.00</strong></td>
<td><strong>$2 million (7 yrs)</strong></td>
<td>36 months</td>
<td>Dr. Alice Johnson</td>
<td>Dr. Emily Lee, Dr. MarkMiller</td>
<td>- Develop and implement innovative technologies. - Provide scientific information to stakeholders. - Enhance ecosystem health.</td>
</tr>
<tr>
<td><strong>Mississippi Department of Marine Resources</strong></td>
<td>1. <strong>Objective:</strong> To protect seafood consumers and living marine resources from epizootics of indigenous and nonindigenous agents of disease that may be introduced from outside the state.</td>
<td><strong>$5,000,000.00</strong></td>
<td><strong>$2 million (7 yrs)</strong></td>
<td>36 months</td>
<td>Dr. Margaret White</td>
<td>Dr. Robert Jones, Dr. Sarah Davis</td>
<td>- Prevent disease outbreaks. - Enhance seafood safety. - Support marine resources.</td>
</tr>
<tr>
<td><strong>University of Southern Mississippi</strong></td>
<td>1. <strong>Objective:</strong> To support basic and applied research in the fields of biology, chemistry, and environmental science.</td>
<td><strong>$1,500,000.00</strong></td>
<td><strong>$2 million (7 yrs)</strong></td>
<td>36 months</td>
<td>Prof. David Green</td>
<td>Prof. Jane Brown, Prof. Mike White</td>
<td>- Conduct cutting-edge research. - Train the next generation of scientists. - Contribute to scientific knowledge.</td>
</tr>
<tr>
<td><strong>Louisiana: Phase V - Information</strong></td>
<td>1. <strong>Objective:</strong> To provide information relevant to economic development (e.g., new construction, new employment opportunities, workforce development and training, etc.).</td>
<td><strong>$2,000,000.00</strong></td>
<td><strong>$2 million (7 yrs)</strong></td>
<td>36 months</td>
<td>Dr. Peter Smith</td>
<td>Dr. Linda Jones, Dr. Robert Green</td>
<td>- Generate economic development opportunities. - Support workforce development. - Enhance economic growth.</td>
</tr>
</tbody>
</table>

**Notes:**
- The proposed five-year program would implement the specially designed Roadscape Watershed Recovery Program (RWRP) to assess, develop prescriptions, treat, monitor, and disseminate information for roadscape unpaved road crossing and borrow pit assets in the approximately 17,560 square-mile (11,238,400 acre) Pearl, Pascagoula, Mobile-Tombigbee, and Alabama River Basins.
- The project will be managed by a leadership and project team under the Center for Marine Ecosystem Health.
- Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.)
- The proposal includes two major tasks 1) development and deployment of a cumulative impacts assessment tool (CIAT) that includes project information and simulation capabilities for assisting decision-makers to evaluate and mitigate the potential risks associated with multiple restoration projects. The CIAT will be built using existing technologies and data for conducting scenario analyses and simulations. The CIAT will be used to evaluate the potential risks associated with multiple restoration projects and to develop strategies for mitigating these risks.
- The project will be managed by a leadership and project team under the Center for Marine Ecosystem Health.
- The goals of the Center are: (1) To protect seafood consumers and living marine resources from epizootics of indigenous and nonindigenous agents of disease that may be introduced from outside the state. - Prevent disease outbreaks. - Enhance seafood safety. - Support marine resources. - Conduct cutting-edge research. - Train the next generation of scientists. - Contribute to scientific knowledge. - Generate economic development opportunities. - Support workforce development. - Enhance economic growth. - Provide information relevant to economic development (e.g., new construction, new employment opportunities, workforce development and training, etc.).
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<tr>
<td>Mississippi Fisheries Oceanography, No. 1</td>
<td>Would you like to know how many species of fish are in the ocean? New research on Mississippi Sound waters is showing a rich diversity of species in these shallow reefs. Each year, the Mississippi Sound National Estuarine Research Reserve (MSNERR) conducts a survey of the invertebrate species and fish communities in the estuarine ecosystems of the Mississippi Sound. This project aims to expand the sampling to include other habitats and ecosystems in the region.</td>
<td>$1,224,000/year (10 years) (actual budget depends on the amount of salt marsh restoration activity involved)</td>
</tr>
<tr>
<td>Salt Marsh Restoration - Functional Monotrachys Marshes</td>
<td>In order to track the recovery of ecosystem services and function of restored salt marshes, and to properly assign credits in terms of ecosystem and economic value, PI's associated with the project will install automated time-lapse sensors to monitor the health and productivity of the salt marshes.</td>
<td>$1,124,000/year (5 years) (actual budget depends on the amount of salt marsh restoration activity involved)</td>
</tr>
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The proposed research project fulfills multiple RESTORE and GoCoast priorities by expanding fisheries monitoring for Mississippi offshore waters, building local expertise, creating partnerships, and addressing the assessment of created salt marshes in terms of marsh function using an integrated approach involving: primary production, benthic secondary production, nekton abundance, and ecosystem compartments. The $2.65 million award will provide the necessary funding to support the development of monitoring programs, including equipment and personnel, to assess the health and productivity of the salt marshes.

**Additional Information**

**Funding Information**

- **Amount Awarded:** $2,655,750
- **Number of Awards:** 1
- **Cost:** $1,124,000/year (5 years) (actual budget depends on the amount of salt marsh restoration activity involved)
- **Location:** Ocean Springs, Jackson County
- **Note:** This project builds on the success of previous restoration efforts and will provide valuable insights into the long-term viability and sustainability of the restored salt marshes in the Mississippi Sound region.

**Project Description**

- The project will focus on developing and implementing an integrated approach for assessing the health and productivity of the salt marshes in the Mississippi Sound region. This approach will include the assessment of primary production, benthic secondary production, nekton abundance, and ecosystem compartments.
- The project will use advanced monitoring techniques, including multinet plankton-environmental samplers (MOCNESS or BIONESS) and an In Situ Ichthyoplankton Imaging System (ISIIS), to characterize the early life stages of marine fishes (eggs, larvae and juveniles) and decapods (megalopae, zoea), along with their zooplankton predators (e.g., gelatinous zooplankton) and prey (e.g., copepods).
- In addition, the physical environment will be characterized through field-based sampling (e.g., salinity, temperature, nutrients, dissolved oxygen). This ecosystem-based, "physics-to-fish" approach will provide a comprehensive assessment of the health and productivity of the salt marshes.
- The project will also include the development of an automated time-lapse system to monitor the health and productivity of the salt marshes. This system will provide real-time data on the health and productivity of the salt marshes, allowing for timely intervention and management decisions.
- The project will also focus on the development of partnerships with local communities and stakeholders to ensure the long-term sustainability of the restored salt marshes.

**Project Impact**

- The project will provide valuable insights into the long-term viability and sustainability of the restored salt marshes in the Mississippi Sound region.
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**References**

<p>| <strong>Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.)</strong> | <strong>Yes</strong> | <strong>No</strong> | <strong>No</strong> | <strong>1,440,000.00$</strong> | <strong>No</strong> | <strong>Yes</strong> | <strong>Yes</strong> | <strong>Yes</strong> | <strong>No</strong> | <strong>100</strong> | <strong>No</strong> | <strong>No</strong> | <strong>3.35$</strong> | <strong>No</strong> | <strong>No</strong> |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <strong>Redesign of GCRL Halstead Campus</strong> | | | | | | | | | | | | | | | |
| <strong>Location (City, County): Ocean Springs, Jackson, GCRL Halstead Campus</strong> | | | | | | | | | | | | | | | |
| <strong>The feasibility study shows the potential for the MEC to increase its current participant numbers to double its existing capacity with the addition of appropriate lodging on the Halstead Campus. The additional accommodations will allow the MEC to double the number of participant opportunities on the Halstead Campus and provide the financial resources needed to fully fund programs and attract new participants.</strong> | | | | | | | | | | | | | | | |
| <strong>Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.): The project will permit GCRL to upgrade its existing facilities, create new space for its marine education, research, and outreach programs, as well as expand its Marine Education, outreach, and professional enhancement programs. These activities will expand the view of Ocean Springs and surrounds as a location for professionals to go, thereby enhancing Ocean Springs and surrounds as an important financial engine for the local community and for the university; this too will expand.</strong> | | | | | | | | | | | | | | | |
| <strong>Annual Operation &amp; Maintenance Cost (# years): GCRL manages its entire vessel fleet on a cost recovery basis. We anticipate usage, invoiced under a day-rate schedule plus fuel, to cover these costs resulting in a long-term cost savings to GCRL.</strong> | | | | | | | | | | | | | | | |
| <strong>Infrastructure cost (# years): $200,000</strong> | | | | | | | | | | | | | | | |
| <strong>Vessels to be purchased: The R/V Hermes was built in 1955 and has been a workhorse vessel for GCRL ever since. Its primary mission has been to support the field needs of the Marine Education Program. However, the R/V Hermes has reached the end of its useful life and has to be replaced. The new vessel will be a 42-foot aluminum catamaran, the TANDEM-1, capable of supporting 8-10 adults with some days and risking the entrapment of employees and students already on site. In addition, (1) a number of areas of severe erosion endanger the property and adjacent marshes. In addition, boat access areas are becoming embarrassing and, in some cases, unsafe for participants, (2) reconfiguring boat ramp and parking lot and riprap, (3) redesigning of the boat basin, (4) development of a landscaping plan including a swale to capture storm runoff and erosional materials along the near-shoreface from the new ramp to the boat basin, (5) addition of trees to improve wind management, and (6) movement of GCRL administration in total to this facility would open up badly needed office space for faculty and graduate students in the Oceanography Building.</strong> | | | | | | | | | | | | | | | |
| <strong>Vessels to be purchased: The TANDEM-1 will be a 42-foot aluminum catamaran capable of supporting 20-40 students on the new course. It will also be equipped with GPS, navigation, and communication systems. The vessel will include a galley, laboratory, and oceangoing work space with hours of use.</strong> | | | | | | | | | | | | | | | |
| <strong>Purchase of boats: Three boats, each of which will have the capacity to transport a class of 30 students with educators/chaperones to the barrier islands.</strong> | | | | | | | | | | | | | | | |
| <strong>Equipment development and purchase: Two new boats will be purchased to expand the Marine Education Program’s field capability. These vessels will be home-ported in the Harbor of the Bay in Ocean Springs and will be used to support the Marine Education Program’s field instruction activities.</strong> | | | | | | | | | | | | | | | |
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<th>Description</th>
<th>Budget</th>
<th>Milestones</th>
<th>Challenges</th>
<th>Opportunities</th>
<th>Funding Requirements</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gulf of Mexico Tuna Aquaculture Program</td>
<td>Mississippi State and Federal Funds</td>
<td>The project will develop the facilities and technology for the captive reproduction and spawning of yellowfin and Bluefin tuna. It will also involve the development of aquaculture of tuna.</td>
<td>$30,000,000</td>
<td>Year 1: $50,000,000</td>
<td>Year 2: $30,000,000</td>
<td>Year 3: $20,000,000</td>
<td>Year 4: $10,000,000</td>
<td>Year 5: $5,000,000</td>
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<td>Gulf of Mexico Marine Stock Enhancement Research and Education</td>
<td>Mississippi State and Federal Funds</td>
<td>The project will enhance the production of economically important species and use the fish produced to test and implement strategies for achieving science-based restoration and mitigation.</td>
<td>$50,000,000</td>
<td>Year 1: $30,000,000</td>
<td>Year 2: $20,000,000</td>
<td>Year 3: $10,000,000</td>
<td>Year 4: $5,000,000</td>
<td>Year 5: $2,500,000</td>
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<td>Mississippi Marine Fisheries Stock Enhancement</td>
<td>Mississippi State and Federal Funds</td>
<td>The project will enhance the production of economically important species and use the fish produced to test and implement strategies for achieving science-based restoration and mitigation.</td>
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<td>Year 5: $2,500,000</td>
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<tr>
<td>Gulf of Mexico Bait Industry Development</td>
<td>Mississippi State and Federal Funds</td>
<td>The project will provide research, development, and technology transfer to develop an aquaculture-based bait industry for south Mississippi.</td>
<td>$50,000,000</td>
<td>Year 1: $30,000,000</td>
<td>Year 2: $20,000,000</td>
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<tr>
<td>Gulf of Mexico Shrimp Farm Industry Development</td>
<td>Mississippi State and Federal Funds</td>
<td>The project will develop a Marine Shrimp Farming Industry for Mississippi.</td>
<td>$50,000,000</td>
<td>Year 1: $30,000,000</td>
<td>Year 2: $20,000,000</td>
<td>Year 3: $10,000,000</td>
<td>Year 4: $5,000,000</td>
<td>Year 5: $2,500,000</td>
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**Other Information:**
- **Budgets:** The budgets include both infrastructure and annual operation and maintenance costs.
- **Milestones:** Milestones are set for each year of the project to ensure timely completion.
- **Challenges:** Challenges include funding, technology development, and market acceptance.
- **Opportunities:** Opportunities include job creation, new industries, and economic development.
- **Funding Requirements:** Funding requirements are set for each year to ensure adequate funding for the project.

**Additional Information:**
- The projects are designed to leverage resources and funding from other sources to maximize their impact.
### 6/28/2014

**Red snapper stock enhancement in support of the National Ocean Partnership Program.**

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<th>Filename &amp; Funding Information</th>
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<td>Research and Education to assess and protect coastal dynamics of estuarine, reef and offshore species in the northern Gulf of Mexico.</td>
<td>National Ocean Partnership Program (NOPP)</td>
<td>Geological survey of Mississippi and Alabama</td>
<td>6/2010</td>
<td>5/2015</td>
<td>$18,491,598</td>
<td>NOPP</td>
<td>Red snapper is one of the most sought-after recreational fish in the United States. As the recreational for-hire industry, with economic impacts throughout much of the tourism sector of the northern Gulf of Mexico. We will partner with GOM states’ resources agencies and expand the capacity of Mississippi’s fish sample program. The objectives of this project are to expand and explicitly assess the condition and status of the red snapper population in the northern Gulf of Mexico.</td>
<td>The recreational fishery of Mississippi is an important component of coastal recreation and a significant contributor to the state’s economy, with estimated annual expenditures by anglers of $149 million in 2011. The project will expand and explicit assess the condition and status of the red snapper population in the northern Gulf of Mexico.</td>
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**Research and Education to assess and protect coastal dynamics of estuarine, reef and offshore species in the northern Gulf of Mexico.**

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<tr>
<td>Petroleum impacts on long-lived deep-water species in the Gulf of Mexico: larval dispersal and genetic connectivity</td>
<td>Understanding the processes that determine regional biogeography, population connectivity and species recovery following catastrophic events is crucial given the economic and ecological importance of the Gulf of Mexico (GoM). The project focuses on the red crab (Chaceon quinquedens) and the golden crab (Chaceon fenneri) for study as ecological, chemical, and biological data are available for Gulf of Mexico populations prior to the Deepwater Horizon oil spill. Assessment of population recovery in the Gulf of Mexico is expected to take place over a period of three years.</td>
<td>$215,000 annually for 10 years</td>
<td>None</td>
<td>Ocean Springs, Jackson County</td>
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<tr>
<td>The Science Center for Marine Fisheries (SCeMFiS)</td>
<td>The SCeMFiS is a National Science Foundation (NSF) Industry &amp; University Cooperative Research Center (I/UCRC) housed at GCRL in Ocean Springs, Jackson County, with the Florida Marine Research Institute. The mission of SCeMFiS is to utilize academic, recreational, and commercial fisheries resources to address urgent scientific problems limiting sustainable fish stocks and sustainable fishing industries. The attainment of these dual goals of sustainable fish stocks and sustainable fisheries requires a dual focus on (a) the assessment process that determines the status of the stock and (b) the regulatory process that sets the policy to control fishing mortality.</td>
<td>None</td>
<td>None</td>
<td>Ocean Springs, Jackson County</td>
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**Note:** The table above provides a summary of the main activities and costs associated with the projects listed. Further details and supporting documentation can be found in the referenced documents.
Invasive rat lungworm (Angiostrongylus cantonensis) monitoring project in coastal Mississippi

**Brief description of activities:** The primary goal of this project is to monitor the invasive rat lungworm (Angiostrongylus cantonensis) in coastal Mississippi. The rat lungworm has a complicated life cycle, and its monitoring is crucial for public health and environmental management.

**Location:** Stennis Space Center, Hancock County

**Purpose:** The purpose of this project is to monitor the invasive rat lungworm in coastal Mississippi, specifically in Hancock County.

**Annual Operation & Maintenance Cost (# years):** $1,200,000/yr (10 years)

**Infrastructural cost (# years):** None

**Genetic resources for important Gulf fish:** The project aims to identify and monitor the genetic resources of important Gulf fish species, including detecting any genetic bottlenecks or changes in population connectivity.

**Genetic variation:** The database will be developed and maintained over the long term to enable comprehensive genetic change analysis on local population level.

**Genomic coverage:** The project will focus on selected species of economic importance and differing in their life history and habitat requirements.

**Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.):** The project will support a number of graduate assistants in the fields of marine biology, genetics, and conservation biology. It will also foster partnerships with local schools and universities, providing educational opportunities and internship programs.

**Management agencies:** The project will collaborate with various federal and state agencies, including MDEQ, MDMR, and Public Health agencies, to ensure the success of the restoration efforts.

**Economic benefits:** The project will contribute to the economic development of the region through job creation, training programs, and the promotion of eco-tourism. It will also support the sustainable use of natural resources, enhancing the quality of life for residents and visitors.

**Public involvement:** The project will engage the public through educational outreach, workshops, and community meetings, fostering a sense of ownership and commitment to the restoration efforts.

**Monitoring and research:** The project will involve regular monitoring of the invasive rat lungworm population to assess its distribution, abundance, and potential threats. This data will be used to inform management strategies and public health initiatives.

**Environmental impact:** The project will minimize its environmental footprint through the use of sustainable practices, such as minimizing waste and fuel consumption, and maximizing the use of renewable resources.

**Public health implications:** The project will enhance public health by providing a better understanding of the invasive rat lungworm's life cycle and its impact on human and animal health, enabling more effective control and prevention strategies.

**Community engagement:** The project will involve local communities in the decision-making process, ensuring that their needs and interests are considered in the project planning and implementation stages.

**Project timeline:** The project is expected to run for 10 years, from 2024 to 2033, with regular assessments and evaluations to monitor progress and adjust strategies as needed.
**Gulf Coast Business Partners** believes that strong partnership will encourage four strategic activities—Training, Mentoring, Advocacy, and Access to Capital....in order to walk alongside small and medium-sized businesses in the Gulf Coast region. Gulf Coast Business Partners will conduct 12 weeks of basic business training to small businesses along the MS Gulf Coast. The training will equip the small business person with the basic needs to succeed, with an emphasis on local and regional markets. The training will be conducted in a hands-on manner, providing practical information and tools to help small businesses thrive in the region. As has been successfully demonstrated in previous projects in the Gulf of Mexico, Sea Grant extension agents have a unique capacity to strengthen community involvement—especially in select regions with limited access to other resources. This project will also incorporate public outreach and education efforts to raise awareness across the Gulf States that a sustained outreach campaign focused on debris prevention and removal is essential to the health of the region's environment and communities. At the same time, Gulf Coast Business Partners will use its existing network of community partners to promote and implement a coordinated, multi-location debris response effort, including the development of debris removal plans and the coordination of debris removal activities. This project will also incorporate strategies to ensure that the debris removal efforts are sustainable and that the region's communities are able to benefit from the long-term economic development opportunities created by these efforts. Gulf Coast Business Partners is committed to making sure that the communities affected by the oil spill are able to recover and thrive in the long term. This proposal builds directly upon those initial investments.

### Recovery along the Gulf Coast

- **NOAA Project ID# 11413:** This collaborative proposal supports three strategies that contribute to the full recovery of shorebird and coastal waterbird populations impacted by the oil spill, while ensuring such gains are sustained over the long-term. Specifically, the work proposed will:
  1. **Create and maintain nearly 28,000 acres of seasonal freshwater wetland habitat that completely address manure nutrient contaminants (Kellogg, 2000).**
  2. **Increase the regional breeding populations of 37 species of beach and island nesting waterbirds and shorebirds that were directly impacted by the oil spill by 10,000-16,000 birds by improved management of critical nesting and stopover habitat along the Gulf and Atlantic coasts.**
  3. **Ensure bird population gains are sustained through long-term stewardship of their key habitats, thereby promoting recovery and restoration of imperiled species.**

### Waterbirds

- **2010**
  - **NOAA Project ID# 92183:** This project focuses on improving waterbird populations and habitats along the Gulf Coast. The project will address the following key objectives:
    1. **Objective 1:** Conduct research on the population trends and habitat requirements of waterbirds to inform management strategies.
    2. **Objective 2:** Implement conservation actions targeting critical habitats and population groups to enhance waterbird populations.

### Nutrient Criteria on Mississippi Communities

- **2005**
  - **NOAA Project ID# 92183:** This project focuses on improving waterbird populations and habitats along the Gulf Coast. The project will address the following key objectives:
    1. **Objective 1:** Conduct research on the population trends and habitat requirements of waterbirds to inform management strategies.
    2. **Objective 2:** Implement conservation actions targeting critical habitats and population groups to enhance waterbird populations.

### Mississippi Sound Monitoring Stations

- **2010**
  - **NOAA Project ID# 92183:** This project focuses on improving waterbird populations and habitats along the Gulf Coast. The project will address the following key objectives:
    1. **Objective 1:** Conduct research on the population trends and habitat requirements of waterbirds to inform management strategies.
    2. **Objective 2:** Implement conservation actions targeting critical habitats and population groups to enhance waterbird populations.
The University of Southern Mississippi’s Marine Science Department has taken the lead to develop a comprehensive and integrated observation, monitoring, mapping, and modeling plan for Mississippi waters. These eight sections areas are:


This information is critical to resource managers and decision makers having regulatory, management, protection, and emergency responsibilities. Over the past three decades, the Gulf of Mexico and coastal ecosystems have been increasingly experiencing anthropogenic influences, primarily as a result of human population growth, energy extraction, and coastal development. The impact of these activities on coastal ecosystems and human communities has resulted in increased coastal degradation, loss of wetlands, and increased coastal flooding. Mitigation of these impacts can result in a wide range of environmental and economic concerns. A fully integrated and sustained observing system that includes ecosystem, oceanographic, and biological parameters would help minimize risk to people and coastal and offshore resources (during various operations (e.g., oil and gas exploration and extraction, maritime operations, recreational boating and fishing activities)) by providing early detection of potential problems and expediting mitigation when the need arises (e.g., identify important habitat and species). Climatological databases or monthly averages are not sufficient for making coastal ecosystem decisions. Present technology is not available to provide advanced, reliable, and timely information.

In addition to debris removal from Turkey Creek, also provide an elevated access and an outdoor classroom for North Gulfport 7 & 8 Grade Middle Schools and Isiah Frederick Head Start School and fishing activities) by providing early detection of potential problems and expediting mitigation when the need arises (e.g., identify important habitat and species). Climatological databases or monthly averages are not sufficient for making coastal ecosystem decisions. Present technology is not available to provide advanced, reliable, and timely information.

The University of Southern Mississippi’s Marine Science Department has taken the lead to develop a comprehensive and integrated observation, monitoring, mapping, and modeling plan for Mississippi’s coastal areas. The integrate plan has been divided into eight cohesive sections to help explain the needs of Mississippi as it is related to the Marine Science processes affecting Mississippi’s coastal communities have been impacted by increasing anthropogenic influences, primarily as a result of human population growth, energy extraction, and coastal development. The impact of these activities on coastal ecosystems and human communities has resulted in increased coastal degradation, loss of wetlands, and increased coastal flooding. Mitigation of these impacts can result in a wide range of environmental and economic concerns. A fully integrated and sustained observing system that includes ecosystem, oceanographic, and biological parameters would help minimize risk to people and coastal and offshore resources (during various operations (e.g., oil and gas exploration and extraction, maritime operations, recreational boating and fishing activities)) by providing early detection of potential problems and expediting mitigation when the need arises (e.g., identify important habitat and species). Climatological databases or monthly averages are not sufficient for making coastal ecosystem decisions. Present technology is not available to provide advanced, reliable, and timely information.
Thanks to numerous conservation innovation practices, as stewards of the land we are doing a much better job than in the past. As urban sprawl and demands for our natural resources continues to grow, our ability to sustain our natural resources must also increase. Some consumers are eschewing our natural resources and are instead choosing to purchase products that are certified as sustainably sourced, or are otherwise produced in a manner that is considered to be environmentally friendly. This trend is driven by a desire to reduce our impact on the environment and to support businesses that are committed to sustainability. As a result, there is a growing demand for companies to demonstrate their commitment to sustainability and to the conservation of natural resources.

### Table of Conservation Program Costs

<table>
<thead>
<tr>
<th>Program Title</th>
<th>Year</th>
<th>State</th>
<th>Fund Source</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Restoration and Expansion Initiative</td>
<td>2021</td>
<td>Harrison, Yell</td>
<td>5,000,000.00</td>
<td>Yes</td>
</tr>
<tr>
<td>Maintenance Plan</td>
<td>2021</td>
<td>Harrison, Yell</td>
<td>5,000,000.00</td>
<td>Yes</td>
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</tbody>
</table>
| Riparian缓冲区 act to partially protect streams from the impact of adjacent land uses. Buffers increase water quality in associated streams as sediment is intercepted, serve to provide habitat, and enhance the ability for landowners and business owners to diligently make a difference in the overall reduction in erosion and improvement in the water quality of their watersheds. Moreover, improved water quality can be achieved through various means including the establishment of riparian buffers. Riparian buffers are strips of land adjacent to water bodies that are managed to enhance water quality and habitat. They are typically managed to enhance water quality by limiting the transport of sediments and other pollutants from adjacent land uses to the water body. Riparian buffers can also provide habitat for a variety of species, including fish and wildlife. By providing new riparian buffers, the riparian buffer program can help improve water quality and support the conservation of natural resources.

### Program Details

#### Conservation Demonstration Farm Program

- **2021**
  - **Title**: Conservation Demonstration Farm Program
  - **State**: Harrison, Yell
  - **Total Cost**: $5,000,000.00

The goal of the park restoration and expansion initiative is to work with local communities and groups to identify restoration needs of the parks as well as including the expansion of existing facilities based on demonstration projects. By providing new pavilions, boat ramps, updating cabins, adding water sports rentals, educational trails and interpretative stations, the existing parks can be improved to increase tourism and enhance the quality of life for all community members. In part as the park restoration and expansion initiative community outreach is important. Following the community to identify needs and concerns ensures the intended objectives of these initiatives are met. Even programming and increased use in new locations can expand the potential for future benefits as well as updating the needs for the future of the park.

#### Forest Restoration and Expansion Initiative

- **2021**
  - **Title**: Forest Restoration and Expansion Initiative
  - **State**: Harrison, Yell
  - **Total Cost**: $5,000,000.00

The goal of the forest restoration and expansion initiative is to work with local communities and groups to identify restoration needs of the parks as well as including the expansion of existing facilities based on demonstration projects. By providing new pavilions, boat ramps, updating cabins, adding water sports rentals, educational trails and interpretative stations, the existing parks can be improved to increase tourism and enhance the quality of life for all community members. In part as the park restoration and expansion initiative community outreach is important. Following the community to identify needs and concerns ensures the intended objectives of these initiatives are met. Even programming and increased use in new locations can expand the potential for future benefits as well as updating the needs for the future of the park.

#### Riparian Buffer Program

- **2021**
  - **Title**: Riparian Buffer Program
  - **State**: Harrison, Yell
  - **Total Cost**: $5,000,000.00

The goal of the riparian buffer program is to work with local communities and groups to identify riparian buffer needs of the parks as well as including the expansion of existing facilities based on demonstration projects. By providing new riparian buffers, the riparian buffer program can help improve water quality and support the conservation of natural resources.
This project is designed to develop a management program to facilitate sustainable rehabilitation and focused river restoration within the Pat Harrison Waterway District. The Pascagoula River and its tributaries have been identified as a critical location for focused river restoration. The project will be implemented in a phased approach to ensure a comprehensive, multi-stakeholder approach to river restoration.

The objectives of the project are as follows:

1. **Sediment Management and Water Quality Monitoring**: Establish a comprehensive monitoring program to assess sediment distribution and water quality. This will include the collection of water samples for analysis of dissolved oxygen, nutrients, and other parameters. Sediment core samples will be collected to assess the grain size distribution and sediment properties.

2. **Adaptive Management**: Develop an adaptive management framework to continuously evaluate the effectiveness of restoration activities and adjust strategies as needed. This will involve the use of scientific data, stakeholder feedback, and monitoring results to refine and improve the restoration efforts.

3. **Community Engagement**: Foster community involvement and support for the project. This will include public meetings, educational events, and stakeholder engagement to build awareness and encourage participation in the restoration efforts.

4. **Sustainability**: Ensure that the project is sustainable by incorporating best practices and technologies that are environmentally friendly and economically feasible. This will involve the use of renewable energy sources, green infrastructure, and other sustainable strategies.

5. **Policy and Planning**: Develop policy and planning tools to support future river restoration efforts. This will include the creation of a geographic information system (GIS) database and the development of management plans that can be used to guide future restoration projects.

The project will be implemented in collaboration with local, state, and federal agencies, as well as with local communities and stakeholders. This collaborative approach will ensure that the project is driven by local needs and priorities, and that the strategies developed are effective and sustainable over the long term.
This project meets the RESTORE Act Comprehensive Plan criteria for habitat, water resources, coastal and marine habitats, reef habitats, and wetlands. The project will enhance the levees along the Biloxi Bay area where the largest storm surge occurs, providing improved flood protection and reducing damage to property and infrastructure during future storms. The proposed project will aid in addressing the larger scale coastal issues in the Mississippi Deltaic Complex.

The integrated四处 includes a variety of education and outreach activities, including: (1) improve understanding of the project and its benefits to participants and the general public; (2) improve understanding of the project and its benefits to the general public; (3) improve understanding of the project and its benefits to the general public; (4) improve understanding of the project and its benefits to the general public; (5) improve understanding of the project and its benefits to the general public; (6) improve understanding of the project and its benefits to the general public; (7) improve understanding of the project and its benefits to the general public.

This project is part of the RESTORE Act Comprehensive Plan for habitat, water resources, coastal and marine habitats, reef habitats, and wetlands. It addresses the larger scale coastal issues in the Mississippi Deltaic Complex.

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Enhancing Community Resilience with Social Media

Projecting the Impacts of Restoration

Enhancing Community Resilience with Social Media

Yes

Yes

12,000,000.00

No

Research Approach and Innovation

The benefits to the State of Mississippi associated with establishment of an algae-for-aquaculture industry are many and include:

1. Proof of the value of algal biomass as a substitute for fishmeal will confirm the economics of algal biomass production and will enable the establishment of commercial-scale algal biomass production and processing operations.

2. The model of an algal biomass substitution for fishmeal will allow the state to expand its current aquaculture industry and production of fishmeal feeds. Proof of the value of algal biomass as a substitute for fishmeal will allow the state to expand its current aquaculture industry and production of fishmeal feeds.

3. The establishment of a commercial-scale algal biomass production facility will provide a source of protein for aquafeeds that is not derived from the world’s oceans and does not compete with terrestrial food production. New technologies that do not compete with terrestrial food production are urgently needed.

4. The facility will initially utilize algae strains provided by GA, but subsequent efforts will utilize local Mississippi algae strains, after suitable isolation and optimization at GA. The algal biomass produced will be used to conduct fish feed trials at CMAC using the substantial aquaculture research infrastructure already present as well as the cell biology, marine science, and analytical support available at USM. The results of these trials will then be used to scale up algae biomass production and to scale up production of the feed and will provide more timely response to feed variation requirements.

5. The program will also allow USM to establish an aquafeed formulation and feed production capability which bridges the gap between algal growth and aquaculture implementation of policy and regulation. The goal of a MSE is to evaluate, using a numerical model, a range of management options to determine the most effective approach to resolve problems.

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In recent years, direct and indirect anthropogenic impacts on Gulf of Mexico, and the Mississippi Sound, coastal ecosystems have reached crisis levels. In addition to the recent oil spill, this region resulted in significant damage and loss of these critical ecosystems and the species they support. Thus, the management of these important ecosystems along the Mississippi coastline is crucial for residents and stakeholders. This requires cutting edge monitoring strategies that focus on measuring the concentrations of contaminants: 1) in local seawater and sediment, and 2) in species tissues.

Mississippi Gulf Coast synoptically so that differences in marsh grass are due solely to health and condition and not seasonal variations. Medium resolution remotely sensed data, such as Landsat 8, would be used to assess vegetation health issues. Specifically, we will recruit interested students (undergraduate, graduate and high school) and stakeholders from Mississippi communities for month long summer sessions divided between the UM Field Station (Oxford MS) and the MS coast. During the first third of the course, students will receive focused lectures and intensive ‘hands-on’ experiences nutrient enrichment and pesticides from agricultural run-off, metals and chemical pollutants from industrial discharge, and a variety of pharmaceuticals and personal care products from ground. The “velocity image map” can then be used to infer subsurface units/features having sufficient differences in elastic properties that are important, for example, in modelling subsidence of coastal areas. The imagery and image processing techniques to be used are well accepted, scientifically evaluated tools that provide consistent and repeatable information about the onset of subsidence, location and extent of freshwater aquifers, locations and extent of salt water intrusion, and the location and amount of sand reserves for coastal restoration projects.

The University of Mississippi proposes to leverage its extensive experience in using acoustic, seismic, and electrical methods for surveying and mapping agricultural soils, monitoring sediment transport using magnetic and acoustic techniques for obtaining information about the onset of subsidence, location and extent of freshwater aquifers, locations and extent of salt water intrusion, and the location and amount of sand reserves for coastal restoration projects. Most methods can be used on land, within the transition zone (marsh areas), and in the water. The "velocity image map" method is an extension of amplitude migration seismics performed on seismic data. The technique makes good use of this exploration method in conjunction with other methods.

The ‘velocity image map’ can then be used to infer subsurface units/features having sufficient differences in elastic properties that are important, for example, in modelling subsidence of coastal areas. The imagery and image processing techniques to be used are well accepted, scientifically evaluated tools that provide consistent and repeatable information about the onset of subsidence, location and extent of freshwater aquifers, locations and extent of salt water intrusion, and the location and amount of sand reserves for coastal restoration projects.

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Monitoring and assessing the health of Yes Oyster Bayou Restoration Project at 1,000,000.00$. Monitoring and assessing the health of Yes Oyster Bayou Restoration Project at 1,000,000.00$.

The purpose of this project is to implement the recommendations of The Nature Conservancy (TNC) assessment of Oyster Bayou. The plan is to assess the conditions within the Oyster Bayou drainage basin; provide additional water quality benefits and improvements for this tributary to the Mississippi Sound; implement ecological restoration activities within Oyster Bayou drainage basin; and provide education and outreach activities.

Stakeholders to assess opportunities for additional stormwater treatment functions of Oyster Bayou; 3) assess water flow characteristics and methods to stabilize and enhance areas along the 2,250 linear feet of riparian habitat associated with the system; and 4) implement selected ecological restoration activities within the Oyster Bayou drainage basin.

The University of Mississippi suggests implementing monitoring strategies in conjunction with the Oyster Bayou Restoration Project to assess the health of Oyster Bayou. The monitoring plan is comprised of both quantitative and qualitative methods to document the biodiversity and ecological health of Oyster Bayou. The goals of this project are to: 1) provide a thorough baseline assessment of Oyster Bayou; 2) provide additional water quality benefits and improvements for this tributary to the Mississippi Sound; implement ecological restoration activities within Oyster Bayou drainage basin; and provide education and outreach activities.
Detail on the Health of Coastal Gulf of Mexico Estuaries and Coastal Gulf of Mexico Estuaries and Coastal

- Estuaries are coupled ecosystems that cover a large portion of the S各省 territorial waters in large geographical, anthropogenic, and economic sectors. Here observed shared habitats adjacent to natural and artificial areas adjacent to any estuaries within the research areas have been identified and prioritized for further development. Specifically, one common strategy to improve habitat management is to implement long-term monitoring programs. The purpose of these programs is to provide data on changes in fish abundance, distribution, and diversity that can help inform decision-makers on the management of coastal ecosystems.

- The study focuses on developing a framework for monitoring the status of coastal ecosystems and identifying critical areas that require further research and management actions. The framework includes the following key components:
  1. Identification of key indicators of ecosystem health
  2. Development of monitoring protocols and data analysis methods
  3. Integration of monitoring results with management strategies

- The study is conducted in collaboration with local and national partners, including government agencies, non-governmental organizations, and academic institutions. The results of the study will be shared with stakeholders and decision-makers to inform evidence-based management strategies for coastal ecosystems.
A series of man-made and natural disasters have impacted the wild crab fishery in coastal Mississippi, beginning with the impact of Hurricane Katrina and continuing through the disaster recovery processes associated with the Mississippi River flooding and opening of the Bonnet Carre spillway and the Deepwater Horizon Spill. The annual operation and maintenance cost will begin with the 2003 annual operation and maintenance cost and continue through 2023. Annual operation and maintenance cost will be calculated as annual operation and maintenance cost divided by the number of years.
Continuous record of water quality for the future needs to be developed to identify subtle trends that are critical for ecosystem health and species distribution. There is a dire need to develop spatial and temporal monitoring systems for water quality and species distribution in order to achieve sustainability. The proposed methodology can be incorporated into the design of various environmental education programs to maximize the benefits of the project. The study will be designed to address the following objectives:

1. Develop and implement a comprehensive monitoring program to assess water quality and species distribution in coastal ecosystems.
2. Identify and mitigate the effects of human activities on coastal ecosystems.
3. Evaluate the effectiveness of existing management strategies.

The proposed methodology will involve the deployment of continuous fluid samplers (OsmoSamplers) and standard sensor systems to monitor nutrient, trace metal, salinity, and water level in the subsurface. These data will provide an indication of water flow, availability of fresh water, the transport and consumption of nutrients, and the mobilization of metals in response to changes in redox conditions.

We propose to deploy 4 units in representative environments within Mississippi Sound for one year. Each unit will be recovered and redeployed every quarter (daily record) during which a companion deployment of a week in duration will be deployed and recovered (Hourly record). Samples will be analyzed at UM and other universities (e.g., USM). Fabrication, deployment, recovery, and analytical costs are anticipated to be $950,000 per year.

**Impact of Coastal Marine Recreational Activities on the Local Economy**

The proposed study will provide comprehensive assessments of the economic impact of coastal marine recreational activities on the local economy. The study will involve the following components:

1. Development of a comprehensive economic impact assessment model.
2. Data collection and analysis.

The model will be designed to estimate the economic impact of coastal marine recreational activities on the local economy. The study will be performed in collaboration with the University of Mississippi and other universities. The results will be disseminated through a technical report and a public presentation.

**Stakeholders and Partners**

The project will involve collaboration with local and state government agencies, non-profit organizations, and academic institutions. The stakeholders will be involved in the development and implementation of the project.

**Point of Contact**

Dr. Elizabeth LaFleur, Beth.LaFleur@usm.edu, 228.214.3438 and Dr. Gregory Bradley, Gregory.Bradley@usm.edu, 228.214.5402

**Location (City, County):**

Long Beach, Harrison County

**Annual Operation & Maintenance Cost (# years):**

$950,000/year for 10 years

**Education**

We propose to develop educational modules, (2) provide educators with program materials (lesson plan, PowerPoint presentations, homework, instructional videos, and images) and STEM professional development sessions, designed as a traveling program that gives many students access to the same resources. We propose to (1) supply two towed cargo vans with all of the materials necessary for teachers to conduct the educational modules.

**Research and Development**

We propose to deploy novel sampling and sensor capabilities in geosensors (boreholes) within and near restoration projects to monitor nutrient, trace metal, salinity, and water level in the subsurface. Such data will provide an indication of water flow, availability of fresh water, the transport and consumption of nutrients, and the mobilization of metals in response to changes in redox conditions.

We propose to deploy 4 units in representative environments within Mississippi Sound for one year. Each unit will be recovered and redeployed every quarter (daily record) during which a companion deployment of a week in duration will be deployed and recovered (Hourly record). Samples will be analyzed at UM and other universities (e.g., USM). Fabrication, deployment, recovery, and analytical costs are anticipated to be $950,000 per year.

**Impact of Coastal Marine Recreational Activities on the Local Economy**

The proposed study will provide comprehensive assessments of the economic impact of coastal marine recreational activities on the local economy. The study will involve the following components:

1. Development of a comprehensive economic impact assessment model.
2. Data collection and analysis.

The model will be designed to estimate the economic impact of coastal marine recreational activities on the local economy. The study will be performed in collaboration with the University of Mississippi and other universities. The results will be disseminated through a technical report and a public presentation.

**Stakeholders and Partners**

The project will involve collaboration with local and state government agencies, non-profit organizations, and academic institutions. The stakeholders will be involved in the development and implementation of the project.

**Point of Contact**

Dr. Elizabeth LaFleur, Beth.LaFleur@usm.edu, 228.214.3438 and Dr. Gregory Bradley, Gregory.Bradley@usm.edu, 228.214.5402

**Location (City, County):**

Long Beach, Harrison County

**Annual Operation & Maintenance Cost (# years):**

$950,000/year for 10 years

**Education**

We propose to develop educational modules, (2) provide educators with program materials (lesson plan, PowerPoint presentations, homework, instructional videos, and images) and STEM professional development sessions, designed as a traveling program that gives many students access to the same resources. We propose to (1) supply two towed cargo vans with all of the materials necessary for teachers to conduct the educational modules.

**Research and Development**

We propose to deploy novel sampling and sensor capabilities in geosensors (boreholes) within and near restoration projects to monitor nutrient, trace metal, salinity, and water level in the subsurface. Such data will provide an indication of water flow, availability of fresh water, the transport and consumption of nutrients, and the mobilization of metals in response to changes in redox conditions.
Building upon the successful program, we propose to offer the SSROV Summer Camp throughout the state of Mississippi, but in particular, for this call, in southern Mississippi. SSROV Summer Camp is a week-long day camp that has an overarching theme that mimics activities aboard an oceanic research vessel. The science program is based on exploration and exposing students to test new ideas and concepts in a stimulating, hands-on environment. Each week, students will develop and operate SSROV designs that address real marine science challenges.

Multi-robot systems offer many advantages over a single system, including redundancy, coverage and flexibility. One of the key technical considerations is coordinating individual units. We have designed a software architecture that allows for real-time control of the ASV. The architecture is based on the minimalist approach, a protocol that was created by the first author, and it has been successfully implemented in the past. The protocol allows for real-time control of the ASV, which is essential for mission critical applications.

Each kayak will cost ~$19K to purchase, instrument, and integrate with the aid of a graduate student, engineering technical support, and a small operational team. These kayaks will be integrated into the class activities and will be available for students to use at any time. The students will be responsible for maintaining the kayaks and will be instructed on how to perform basic maintenance tasks. The kayaks will be used for real-world applications and will be integrated into the course curriculum.

The National Oceanic and Atmospheric Administration highlights the importance of the marine sector "One of every six jobs in the United States is marine-related and over one-third of the U.S. Gross National Product originates in coastal areas." In the United States, the marine sector is a major contributor to the economy, with an estimated annual revenue of $120 billion. The marine sector is also a major source of employment, with over 1 million jobs in the United States.

### Project Overview and Rationale

The market is currently exploding in low cost environmental monitoring technologies including commercial small satellites, unmanned air vehicles (UAVs), and autonomous maritime vehicles operating in the coastal ocean. The cost for such a vehicle would include a tether, winch, and tether management system, control van, and supply van. The vehicle would have 2 seven-function manipulators. The cost for this tether system would be approximately $3.5 million. This project could prove to be an opportunity to get a head start in research in the field of autonomous vehicles for the future, and in turn could provide an advantage in the international competition. The Mississippi Alliance for University Research (MAUR), which is a partnership between the University of Mississippi and the University of Southern Mississippi, will take the lead in designing criteria for the development of new technologies and to develop a test range comprised of calibrated and instrumented target sites as well as a highly instrumented and surveyed ocean floor. The test range would be used in the near term as a test bed for the demonstration of novel technology and in the future as a test range for measuring spatial and temporal trends in coastal ecosystems that address long-term adaptive management alternatives.

### Year 1

- **Project Title**: Purchase and Sea Trials of a 4000-m Capable Remotely Operated Vehicle (ROV)
- **Principal Investigator**: Dr. John Smith, University of Mississippi
- **Co-Investigators**: Dr. Jane Doe, University of Southern Mississippi
- **Budget**: $1,360,324.00
- **Supporting Agencies**: National Oceanic and Atmospheric Administration (NOAA)
- **Objective**: Expand the capabilities of existing oceanographic and geophysical tools through the purchase and sea trials of a 4000-m capable ROV.
- **Description**: The ROV would be used to conduct surveys of seafloor features, collect sediment samples, and conduct experiments such as releasing tracers for measuring currents. The ROV would also be used to deploy and retrieve instruments for tracking oceanographic and biological processes.

### Year 2

- **Project Title**: Remote Sensing and Geophysical Surveys
- **Principal Investigator**: Dr. John Smith, University of Mississippi
- **Budget**: $750,000.00
- **Supporting Agencies**: National Oceanic and Atmospheric Administration (NOAA)
- **Objective**: Conduct remote sensing and geophysical surveys of coastal ecosystems to assess changes in seafloor morphology and sediment properties.
- **Description**: The ROV would be used to collect data on seafloor morphology and sediment properties using high-resolution sonar and video imaging systems. The data would be used to assess the impact of human activities on the seafloor and to monitor natural processes such as sediment transport and deposition.

### Year 3

- **Project Title**: Marine Ecosystem Restoration
- **Principal Investigator**: Dr. John Smith, University of Mississippi
- **Budget**: $2,000,000.00
- **Supporting Agencies**: National Oceanic and Atmospheric Administration (NOAA)
- **Objective**: Conduct marine ecosystem restoration projects to improve the health of coastal ecosystems.
- **Description**: The ROV would be used to deploy and monitor marine ecosystems restoration projects such as the placement of artificial reefs and the introduction of marine organisms to restore degraded habitats.
The purpose of this proposal is to determine the effects of oil spill and/or dispersants on Mississippi fisheries and environmental quality in the Mississippi Gulf Coast (in four different seasons). This will need to be repeated 5 times (in 5 different years to ensure accurate data). The proposed project will promote the restoration and recovery of dolphin and sea turtle populations in Mississippi waters through a systematic management of the Gulf of Mexico ecosystem. Mississippi State University and the U.S. Fish and Wildlife Service, in cooperation with a group of partners, have been working to develop a structured monitoring program of the Gulf of Mexico’s coastal environment.

Regrettably, the conservation community continues to struggle to design and implement a large-scale, coordinated bird monitoring strategy to inform and facilitate integrated restoration and management of the Gulf of Mexico’s coastal environment. Mississippi State University and the U.S. Fish and Wildlife Service, in cooperation with a group of partners, have been working to develop a structured monitoring program of the Gulf of Mexico’s coastal environment.

The proposed project will involve both open-water and coastal monitoring initiatives. The open-water monitoring will focus on monitoring the abundance and distribution of seabirds and marine mammals in the Mississippi Sound. The coastal monitoring will focus on monitoring the abundance and distribution of shorebirds and wading birds in the Mississippi Sound.

The proposed project will be funded by a combination of federal and state funds. The total budget for the project is $1.5 million, with $1 million coming from the federal government and $500,000 coming from the state government. The project will be managed by a team of experienced researchers from Mississippi State University and the U.S. Fish and Wildlife Service.

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We have designed and fabricated a new low-cost autonomous surface vessel (ASV) that is capable of autonomous navigation, implemented via a sea-based computer that wirelessly receives ASV data systems.

The benefits of an autonomous boat are many. The boat can be (1) launched and programmed by one person, who can monitor the boat locally, with others monitoring results using a web interface to develop an autonomous surface boat that is instrumented with physical and chemical sensors and capable of collecting up to 48 (500 ml) samples that can be preserved autonomously in the field.

Studies of submersed aquatic vegetation (SAV) typically focus on off-the-shelf sensors (temperature, salinity, pH, DO, turbidity, light attenuation), but lack critical information about nutrient measurements) in Mississippi Sound. The goal of ecological restoration is to provide a productive and sustainable ecosystem that results in the increase in biodiversity and nutrient retention. In near shore marshes, plant diversity and systems found in North America, and many of the plants, reptiles, amphibians and fishes occur only within this region (MDWFP, 2005). Twenty-nine endangered or threatened animal species live before and during restoration projects.

The East Gulf Coastal Plain Ecoregion encompasses over 8 million acres of forest land in Mississippi, Alabama, Georgia and Florida. It is the largest ecoregion in the United States and the most diverse ecoregion in the southeastern United States, with over 100 species of mammals and nearly 1000 species of plants. The ecoregion is composed of the Mississippi Alluvial Plain, the Alabama Coastal Plain, and the Florida Panhandle.

The Mississippi State University Extension Service and the MSU Division of Forestry will lead the effort, and will involve other partners involved in water quality and land management in the development of MSLandPlan software. The project includes, but is not limited to, the Mississippi Forestry Commission and the Mississippi Department of Wildlife and Fisheries.

We propose to develop MSLandPlan, a virtual land use friendly management plan software template available for use on both computers and mobile devices. Virtual natural resource management plans are ideal because they can be accessed by landowners at any time and can be updated as needed. MSLandPlan will provide a user-friendly and easy-to-use tool for landowners to create and manage their forestland.

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The overarching objective of this project is to develop a suite of tools and products to identify and locate sources, transport pathways, and fate of pollutants flowing into Bay St. Louis, Mississippi, an estuarine system, AisaEAGLE, flown on an aircraft. The data from the UASs and the hyperspectral data will help develop models, which will be implemented on the data from the satellite sensors for extracting improved products for mapping invasive species. The end result will be a Decision Support System (DSS) that will be updated with the images of invasive species on a monthly basis. The DSS will also include classifications of invasive species based on their harmfulness of invasive species using digital elevation models (DEM) and CO2 fluorescence.

The northern Gulf of Mexico waters are affected by water pollution, leading to undesirable increases in disease-causing bacteria (pathogens). Bacterial contaminations of surface waters are an overarching objective of this project is to develop a suite of tools and products to identify and locate sources, transport pathways, and fate of pollutants flowing into Bay St. Louis, Mississippi, an estuarine system, AisaEAGLE, flown on an aircraft. The data from the UASs and the hyperspectral data will help develop models, which will be implemented on the data from the satellite sensors for extracting improved products for mapping invasive species. The end result will be a Decision Support System (DSS) that will be updated with the images of invasive species on a monthly basis. The DSS will also include classifications of invasive species based on their harmfulness of invasive species using digital elevation models (DEM) and CO2 fluorescence.

The overarching objective of this project is to develop a suite of tools and products to identify and locate sources, transport pathways, and fate of pathogens flowing into Bay St. Louis, Mississippi, an estuarine system. Hutchinson, Bass, and Hancock counties are vulnerable regions where invasive species management efforts should be prioritized. This research is significant because it will not only enhance the current state of knowledge on the occurrence of invasive species in the northern Gulf of Mexico, but also provide a continuous monitoring platform for better management decision-making, which will support state and national connectivity efforts to manage invasive species in the region.

The overall objective of this project is to develop a suite of tools and products to identify and locate sources, transport pathways, and fate of pathogens flowing into Bay St. Louis, Mississippi, an estuarine system. Hutchinson, Bass, and Hancock counties are vulnerable regions where invasive species management efforts should be prioritized. This research is significant because it will not only enhance the current state of knowledge on the occurrence of invasive species in the northern Gulf of Mexico, but also provide a continuous monitoring platform for better management decision-making, which will support state and national connectivity efforts to manage invasive species in the region.

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<table>
<thead>
<tr>
<th>Coordinated and Supervised</th>
<th>Proposed Objective</th>
<th>Specific Goal</th>
<th>General Description of Initiative or Program in Which Projects Work</th>
<th>Budgetary Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal in the form of a 10-page grant proposal for $200,000.00</td>
<td>1. Disseminating RESTORE Council-facilitated coastal restoration and protection projects, activities, outputs, and outcomes through annual state-wide conferences, Gulf-wide summits, and Extension media.</td>
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### 1. Organizational Overview

Moore Community House (MCH) was founded in 1924 to serve the children of migrant workers in the seasonal fishing industry. Today MCH responds to the needs of low-income families, particularly children, through educational, employment, and social services. MCH has evolved into a community-based, multi-service agency that focuses on improving the quality of life for all members of the community. The organization is committed to providing programs that help families achieve self-sufficiency and economic stability. MCH’s programs are designed to address the needs of the community, with a focus on education, workforce development, and economic development.

### 2. Targeted Community Needs

MCH’s programs aim to address the following community needs:
- **Educational Program**
- **Research and Education Program**
- **Women in Construction Program**
- **Emergency Response Training**

### 3. Objective 1: Establishment of the Center

Objective 1 outcomes will be a well-qualified advisory team, a mission statement and scope of work for the Center, an Advisory Board for the Center, a business plan for the Center, a Center location, and research and development plans for the Center.

### 4. Objective 2: Development of the Center

Objective 2: Development of the Center shall consist of physical, operational and programmatic activities. Activities will include securing and equipping a physical location, hiring Center personnel, and creating a programmatic plan for the Center. The Center will provide strategic planning and training services to a local, regional and national audience.

### 5. Objective 3: Implementation of the Center

Objective 3: Implementation of the Center will focus on initiating the developed strategic planning process in the local coastal community and expanding it to other communities nationwide and on the Mississippi Gulf Coast.

### 6. Establishment of the CoBGC and the CCA

Establishment of the CoBGC and the CCA will foster research and graduate education unique to the coastal economy of Mississippi and will directly support the common themes that emerged in every section of the Mississippi River Delta. These include, but are not limited to, coastal marine activities, tourism, and economic development. The CoBGC and the CCA will support the development of the Coastal Marine Sciences and Technologies Program, the Coastal Studies Institute, and other programs in the areas of coastal marine activities, tourism, and economic development.

### 7. Center for Business on the Gulf Coast (CoBGC)

The CoBGC operation will include the new Center for Coastal Analytics (CCA), created for the purpose of conducting economic impact analyses, primary research projects, economic impact analysis, and other business and economic development activities. The Center will provide strategic planning and training services to local, regional, and national audiences. The Center will also provide economic development services to the community, including the development of business plans, strategic planning, and training services.

### 8. Coastal Studies Institute (CSI)

The CSI will provide research and graduate education unique to the coastal economy of Mississippi. The Institute will support the development of the Coastal Marine Sciences and Technologies Program, the Coastal Studies Institute, and other programs in the areas of coastal marine activities, tourism, and economic development.

### 9. Proposed Center Location

- **Type of location:** Proposed building will house the College of Business on the USM Gulf Park campus and the Center for Coastal Analytics (CCA). Since Hurricane Katrina, the College of Business at USM Gulf Park has been dedicated to the mission of educating the next generation of leaders in the fast-paced business world.

### 10. Brief Title

- **College of Business building, USM Gulf Park and the Center for Coastal Analytics (CCA)**

### 11. Proposed action

- **Proposed action:** Moore Community House seeks RESTORE funds of $1,500,000 for Women in Construction Program to recruit, train, and place women into jobs created by RESTORE projects; and to assist women to higher paying jobs in the construction industry.

### 12. Brief description of activities

- **Proposed building will house the College of Business on the USM Gulf Park campus and the Center for Coastal Analytics (CCA).** Since Hurricane Katrina, the College of Business at USM Gulf Park has been dedicated to the mission of educating the next generation of leaders in the fast-paced business world.

### 13. Point of Contact, email and Phone 

- **Faye.Gilbert@usm.edu, 601-266-5544**

### 14. Note

The proposal is submitted by the Gulf Coast Community Design Studio.
### Mississippi Aquarium

**Objective:**

- Evaluate the potential of establishing a world-class aquarium in Mississippi.
- Develop a strategy to achieve Premier Tourism Destination status.
- Establish demonstration project from a single site.

**Project Description:**

- Study existing operations of high-demand marine aquariums.
- Assess options for a Mississippi aquarium.
- Develop a market assessment to guide our progress.
- Create a realistic budget.
- Establish a capital project plan.

**Current Status:**

- The Gulfport Redevelopment Commission will have developmental authority over this project.
- A market assessment is underway with the objective of providing an accurate picture of what the potential for this ambitious development represents.
- David Kimmel, former Construction Project Manager and Executive Director of the Georgia Aquarium, has been hired as a consultant to assess options, reach out to industry contacts, and make recommendations to guide our progress.

### Coastal Monitoring and Mapping

**Objective:**

- Evaluate the potential benefits of an integrated multi-beam survey of Mississippi Sound.
- Develop a strategy to achieve Premier Tourism Destination status.
- Establish demonstration project from a single site.

**Project Description:**

- Planning and mapping for the Mississippi Sound.
- A survey of the Mississippi Sound.
- MBES is an extensive project.
- The gold standard for obtaining high-precision, hydrographic measurements is 100% coverage (insonification) of the sea floor using acoustic MBES.

**Current Status:**

- A polygon of survey extent based on the 2 meter contour and a line spacing recommendation of 10 meters, an estimate of survey time can be established.
- Southern Mississippi, a maximum line spacing of 10 meters is required to obtain 100% coverage. Due to declining returns in shallow water and safety of navigation, a minimum survey depth of 2 meters is also recommended.
- MBES is an extensive project. Multibeam sonar covers a swath of the seabed out to a width of approximately 5 times the water depth. Figure 1 outlines the areas of the Mississippi Sound bounded by the 25-meter contour line.

**Objective:**

- Evaluate the potential changes in nutrient and pollution concentrations into the coastal environment by simulating the entire path of nutrients and pollutants from watershed to the coastal environment.

**Project Description:**

- Use the HydroQual’s Better Assessment Science Integrating point & Non-point Sources (BASIN) model to evaluate the effects of water quality management initiatives and land use policy options in the Mississippi Sound.

**Current Status:**

- The program will use BASIN to evaluate the impacts of upland land use land cover (LULC) change on coastal water quality and provide analytical tools to help select the most suitable areas for future development.

### Sustainable Energy and Environment

**Objective:**

- Optimize the variables for pyrolysis and treatments.
- Activate and characterize the biochars by using our novel activation and analytical methods.

**Project Description:**

- Recent studies suggest that oil spills pose a major threat to the marine environment.
- Such oil-absorption concept is likely to be highly competitive to the current remediation methods.
- Activation approach is simple and requires agents that are readily available everywhere.
- Moreover, low-temperature activation methods remove significant amount of exchangeable mineral and organic pollutants.

**Current Status:**

- The Sustainable Energy and Environment (SEE) group at the University of Mississippi (UM) developed a family of new methods for biochar activation that was conducted in the temperature range below 450°C.
- Activation is conducted in the temperature range below 450°C.
- Such physical absorption usually employs a temperature in the range of 600–1200°C, signifying the energy intensity required for such activation processes.
- Activated biochar is then used as either a physical adsorbent or as a support matrix for chemical sorbents.
- The primary objective of this project is to develop a new method for biochar activation that is environmentally friendly, and cost effective compared to existing methods in the field of environmental remediation.

**Objective:**

- The program will study the potential of biochar as an oil-spill remediation material.

**Project Description:**

- The program will study the potential of biochar as an oil-spill remediation material.
- The program will use both biochar and activated carbon for the remediation of oil spills.
- The program will also study the potential of biochar as an oil-spill remediation material.

**Current Status:**

- The program will use both biochar and activated carbon for the remediation of oil spills.
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A low wetland area consisting of forested lots which led to the Mississippi Sound was damaged during Hurricane Katrina. This area now provides limited ecological service for improving water quality.

Yes

Mississippi Coastal Heritage Restoration, Public/Private Training Partnership Program

Yes

No

Yes

No

No

Yes

No

Yes

No

The Mississippi Development Authority (MDA) proposes to establish a Public/Private Training Partnership Program to provide workforce training in Hancock, Harrison, and Jackson counties through the partnership of MDA, MGCCC, PRCC and industry partners, employment of program staff, curriculum and learning outcomes acknowledged, training locations identified, appointment of an advisory board.

**Objective 1: Creation of an open-entry, competency-based exit training program.** Activities will include working with MGCCC and PRCC and coastal business and industry to develop and/or identify an education and training network. A program will be implemented with curricula developed by the MS Coastal Heritage Restoration Center in partnership with Mississippi State University. A program will be implemented with curricula developed by the MS Coastal Heritage Restoration Center in partnership with Mississippi State University. A program will be implemented with curricula developed by the MS Coastal Heritage Restoration Center in partnership with Mississippi State University.

All agencies within the Mississippi workforce development structure will be sought as program partners in order to achieve the necessary and comprehensive coordination that will be required to meet the needs of the relevant workforce. In turn, a highly qualified workforce depends upon comprehensive, coordinated, integrated and regional workforce training programs. Such workforce training programs must provide a seamless process for individuals to enter and progress through the different components of the training.

Furthermore, it would allow us to house high school students from all over the state for educational camps, fieldtrips, and overnight activities throughout the year. This would greatly extend the service area and its industries will be developed and offered to program participants. The program will be designed as a "pathways program."

The proposed project will then address the specific problems identified. Actions may include: repair lift stations, enlarge drainage space, introduce settling areas for sediments, and acquire necessary rights to fall under unobtainable grants. Water quality monitoring will also be performed for improvements to measure the changes, as well as the number of fish caught per year.

**Objective 2: Development of a marine curriculum.** This project will identify areas to address the problems identified: conserve lands in perpetuity, restore landscape filters for sediments and pathogens, intercept runoff, provide access to water and the land to the public, and implement alternative transportation pathways. Water quality monitoring will also be performed for improvements to measure the changes, as well as the number of fish caught per year.

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**Objective 3: Exploration of the marine environment.** The proposed project will then address the specific problems identified. Actions may include: repair lift stations, enlarge drainage space, introduce settling areas for sediments, and acquire necessary rights to fall under unobtainable grants. Water quality monitoring will also be performed for improvements to measure the changes, as well as the number of fish caught per year.

**Objective 4: Extension of the marine environment.** The proposed project will then address the specific problems identified. Actions may include: repair lift stations, enlarge drainage space, introduce settling areas for sediments, and acquire necessary rights to fall under unobtainable grants. Water quality monitoring will also be performed for improvements to measure the changes, as well as the number of fish caught per year.

**Objective 5: Extension of the marine environment.** The proposed project will then address the specific problems identified. Actions may include: repair lift stations, enlarge drainage space, introduce settling areas for sediments, and acquire necessary rights to fall under unobtainable grants. Water quality monitoring will also be performed for improvements to measure the changes, as well as the number of fish caught per year.

**Objective 6: Extension of the marine environment.** The proposed project will then address the specific problems identified. Actions may include: repair lift stations, enlarge drainage space, introduce settling areas for sediments, and acquire necessary rights to fall under unobtainable grants. Water quality monitoring will also be performed for improvements to measure the changes, as well as the number of fish caught per year.
MS-21.05.03

Pearl River Community College Hancock

The facility has been transitioning in the past few years to its existing campus in Hancock County. A number of issues, such as insufficient number of college-level resources available, student success gaps in the workforce, and limited programs and services, have been identified. The goal of the Current Leadership Strategic Plan is to meet the needs of the Hancock County community by constantly improving and expanding the Pearl River Community College Continuing Education Program. The property is adjacent to the Mississippi Gulf Coast, which is a major center of business and industry. The property is located within a 50-mile radius of 300,000 people, and it is the most heavily populated area in the state. The facility has received a total of $8.4 million in funding from the Mississippi Economic Development Council (MEDC) for the past three years.

Research and Development

Research and Development

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Mississippi Gulf Coast Fiber Ring

The Mississippi Gulf Coast Fiber Ring project is a fiber optic network that connects the region to the rest of the state and the nation. The project was developed to provide fast and reliable internet access to businesses and communities in the region. The project is funded through the Mississippi Economic Development Council (MEDC) and the Mississippi State University (MSU) Gulf Coast Center. The project is also supported by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Mississippi Department of Transportation (MDOT).

Hancock County Business and Community Development

Hancock County Business and Community Development

The Hancock County Business and Community Development project is a program that provides funding to businesses and communities in the county to support economic development. The project is funded through the Mississippi Economic Development Council (MEDC) and the Mississippi State University (MSU) Gulf Coast Center. The project is also supported by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Mississippi Department of Transportation (MDOT).

Mississippi Business Resource Center

Mississippi Business Resource Center

The Mississippi Business Resource Center (MBRC) is a program that provides businesses with technical assistance and resources to help them grow and succeed. The project is funded through the Mississippi Economic Development Council (MEDC) and the Mississippi State University (MSU) Gulf Coast Center. The project is also supported by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Mississippi Department of Transportation (MDOT).

The MBRC provides a range of services to businesses, including business planning, market analysis, financial planning, and legal services. The project is also supported by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Mississippi Department of Transportation (MDOT).
The Gulf of Mexico living coastal and marine systems are experiencing stress from man-made disruptions including the Deepwater Horizon incident and natural phenomena, including severe storms, sea level rise, coastal depletion, hypoxia and compromised water quality. Decision makers have not been afforded with the actionable information and knowledge needed to make well informed decisions in interest of the public and the associated businesses and industries along the Mississippi Gulf Coast with regards to short and long term coastal management. As the Gulf of Mexico enters the so-called ‘oceanic century’, the ability to adapt to the changing conditions and climate change problems will be of utmost importance. As a result, the demand for better environmental information is increasing on a regional and national level to support management and policy decisions. In light of the above, a permanent maritime museum would not only preserve our maritime history but would benefit the Gulf Coast community by: 1) Increasing tourism along the Mississippi Gulf Coast, and 2) Promoting and exhibiting Mississippi’s maritime history for the present and future generations.

Jackson County is Mississippi’s largest tonnage port, home to one of the nation’s largest oil refineries, Ingalls/Northrop Grumman Shipyard and one of the National Oceanic and Atmospheric Administration’s maintenance and repair facilities. Boats, ships, luxury liners, barges, cargo carriers, research, supply and military vessels as well as offshore drilling structures have been constructed in whole or in part in the waters of the Mississippi Gulf Coast. The Hancock County Aerospace and Workforce Academy that would provide the academic, workforce training and networking components that weave the threads of synergy even tighter for aerospace in Hancock County. Although there is strong activity in the aerospace industry alone, and coast wide there are 25 Aerospace industries, with an untold amount of smaller support business with industrial training needs. While there is strong sector activity, lacking are the necessary linkages that need to be put in place between management, academia, industry, government and the public at large in a comprehensive approach to achieve a cohesive and responsive approach to the sector. As part of the Project Management Plan, project personnel will interact with NOAA, the EPA, the MS-DEQ and MS-DMR to ascertain what information products, or decision support tools, would be most useful and how these tools can be best utilized to enhance the resource management plans, regulatory plans, and emergency response plans for the Gulf of the future. Understanding and ensuring these tools and efforts are coordinated and not isolated efforts will be critical to the success of the project.

A Requirements Traceability Matrix (RTM) will be established and maintained throughout the design, development, testing, and implementation phase of each spiral. It will be the responsibility for each of the funded proposals to actually process these data to the Project Management Plan direction. All data collected under these funding initiatives have to open and free to the public. These data will be made available to academia, researchers, and the public at large. The RTM will facilitate a continuous development approach, where each unapplied or unprocessed spiral will be re-entered and the project moved through the next iteration. Figure 5 in the following sections provides the logic for this evolving RTM framework.

The project will utilize a functional system development approach, where each unapplied or unprocessed spiral will be re-entered and the project moved through the next iteration. The RTM framework enables the project management team to understand the relationships between the various user requirements and the spiral of the project. This approach will ensure that the system design is scalable to accommodate future requirements and that the system is adaptable to changing requirements.

As part of the Project Management Plan, the project personnel will interact with NOAA, the EPA, the MS-DEQ and MS-DRP to ensure that all information products, or decision support tools, are readily available and can be accessed by the public at large.

Community interviews

Community interviews as part of the Project Management Plan will be conducted for the purpose of determining the community’s information needs and preferences. Project personnel are engaged with various community groups to plan and develop a system that meets the community’s needs. The project will also solicit feedback from community members to determine the effectiveness of the system and identify areas for improvement.

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Within the Tchoutacabouffa River/Tuxachanie Creek Watershed, the Jackson County Utility Authority has begun efforts to remove apple snails under monitoring by the MS Departments of Environmental Quality and Marine Resources. However, limited resources have hampered these efforts. We would like to expand upon these activities by researching and implementing the best methods for removing apple snails, followed by replanting of the wetland vegetation using peer-reviewed methods to maximize habitat and water treatment. Throughout all steps in this project, water quality, percent coverage of vegetation, and snail abundance will be quantified to determine the benefits of restoring the wetland. Apple snail removal is a key component and a potential revenue source for the project. The objective of the project is to restore the functionality and habitat provided by this treatment wetland through eradication of the apple snails and restoring of vegetation. The Jackson County Utility Authority will fund the first phase of this project, providing $3,038,000 in funds. Additional funding may be obtained through state, federal, or private funding sources.

In the marine environment, the extra siltation affects oyster beds and grass beds, thereby taking a toll on the fishery and oyster resource. It was interesting to note that on the tables in the breakout session of the marine resources meeting in Bay St. Louis on Feb. 26 had people around it who fish Bay St. Louis. They complained of their fishing spots getting silted up. At that same meeting oysters were discussed as an important commodity, as well as other species of marine life. The session of the marine resources meeting in Bay St. Louis had people around it who fish Bay St. Louis. They complained of their fishing spots getting silted up. At that same meeting oysters were discussed as an important commodity, as well as other species of marine life.

I would advocate a project, assuming landowner cooperation, to stop head cuts in the affected streams, as well as possibly add grade control structures along the way. Although it’s possible to spend a lot of money trying this, it needs to be done. The project described in the proposal are to restore the functionality and habitat provided by this treatment wetland through eradication of the apple snails and restoring of vegetation. The Jackson County Utility Authority has begun efforts to remove apple snails under monitoring by the MS Departments of Environmental Quality and Marine Resources. However, limited resources have hampered these efforts. We would like to expand upon these activities by researching and implementing the best methods for removing apple snails, followed by replanting of the wetland vegetation using peer-reviewed methods to maximize habitat and water treatment. Throughout all steps in this project, water quality, percent coverage of vegetation, and snail abundance will be quantified to determine the benefits of restoring the wetland. Apple snail removal is a key component and a potential revenue source for the project. The objective of the project is to restore the functionality and habitat provided by this treatment wetland through eradication of the apple snails and restoring of vegetation. The Jackson County Utility Authority will fund the first phase of this project, providing $3,038,000 in funds. Additional funding may be obtained through state, federal, or private funding sources.

This means that each month has a focus related to learning of new topics and encouraging a healthy image. It is important to maintain this project as an ongoing event for the good of the community and Highway 90, and therefore keep its focus on its theme. It is important to maintain this project as an ongoing event for the good of the community and Highway 90, and therefore keep its focus on its theme.

We seek to evaluate overall physical activity, and to identify mothers’ goals for the future health of their children. The HB2B will provide a one day cardio dance camp, instruction on how to implement the cardio into a daily routine, heart healthy lunch, and awards ceremony with certificate of completion. Instructors from the Purple Diamond Dance Team, as seen on TV, will lead the workshop. We seek to evaluate overall physical activity, and to identify mothers’ goals for the future health of their children. The HB2B will provide a one day cardio dance camp, instruction on how to implement the cardio into a daily routine, heart healthy lunch, and awards ceremony with certificate of completion. Instructors from the Purple Diamond Dance Team, as seen on TV, will lead the workshop.

The southeast corner of De Soto National Forest encompasses part of Harrison and Jackson counties in southern Mississippi. This area of the Forest contains the headwaters of the Tchoutacabouffa River and Biloxi Flats. The Biloxi Flats encompasses 2,500 acres of coastal plain savanna in need of restoration. Bayou Billie drains a large portion of the Biloxi Flats into the Tchoutacabouffa River. The Biloxi Flats is a remnant of coastal plain savanna habitat that is now rare in the southeastern United States. The Biloxi Flats is one of the few remaining remnants of the Texas-South Louisiana Coastal Prairie. It is important to maintain this project as an ongoing event for the good of the community and Highway 90, and therefore keep its focus on its theme. It is important to maintain this project as an ongoing event for the good of the community and Highway 90, and therefore keep its focus on its theme.

Within the Tchoutacabouffa River Watershed there is an area now known as Biloxi Flats. Biloxi Flats encompasses 2,500 acres of coastal plain savanna in need of restoration. Bayou Billie drains a large portion of the Biloxi Flats into the Tchoutacabouffa River. The Biloxi Flats is a remnant of coastal plain savanna habitat that is now rare in the southeastern United States. The Biloxi Flats is one of the few remaining remnants of the Texas-South Louisiana Coastal Prairie. It is important to maintain this project as an ongoing event for the good of the community and Highway 90, and therefore keep its focus on its theme. It is important to maintain this project as an ongoing event for the good of the community and Highway 90, and therefore keep its focus on its theme.

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The University of Southern Mississippi’s Gulf Park campus is the state’s only beachfront campus. This campus had a fishing/recreational pier extending out into the Gulf of Mexico for many years. The pier offered academic, research and recreational opportunities for students, faculty, and staff as well as local residents and tourists. Over time and as a result of storms and other harsh events, the pier eventually was overcome by the elements of nature. The purpose of this proposed project is to reconstruct this pier and once again offer the direct Gulf access that had been in place for the above mentioned years.

No additional funding is requested to complete this project. The cost of this project is $1,500,000.00. Any additional funding that may be provided by other agencies will be appreciated. The project is expected to be completed in 12 months.

SMPDD will work with the Mississippi Department of Marine Resources and the University of Southern Mississippi to complete this project. The project will be reviewed by the Planning and Development District and the project will be reviewed by the University’s Engineering and Facilities departments as well. A final report will be submitted to the University’s Board of Trustees on completion of the project.

### Meetings

- 5/1/2016 - Meeting with University of Southern Mississippi to discus the project.
- 5/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.
- 6/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
- 6/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.
- 7/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
- 7/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.
- 8/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
- 8/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.
- 9/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
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- 10/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
- 10/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.
- 11/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
- 11/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.
- 12/1/2016 - Meeting with University of Southern Mississippi to discuss the project.
- 12/10/2016 - Meeting with Mississippi Department of Marine Resources to discuss the project.

### Other Information

- The project will be reviewed by the University’s Planning and Development Committee.
- The project will be reviewed by the University’s Board of Trustees.
- The project will be reviewed by the Mississippi Department of Marine Resources.
- The project will be reviewed by the Planning and Development District.
- The project will be reviewed by the University’s Engineering and Facilities departments.
- A final report will be submitted to the University’s Board of Trustees on completion of the project.

### Contact Information

- University of Southern Mississippi
- Gulf Park Campus
- Box 5001
- Long Beach, MS 39560
- Phone: (228) 865-4111
- Fax: (228) 865-4111
- Email: ugs@usm.edu
- Website: www.usm.edu
An important component in the continued growth and appreciation of our airport facilities is the Gulfport-Biloxi International Airport. The Airport has a collection of sustainable strategies and objectives which it has developed in order to demonstrate a commitment to the building of a sustainable, environmentally conscious airport. These strategies are developed and implemented through the efforts of the Airport’s staff and through the Airport’s community partners and stakeholders. The Airport is committed to the long-term sustainability of its operations and to the development and implementation of sustainable practices in order to achieve its goal of being a leader in the environmental stewardship of our airport facilities.

The proposed project will provide indirect benefits to the natural coastal environment through the provision of public recreation and access to the marine and coastal environment. The provision of the walkways and open space opportunities for the public will create an appreciation of the unique natural and human-made features of the coastal environment. Increased access to the general public will provide increased opportunities for the public to experience the beauty of nature and to enjoy the opportunities for outdoor recreation that are available in the coastal region.

The proposed project also includes coordination with the Mississippi Secretary of State’s Office and Department of Marine Resources to most efficiently restore safe public access to this Tidelands area and to the revitalization of this unique waterfront resource. The project design is being coordinated with the Mississippi Secretary of State’s Office and Department of Marine Resources to most efficiently restore safe public access to this Tidelands area and to the revitalization of this unique waterfront resource.

The City of Biloxi is partnering with the State of Mississippi to restore safe access to the Point Cadet waterfront area south of the Highway 90 Bridge with an ADA-compliant boardwalk to support a broad range of family-friendly activities. The public walkway will connect to the Point Cadet Marina and the Biloxi Small Craft Harbor, allowing for increased public usage in the project area; a portion of the parking area will be restricted in support of educational and research vessel staff and operations. Prior to Hurricane Katrina, this area enjoyed considerable public use for a wide variety of family-oriented activities including fishing tournaments, festivals, concerts, educational programs, observing marine life and shore birds, and just generally appreciating nature. Since 2005, the State fishing pier and shoreline boardwalks have been unavailable for other uses. This design and placement of this structure actually increases the usage of the area by accomplishing the two purposes noted above.

The proposed project will provide the flexibility to assess outcomes and effectively change course to achieve set objectives capable of sustaining effective economic growth. We believe the goal in creating a circular economy is to foster the development of sustainable economic development in targeted impoverished regions. The Coastal cities and Counties sit at the epicenter of the slowest recovery from the effects of natural disasters and economic community disruption. The stance of the Coastal Cities and Counties is that economic recovery will not be restored by simply providing a quick fix through economic development projects. The enhanced public use will result in increased business activity and growth of the charter boat industry and expansion of sports fishing tournaments that will benefit the local and state economy.

The proposed project will provide the opportunity for increased public access to the Point Cadet area south of Highway 90 and to the revitalization of this unique waterfront resource. The project will connect the two finished sections of beach pathway providing for one continuous pedestrian bike pathway from the Bay Bridge to the Silver Slipper Casino. The proposed project is intended to create a pedestrian pathway that will connect the two finished sections of beach pathway providing for one continuous pedestrian bike pathway from the Bay Bridge to the Silver Slipper Casino.

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Benefits of the project will include improved public access to the waterfront, expanded riverfront amenities, and enhanced public enjoyment of the waterfront. The project will provide economic and environmental benefits to the City and the surrounding region.

The project will be located along the Pearl River, which runs through the City of Biloxi and serves as a natural boundary between the City and the surrounding rural areas. The project will focus on the City’s downtown waterfront area, which includes the Pearl River and several public parks and recreational areas.

The project will include the construction of a new, multi-use park on the Pearl River, which will feature a variety of amenities, including a pedestrianpromenade, a riverfront park, and a public marina. The park will also include new parking facilities and improved access to the Riverwalk.

In addition to the park, the project will include the construction of a new marina, which will provide marina slips and public access to the Pearl River. The marina will be located on the City’s downtown waterfront and will feature a variety of amenities, including slips, fueling pumps, and a maintenance area.

The project will also include the construction of new public parking facilities, which will provide additional parking space for visitors to the downtown waterfront area. The project will also include new pedestrian walkways and improved access to the City’s downtown waterfront area.

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The Land Trust for the Mississippi Coastal Plain (LTMCP) is an accredited Land Trust dedicated to the conservation, promotion, and protection of open spaces and green places of ecological, cultural or historical significance. The organization is involved in a variety of projects and initiatives aimed at preserving natural resources and enhancing the community's quality of life.

### Gulf Coast Broadband Initiative

**Project Description:**

The Gulf Coast Broadband Initiative has been created through an interlocal governmental cooperation agreement and is a separate legal and administrative entity with authority to acquire, develop, and operate the high-speed Internet infrastructure and services.

**Project Benefits:**
- Increased access to the Mississippi Sound for West Biloxi boaters and fishermen.
- Expanded economic opportunities for area restaurants and retail businesses.
- Improved access to federal, state, and local government services.
- Enhanced tourism and real estate development.
- Improved quality of life for all those living or doing business in this region.

### Mississippi Blue Crab Aquaculture Consortium

**Project Description:**

The Consortium is focused on establishing blue crab aquaculture in Mississippi, specifically the culture of small crabs with great economic potential. The project will involve setting up a research facility and developing a business plan for the production of blue crabs.

**Project Benefits:**
- Increased access to the Mississippi Sound for West Biloxi boaters and fishermen.
- Expanded economic opportunities for area restaurants and retail businesses.
- Improved quality of life for all those living or doing business in this region.

### West Biloxi Festival Boardwalk and Boat Ramp

**Project Description:**

The boardwalk will border the edge of the sand beach along the seawall, south of existing commercial development. It will provide a pedestrian venue to facilitate access to the beach and it will be a scenic destination in itself that will draw people to the area and increase business.

**Project Benefits:**
- Increased access to the Mississippi Sound for West Biloxi boaters and fishermen.
- Expanded economic opportunities for area restaurants and retail businesses.
- Improved quality of life for all those living or doing business in this region.

### Mississippi Coastal Dash Team

**Project Description:**

The Mississippi Coastal Dash Team includes initiatives focused on enhancing the region's tourism, education, and economic development. The team works to attract visitors to the area, support local businesses, and promote the region's unique attractions.

**Project Benefits:**
- Increased access to the Mississippi Sound for West Biloxi boaters and fishermen.
- Expanded economic opportunities for area restaurants and retail businesses.
- Improved quality of life for all those living or doing business in this region.

### Mississippi Gulf Coast Blue Crab Fisheries

**Project Description:**

The project is designed to develop new fisheries in inland water bodies. Inland farmers with ponds will be afforded the opportunity to culture new species. Workforce development and training will occur through outreach activities and technology transfer.

**Project Benefits:**
- Increased access to the Mississippi Sound for West Biloxi boaters and fishermen.
- Expanded economic opportunities for area restaurants and retail businesses.
- Improved quality of life for all those living or doing business in this region.

### Mississippi Gulf Coast Broadband Project

**Project Description:**

The Fiber Ring will be implemented and administered by the GCBI, thereby providing to all area residents and businesses an affordable, ubiquitous and competitive high-speed Internet service at a reasonable monthly cost.

**Project Benefits:**
- Increased access to the Mississippi Sound for West Biloxi boaters and fishermen.
- Expanded economic opportunities for area restaurants and retail businesses.
- Improved quality of life for all those living or doing business in this region.
As part of the Gulf Islands National Seashore all available acres on Horn Island needs to be purchased to preserve the natural importance of untouched sand, dunes dotted with sea oats, tall pines on

Bay St. Louis Natatorium

Bay St. Louis proposes to construct/extend the Rutherford Fishing Pier which is located at the Municipal Harbor. The existing pier is approximately 1,200 LF in length and is well known in Hancock

NDORI will serve as a catalyst for economic growth, community stability and community resilience by providing or supporting a diverse offering of educational opportunity for residents of the state at

NDORI and the additional medical services would significantly benefit 2.3 million people who live within the 17 counties of the South Mississippi Delta region, which includes nearly 1 million people

NDORI will serve as a catalyst for economic growth, community stability and community resilience by providing or supporting a diverse offering of educational opportunity for residents of the state and

The proposed project will fund a perpetual GoCoast Trust Fund that will provide: (1) debt and equity financing of qualified private and public projects that will repay loans with interest and yield a

The result is weak worker productivity, high poverty rates and low labor participation. NDORI and the additional medical services would significantly benefit Mississippi due to its high prevalence of diabetes,

The National Diabetes and Obesity Research Center (NDORI) is a non-profit organization created by the Mississippi State University of the Health Sciences Center (MSU) in 2013. NDORI aims to create a

The result is weak worker productivity, high poverty rates and low labor participation. NDORI and the additional medical services would significantly benefit Mississippi due to its high prevalence of diabetes,

In order to foster and promote economic growth, development of human resources and advancement of Mississippi society, the Board of Trustees of the Mississippi Gulf Coast Community College have

NDORI and the additional medical services would significantly benefit Mississippi due to its high prevalence of diabetes, the cost to the state at $3.5 billion annually is enormous. The result is weak worker productivity, high poverty rates and low labor participation. NDORI and the additional medical services would significantly benefit Mississippi due to its high prevalence of diabetes,

On December 24, 2015, the National Diabetes and Obesity Research Center and Tradition-Medical City submitted Project #5460 to the RESTORE Project Portal. The information below is an update to

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The sound and the Gulf host innumerable species of sea life. The island is undeveloped, and is a favorite

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Portions of the environmental infrastructure of our two hospitals are in excess of 40 years old and are failing. Other environmental utilities such as water utilization, electrical switch gear, and lighting include systems that are not well-maintained, and have been found to be in need of replacement.

SRHS is proposing to replace failing components such as the SRH cooling tower and electrical switch gear, as well as the inefficient lighting, components of the OSH chiller, OSH boiler plant, and several other electrical systems. The project will help improve energy efficiency and lower costs for the hospital.

The project will also allow the acquisition of new equipment that will significantly reduce energy use. For example, air handler units at OSH, with modern counterparts that will save SRHS approximately $400,000 a year in operating expense. The cost of the project is estimated at $7,800,000.00, with an ROI of less than 4 years.

The project will also include the acquisition of new equipment that will significantly reduce energy use. For example, air handler units at OSH, with modern counterparts that will save SRHS approximately $400,000 a year in operating expense. The cost of the project is estimated at $7,800,000.00, with an ROI of less than 4 years.

The Conservation Fund has initiated due diligence with financial assistance from the Knobloch Family Foundation, is in discussions with the landowner regarding acquisition of these tracts, and will develop a plan to purchase between 300 and 500 acres of land. The project request is for acquisition and permanent conservation of adjacent lands, from willing owners. Those lands will be made accessible for public access to the waterway, and will support tourism, recreation, and real estate development.

This project can also work with previously approved RESTORE project to ensure that urban forestry is included in site development. The sites that we work with will be identified by either the city, the approved project or a local group, and will include a mix of urban and rural properties.

This project will be a part of a larger campaign that includes the development of a new facility for research and education in the facility, and giving access to the public in a manner that is consistent with the mission of the project. The facility will be research and education focused and having core components to include both research and tourism opportunities.

Oyster Restoration through Aquaculture - Aqua Green

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This project will be a part of a larger campaign that includes the development of a new facility for research and education in the facility, and giving access to the public in a manner that is consistent with the mission of the project. The facility will be research and education focused and having core components to include both research and tourism opportunities.

The purpose of this project is to collect and analyze flow data, including data from 5 bridges on the lower Pearl River to determine the flow distribution between the channels. The computed discharge data will be filtered using a tidal filter to correct for the effects of the tides on the flow measurements.

The project will collect flow measurements at 5 bridges on the lower Pearl River to determine the flow distribution between the channels. The computed discharge data will be filtered using a tidal filter to correct for the effects of the tides on the flow measurements.
A summary of the project goals as described in the proposal:

The goal of the project is to continue developing a Fishery Improvement Project (FIP) for the Mississippi shrimp fishery to elevate the fishery's profile following a tarnished reputation from the Deepwater Horizon Oil Spill. The proposal seeks to:

1. Assessment - Sustainability pre-assessments to internationally accepted standards are the basis for FIPs. Some retailers specifically require a Marine Stewardship Council (MSC) assessment. This proposal seeks to continue developing a FIP for the Mississippi shrimp fishery to elevate the fishery's profile following a tarnished reputation from the Deepwater Horizon Oil Spill. The project will fund a Gear Inspector to conduct courtesy checks, ensuring TEDs and BRDs are properly installed, reducing the rate of sea turtle capture and the likelihood that fishermen carry non-compliant gear.

2. Industry Outreach: Inshore fleet – Skimmer trawls are currently exempt from federal TED requirements if they adhere to tow time limits (50 CFR 223.206(d)(3)). NOAA is drafting an Environmental Review Document (ERD) for the new TED regulations in state waters. The project will fund the development of a ERD for state waters to provide additional guidance to skimmer trawlers.

3. Comments - The project will fund a series of webinars and meetings to provide opportunities for interested stakeholders to provide comments on the TED regulations. The project will provide resources and assistance to enable fishermen to provide meaningful comments during the rulemaking process. BRDs are not required in state waters. G.U.L.F. will continue to educate harvesters on benefits of BRDs and encourage voluntary use to further minimize sea turtle bycatch.

The project will have the following expected outcomes:

1. Improved sustainability practices within the Mississippi shrimp fishery.
2. Strengthened relationships between stakeholders.
3. Increased awareness of the importance of sustainability within the seafood industry.

The project will achieve these outcomes through the following activities:

1. Development of a FIP for the Mississippi shrimp fishery.
2. Outreach and education to fishermen and industry stakeholders.
3. Public engagement through webinars and meetings.

The project will be evaluated using the following metrics:

1. Increase in the number of fishermen implementing sustainable practices.
2. Increased awareness of the importance of sustainability within the seafood industry.
3. Positive changes in industry behavior that align with sustainability goals.

The project will be sustained through a combination of government funding and partnerships with industry stakeholders.
The Land Between the Creeks (LBTC) is a multi-property land acquisition opportunity in partnership with The Trust for Public Lands to permanently protect a critically important 2,320 acre site along designated Scenic Stewardship Streams Red and Black Creeks, designated Scenic Stewardship Stream and designated national blueway. Since 1974, government, landowners and NGO partners have collaborated to protect an 85-mile forested corridor of 72,000 acres of conservation lands along the river. If funded, this project will add 2,320 acres of well-managed working forests bordering state-designated Scenic Stewardship Streams Red and Black Creeks.

Once acquired, the LBTC properties would be owned by the State of Mississippi and managed as part of the Pascagoula River Wildlife Management Area. LBTC properties share approximately 7 miles of diverse habitats benefit a number of important game and non-game species of concern.

The LBTC properties feature gently sloping, fire-managed pine uplands (including longleaf), pitcher plant flats, a 115 acre perennially flooded Cypress/Tupelo lake which boasts a multi-species rookery, acres of conservation lands along the river. If funded, this project will add 2,320 acres of well-managed working forests bordering state-designated Scenic Stewardship Streams Red and Black Creeks.
Introduction

The Small Business Capital Fund of MS, Inc. (SBCF), a 501c3 US Department of the Treasury Community Development Financial Institution (CDFI) that specializes in finance programs and technical support, is dedicated to assisting small businesses and organizations with economic development. SBCF’s main goal is to create a thriving economic environment where businesses can flourish. With a focus on infrastructure development, SBCF offers grants, loans, and technical support to help small businesses achieve their goals.

SBCF has a unique approach to economic development. It focuses on infrastructure development, which can have a significant impact on the local economy. Infrastructure development can create new jobs, increase property values, and attract new businesses to the area. Additionally, SBCF provides technical support to help small businesses and organizations navigate the complexities of infrastructure development.

SBCF’s focus on infrastructure development is particularly relevant in the current economic climate. With the COVID-19 pandemic, many businesses have struggled to stay afloat. Infrastructure development can provide a much-needed boost to the economy by creating new jobs and stimulating growth.

SBCF’s focus on infrastructure development is also aligned with the goals of the Small Business Act, which aims to support small businesses and promote economic development. SBCF’s approach to infrastructure development is innovative and effective, and it has the potential to make a significant contribution to the local economy.

SBCF’s mission is to create a thriving economic environment where businesses can flourish. With a focus on infrastructure development, SBCF offers grants, loans, and technical support to help small businesses achieve their goals.
The Mississippi Gulf Coast region has an opportunity for an economic development project combining nature and wildlife education with family entertainment. The proposed project location is in the Pascagoula River. This scenic water trail will bring sustainable rural development to communities along the river in Jackson County. The Pascagoula River is the largest by volume unimpeded river in the contiguous 48 states. This project will develop ecotourism opportunities by establishing and developing a scenic water trail along the Pascagoula River. The objective of this project is to provide the general public with new opportunities to enjoy nature and wildlife while promoting economic development in the region.

The Audubon Nature Institute has a successful track record and currently owns and/or operates several educational and family facilities. Partnering with the Institute provides an opportunity to develop Buccaneer State Park into a major ecotourism destination. A park of this magnitude will generate jobs and income for the Mississippi Gulf Coast communities. The park can enhance the economic development opportunities in the region while promoting conservation and education.

To move forward with exploring this opportunity, the Audubon Nature Institute must first perform a feasibility study. This study, which would have stakeholder and public participation, would include the following:

- Development of a master plan for the park
- Financial and economic feasibility analysis
- Environmental impact assessment
- Community outreach and engagement

The proposed project is expected to generate significant economic benefits for the region, including:

- Increased tourism
- Creation of new jobs
- Additional income for local businesses
- Promotion of conservation and education

The feasibility study will be conducted in collaboration with local stakeholders, including community groups, businesses, and government entities. The study will be completed within 12 months from the date of contract execution.

Project Costs:

- Feasibility Study: $200,000
- Construction: $10,000,000
- Total: $10,200,000

The Audubon Nature Institute will finance the project through grants, state and federal funds, and private donations. The project is expected to be completed within 5 years from the date of contract execution.
Restoration in Place Strategy for the Deep-Gulf of Mexico Marine Mammal Restoration in the Gulf of Mexico

NOAA Project ID#13059: The Deepwater Horizon (DWH) incident in the northern Gulf of Mexico (GOM) occurred on April 20, 2010 at a water depth of 1525 meters, in Mississippi Canyon Block 252, releasing an estimated 3.19 million barrels of oil over the following 87 days. As part of the Natural Resource Damage Assessment (NRDA) process, a study comprising three field surveys (2010, 2011, and 2012) was conducted in the Gulf of Mexico. The objective of the study was to assess specific impacts resulting from the DWH oil spill, including the potential effects of deep-sea oil spills on the ecosystem. The study focused on the following key areas:

1. **Ecological Impact Assessment:**
   - A collaborative approach with NRDA and the BP oil spill settlement was designed to assess the ecological impacts of the DWH oil spill, including the effects on marine mammals in the Gulf of Mexico.
   - The study involved the use of archival samples of opportunity collected between 2015 and 2017 during Gulf of Mexico Research Initiative (GOMRI) projects.

2. **Temporal Dynamics Experiment:**
   - Quarterly sampling is necessary to identify if seasonality exists, and a two-year cycle is required to confirm that the patterns are repeatable. Three stations in the heavily impacted zone and three stations in the moderately impacted zone are required. The temporal dynamics experiment would entail quarterly sampling over two years at six stations.

3. **Habitat Modeling:**
   - A third component of the strategy is to analyze archived samples of opportunity collected in 2015, 2016, and 2017 during Gulf of Mexico Research Initiative (GOMRI) projects. The purpose of this analysis is to identify temporal dynamics and to assess the effectiveness of restoration strategies. Date Entered: May 10, 2017

**NOAA Project ID#13034:** An array of five passive acoustic monitoring recorders has been deployed continuously since 2010 in the Gulf of Mexico, in response to the Deepwater Horizon oil spill. These recorders are designed to monitor marine mammal sounds and to provide information on the distribution and abundance of these species in the Gulf of Mexico. The data collected by these recorders will be used to construct acoustic tracking arrays at selected monitoring sites. These data will provide the supplementary information (detection distance, call production rates) needed to expand the range of study species in the Gulf of Mexico. As a component of the overall project, we propose to collect data on animal diving and vocal behavior using suction-cup-attached acoustic recording tags, in addition to developing acoustic tracking arrays and conducting habitat modeling and detailed models of soundscape including both broadband and directional information. Density estimation using passive acoustic data requires supplementary information on animal sound production rates (cue rate), source levels, and behavior. We have been working to develop density estimation for deep-diving species, including dolphins, and we will be implementing this approach in the Gulf of Mexico. In addition, we propose to develop an information system for monitoring and assessing the potential for interaction with marine wildlife. We are using the CMTTP (Cooperative Marine Turtle Tagging Program) to collect data on sea turtles in the Gulf of Mexico. We have been working to develop density estimation for deep-diving species, including dolphins, and we will be implementing this approach in the Gulf of Mexico. In addition, we propose to develop an information system for monitoring and assessing the potential for interaction with marine wildlife.

**NOAA Project ID#13010:** Detailed scientific data are lacking for many species of offshore marine mammals in the Gulf of Mexico, so restoration activities will require an incremental approach including the following three phases with particular emphasis on threat assessment and identification of the most critical migratory pathways for protection for their habitats. (Brenner, J., C. Voight, and D. Mehlman, 2016). We believe that this research revealed the great importance of species migration to the Gulf ecosystem and will be used to inform the development of future restoration activities.

**NOAA Project ID#13000:** The project seeks to examine the effect of the BP oil spill on marine mammals in the Gulf of Mexico. The project will use a multi-disciplinary approach, combining field surveys and archival data analysis, to assess the impact of the oil spill on marine mammal populations. The study will be conducted at selected monitoring sites where archival data are available. The data collected will be used to construct acoustic tracking arrays at selected monitoring sites. These data will provide the supplementary information (detection distance, call production rates) needed to expand the range of study species in the Gulf of Mexico. As a component of the overall project, we propose to collect data on animal diving and vocal behavior using suction-cup-attached acoustic recording tags, in addition to developing acoustic tracking arrays and conducting habitat modeling and detailed models of soundscape including both broadband and directional information. Density estimation using passive acoustic data requires supplementary information on animal sound production rates (cue rate), source levels, and behavior. We have been working to develop density estimation for deep-diving species, including dolphins, and we will be implementing this approach in the Gulf of Mexico. In addition, we propose to develop an information system for monitoring and assessing the potential for interaction with marine wildlife.

**NOAA Project ID#13005:** The project seeks to examine the effect of the BP oil spill on marine mammals in the Gulf of Mexico. The project will use a multi-disciplinary approach, combining field surveys and archival data analysis, to assess the impact of the oil spill on marine mammal populations. The study will be conducted at selected monitoring sites where archival data are available. The data collected will be used to construct acoustic tracking arrays at selected monitoring sites. These data will provide the supplementary information (detection distance, call production rates) needed to expand the range of study species in the Gulf of Mexico. As a component of the overall project, we propose to collect data on animal diving and vocal behavior using suction-cup-attached acoustic recording tags, in addition to developing acoustic tracking arrays and conducting habitat modeling and detailed models of soundscape including both broadband and directional information. Density estimation using passive acoustic data requires supplementary information on animal sound production rates (cue rate), source levels, and behavior. We have been working to develop density estimation for deep-diving species, including dolphins, and we will be implementing this approach in the Gulf of Mexico. In addition, we propose to develop an information system for monitoring and assessing the potential for interaction with marine wildlife.

**NOAA Project ID#13009:** The project seeks to examine the effect of the BP oil spill on marine mammals in the Gulf of Mexico. The project will use a multi-disciplinary approach, combining field surveys and archival data analysis, to assess the impact of the oil spill on marine mammal populations. The study will be conducted at selected monitoring sites where archival data are available. The data collected will be used to construct acoustic tracking arrays at selected monitoring sites. These data will provide the supplementary information (detection distance, call production rates) needed to expand the range of study species in the Gulf of Mexico. As a component of the overall project, we propose to collect data on animal diving and vocal behavior using suction-cup-attached acoustic recording tags, in addition to developing acoustic tracking arrays and conducting habitat modeling and detailed models of soundscape including both broadband and directional information. Density estimation using passive acoustic data requires supplementary information on animal sound production rates (cue rate), source levels, and behavior. We have been working to develop density estimation for deep-diving species, including dolphins, and we will be implementing this approach in the Gulf of Mexico. In addition, we propose to develop an information system for monitoring and assessing the potential for interaction with marine wildlife.

**NOAA Project ID#13008:** The project seeks to examine the effect of the BP oil spill on marine mammals in the Gulf of Mexico. The project will use a multi-disciplinary approach, combining field surveys and archival data analysis, to assess the impact of the oil spill on marine mammal populations. The study will be conducted at selected monitoring sites where archival data are available. The data collected will be used to construct acoustic tracking arrays at selected monitoring sites. These data will provide the supplementary information (detection distance, call production rates) needed to expand the range of study species in the Gulf of Mexico. As a component of the overall project, we propose to collect data on animal diving and vocal behavior using suction-cup-attached acoustic recording tags, in addition to developing acoustic tracking arrays and conducting habitat modeling and detailed models of soundscape including both broadband and directional information. Density estimation using passive acoustic data requires supplementary information on animal sound production rates (cue rate), source levels, and behavior. We have been working to develop density estimation for deep-diving species, including dolphins, and we will be implementing this approach in the Gulf of Mexico. In addition, we propose to develop an information system for monitoring and assessing the potential for interaction with marine wildlife.

**Date Edited:** May 4, 2017

**Date Edited:** May 2, 2017

**Date Edited:** May 1, 2017

**Date Edited:** May 4, 2017
Monitoring Bryde's whales in near real time

Long term acoustic monitoring of colonial waterbirds and shorebirds is a strategy that has been proposed to provide near real-time information on the status and distribution of these species. The use of acoustic data to understand the behavior of marine mammals has increased in recent years, with applications ranging from conservation to resource management. This project aims to demonstrate and evaluate near real-time detection of Bryde's whales from mobile gliders, wave gliders, and moored buoys (Baumgartner and Mussoline 2011, Baumgartner et al. 2013, Baumgartner et al. 2014). Since 2012, this technology has been used extensively on the U.S. and Gulf of Mexico coasts to detect and monitor the presence of marine mammals, including baleen whales and toothed whales.

The proposed project would utilize this technology to monitor the distribution and abundance of Bryde's whales in the Gulf of Mexico. The project would involve the deployment of mobile gliders in near real-time to detect and track Bryde's whales. The gliders would be equipped with acoustic sensors to detect the presence of whales from a distance. The gliders would be deployed in areas known to have high concentrations of Bryde's whales, such as the Gulf of Mexico.

The data collected from the gliders would be transmitted in near real-time to a remote monitoring station for analysis. This real-time data would allow researchers to quickly respond to changes in the whale population and adjust monitoring strategies as needed. The data would also be made available to other researchers and stakeholders for further analysis.

The project would focus on improving the accuracy and reliability of near real-time whale detection. The use of mobile gliders would allow for the collection of high-quality data in near real-time, providing a valuable tool for monitoring whale populations and assessing the effectiveness of conservation efforts. The project would also focus on improving the accuracy and reliability of near real-time whale detection. The use of mobile gliders would allow for the collection of high-quality data in near real-time, providing a valuable tool for monitoring whale populations and assessing the effectiveness of conservation efforts.

The project would be funded by a grant from the National Oceanographic and Atmospheric Administration (NOAA) under Project ID# 13225. The grant would provide funds for the deployment of mobile gliders and the analysis of the data collected. The project would be led by Dr. Michael Baumgartner of the Woods Hole Oceanographic Institution (WHOI).

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<table>
<thead>
<tr>
<th>Year</th>
<th>State</th>
<th>Project Title</th>
<th>Project Description</th>
<th>Funding</th>
<th>Project Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Florida</td>
<td>Red Snapper Stock Assessment and Fishery Management</td>
<td>An assessment of the red snapper stock in the Gulf of Mexico is conducted to improve management and resource allocation.</td>
<td>$501,000</td>
<td>1 year</td>
</tr>
<tr>
<td>2010</td>
<td>Louisiana</td>
<td>Improved Assessment of Red Snapper Stock</td>
<td>An improved assessment of the red snapper stock is conducted to better understand its population dynamics and ecological interactions.</td>
<td>$501,000</td>
<td>1 year</td>
</tr>
<tr>
<td>2011</td>
<td>Texas</td>
<td>Red Snapper Habitat Assessment</td>
<td>An assessment of red snapper habitat in the Gulf of Mexico is conducted to identify key habitats and evaluate the impact of anthropogenic activities.</td>
<td>$501,000</td>
<td>1 year</td>
</tr>
<tr>
<td>2012</td>
<td>Mississippi</td>
<td>Red Snapper Fishery Management</td>
<td>A study of the red snapper fishery in the Gulf of Mexico is conducted to improve management and resource allocation.</td>
<td>$501,000</td>
<td>1 year</td>
</tr>
</tbody>
</table>

**Table Notes:**
- All projects are funded by the National Marine Fisheries Service.
- The funding amounts are in USD.
Reducing Bycatch of Marine Mammals in the Gulf of Mexico

Project Title: Impact of Gulf of Mexico bycatch on marine mammal populations: baseline, trends, and mitigation

Bycatch in the Gulf of Mexico is a major threat to marine mammal populations. Bycatch occurs through gill nets, traps, and longlines used in commercial fisheries. This project will investigate the impact of bycatch on marine mammal populations, focusing on the Gulf of Mexico, and suggest potential mitigation measures.

Objectives:
1. Conduct a comprehensive review of existing literature on bycatch in the Gulf of Mexico.
2. Develop a database of bycatch records from the Gulf of Mexico.
3. Analyze trends in bycatch rates and identify factors contributing to bycatch.
4. Investigate potential mitigation measures, including updated gear regulations and improved monitoring.

Expected outcomes:
- Improved understanding of bycatch in the Gulf of Mexico.
- Development of effective mitigation strategies.
- Increased conservation of marine mammal populations in the Gulf of Mexico.

Funding: $10,000,000

NOAA Project ID#13188: Western population segment Gulf Sturgeon (GS; natal to the Pearl and Pascagoula rivers) appear to be recovering at a slower rate than those in the east. Of all GS populations, the Pascagoula River population is estimated to be the smallest (about 220 adults). The U.S. Fish and Wildlife Service often uses the 3-R framework (representation, resiliency, and redundancy) of species range. The Pascagoula River population is in need of a balanced approach to identity and protect habitat for GS as necessary to ensure the species’ survival.

Objectives:
1. Conduct a comprehensive review of existing literature on GS habitat and bycatch in the Pascagoula River.
2. Develop a database of bycatch records from the Pascagoula River.
3. Analyze trends in bycatch rates and identify factors contributing to bycatch.
4. Investigate potential mitigation measures, including updated gear regulations and improved monitoring.

Expected outcomes:
- Improved understanding of bycatch in the Pascagoula River.
- Development of effective mitigation strategies.
- Increased conservation of the Pascagoula River GS population.

Funding: $2,585,000

NOAA Project ID#14233: The objectives of this project are to address habitat-specific occupancy patterns for GS and other coastal fishery byproducts (Red Drum, Menhaden) within Mississippi sound. In addition to this research project, a monitoring network of monitoring sites within the Pascagoula River was established. The network will be used to monitor the recovery rates and occupancy patterns of GS in the Pascagoula River system. The network will also be used to monitor the effects of bycatch on GS population size and occupancy patterns.

Objectives:
1. Develop a standardized monitoring protocol for GS in the Pascagoula River.
2. Conduct a bridging study on the occupancy patterns of GS in the Pascagoula River.
3. Conduct a study on the occupancy patterns of GS in other coastal fishery byproducts in the Mississippi Sound.

Expected outcomes:
- Improved understanding of GS habitat-specific occupancy patterns.
- Development of effective monitoring protocols.
- Increased conservation of the Pascagoula River GS population.

Funding: $1,100,000

NOAA Project ID#13285: The objective of this project is to assess the impact of habitat-specific occupancy patterns for GS and other coastal fishery byproducts (Red Drum, Menhaden) within Mississippi sound. In addition to this research project, a monitoring network of monitoring sites within the Pascagoula River was established. The network will be used to monitor the recovery rates and occupancy patterns of GS in the Pascagoula River system. The network will also be used to monitor the effects of bycatch on GS population size and occupancy patterns.

Objectives:
1. Conduct a standardized monitoring protocol for GS in the Pascagoula River.
2. Conduct a bridging study on the occupancy patterns of GS in the Pascagoula River.
3. Conduct a study on the occupancy patterns of GS in other coastal fishery byproducts in the Mississippi Sound.

Expected outcomes:
- Improved understanding of GS habitat-specific occupancy patterns.
- Development of effective monitoring protocols.
- Increased conservation of the Pascagoula River GS population.

Funding: $10,000,000

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2. Conduct a bridging study on the occupancy patterns of GS in the Pascagoula River.
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Expected outcomes:
- Improved understanding of GS habitat-specific occupancy patterns.
- Development of effective monitoring protocols.
- Increased conservation of the Pascagoula River GS population.
NOAA Project ID#13339: The 2010 Deepwater Horizon (DWH) oil spill in the Gulf of Mexico (GOM) is one of the largest industrial accidents ever to occur in US waters. Extensive decontamination efforts have been undertaken in an attempt to mitigate the impacts and return the coastal environment to a natural state. This project will focus on habitat enhancement efforts that aim to increase the biodiversity of the recipient marine environment and provide a critical link in the recovery of the affected area. The innovative artificial reef technology employed in this project will be designed to provide a robust habitat for a wide array of marine species, including fish, invertebrates, and birds. The project will be directly coupled with quantification of the effects of reef spacing on a number of critical metrics including fish, invertebrate, and bird abundance. Findings can help improve restoration outcomes in numerous ways. For example, this information can help reduce failure rates of expensive SAV restoration projects by identifying optimal reef spacing and arrangement. This project builds on and complements existing monitoring programs in the region by utilizing standardized approaches and protocols. The project will be conducted in a phased manner with initial efforts focused on mapping and sediment characterization. Subsequent efforts will focus on artificial reef development and monitoring. The project will be evaluated using a combination of field and laboratory studies to examine spatial and temporal patterns in population level metrics such as age, sex, size, condition, growth, abundance, biomass, production, diet, and movement of several important reef fish species (e.g., roughtongue bass, Pronotogrammus martinicensis, and tattler, Serranus phoebe). We propose an integrated program that includes discrete-depth sampling and water column fish and invertebrates, mesophotic and deep reef surveys. The rationale for the project stems from the recent discovery that over half of all fish species in the GOM have historically had non-trophic interactions with these deep-water habitats. The project will make a unique contribution to understanding the role of these deep habitats in supporting diverse and abundant marine life. The project will be conducted in a phased manner with initial efforts focused on mapping and sediment characterization. Subsequent efforts will focus on artificial reef development and monitoring. The project will be evaluated using a combination of field and laboratory studies to examine spatial and temporal patterns in population level metrics such as age, sex, size, condition, growth, abundance, biomass, production, diet, and movement of several important reef fish species (e.g., roughtongue bass, Pronotogrammus martinicensis, and tattler, Serranus phoebe). We propose an integrated program that includes discrete-depth sampling and water column fish and invertebrates, mesophotic and deep reef surveys. The rationale for the project stems from the recent discovery that over half of all fish species in the GOM have historically had non-trophic interactions with these deep-water habitats.

NOAA Project ID#13363: The Deepwater Horizon Oil Spill (DWHOS) highlighted the lack of baseline data for deep-ocean ecosystems in the Gulf of Mexico (GoM). Of the GoM open ocean habitats, the mesophotic reef habitat is of particular interest due to its potential as a nursery, spawning, and feeding grounds for many commercially important fish species. The deep-water reef habitat is also of critical importance for the maintenance of biodiversity and ecosystem health. This project will focus on habitat enhancement efforts that aim to increase the biodiversity of the recipient marine environment and provide a critical link in the recovery of the affected area. The innovative artificial reef technology employed in this project will be designed to provide a robust habitat for a wide array of marine species, including fish, invertebrates, and birds. The project will be directly coupled with quantification of the effects of reef spacing on a number of critical metrics including fish, invertebrate, and bird abundance. Findings can help improve restoration outcomes in numerous ways. For example, this information can help reduce failure rates of expensive SAV restoration projects by identifying optimal reef spacing and arrangement. This project builds on and complements existing monitoring programs in the region by utilizing standardized approaches and protocols. The project will be conducted in a phased manner with initial efforts focused on mapping and sediment characterization. Subsequent efforts will focus on artificial reef development and monitoring. The project will be evaluated using a combination of field and laboratory studies to examine spatial and temporal patterns in population level metrics such as age, sex, size, condition, growth, abundance, biomass, production, diet, and movement of several important reef fish species (e.g., roughtongue bass, Pronotogrammus martinicensis, and tattler, Serranus phoebe). We propose an integrated program that includes discrete-depth sampling and water column fish and invertebrates, mesophotic and deep reef surveys. The rationale for the project stems from the recent discovery that over half of all fish species in the GOM have historically had non-trophic interactions with these deep-water habitats. The project will make a unique contribution to understanding the role of these deep habitats in supporting diverse and abundant marine life.

NOAA Project ID#13364: The 2010 Deepwater Horizon Oil Spill (DWHOS) highlighted the lack of baseline data for deep-ocean ecosystems in the Gulf of Mexico (GoM). Of the GoM open ocean habitats, the mesophotic reef habitat is of particular interest due to its potential as a nursery, spawning, and feeding grounds for many commercially important fish species. The deep-water reef habitat is also of critical importance for the maintenance of biodiversity and ecosystem health. This project will focus on habitat enhancement efforts that aim to increase the biodiversity of the recipient marine environment and provide a critical link in the recovery of the affected area. The innovative artificial reef technology employed in this project will be designed to provide a robust habitat for a wide array of marine species, including fish, invertebrates, and birds. The project will be directly coupled with quantification of the effects of reef spacing on a number of critical metrics including fish, invertebrate, and bird abundance. Findings can help improve restoration outcomes in numerous ways. For example, this information can help reduce failure rates of expensive SAV restoration projects by identifying optimal reef spacing and arrangement. This project builds on and complements existing monitoring programs in the region by utilizing standardized approaches and protocols. The project will be conducted in a phased manner with initial efforts focused on mapping and sediment characterization. Subsequent efforts will focus on artificial reef development and monitoring. The project will be evaluated using a combination of field and laboratory studies to examine spatial and temporal patterns in population level metrics such as age, sex, size, condition, growth, abundance, biomass, production, diet, and movement of several important reef fish species (e.g., roughtongue bass, Pronotogrammus martinicensis, and tattler, Serranus phoebe). We propose an integrated program that includes discrete-depth sampling and water column fish and invertebrates, mesophotic and deep reef surveys. The rationale for the project stems from the recent discovery that over half of all fish species in the GOM have historically had non-trophic interactions with these deep-water habitats. The project will make a unique contribution to understanding the role of these deep habitats in supporting diverse and abundant marine life.

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NOAA Project ID#13140: >>Overview: The goal of this project is to offset Mississippi's ongoing 200-acre/yr. coastal habitat losses. The objective is to extend current assets of Deer Island eastward to provide passive shoreline protection, increase beach nourishment potential, and protect and benefit key habitats and species. The project was initially funded in 2011. A key component of the project is to ascertain if the existing sand borrow area can be extended to allow for increased sand nourishment capacity.

During and after the survey period, we noticed an increase in reported incidental captures, which could possibly be attributed to our outreach efforts. Success could be evaluated by the number of sea turtles released back into the wild and the number of samples collected for genetic and chemical analysis.

Background: Sea turtle incidental capture by recreational anglers is on the rise nationwide (STSSN). Since 2010, 1,094 sea turtles, primarily juvenile Kemp's ridleys, were recorded in the Gulf of Mexico. This increase may be attributed to improved reporting, better identification of sea turtles, and increased monitoring efforts. The project aims to provide valuable information on sea turtle interactions with the Gulf of Mexico fisheries and ecosystem restoration in the region.

NOAA Project ID#13466  This restoration project focuses on reducing bycatch of sea turtles in pier-based recreational fisheries. We propose to implement multi-year angler surveys on fishing piers in key regions of the Gulf of Mexico. The surveys will provide critical information on sea turtle catch rates, gear type, outcome) on every sea turtle incidental capture for comparison between angler practices and turtle interactions. Preliminary results yielded a high willingness to participate and valuable information on sea turtle interactions with the Gulf of Mexico fisheries and ecosystem restoration in the region.

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NOAA Project ID#13257: Conventional single-species stock assessments determine if a fish stock is experiencing excessive fishing mortality (known as overfishing), if the stock has been reduced to low abundance, and if there are issues that are preventing recovery of the stock. These assessments are based on a range of indicators, including population size, abundance, and trends.

Resource managers (e.g., NOAA, FWC, and State agencies) use stock assessments to determine the health of a fish stock and to manage it accordingly. However, these assessments are limited by the data available, which can be incomplete or inaccurate. This can result in suboptimal management decisions, as managers may not have access to all the information needed to make informed decisions.

The project aims to develop a new approach to resource management (SDM) that will allow for improved understanding of the social and economic factors that influence resource management decisions. SDM (note that ARM is a special case of SDM for dynamic decisions, with scientific uncertainty) includes at least five components: management objectives, assessment methods, management actions, monitoring, and evaluation. These components will be used to improve the accuracy and effectiveness of resource management decisions.

SDM aims to identify key uncertainties that influence resource management decisions and to develop strategies to reduce these uncertainties. This can be achieved by improving data collection, using modeling techniques, and incorporating stakeholder input. The ultimate goal is to develop a decision-making framework that can be used to optimize resource management decisions.

The project will use a combination of data collection, modeling, and stakeholder engagement to improve the accuracy and effectiveness of resource management decisions. The project will also develop a decision-making framework that can be used to optimize resource management decisions.

Finally, by describing vertical and horizontal patterns in the trophic structure of deep pelagic ichthyoplankton, this project will provide baseline trophic data that will provide insights into trophic interactions and inform the development of trophic management strategies. This could in turn increase voluntary fisheries-related actions to increase fish population size and reduce overfishing.

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The project will be funded through a grant from the National Oceanic and Atmospheric Administration (NOAA) to the University of Miami. The project aims to improve the understanding of the Gulf of Mexico's marine ecosystem, focusing on the biology and behavior of protected species. The project will use multiple tracking technologies, as well as the Integrated Tracking of Aquatic Animals in the Gulf of Mexico (iTAG) network, to monitor the movements of various species.

One of the key components of the project is the development of a web-based portal that can be used by researchers, managers, and the public to access real-time data on the movements of marine species. This portal will provide a valuable resource for stakeholders in the Gulf of Mexico, including fishermen, conservationists, and policymakers, to make informed decisions about marine resource management and conservation.

The project also aims to enhance our understanding of the effects of habitat degradation on marine species. By monitoring the movements of species in their natural environments, scientists hope to identify areas that are particularly vulnerable to habitat destruction and to develop strategies for restoration.

The project is expected to generate significant benefits for the Gulf of Mexico ecosystem, including improved conservation outcomes, enhanced ecosystem resilience, and increased public engagement in marine resource management. The project's success will depend on the effective integration of multiple tracking technologies and the development of user-friendly tools for data access and analysis.

The project is led by a team of experts from the University of Miami, including immunologist Dr. Jane Goodall, marine biologist Dr. Jane Mather, and oceanographer Dr. Jane Reynolds. The team is working closely with partners in the Gulf of Mexico and beyond to ensure the success of the project.

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** NOAA Project ID#13558:** This project uses novel satellite technology to provide classified habitat shoreward of approximately 40 meters water depth across the Gulf of Mexico. Because satellites pass over an area many times a day, high-resolution information is available. The product provides habitat classification throughout the Gulf of Mexico inshore of 40 meters depth. This technique is unique because it allows for rapid assessment of broad spatial scales. This product is valuable in the development of marine spatial planning projects, identification of critical habitat, and monitoring of historic habitat change. The current product can be used to assess habitat change in time and space, with a potential for identifying areas that are likely to experience rapid change. This can be used to identify areas that are important for the conservation of certain species or ecosystems. The product can also be used to assess the effectiveness of marine protected areas or other conservation measures. The product is available for use by researchers, conservation organizations, and the public. The product includes a user guide and is freely available for download from the NOAA Environmental Observation and Prediction System (EOP) website.

** NOAA Project ID#13555:** Benthic fauna provide essential ecosystem services, including nutrient cycling, biomass production, and sediment bioturbation, and a loss of benthic biodiversity has been observed in the Gulf of Mexico following the Deepwater Horizon oil spill. This project uses high-throughput environmental DNA sequencing to quantify community changes and determine the impact of anthropogenic and natural disturbances on benthic communities. The project will use advanced bioinformatic tools to analyze and model the environmental DNA data, allowing for the identification of new indicator species and the monitoring of the recovery of benthic communities. The project will also test and validate the use of environmental DNA for the monitoring of benthic communities in other marine environments. The project is funded by the National Oceanic and Atmospheric Administration (NOAA) and is expected to be completed by May 2018.

** NOAA Project ID#13551:** This project uses advanced bioinformatic tools to analyze and model high-throughput environmental DNA sequencing data. The project will test and validate the use of environmental DNA for the monitoring of benthic communities in other marine environments. The project is funded by the National Oceanic and Atmospheric Administration (NOAA) and is expected to be completed by May 2018.

** NOAA Project ID#13549:** This project uses advanced bioinformatic tools to analyze and model high-throughput environmental DNA sequencing data. The project will test and validate the use of environmental DNA for the monitoring of benthic communities in other marine environments. The project is funded by the National Oceanic and Atmospheric Administration (NOAA) and is expected to be completed by May 2018.

** NOAA Project ID#13545:** This project uses advanced bioinformatic tools to analyze and model high-throughput environmental DNA sequencing data. The project will test and validate the use of environmental DNA for the monitoring of benthic communities in other marine environments. The project is funded by the National Oceanic and Atmospheric Administration (NOAA) and is expected to be completed by May 2018.

** NOAA Project ID#13543:** This project uses advanced bioinformatic tools to analyze and model high-throughput environmental DNA sequencing data. The project will test and validate the use of environmental DNA for the monitoring of benthic communities in other marine environments. The project is funded by the National Oceanic and Atmospheric Administration (NOAA) and is expected to be completed by May 2018.
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<td>MSU oyster task force</td>
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<td>MSU shrimp task force</td>
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<td>Tchoutacabouffa River Land Protection</td>
<td>The Land Trust for the Mississippi Coastal Plain (LTMCP) is an accredited Land Trust dedicated to the conservation, promotion, and protection of open spaces and green places of ecological, cultural, or scenic significance in the counties of the Mississippi Coastal Plain. LTMCP often uses both simple and conservation easements to conserve land for the benefit of habitat, forests, and wetlands. These projects result in improved air and water quality and increased property values. The Tchoutacabouffa River includes the Tchoutacabouffa Nature Preserve. This project protects 26.8 acres of freshwater forested wetland, 1.35 acres freshwater pond, 5.24 acres of riverine habitat, and 6.6 acres of forested evergreen upland. Protection of these upstream lands is vital to the water quality and erosion control downriver and into the Mississippi Sound.</td>
<td>$300,000</td>
<td>Conserv.</td>
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<td>Kittiwake Coastal Conservation Area</td>
<td>This property (11.8 acres) was recently purchased by an individual in 2017, and has expressed some interest in allowing the acreage to be used as a park, a wildlife preserve, a conservation area, and the home to herons, eagles, osprey, fox, bobcat, raccoon, armadillo and rabbits. This property presents itself as an area where local runoff can be filtered naturally prior to reaching the Sound, reducing the number of beach closures in the area after heavy rainfall. Presently, the acreage is semi-camp used into the 1950's, then partially developed as a residential subdivision, Kittiwake, and for the Kittiwake Baptist Church. The remaining 12 acres has lay fallow for the past 50 years.</td>
<td>$325,000</td>
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<td>Urban Natural Resource Job Training</td>
<td>The Urban Natural Resource Job Training program is designed to provide valuable job training and career development opportunities to individuals who are currently unemployed or underemployed. The program focuses on providing job training in areas such as landscaping, tree care, maintenance, and other &quot;green jobs.&quot; The program was called 'Ribbons of Green Career and Job Training.'</td>
<td>$350,000</td>
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<td>Coastal and Estuarine Conservation Fund</td>
<td>This effort seeks to permanently protect lands identified by the U.S. Fish and Wildlife Service and the State of Mississippi for coastal and estuarine conservation. The Coastal and Estuarine Protection Program (CERP) is a program administered by the U.S. Fish and Wildlife Service that provides funding for projects designed to protect and enhance coastal and estuarine areas. The goal of this project is to provide funding for selected individual parcels of land, which may be wetlands in nature, for an average of $250,000 per project. However, the amount of funding available is limited to $1 million per project.</td>
<td>$500,000</td>
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<td>Conservancy and Education Program</td>
<td>The conservancy and education program provides ongoing educational programs and activities to the community, particularly to students and children. It includes field trips, workshops, and other educational outreach efforts. The goal of this project is to provide funding for selected individual parcels of land, which may be wetlands in nature, for an average of $250,000 per project. However, the amount of funding available is limited to $1 million per project.</td>
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The Massachusetts Bay Watershed. A complex system of estuaries and tidal waters, the Massachusetts Bay is a critical habitat for many species, including bottlenose dolphins. The health assessments have been conducted to understand the potential impacts of restoration activities in the area.

In a phone conversation with the USGS principal investigator, he said that there is no reason both rivers could not be investigated. The environmental data set on the Pascagoula may be a bit better suited to the Mississippi Delta. The Pearl River, being a bit larger and more downstream, may be better suited to the Mississippi Delta. However, both rivers are important for the health of the bottlenose dolphin population.

With the current plans to add more low head dams/weirs and a new impoundment on the Pearl River in Jackson, MS in the name of flood control, these three questions need to be answered for the Mississippi Delta.

There is an approved RESTORE Act-funded Gulf-wide river flow study that will use a Mississippi coastal plain stream as a study site. It is currently being planned by the USGS Gulf Water Science Center in Gulfport, MS. The study will be conducted in collaboration with the Mississippi Department of Environmental Quality and the Mississippi River Commission.

The study will focus on the impact of river flow on the health of bottlenose dolphins in the Mississippi Delta. The study will also aim to understand the potential effects of restoration activities on the dolphin population.

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The high environmental and socioeconomic value of marine mammals is evident in their direct and indirect contributions to the well-being of humans, the environment, and local economies. Effective efforts to protect these species are critical to maintaining ecological balance and ensuring sustainable use of marine resources. Marine mammals and their interactions with human activities are of interest to both scientists and conservationists, as they offer insights into the complex dynamics of marine ecosystems and the impacts of human actions on these systems.

**Fisheries and Wildlife Conservation**

1. **Endangered Species Act**
   - The Endangered Species Act provides legal protection for species threatened with extinction.
   - Various species, including marine mammals, are categorized under this legislation.

2. **Marine Mammal Protection Act**
   - This act aims to conserve and rehabilitate marine mammals and their habitat.
   - It also prohibits unauthorized taking, importing, or delivering of marine mammals.

3. **National Marine Fisheries Service**
   - This agency manages the conservation and management of marine fisheries and the marine environment.
   - It works closely with other agencies to protect marine mammals.

**Human-Dolphin Interactions**

1. **Prevention of Human-Dolphin Interactions**
   - Measures include implementing stop signs and other traffic control devices to reduce human-dolphin interactions.
   - This reduces the risk of injury to the dolphins and other marine mammals.

2. **Reducing Human-Wildlife Conflicts**
   - Strategies focus on minimizing conflicts between human activities and marine mammals.
   - This involves reducing human impacts and promoting coexistence.

3. **Enhancing Human-Wildlife Coexistence**
   - This involves developing strategies to enhance human-wildlife coexistence.
   - It includes public education and outreach.

**Impacts of Human Activities**

1. **Climate Change**
   - Climate change affects marine ecosystems and marine mammals.
   - Changes can lead to habitat loss and alteration.

2. **Pollution**
   - Pollution, including oil spills, can have significant impacts on marine mammals.
   - This includes direct mortality and long-term health effects.

3. **Overfishing**
   - Overfishing can lead to population declines and impacts on marine mammals.
   - This includes changes in prey availability and competition for resources.

**Mitigation and Recovery**

1. **Research and Monitoring**
   - Research is crucial for understanding the impacts of human activities on marine mammals.
   - Monitoring helps track changes over time.

2. **Conservation Measures**
   - These include the establishment of marine protected areas and habitat restoration projects.
   - They aim to provide safe havens for marine mammals.

3. **Education and Outreach**
   - Education programs inform the public about the importance of marine mammals and the need for conservation efforts.
   - This includes efforts to reduce human impacts and promote conservation.

**Economic Incentives**

1. **Incentives for Reducing Marine Mammal Bycatch**
   - The development of economic incentives for reducing marine mammal bycatch is important.
   - This includes measures that balance economic viability with conservation goals.

2. **Remote Observation Platforms**
   - Remote observation platforms can be used to monitor interactions with marine mammals.
   - They provide real-time data on human-dolphin interactions.

3. **Boat Strikes**
   - Boat strikes are a significant threat to marine mammals.
   - Mitigation strategies include enforcing speed limits and education campaigns.

**Monetary and Non-Monetary Costs**

1. **Costs of Intervention**
   - The costs associated with interventions can be significant.
   - This includes both direct and indirect costs.

2. **Benefit-Cost Analysis**
   - Benefit-cost analysis helps evaluate the effectiveness of conservation measures.
   - It compares the costs and benefits of different interventions.

3. **Economic Value of Marine Mammals**
   - The economic value of marine mammals extends beyond direct economic benefits.
   - It includes cultural and non-use values.

**Conclusion**

The conservation of marine mammals is essential for maintaining ecological balance and ensuring sustainable use of marine resources. Effective strategies that balance environmental protection with economic viability are crucial. Continued research, education, and outreach efforts are necessary to address the challenges facing marine mammals and their habitats.
The PHWD proposes being a liaison between Council members to integrate priority County and City governments water quality and quantity restoration areas and activities into the Council’s plans. There is an emerging Upper Bay of St. Louis Watershed Partnership organizing management efforts in several watersheds in Hancock County that discharge into Bay of St. Louis. The Wolf River was identified by the Mississippi Department of Marine Resources (DMR) as a major threat to the ecological function of each of these GEMS. Over time, many of the Bay’s bayous and creeks became clogged with debris which traps vital nutrients and reduces water flow, which in turn reduces the health and expansion of the oyster beds in the Bay. Enhancing the health and expansion of these beds is vital to the local tax base and economy. The Mississippi Department of Marine Resources (DMR) Coastal Preserves Program has three (3) Gulf Ecological Management Sites (GEMS) in the Bay’s waters. These sites are too small to be of any value as wildlife reserves, yet a small number of GEMS are also important as refugia for the health and expansion of these beds. The program will include: (1) Installation and maintenance of TEDs, (2) TED handling techniques, and (3) troubleshooting TED performance problems. Date: Aug 10, 2018

The project will also increase the health and expansion of the oyster beds by providing monitoring services to the public and enforcement in Mississippi. The team will work with Mississippi marine enforcement to provide training in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed. The project will also provide training to Mississippi marine enforcement in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed. The project will also provide training to Mississippi marine enforcement in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed. The project will also provide training to Mississippi marine enforcement in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed. The project will also provide training to Mississippi marine enforcement in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed.

The primary objectives of this project are: (1) to reduce bycatch reduction scenarios. The use of the Management Strategy Evaluation (MSE) framework, widely used in managing fisheries and marine mammals, allows contrasting the benefits of different management measures toward TED compliance monitoring. Restoration will be achieved by maintaining TED compliance in Mississippi coastal waters at the highest level possible. Enhancement of monitoring and regulatory signage and interpretative/educational panels interpreting the historic use of Cat Island as a military dog training camp. Date: Aug 10, 2018

Monitoring and enforcement of TEDs, avoidance of areas/seasons with high MM/ST densities. The aim of this project is to restore sea turtle populations in the Gulf of Mexico, particularly, Kemp’s ridleys (Lepidochelys kempii), where small juveniles overlap with the nearshore and inshore shrimp otter trawl and skimmer fishery in Mississippi. The project will also increase the health and expansion of the oyster beds by providing monitoring services to the public and enforcement in Mississippi. The team will work with Mississippi marine enforcement to provide training in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed. The project will also provide training to Mississippi marine enforcement in the proper methods for inspecting TED compliance and will ensure that TED regulations are being followed. 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The project will also provide training to Mississippi marine enforcement in the proper methods for ins
The project provides a unique opportunity to train new personnel in high-speed telecommunications to provide operational skills and a strong understanding of cables, systems and equipment. The training is designed to directly address the need for additional skilled workers in the telecommunications industry.

The project will be implemented in a community with a population of approximately 50,000 residents. The community has a high need for telecommunication services due to its location near the coast and its growing population. The project will be completed in a three-phase approach over a period of three years. The first phase will involve preparing the site for construction, the second phase will involve construction of the fiber optic network, and the third phase will involve testing and commissioning.

The project will be funded through a combination of federal, state, and local government grants, as well as private sector contributions. The project is expected to create approximately 1,000 jobs during the construction phase and 200 permanent jobs during the operational phase. The project is expected to generate a total economic impact of $10 million, including increased sales and property values.

The project will also provide significant educational and workforce development opportunities. The project will include a training program for high-speed telecommunications technicians, which will be offered in partnership with a local community college. The program will provide hands-on training and certification for participants, and will be open to individuals of all ages and backgrounds.

The project is expected to be completed in three years, with the majority of the work completed in the first two years. The project is expected to be ready for operational use by the end of the third year. The project is expected to be self-sustaining by the end of the third year, with revenues from service subscriptions covering the costs of operation.

The project will also provide significant environmental benefits, including reduced energy consumption and greenhouse gas emissions. The project will replace the existing copper-based network with a more efficient fiber optic network, which is expected to reduce energy consumption by 30% and greenhouse gas emissions by 20%.

Overall, the project represents a significant investment in the local community and is expected to provide significant economic, workforce, and environmental benefits. The project is expected to be a model for similar projects in other communities, and is expected to serve as a catalyst for further investment in high-speed telecommunications infrastructure.
The Land Trust for the Mississippi Coastal Plain (LTMCP) is an accredited Land Trust dedicated to the conservation, promotion, and protection of open spaces and green places of ecological, cultural, or historical significance. The Land Trust holds conservation easements on approximately 18 miles of the Wolf River North of I10 in partnership with The Wolf River Conservation Society which is a non-profit organization dedicated to the protection of the Wolf River.

Research and Education

The Crosby Arboretum and Lower Pearl River Watershed Environmental Education Center, dormitories will be constructed to house interns and student researchers who are visiting the facility to learn and conduct research on the conservation and management of native habitats. The Crosby Arboretum is also home to a Mississippi landmark structure, the Pinecote Pavilion, designed by renowned architect E. Fay Jones, a student of Frank Lloyd Wright (Figure 2).

These indoor exhibits, along with the restored outdoor exhibits and trails of the Crosby Arboretum, will provide for a dynamic and unforgettable visitor experience. Additionally, the Environmental Education Center will be built to accommodate multiple programs and events, and will feature a multimedia presentation that will educate visitors about the impact of the 2010 Deepwater Horizon oil spill and its on the Lower Pearl River. The Crosby Arboretum and Lower Pearl River Watershed Environmental Education Center is a living laboratory for students and researchers to conduct field-based research, and is also a popular destination for tourists and residents alike.

Wolf River Weyerhaeuser Land Protection

The goal of this project is to establish funding to purchase individual parcels of land owned by the Weyerhaeuser Company totaling 39,028 acres, located in areas identified as crucial to establishing a continuous corridor of high ecological value and importance.

The Conservation of the Wolf River Basin and Its Watershed

The Wolf River Basin and its watershed are one of the most important and productive ecosystems in the United States, providing critical habitat for a wide variety of plants and animals native to Mississippi, as well as migratory birds. Opportunities for low impact recreational activities such as kayaking, birdwatching, fishing, and other wildlife observation are abundant. The Wolf River Basin and its tributaries provide crucial hydrological services such as regulating water flow, providing habitat for fish and other aquatic life, and supporting a diverse array of plant and animal species.

The Wolf River is a critical source of drinking water for the region, and its health is vital to the water quality and erosion control downriver and into the Mississippi Sound. The Wolf River is also home to a variety of recreational opportunities, including fishing, kayaking, and birdwatching. The Wolf River is a vital resource for the region, and its protection is essential for the long-term sustainability of the area.

Economically, the Wolf River Basin and its watershed provide a critical resource for the region, supporting a variety of industries and businesses. The basin provides critical habitat for a variety of aquatic species, which is essential for the region's economy. The basin also provides critical recreation opportunities, which are essential for the region's economy.

The Protection and Restoration of Coastal Wetlands

Coastal wetlands are one of the most productive and diverse ecosystems in the world, providing critical habitat for a wide variety of plants and animals native to Mississippi, as well as migratory birds. Coastal wetlands also provide a variety of ecosystem services, including nutrient cycling, carbon sequestration, and flood protection. The restoration of coastal wetlands is critical for the long-term sustainability of the region.

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The Conservation of Coastal Wetlands

The protection of coastal wetlands is critical for the long-term sustainability of the region. The restoration of coastal wetlands is essential for the long-term sustainability of the region.
The Mississippi Governor’s Oyster Restoration and Resiliency Council made a determination in 2015 to restore oyster reefs to promote oyster aquaculture and set a goal of 1 million sacks of annual oyster production by 2025. The increased focus on oyster restoration and aquaculture production in MS will greatly enhance the state economy. However, outbreaks of food-borne pathogens in raw oysters have produced a negative impact on oyster marketing. To successfully restore production and marketing of oysters and other seafood, research ensuring food safety and value-added processing are needed.

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### Land Trust for the Mississippi Coastal Plain (LTMCP)

The LTMCP is an accredited Land Trust dedicated to the conservation, promotion, and protection of open spaces and green places of ecological, cultural, or historic significance. The LTMCP holds conservation easements on over 100,000 acres of property across Mississippi, ensuring that these places will remain in their natural state for future generations. The LTMCP works closely with landowners, the Mississippi Department of Wildlife, Fisheries, and Parks, the U.S. Fish and Wildlife Service, and local communities to protect and enhance these critical natural areas.

#### Protected Areas

- **Wolf River North of I-10**
  - **Purpose:** To purchase individual parcels of land totaling approximately 428.5 acres, located in areas identified as crucial to connecting continuing corridors of conservation land.
  - **Benefit:** Establish funding to purchase land totaling 428.5 acres.
  - **Impact:** Ensures connection to the existing Wolf River Trail.

- **Black Bayou and Bayou Auguste**
  - **Purpose:** To restore natural waterways and improve stormwater management.
  - **Benefit:** Improve the quality and quantity of water entering the marine environment.
  - **Impact:** Enhances water quality and quantity, protecting marine life and coastal ecosystems.

- **Harrison County Tidally Influenced Wetlands**
  - **Purpose:** To protect critical habitat for imperiled species.
  - **Benefit:** Support habitat restoration and enhancement.
  - **Impact:** Increases ecological and cultural values.

- **Mississippi Sound**
  - **Purpose:** To protect coastal wetlands.
  - **Benefit:** Enhance coastal resilience.
  - **Impact:** Reduces flood damage and erosion.

- **Mississippi's Back Bay**
  - **Purpose:** To improve water quality and habitat.
  - **Benefit:** Enhance water quality and habitat for wildlife.
  - **Impact:** Supports wildlife and recreational activities.

- **Panhandle Swamps of the Mississippi Sound**
  - **Purpose:** To protect coastal wetlands.
  - **Benefit:** Support habitat restoration and enhancement.
  - **Impact:** Increases ecological and cultural values.

- **Lower Pearl River**
  - **Purpose:** To protect critical habitat for imperiled species.
  - **Benefit:** Support habitat restoration and enhancement.
  - **Impact:** Increases ecological and cultural values.

### Urban Wildlife Protection

- **Biloxi Stormwater Project**
  - **Purpose:** To improve stormwater quality and quantity.
  - **Benefit:** Enhance water quality and quantity.
  - **Impact:** Reduces flood damage and erosion.

### Environmental Education

- **Crosby Arboretum**
  - **Purpose:** To expand and improve educational programs and facilities.
  - **Benefit:** Enhance educational opportunities.
  - **Impact:** Increases educational tourism and visitor numbers.

### Economic Development

- **Harbor Expansion Parking Area**
  - **Purpose:** To provide additional parking for economic development.
  - **Benefit:** Enhance economic opportunities.
  - **Impact:** Supports tourism and related industries.

### Technology and Innovation

- **Unmanned Aircraft Systems (UAS)**
  - **Purpose:** To support aerial monitoring and surveying.
  - **Benefit:** Enhance data collection and analysis.
  - **Impact:** Supports conservation and restoration efforts.

### Community Engagement

- **Public Meetings and Outreach**
  - **Purpose:** To engage with the public.
  - **Benefit:** Enhance community involvement.
  - **Impact:** Increases public awareness and participation.

### Project Funding

- **Land Acquisition**
  - **Purpose:** To support land purchases.
  - **Benefit:** Enhance conservation efforts.
  - **Impact:** Increases conservation impact.

### Success Stories

- **Wolf River Easement**
  - **Impact:** Ensures connection to the existing Wolf River Trail.

- **Black Bayou and Bayou Auguste**
  - **Impact:** Enhances water quality and quantity, protecting marine life and coastal ecosystems.

- **Harrison County Tidally Influenced Wetlands**
  - **Impact:** Increases ecological and cultural values.

- **Mississippi Sound**
  - **Impact:** Reduces flood damage and erosion.

- **Panhandle Swamps of the Mississippi Sound**
  - **Impact:** Increases ecological and cultural values.

- **Lower Pearl River**
  - **Impact:** Supports wildlife and recreational activities.

### Contact Information

For more information or to inquire about volunteer opportunities, please contact the Land Trust for the Mississippi Coastal Plain at 601-972-6333 or info@ltmcp.org. Visit our website at www.ltmcp.org to learn more about our conservation efforts and how you can support them.
The Inside Explorer software utilized in educational programs will generate public awareness about the internal systems of native animals. Teaching our community about the different functions of natural systems to our quality of life on the Gulf Coast.

Mitigation of incidental capture is only minimally addressed in these areas at present. IMMS is a registered organization in the States of Alabama and Louisiana. Developing a more effective and efficient triage system for sick and injured sea turtles is a primary objective of this project. The IMMS stranding team can be greatly enhanced by the establishment of two satellite facilities, created for the purpose of triaging sick and injured sea turtles prior to transport back to the main optimal high level rehabilitative care for a large number of turtles during environmental disasters (e.g., oil spills, blue-green algal blooms, and red tide).

Institute for Marine Mammal Studies (IMMS) is a marine mammal and sea turtle rehabilitation facility, strategically located on the Mississippi gulf coast. IMMS has been involved in the rescue, rehabilitation, and release of hundreds of marine mammals and sea turtles since 1983. IMMS serves as a critical resource for the study of coastal marine systems and the animals that inhabit them, including the highly endangered northern right whale. IMMS provides an infrastructure for the management of marine mammals and sea turtles for research and conservation purposes. IMMS has been involved in numerous research projects focused on the biology, behavior, and conservation of marine mammals and sea turtles. IMMS is a member of the International Marine Mammal Partnership (IMMP), a network of institutions collaborating to improve the care and management of marine mammals and sea turtles.

New Education and Outreach/Nature and Conservation: The purpose of the project is to cultivate lifelong curiosity and connection to place through the convergences of culture, economy, education, and the environment. As American author Wendell Berry says, “Connecting nature, art and science is part of the heritage of the Gulf Coast and that legacy is exemplified by Walter Anderson’s work.” Anderson’s journeys to the north central Gulf of Mexico is home to endangered and protected species such as bottlenose dolphins (Tursiops truncatus), West Indian manatees (Trichechus manatus), as well as loggerhead sea turtles (Caretta caretta). The north central Gulf of Mexico also supports other significant species such as the brown pelican (Pelecanus occidentalis), snowy egret (Egretta thula), and the American alligator (Alligator mississippiensis). The heavily developed and industrialized coastal region of the Mississippi Gulf Coast is part of the larger Gulf of Mexico ecosystem, which is home to a diverse array of marine species. The goal of this project is to conduct landscape-scale ecosystem restoration on the highly visible land surrounding the INFINITY Science Center—located adjacent to, and complementary to the goals of the Mississippi Aquarium Mobile Marine Unit.

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Given the centrality of water to human life, and the great diversity of species and habitats our ocean supports, there is an urgent need for research focused on aquatic ecosystems. Not only will this research yield a greater understanding of the role of the ocean in our planet’s health and the health of marine species, but it will also provide new avenues to support healthy ecosystems and sustainable life.

The link between human, animal and environmental health is critical to our future, yet much of the work in this area has been focused on terrestrial species. By exploring the connection between health and the environment, the Gulf Center can help prevent present and future pandemics.

The Mississippi Aquarium Mobile Marine Unit (MAMU) is a mobile program designed to reach a wide range of audiences with its educational and outreach programs. MAMU’s mission is to create awareness of our coastal marine systems and the animals that inhabit them, including the highly endangered northern right whale. MAMU provides an infrastructure for the management of marine mammals and sea turtles for research and conservation purposes. MAMU has been involved in numerous research projects focused on the biology, behavior, and conservation of marine mammals and sea turtles. MAMU is a member of the International Marine Mammal Partnership (IMMP), a network of institutions collaborating to improve the care and management of marine mammals and sea turtles.

The purpose of the project is to conduct landscape-scale ecosystem restoration on the highly visible land surrounding the INFINITY Science Center—located adjacent to, and complementary to the goals of the Mississippi Aquarium Mobile Marine Unit.

We will create interactive exhibits and a comprehensive education program for teachers, students and the general public that increases awareness of the value of ecosystem restoration and promotes diversity, a decrease in invasive species, higher quality wildlife habitat, and increased safety and security for INFINITY. The second, and equally important, component of the project is public education. This involves creating a series of education programs that reach out to the community and provide information on the importance of ecosystem restoration. These programs will be designed to engage people of all ages and backgrounds and to promote a greater understanding of the benefits of ecosystem restoration.
This page contains information on various projects and initiatives focused on research, sustainability, and environmental conservation. Here are the key points:

1. **Research and Education**
   - Demonstrating Effective Restoration: Dolphins from Illegal Feeding Activities
   - Watershed Restoration

2. **Sustainability and Restoration Initiative**
   - New Education Programmes and Demonstrations: Science-based action on the Gulf Coast project.
   - Anticipated outcomes resulting in improved water quality and quantity: avoided land conversion and increased forest cover, increased forest management activities and best management practices, increased bundling under Evolving of Fish management initiatives, improved and adult oyster, and added community resilience.

3. **Experimental Oyster Leases**
   - New collaborative efforts in establishing leases in Mississippi, Alabama, and Louisiana coastal waters for the creation of reefs to provide science-based data on the importance of these ecosystems.

4. **International Conservation**
   - International cooperation and partnerships are essential to address global marine debris issues.

5. **Mitigation Strategies**
   - The continued lack of productivity from oyster reefs in the northern Gulf of Mexico remains a critical ecological and economic issue for the region.

6. **Project ID#14311**
   - The Gulf Coast has clearly been identified as incredibly important for shorebirds and seabirds with threats of habitat destruction from coastal storms, sea level rise, and human activities.

7. **Project ID#14308**
   - The project aligns with the Coastal and Marine Science and Technology Industry's goals for restoring sea turtles in ocean waters impacted by the Deepwater Horizon (DWH) oil disaster.

8. **INFINITY Science Center**
   - The project aligns with NRDA and Restore Funding purpose and guidelines. INFINITY plans to lead by example along the Gulf Coast region to educate and inform the public about sustainability and environmental conservation through educational programs and initiatives.

9. **Mitigation Strategies for International**
   - The project aims to reduce macroplastic inputs to the Gulf of Mexico and ensure that restoration strategies are effective and sustainable.

10. **INFINITY Science Center**
    - The project addresses the need for sustainable and innovative strategies to reduce marine debris and promote environmental conservation.

11. **Mitigation Strategies for International**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

12. **Project ID#14251**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

13. **Project ID#14269**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

14. **Project ID#14270**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

15. **Project ID#14271**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

16. **Project ID#14272**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

17. **Project ID#14273**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

18. **Project ID#14274**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

19. **Project ID#14275**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

20. **Project ID#14276**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

21. **Project ID#14277**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

22. **Project ID#14278**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

23. **Project ID#14279**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

24. **Project ID#14280**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

25. **Project ID#14281**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

26. **Project ID#14282**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

27. **Project ID#14283**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

28. **Project ID#14284**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

29. **Project ID#14285**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

30. **Project ID#14286**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

31. **Project ID#14287**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

32. **Project ID#14288**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

33. **Project ID#14289**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

34. **Project ID#14290**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

35. **Project ID#14291**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

36. **Project ID#14292**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

37. **Project ID#14293**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

38. **Project ID#14294**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

39. **Project ID#14295**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

40. **Project ID#14296**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

41. **Project ID#14297**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

42. **Project ID#14298**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

43. **Project ID#14299**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

44. **Project ID#14300**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

45. **Project ID#14301**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

46. **Project ID#14302**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

47. **Project ID#14303**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.

48. **Project ID#14304**
    - The project targets the recovery of sea turtle populations injured by the BP oil disaster by addressing the anthropogenic threat of marine litter.

49. **Project ID#14305**
    - The project aims to reduce the risk of developing mitigation projects by leveraging public engagement and feedback mechanisms.

50. **Project ID#14306**
    - The project focuses on reducing the impact of marine debris on sensitive ecosystems and species.
Developing a Gulf-wide bird population

NOAA Project ID# 14264 Across the Gulf of Mexico, bird communities and the habitats that support them are threatened by many concurrent and synergistic threats including human development, historic, current, and future bird distributions, as well as the environmental processes driving these trends. Our primary goal is to empower resource managers and policy-makers to make informed conservation, restoration, and policy decisions based on knowledge of historic, current, and future bird distributions and trends. This information is critical for resource managers to develop effective, efficient, and sustainable conservation and restoration strategies. To achieve this goal, we propose to develop a centralized database that will serve as a focal tool for avian research and management. This project would develop Bayesian integrated hierarchical models that can effectively combine data across multiple structured and semi-structured protocols. We will use these methods to produce robust abundance estimates. Multiple structured datasets also exist for suites of birds across the Gulf of Mexico, including the Gulf of Mexico Marsh Bird Atlas and Audubon Coastal Bird Survey. Moreover, extensive semi-structured community science data (i.e., data collected by volunteers) are available for Gulf of Mexico bird species through the National Estuarine Research Reserves (NERRs) and Strategic Taxonomic Specialist and Science Network (STSSN). These proposed data distributions map the spatial and temporal distribution of multiple landbird, shorebird, and marsh bird species, while accounting for the availability of land cover change and coastal development. These combined datasets will provide the research community with the necessary amount of data to develop the historical and future distributions of avian species across the Gulf of Mexico. Historically, many landbird and shorebird species have experienced habitat loss and fragmentation due to human development. These changes have led to declines in population abundance, which can result in the loss of species from the Gulf of Mexico. The development of the Gulf-wide bird population database will provide a central repository for avian data that can be used for multiple purposes, including conservation, restoration, and policy decision-making. This project would develop a centralized database that will serve as a focal tool for avian research and management. This project would develop data management developments that will house counts as well as associated sampling details and metadata (e.g., date, time of day, and weather). A publicly accessible interface will enable users to view and search the data, allowing for easy access to information about avian populations across the Gulf of Mexico.

- **Date Entered:** Oct 24, 2019
- **Date Edited:** Oct 25, 2019
- **Date Updated:** May 30, 2020

**Phase 1: 6 years - $1,000,000 to $1,500,000 Phase 2: 3 years - $5,000,000 to $5,600,000**

**Phase 3: 5 years - $9,250,000 to $9,600,000**

Efforts in a spatially manageable area. Phase 2 would be an on-the-ground effort to assess the status and trends of injured avian resources and habitats during the breeding season. Phase 2 would also assess the impact of human development on avian resources and habitats during the breeding season. Phase 2 would also assess the impact of human development on avian resources and habitats during the breeding season. Phase 3 would be an on-the-ground effort to assess the status and trends of injured avian resources and habitats during the breeding season. Phase 3 would also assess the impact of human development on avian resources and habitats during the breeding season. Phase 3 would also assess the impact of human development on avian resources and habitats during the breeding season. Phase 3 would also assess the impact of human development on avian resources and habitats during the breeding season. 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On October 17, 2018, the Gulf States Marine Fisheries Commission (GSMFC) hosted a special session on the Kemp’s ridley sea turtle during their Annual Meeting, held at South Mississippi Salinity Stewardship Center (HSSM) in Gulfport, Mississippi. The session was open to all attendees and featured presentations by Dr. Marc Macek, Dr. Tom Haukos, and Dr. Casey Pace. Attendees also had the opportunity to discuss potential solutions for Kemp’s ridley sea turtle conservation, including illegal trade, poaching, and habitat destruction.

The seminar highlighted the importance of Kemp’s ridley sea turtles and the need for continued research and conservation efforts. Attendees discussed the role of habitat restoration and the need for collaborative efforts among various stakeholders to address the threats faced by the species. The GSMFC also announced plans to develop a new facility to house live exhibits and provide educational opportunities for the public.

The event concluded with a call to action for attendees to support Kemp’s ridley sea turtle conservation efforts and encouraged them to take steps to protect the species in their own communities. The GSMFC also expressed gratitude to all attendees for their dedication to the cause and highlighted the importance of continued collaboration and support for Kemp’s ridley sea turtle conservation initiatives.

The session was held on October 17, 2018, and was open to all interested parties. Attendees had the opportunity to discuss potential solutions for Kemp’s ridley sea turtle conservation, including illegal trade, poaching, and habitat destruction. The seminar highlighted the importance of Kemp’s ridley sea turtles and the need for continued research and conservation efforts. Attendees discussed the role of habitat restoration and the need for collaborative efforts among various stakeholders to address the threats faced by the species. The GSMFC also announced plans to develop a new facility to house live exhibits and provide educational opportunities for the public.

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Mississippi’s Oyster Shell Recycling Program

**Objective**: Establish educational opportunities for aquarium guests, school groups, students, and community members.

**Activities to be completed**:
- Success in establishment of RRE center on MSAQ’s main campus will allow guests to experience daily rescue and rehabilitation operations first-hand, including intake, triage, and advanced medical procedures.
- The modernized facility will serve as an important resource for the state Sea Turtle Stranding and Salvage Network.
- Development of a sea turtle nest monitoring program for Mississippi for the purposes of collecting baseline data that can be applied to a long-term conservation management plan.
- Development and implementation of small unmanned aerial systems (sUAS) and sighting surveys to provide standardized monitoring, identify strandings, nesting frequency and site fidelity over several years.
- Development of a Backtracking Analysis and Mortality Mapping tool developed by NOAA researchers; these timely necropsies will also help to pinpoint the origins of these mortality sources.
- Necropsies conducted at this facility is a cost effective approach since it takes advantage of an existing structure.

**Benefits**:
- Limited dedicated resources to manatees in Mississippi has resulted in a lack of data for natural resource managers for informed management.
- West Indian manatee sighting reports have increased in frequency along the Mississippi coast in the last 10 years, and scientists suggest that the northern Gulf of Mexico (GOM) is becoming a regular seasonal destination for manatees.
- This raises important questions as to what the ecological importance of the northern GOM is to manatees and how the northern GOM is affected by the energy industry.
- Work in close collaboration with Dauphin Island Sea Lab to increase Manatee research in MS using standardized methodologies. This will assist with knowledge of movement and birth/fecundity rates and determination of site fidelity.
- This project would also assist with sample collection and analyses for law enforcement cases enabling more rapid responses for these investigations.
- The proposed work will contribute significantly to the conservation mission of the MSAQ and this facility would also serve as a sample collection and analysis site for law enforcement cases involving manatee natural deaths.

**Expenditure Plan**
- NOAA Project ID# 14533: The Nature Conservancy recommends a Phase 3 of the Mississippi Sound Oyster Shell Recycling Program, that was initially funded as Activity #8 in the 2018 Mississippi State Oyster Shell Recycling Program.
- NOAA Project ID# 14535: MSAQ will be Mississippi’s first and only Association of Zoos and Aquariums (AZA) accredited facility. Our goal is to build and open a state-of-the-art sea turtle rescue, rehabilitation, and education center in the state. The project will be completed in Phase 1.
- NOAA Project ID# 14536: Objectives: Establish a long-term solution based program to answer critical questions and provide informed data about the population, health and future of bottlenose dolphins in the Mississippi Sound.
- NOAA Project ID# 14537: Objectives: Establishing Mississippi’s first and only Sea Turtle Rescue, Rehabilitation, and Education Center.

**Implementation**
- The project will be completed in Phase 1 of the above mentioned project. This project will be undertaken in the Mississippi Sound over the next three years. The project will be completed in Phase 1 of the above mentioned project. This project will be undertaken in the Mississippi Sound over the next three years.
To effectively and sustainably manage this vital species in the MSS over the next ten years, we propose a comprehensive plan with the following objectives:

1. Determine the threats to dolphin health, including human interactions, in the MSS that result in strandings and mortalities.

2. Assess the environmental threats affecting dolphins and their habitat, particularly changes to water quality and salinity, pollution, and prey availability in the natural habitats of dolphins in the MSS.

3. Estimate the abundance and distribution of the dolphin population in the MSS using line-transect methodology for stock assessments.

4. Evaluate the degree of connectivity and boundaries of the dolphin population in the MSS using photo identification to determine habitat use, site fidelity of individuals and groups within the MSS, as well as data from new movements and changes in the habitat.

5. Provide education and increase outreach to build capacity in Mississippi for effective management of dolphins in the MSS. By providing education for K-12 students and the public, and by managing hands-on specialized education for veterinary students and graduate students, MSU-CVM and IMMS will work together to establish a strong educational foundation to manage the state's bottlenose dolphins in the Mississippi Sound.

The Mississippi Sound (MSS) is home to the nation's largest bay, sound, and estuarine (BSE) population of common bottlenose dolphins (Tursiops truncatus). The MSS serves as a nursery ground for newborn dolphin calves in the spring and summer months and provides vital foraging habitat for dolphins year-round. As a top predator, dolphins are an important sentinel species for the ecosystem.

The green sea turtle, omnivorous at the juvenile stage, forages on sea grass beds and fish prey in this area. Loggerhead sea turtles have been documented to nest on Mississippi beaches from as early as 1990 (Hoggard 1991). In addition, the fertile waters of the MSS support a large recreational and commercial fishing industry as well as an oyster industry. The MSS is heavily impacted by human activities, such as the construction of the Spillway introduced a substantial amount of freshwater from the Mississippi River into the Mississippi Sound, which is not normally exposed or connected to this riverine system. During this year, dolphin mortalities increased by more than three times over the previous year.
The Ocean Springs YMCA is proposing to expand and renovate their facility to accommodate more activities and services for all ages. The proposal includes a Seafood Adaptive Sports Program to enable disabled citizens to participate in recreational activities. The program will enhance family-oriented recreational activities and educational programs, offering opportunities for fitness, education, and stewardship. The project is expected to benefit local health and social needs, including diabetes, hypertension, youth obesity, and arthritis. The facility would provide a welcoming space for families and employees through corporate membership benefits program to promote employee wellness. The project is supported by various funding streams, including federal, state, and local sources, with a total estimated cost of $8.5 million.

The proposal also includes plans to redevelop the Seafood Harbor, which is part of the overall plan to revitalize the downtown one block north linked with the French Market one block south. The City of D'Iberville has expressed interest in collaborating with the project, and the City has prepared several plans over the years to attract businesses to the space underneath the I-110 Bridge. The City has also convened a task force to develop a working waterfront for the seafood industry. In the 2017 County Health Rankings, Harrison County is ranked 24th, while neighboring counties, Jackson and Hancock, are ranked 9th and 15th, respectively.

In order to have a greater impact on families and businesses on the Gulf Coast, the Mississippi Gulf Coast YMCA is proposing a revitalization plan that includes expanding and renovating their facilities. The facility serves over 10,000 participants annually, with 5,000 of those being under 18. In the last 5 years, the facility has served over 20,000 individuals, offering membership benefits. We are able to extend our reach to promote healthy communities through our after-school programs, youth engagement, and after-school and camp programs. The facility is in need of management activities including prescribed burning and prescribed fire projects to restore and maintain critical habitats of native wildlife on approved public and private lands. The project is expected to be completed in the next 2 to 6 years with an estimated cost of $25.1 million.

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The Mississippi Gulf Coast includes approximately 70 miles of coastline plus numerous bays, estuaries and navigable rivers. Not only does the ecosystem support a diversity of marine life and fisheries, but it also supports species that are necessary for the economy of the area. Unfortunately, although the Coastal Counties (Hancock, Harrison, and Biloxi) have an abundance of diverse ecosystems, nontropical species, and marine life, the marine ecosystem is heavily impacted by the Deepwater Horizon oil spill. The impact of the oil spill is likely to extend well beyond the local waters, affecting species and ecosystems throughout the Gulf of Mexico.

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<table>
<thead>
<tr>
<th>Project Name</th>
<th>Start Date</th>
<th>End Date</th>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Snapper stock enhancement</td>
<td>5/11/2013</td>
<td>5/11/2016</td>
<td>Gulf Coast</td>
<td>The project aims to enhance the red snapper population by developing intensive recirculating aquaculture systems. The project is expected to produce 350,000 red snapper at 6-cm size (about 0.5 years old) and double the population in three years. The project is expected to provide for-hire groups and private boat owners with economic incentives to participate in the recreational fishery.</td>
</tr>
<tr>
<td>Workforce development</td>
<td>5/19/2013</td>
<td>5/19/2016</td>
<td>Gulf Coast</td>
<td>The project provides workforce development opportunities for low-income participants through apprenticeships. The project is expected to create 200 new jobs and generate $30 million in tourism dollars for the coastal counties.</td>
</tr>
<tr>
<td>Entrepreneurship Extension Program</td>
<td>5/16/2013</td>
<td>5/16/2016</td>
<td>Gulf Coast</td>
<td>The project provides entrepreneurship extension services to small and medium enterprises. The project is expected to create 150 new jobs and generate $20 million in sales.</td>
</tr>
</tbody>
</table>

**Red Snapper stock enhancement**

- Objective: Development of a recirculating aquaculture system for red snapper enhancement.
- Funding: $10 million
- Expected outcomes: Increase in red snapper population by 350,000 individuals in 3 years.
- Benefits: Economic incentives for for-hire groups and private boat owners.

**Workforce development**

- Objective: Development of a workforce for the Gulf Coast.
- Funding: $30 million
- Expected outcomes: 200 new jobs and $30 million in tourism dollars.
- Benefits: Economic incentives for small and medium enterprises.

**Entrepreneurship Extension Program**

- Objective: Providing entrepreneurship extension services.
- Funding: $20 million
- Expected outcomes: 150 new jobs and $20 million in sales.
- Benefits: Support for small and medium enterprises.
<table>
<thead>
<tr>
<th>State</th>
<th>Fiscal Year</th>
<th>Project Title</th>
<th>Overview</th>
<th>Key Responsibilities</th>
<th>Effort</th>
<th>Staffing</th>
<th>Lead Agency</th>
<th>Funding Amount</th>
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<tr>
<td>Mississippi</td>
<td>2015</td>
<td>MS Environmental Indicators Observation, Monitoring, and Modeling Plan (MSOIMP)</td>
<td>This plan includes multi-disciplinary ecosystem monitoring activities which provide an understanding of the state of the Gulf ecosystem and how its components change over time or are affected by various factors. Results from monitoring efforts will be used to prioritize issues for adaptive coastal policy and management, assess damages due to natural and man-made disasters, inform decision-making, and evaluate long-term trends. Furthermore, ecosystem monitoring information can yield the true value of ecosystem services to the Gulf which in turn can lead to resource management and regulatory decisions that consider the effects of those decisions on a more complete set of Gulf factors.</td>
<td>Year-round</td>
<td>Yes Yes Yes</td>
<td>20</td>
<td>Yes Yes Yes Yes Yes</td>
<td>$4,000,000.00</td>
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This proposal will develop new technologies to reduce sea turtle mortality by developing methods to reduce/terminate fishing lines without causing entanglement or injury to turtles. This method may be designed for subsea fishing lines and will result in a system where a fisherman can lower the turtle to the ocean floor to avoid entanglement. The system will be deployed using a long line fishery that already utilizes buoy-release systems, thereby requiring only slight modifications to existing equipment. The system utilizes a remote operated vehicle (ROV) that navigates below the turtle to safely locate and release the fishing line using a mechanical device. The system will be deployed in the Gulf of Mexico to test its efficacy and will be further refined based on field observations.

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A series of man-made and natural disasters have impacted the wild crab fishery in coastal Mississippi, beginning with the impact of Hurricane Katrina and continuing through the disaster recovery processes associated with the Mississippi River flooding and opening of the Bonnet Carre spillway. The wild crab fishery is important to the history, culture and economy of Coastal Mississippi. The research project would estimate the economic impact of the fishery over a 20-year period, as data become available. Economic impact analysis will begin with the 2003 harvest and continue through 2013. The 2003 and 2004 years will provide important “pre-disaster benchmarks” for monitoring and estimating the economic impact of this fishery (both on the coastal counties and the state of Mississippi) and to the body of knowledge on the impact of man-made and natural disasters on the coastal economies. A customized economic impact model will be built and maintained for the lower six counties in Mississippi to support the research agenda. Among the outcomes will include changes in economic growth due to the industry, and related changes in jobs and income. The College of Fisheries will supply the business analytics to support the efforts of GCRL regarding the recovery and restoration of this fishery. Notably, this series of models will serve as a prelude to the development of an economic impact forecasting model based on expected commercial yield and other outcomes.

Location (City, County): Long Beach, Harrison County

Type of project: Infrastructure

Infrastructure cost (# years): $100,000 (1 year)

Point of Contact, email and Phone #: Dr. Elizabeth LaFleur, Beth.LaFleur@usm.edu, 228.214.3438 and Dr. Gregory Bradley, Gregory.Bradley@usm.edu, 228.214.5402
Mississippi Activities in Coastal Marine Recreational Series Model of Economic Impact Time-series and Development

Mississippi Activities in Coastal Marine Recreational Series Model of Tourism Activities in Coastal Mississippi

Brief Title: A Comprehensive Economic Impact Time-Series Model of Tourism Activities in Coastal Mississippi

Type of projects: \( \text{___ Infrastructure} \quad \text{___ Educational program} \quad \text{___ Research program} \quad \text{___ Workforce development} \quad \text{___ Economic development} \quad \text{___ Tourism development} \quad \text{___ Hotel/Motel} \quad \text{___ Other (Name):} \)

Brief description of activities:

The tourism industry is known to be a significant component of the economic activity portfolio for the Mississippi Gulf Coast. This unique and significant aspect of the tourism industry in coastal Mississippi is the combination of a coastal environment and casino gaming. With limited resources, it is vital to track areas that yield the highest economic impact and to identify where possible. However, there is not a known comprehensive time-series assessment of the economic impact of tourism activities by sector in coastal Mississippi, nor is there a known comprehensive effort to better understand who visits coastal Mississippi and why. The research project would model the economic impact of tourism activities, study how these economic impacts change over time and how these impacts are affected by economic activity, location, and marketing. This will enable the Mississippi College of Business to better understand the economic impact of tourism activities by sector in coastal Mississippi and why. This research project would involve using a combination of advanced modeling software, a customized economic impact model will be built and maintained for the lower six counties in Mississippi to support the regional tourism agenda. Economic impact analyses will be conducted in the aggregate and by tourism segment to determine the effects on all sectors of the economy to include support amenities such as restaurants and bars, and hotels and lodging. Among the outcomes will include changes in economic growth, and related changes in jobs and income. The College of Business will supply the ongoing business analytics for this effort, which will be significant and critical to research goals in this area.

Type of projects: \( \text{___ Infrastructure} \quad \text{___ Educational program} \quad \text{___ Research program} \quad \text{___ Workforce development} \quad \text{___ Economic development} \quad \text{___ Tourism development} \quad \text{___ Hotel/Motel} \quad \text{___ Other (Name):} \)

Brief description of activities:

Water transportation activities are abundant on the Mississippi Gulf Coast, and this ability makes Mississippi’s shallow bays significantly important to significantly impact the local and state economies. However, there is a known comprehensive assessment of the economic impact of these coastal activities in Mississippi. Through a point-source data collector, this research project would model the annual economic impact of coastal marine transportation over time; this comparison can be performed on both coastal Mississippi and the state of Maryland. Activities in the annual assessment would include vessel traffic, crane traffic, and port traffic changes. Big game fishing tournaments, recreational boating, recreational activities on water and land then be measured. Using standard economic impact models, we can model the economic impact of transportation activities on the local economy. The research project would be conducted in the aggregate and by tourism segment to determine the effect on all sectors of the economy. To include support businesses such as hotels, car rentals, restaurant and other services, this analysis will include changes in economic growth, and related changes in jobs and income. This project would supply the ongoing business analytics for this effort, which will be significant and critical to research goals in this area.

Title of Project: \( \text{A Comprehensive Economic Impact Time-Series Model of Tourism Activities in Coastal Mississippi} \)

Point of Contact, email and Phone #: \( \text{Dr. Elizabeth LaFleur, Beth.LaFleur@usm.edu, 228.214.3438 and Dr. Gregory Bradley, Gregory.Bradley@usm.edu, 228.214.5402} \)

Location (City, County): \( \text{Long Beach, Harrison County} \)

Description of activities:

This project will provide a comprehensive time-series economic impact model that will enable us to evaluate the economic impact of tourism activities in Coastal Mississippi. This economic model will be complete and accurate, providing current information on economic impact and will be updated every year. Economic impact analyses will be conducted in the aggregate and by tourism segment to determine the effects on all sectors of the economy to include support amenities such as restaurants and bars, and hotels and lodging. Among the outcomes will include changes in economic growth, and related changes in jobs and income. The College of Business will supply the ongoing business analytics for this effort, which will be significant and critical to research goals in this area.
The RETINA program is designed as a traveling program that gives many students access to the same resources. We propose to (1) provide a medium for communicating interest, experience, and challenges on the fifth and final day of the program.

The RETINA Program provides schools with a cost-effective and administratively beneficial way to meet these challenges. The RETINA Program is a 50-minute per day program that integrates technology under the umbrella of a scientific process and is designed to provide consistency and a quality. There are four different activities per grade that are presented during the first four days. Activities are chosen with the intention of challenging students in the context of the various student-based teams to complete a project-based learning environment.

RENTA Program is designed, modified, and tested in several diverse schools in California and Vermont. It is now ready to be deployed. RETINA Program has been designed, tested, and used successfully in schools in California and Vermont. It has been designed.

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Project Development and Delivery
Research and technical tools designed and developed for the new Mississippi Proving Ground will also be made available for testing and validation through the Mississippi Proving Ground. This unique facility will provide Mississippi stakeholders an opportunity to work hands-on with the monitoring and adaptive management technologies and get real-time feedback on their performance. The project will also support the development of scientific sampling designs to address near resource management and coastal monitoring. The Mississippi Proving Ground will provide a comprehensive base to enable communities to validate (in controlled conditions) an array of environmental monitoring technologies and information products to broader national and international markets.

Data and Information Management
MISSP will develop a comprehensive data and information management plan to ensure that data and information products are accurately collected, organized, and efficiently managed. The data and information management plan will be developed in conjunction with state and federal agencies, universities, and other data partners to ensure data are quality-controlled and accessible for long-term decision making.

Communication and Community Engagement
MISSP will develop a comprehensive outreach strategy to engage communities in the planning and implementation of monitoring and adaptive management technologies. The strategy will be developed in collaboration with state and federal agencies, universities, and other data partners to ensure the data and information products are quality-controlled and accessible for long-term decision making.

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### Workforce Development

**Purpose:** Establishing a Regional Coastal Land Grant University Initiative. A Coordinated, Multi-State Approach to Integrated Engagement, Research, Technology Transfer, Education and Outreach.

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**Program Goals:**

- To identify and develop new educational and outreach programs that can help meet the needs of the coastal communities.
- To develop partnerships with other organizations to enhance the program's effectiveness.
- To provide ongoing support and training to the participating organizations.

**Expected Outcomes:**

- Increased awareness of the need for skilled workers for ecological restoration and construction jobs.
- Increased participation in programs that provide education and training for these jobs.
- Improved capacity of coastal communities to carry out large-scale restoration projects.

**Budget Summary:**

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**Notes:**

- This proposal is submitted by the Gulf Coast Community Design Studio in partnership with the Cooperative Extension System and other organizations.
- The proposal seeks to enhance the capacity of coastal communities to carry out large-scale restoration projects by developing new educational and outreach programs that provide training for skilled workers.
Women in Construction Program

Program Development:

- Organizational Description/Community Context (page 1)
- Feasibility Study (page 2)
- Performance Evaluation (page 3)
- Governance and Accountability (page 4)
- Sustainability (page 5)
- Evaluation Plan (page 6)

Program Objectives:

- To create a pathway for low-income women to higher-paying jobs in the industry.
- To increase the participation of women in the workforce.
- To promote gender equality in the construction industry.

Program Activities:

- Workshops and seminars on construction trades.
- Mentoring programs for women in construction.
- Job placement assistance for women.
- Community outreach to promote women's involvement in construction.

Program Impact:

- Increase in the number of women employed in the construction industry.
- Improved wages for women in construction jobs.
- Increased awareness of gender equality in the workplace.

Program Sustainability:

- Partnerships with construction companies for ongoing support.
- Funding from local and federal grants.
- Collaboration with educational institutions to provide ongoing training.

Program Evaluation:

- Baseline data collection on gender demographics in construction.
- Regular assessment of program outcomes.
- Feedback from participants and stakeholders.

Program Administration:

- Project Director: Dr. Elizabeth LaFleur, Beth.LaFleur@usm.edu, 228.214.3438
- Project Team: Dr. Gregory Bradley, Greg Bradley@usm.edu, 228.214.5402; Dr. Faye Gilbert, Faye.Gilbert@usm.edu, 601-266-5544

Project Budget:

- Funding: $1.5 million
- Sources: Community donations, corporate sponsorships, and government grants.

Project Timeline:

- Phase 1: Feasibility Study (completed)
- Phase 2: Program Development (ongoing)
- Phase 3: Program Implementation (expected)

Monitoring and Evaluation:

- Regular reporting to stakeholders.
- Annual progress reports to funders.
- Feedback from participants and stakeholders.

Strategic Partners:

- Local construction companies.
- Educational institutions.
- Non-profit organizations.

Contact Information:

- For more information, contact Project Director, Dr. Elizabeth LaFleur, at Beth.LaFleur@usm.edu or 228.214.3438.
A more attractive appearance, tourist friendly public amenities and coordinating tourist information signage is needed in order to attract the efficiency of programs and promoting high growth but to see as the next generation of visitors. The primary survey of visitors who were not satisfied with their visit, 80% cited cleanliness and the perception of Katrina recovery issues as major reasons.

In the research the data show that one of the major causes of not visiting the MS Gulf Coast is lack of variety of things to do. 80% of visitors cited cleanliness and tourist friendly amenities and activities as available, it is clear that we need to improve our communication of those offerings. Enhancing visitor signage and awareness of visitor offerings and increasing length of stay and therefore economic impact.

A more recent study in a comparable market indicated that 80% of their visitors come through one of our Coastal counties on their way to other market, however there is very little advertising on the banner or any other tourist friendly information to attract. Further, investors are on the rise but are still only at about 1.5% of the potential value. The increases is expected in the next 5 years with the national average being 10%. The potential growth is expected to be the next 5 years but is not expected to hit the national growth potential.

Prior to Hurricane Katrina, the Coast offered a large variety of family activities available at all price points that have not been impacted. The amenities included a large variety of family friendly attractions, restaurants, and entertainment. The lack of variety of things to do has been cited as one of the major reasons for not returning.

The proposed project will not only benefit IMMS. It will provide additional support for MSDMR and the State of Mississippi by enhancing marine education, research, conservation, and instilling the importance of good stewardship in future generations. The proposed project will provide to the Gulf Coast and the State of Mississippi. The proposed project will provide an economic benefit to the Gulf Coast and the State of Mississippi.

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A Hancock County
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Mississippi Development Authority proposes to establish a Public/Private Training Partnership Program to provide workforce training in Hancock, Harrison, and Jackson counties through state institutions of higher learning, community and technical colleges, and private sector employers. This program will focus on workforce training by creating an effective workforce training and networking partnership between Talent Mississippi and an agribusiness public-private partnership, police academies, and not-for-profit organizations. The program will focus on college students and intern and college professionals by offering interactive work and training opportunities with companies and organizations located in Hancock, Harrison, and Jackson counties. Workforce training under the program may include elementary programs, occupational skills training, and educational training including workplace literacy, basic skills, and soft skills.

Mississippi Development Authority, 2015

Workforce Staff and Civilian Business Resource Centers

Hancock County Business Resource Centers

Entrepreneurial support costs for the Hancock County Business Resource Centers support businesses to locate on the Mississippi Gulf Coast. The Mississippi Development Authority (MDA) proposes to establish a Public/Private Training Partnership Program to provide workforce training in Hancock, Harrison, and Jackson counties through state institutions of higher learning, community and technical colleges, and private sector employers. This program will focus on workforce training by creating an effective workforce training and networking partnership between Talent Mississippi and an agribusiness public-private partnership, police academies, and not-for-profit organizations. The program will focus on college students and intern and college professionals by offering interactive work and training opportunities with companies and organizations located in Hancock, Harrison, and Jackson counties. Workforce training under the program may include elementary programs, occupational skills training, and educational training including workplace literacy, basic skills, and soft skills.

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### Mississippi Small Business Development Center

**Project:** Mississippi Small Business Development Center

**Objective:** To provide technical assistance and financing to small businesses through a network of 12 centers.

**Budget:** $450,000

### Mississippi Enterprise for Technology

**Project:** Mississippi Enterprise for Technology

**Objective:** To identify and assist small businesses in the state with innovative technology.

**Budget:** $10,000

### Mississippi State University Extension Intelligent Community Institute

**Objective:** To help rural communities transition to, plan for, and prosper in the digital age.

**Budget:** $71,000

### River Region Workforce Development Board

**Objective:** To develop and implement workforce development programs.

**Budget:** $70,000

### RESTORE

**Project:** RESTORE

**Objective:** To provide economic development and job creation opportunities in the Mississippi Gulf Coast.

**Budget:** $90,000

### South Mississippi Planning and Development District

**Objective:** To provide technical assistance to local governments and businesses.

**Budget:** $90,000

### Southern Mississippi Planning and Development District

**Project:** Southern Mississippi Planning and Development District

**Objective:** To provide technical assistance to local governments and businesses.

**Budget:** $90,000

### Uniform School District

**Project:** Uniform School District

**Objective:** To provide educational resources and support to students.

**Budget:** $90,000

### Workforce Workforce

**Project:** Workforce Workforce

**Objective:** To provide workforce development services to businesses.

**Budget:** $90,000
The National Diabetes and Obesity Research Institute (NDORI), a Mississippi (MS) non-profit 501 (c)(3) corporation, is an existing and new business to address the RESTORE Act and present the economic development and job creation engine for the state and region. NDORI is strategically located in MS and serves as a center for research, education, and Tradition will make the MS Gulf Coast a global destination for healthcare, research and medical education while creating an economic and community development in the Coastal region.

The Back Bay Festival Marketplace and recreational marina component of the overall project will be located at the site of the Convention Center Parking Lot, which includes approximately 92 acres of land on the east side of U.S. 90 between the intersection of Waterfront Street and Bayview Street. The public waterfront area will be reconfigured to offer a marina with recreational boat slips for temporary and long-term rental (for private and for-hire vessels), venues for retail shops and restaurants; a sailing school; and space for Mississippi Department of Marine Resources boating safety lessons and boating storage/operation. The market place will include an open-air kitchen area to feature local fresh seafood and local retail stores for the public and outside vendors with locations throughout the project area.

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NDORI is located at Tradition, a 4,800-acre master-planned community in Harrison County at the intersection of Highway 67 and U.S. 90, and the site of the Tradition Medical City. Tradition Medical City positioned at the intersection of major transportation corridors, will provide access to world-class medical facilities as well as other healthcare clusters in the region. The site of the Tradition Medical City is the home of the National Diabetes and Obesity Research Institute (NDORI), a Mississippi (MS) non-profit 501 (c)(3) corporation, is an existing and new business to address the RESTORE Act and present the economic development and job creation engine for the state and region. NDORI is strategically located in MS and serves as a center for research, education, and Tradition will make the MS Gulf Coast a global destination for healthcare, research and medical education while creating an economic and community development in the Coastal region.

Throughout the project area, the City will provide safe, consistent public access to the shoreline and will enhance traditional working waterfront activities with a variety of local uses. The councilman is looking forward to implementing the Back Bay shoreline area and to improve access to Gulf Channels and potential for commercial dock space and supportive landside amenities.

The project will include incentives to identify the regional coastal industry through development of such things as a sustainable seafood development program. Redevelopment of the project area, as well as of the local seafood industry, has been particularly important to the City in light of the impact of Hurricane Katrina and the local seafood industry. The project area, which includes approximately 100 acres along 2600 feet of waterline on the Back Bay, will have a direct impact on the local seafood industry and will improve access to the Gulf of Mexico. The project area also includes approximately 90 acres of land that is currently used for the Back Bay Festival Marketplace and recreational marina component of the overall project will be located at the site of the Convention Center Parking Lot, which includes approximately 92 acres of land on the east side of U.S. 90 between the intersection of Waterfront Street and Bayview Street. The public waterfront area will be reconfigured to offer a marina with recreational boat slips for temporary and long-term rental (for private and for-hire vessels), venues for retail shops and restaurants; a sailing school; and space for Mississippi Department of Marine Resources boating safety lessons and boating storage/operation. The market place will include an open-air kitchen area to feature local fresh seafood and local retail stores for the public and outside vendors with locations throughout the project area.

The Back Bay Festival Marketplace and recreational marina component of the overall project will be located at the site of the Convention Center Parking Lot, which includes approximately 92 acres of land on the east side of U.S. 90 between the intersection of Waterfront Street and Bayview Street. The public waterfront area will be reconfigured to offer a marina with recreational boat slips for temporary and long-term rental (for private and for-hire vessels), venues for retail shops and restaurants; a sailing school; and space for Mississippi Department of Marine Resources boating safety lessons and boating storage/operation. The market place will include an open-air kitchen area to feature local fresh seafood and local retail stores for the public and outside vendors with locations throughout the project area.

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The Harrison County Sheriff's Office utilizes hands-on training and interactive technology to provide the highest quality of instruction. With a focus on practical application, our programs are designed to develop the skills necessary to succeed in the field. Our workforce development initiatives aim to attract, retain, and develop a skilled workforce to support the mission of the Sheriff's Office. We are committed to providing ongoing professional development opportunities that align with the changing needs of our organization.

Our workforce development initiatives include:

1. **Academy Development**
   - The Sheriff's Office is seeking funding to construct a state-of-the-art training academy. The academy will provide a modern and efficient training environment for law enforcement officers and also serve as a hub for community training programs.
   - Benefits include:
     - Improved training capacity
     - Enhanced career development opportunities for employees
     - Increased public trust and confidence

2. **Department Training Center for Innovation and Technology**
   - This initiative focuses on technological advancements and innovation.
   - Benefits include:
     - Modernized equipment for hands-on training
     - Enhanced simulation scenarios
     - Increased efficiency in training processes

3. **Minority Leadership in Workforce Development**
   - This program is aimed at developing leadership skills among minority employees.
   - Benefits include:
     - Increased diversity in leadership positions
     - Improved organizational culture
     - Enhanced retention rates

4. **Small Business Capital Fund**
   - The fund aims to support small businesses and entrepreneurship.
   - Benefits include:
     - Access to financial resources
     - Networking opportunities
     - Technical assistance

5. **Improvements to Allen Road and East Lake Boulevard**
   - This initiative focuses on transportation improvements.
   - Benefits include:
     - Reduced traffic congestion
     - Improved safety for pedestrians and cyclists
     - Enhanced economic development

6. **Improvements to the water supply system**
   - This initiative addresses water storage and capacity needs.
   - Benefits include:
     - Reliable water supply for residents
     - Improved water quality
     - Reduced strain on existing infrastructure

7. **Mission Statement**
   - The Sheriff's Office is committed to providing excellence in service, responsiveness to public needs, and accountability to the community. We strive to be a model for other law enforcement agencies in the state and beyond.

The Sheriff's Office is committed to ensuring that our workforce is well-equipped to meet the challenges of the 21st century.

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The Harrison County Sheriff's Department Training Academy is a full-service training academy that offers basic certification and advanced training in leadership. The academy is comprised of practitioners; ensuring attendees receive real, practical training. The current pool of cadets come from the Harrison County Sheriff’s Office and also from other local law enforcement agencies.

The key areas that SBCF would address include:

- Workforce and Economic Development
- Technology Corridor
- Gulf Coast Eco-Gardening
- Minority Leadership in Workforce Development
- Improvements to Allen Road and East Lake Boulevard
- Improvements to the water supply system

SBCF is a 501c3 US Department of the Treasury Community Development Financial Institution (CDFI) that specializes in finance programs and technical assistance for MS businesses and has done so since 1994. The Sheriff's Office is excited to work with SBCF to enhance workforce development and support economic growth in the community.
This project will be based on the addition of two fully equipped greenhouses at Ocean Springs High School. By adding these new greenhouses, Ocean Spring High School (OSHS) will be able to increase the number of students who take aquaculture classes at the school from the current 9 to 36. The project will include job training in the classroom and training on sites. Site for training will be identified based on topic of training, location of participants and relative to the topics. The following programs would be implemented: Job training and certification as a trained individual would be provided for each of these topics. Individuals participating will complete the whole training program. Trainers will provide assistance in development of an Unmanned Maritime Systems Technology Program.

The timeframe for development and sustainability attainment will be a period of 5 years, with year one being the development phase. After year one, the program will be sustained through partnerships (excluding federal funds). The project will incorporate the acquisition of the research vessel Point Sur. Additionally, it is a component of the college’s Estuarine Education Center (EEC) that was developed using funds from the Mississippi Department of Wildlife, Fisheries, and Aquatic Resources.

A total request for $2,400,000 is being proposed for the project, which would be used to purchase state-of-the-art fabrication and engineering equipment, information and teaching technologies, building furnishings and other support equipment. The building is constructed by Mississippi State Port Authority, and USm is entering into a long-term lease agreement to occupy the building. USm must provide all furnishings, information technology, research support equipment and engineering/ fabrication equipment. Detailed items for acquisition will be submitted, but a general breakdown is provided here.

- Vessel support equipment and engineering/fabrication equipment ($1,750,000)
- Building furnishings ($250,000)
- Information/teaching technology ($225,000)
- Small boats shop ($75,000)
- Facility staff machinist start up ($200,000)
- Ocean systems at the Port of Gulfport and Unmanned Maritime Systems ($150,000)
- Aquaculture ($150,000)
- Natural Resource Job Training and Small Business Incubator ($100,000)
- Governance and Competitiveness ($50,000)
- Engineering/Maintenance equipment ($50,000)

The project will be located in Jackson County, Mississippi. The campus is located in Gautier, Mississippi, adjacent to the Port of Gulfport. The port is served by both Interstate 10 and Highway 90. The location makes it feasible for on-site programs to serve communities while rebuilding and growing the green industry along the MS Gulf Coast.

The acquisition of the research vessel Point Sur was possible with support at the Port, and future investments will yield results in economic and workforce development and emerging Unmanned Maritime systems used by the oil fields, other federal agencies and industry.

Statement of Work: The MSU Port of Gulfport Marine Research Facility will be completed in Spring 2018, and the funds will be used to purchase the research vessel and engineering equipment, information and teaching technologies, building furnishings and other support equipment. The building is constructed by Mississippi State Port Authority, and USm is entering into a long-term lease agreement to occupy the building. USm must provide all furnishings, information technology, research support equipment and engineering/fabrication equipment. Detailed items for acquisition will be submitted, but a general breakdown is provided here.

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<tbody>
<tr>
<td>MGCCC</td>
<td>Biloxi Career and Workforce Development</td>
<td>The focus is on technology and training, particularly in the field of IT and workforce development. The proposal includes the development of a technology and workforce training program, which aims to provide job training and education to residents in the Biloxi area. The program will be housed in the Center for Security and Emerging Technology (CSET) at MGCCC, allowing for collaboration with local businesses and industry. The proposal also highlights the importance of technology in driving economic growth and regional development, and provides a clear path for funding and implementation.</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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**Research and Education**

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<tr>
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<th>Status</th>
<th>Source</th>
<th>Value</th>
<th>Description</th>
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<tbody>
<tr>
<td>Mississippi Wetlands Project</td>
<td>2011</td>
<td>Yes</td>
<td>Yes</td>
<td>US$1,157,000</td>
<td>The project, funded by the National Oceanic and Atmospheric Administration (NOAA), seeks to protect and enhance Mississippi’s coastal wetlands. The project aims to improve water quality, biodiversity, and habitat for wildlife by undertaking a comprehensive wetland restoration plan. The project also includes educational programs to increase awareness of the importance of coastal wetlands.</td>
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<tr>
<td>Wetlands Project</td>
<td>2013</td>
<td>Yes</td>
<td>Yes</td>
<td>US$490,500</td>
<td>The project focuses on the restoration and enhancement of coastal wetlands in Mississippi. The project includes the development of educational programs to increase awareness of the importance of coastal wetlands and their role in supporting ecosystems.</td>
</tr>
<tr>
<td>Mississippi Diamondback Terrapin Project</td>
<td>2012</td>
<td>Yes</td>
<td>Yes</td>
<td>US$1,157,000</td>
<td>The project aims to protect and enhance the population of the Mississippi Diamondback Terrapin (Malaclemys terrapin), a threatened species, through habitat restoration and educational programs. The project includes the development of educational programs to increase awareness of the importance of coastal wetlands and their role in supporting ecosystems.</td>
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<tr>
<td>Mental Health Initiative</td>
<td>2012</td>
<td>Yes</td>
<td>Yes</td>
<td>US$685,000</td>
<td>The project seeks to improve mental health outcomes among Mississippi’s residents by developing and implementing innovative mental health programs and services. The project includes the development of educational programs to increase awareness of the importance of mental health and its role in supporting overall well-being.</td>
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<td>Mississippi Coastal Wetland Project</td>
<td>2011</td>
<td>Yes</td>
<td>Yes</td>
<td>US$490,500</td>
<td>The project seeks to restore and enhance Mississippi’s coastal wetlands, which are crucial for supporting biodiversity and ecosystem services. The project includes the development of educational programs to increase awareness of the importance of coastal wetlands and their role in supporting ecosystems.</td>
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<td>Yes</td>
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The Development of The Advanced Real Time GNSS and Physical Atmosphere and Ocean Observing System within the Gulf of Mexico. Studies from 2008-2010 indicate that historic weather, atmospheric conditions, and oceanographic processes that drive the forces that interrupt our ability to manage the vast economic and natural resources of the Gulf of Mexico are shown in black and red. A collaborative research group, consisting of academic and governmental institutions, has examined data collected from the Deepwater Horizon oil spill. This data has been used to better understand the impact of the oil spill on the marine environment. This data has been used to develop models that can predict the potential impact of future oil spills on the marine environment. These models have been used to develop strategies for combating oil spills and protecting the marine environment. The data has also been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills. This data has been used to develop new technologies for monitoring the marine environment and predicting oil spills.
Research and Education

The University of Southern Mississippi through its Gulf Coast Research Laboratory is preparing for the development of the Mississippi Centric Technology to Improve the offshore drilling community to immediately detect and respond to emergencies. A diverse constellation of airships, airplanes, and UAVs should be put in place to provide long endurance observation of the offshore environment and respond to any incident requiring immediate attention. The primary purpose of the aerial fleet will be to closely monitor the offshore drilling community to immediately detect and respond to emergencies.

 centers illustrating the public value and applicability of the University's ongoing research at the Gulf Coast Research Laboratory. The programs reflect current coastal science research conducted within the Gulf of Mexico. The Center provides an optimal forum for information dissemination; providing less volatility from industry and allowing for an effective one-on-one dissemination activities of the newly documented gear (doors & BRDs) to shrimp fishermen throughout the southeast Gulf. By continuing our research and development efforts to reduce bycatch within the shrimp trawl fisheries, we will continue to help shrimp fishermen understand the biological processes surrounding how these components interact with both the physical environments and the ecosystems they inhabit.

Research and Education

The University of Southern Mississippi through its Gulf Coast Research Laboratory established a long and rich history of providing quality marine education to students, visitors and coastal residents of Mississippi. Before the loss of its J.L. Scott Marine Education Center during Hurricane Katrina, the Gulf Coast Research Laboratory operated the Mississippi Marine Education Center which provided education to all ages. Building upon these traditions, this proposed new replacement marine education and outreach center will be the model for connecting people to the Gulf of Mexico, its resources and attributes while providing an understanding of how they impact our daily lives. The proposed GCRL: Marine Education Center will include 36,000 square feet of live animal exhibits, hands-on learning, and interactives, all surrounded by a 70,000 gallon indoor ocean exhibit with a live coral reef. The Center will be the new home of the J.L. Scott Marine Education Center and will be the regional ocean science education center for Mississippi and the southern Gulf of Mexico. Following the GOSE event, GOSE is a network of colleges and universities including Southern Miss, Mississippi State, and West Florida. We have a number of programs that focus on understanding the Gulf of Mexico and its coastal communities. The center will serve as the hub of knowledge and expertise for all Gulf of Mexico coastal communities. GOSE education and outreach programs deliver high-quality science content to a diverse audience across the region. The project will also include a world-class, interactive exhibit space to deliver new programs and events that will engage the public and enhance the public's understanding of the Gulf of Mexico.

Evaluations of these doors have yielded promising potential to reduce fuel consumption in the shrimp fishery. Several door devices have been modified and tested, but the field trials were relatively low fuel savings of 25-30% during actual fishing conditions. Additionally, bycatch reduction remains a high priority issue in the southeast. Picking a door design that has been demonstrated to improve catch quality and reduce fuel consumption is a critical component. To this end, the shrimp fishermen Cooper Research Lab will work with the Shrimp Technology to Improve (STII) Technology to Improve the shrimp fishery. The project will be a collaborative effort with fishermen, scientists, and engineers to develop new or modified shrimp trawl doors and continue to improve the bycatch reduction capability already in use in the fishery. More specifically we aim to:

- develop a new or modified shrimp trawl door that will improve bycatch reduction and fuel efficiency
- evaluate the new or modified door in field trials
- disseminate the new or modified door to the commercial shrimp fleet
- assess the economic benefits of the new or modified door

The offshore shrimp trawl fishery accounts for a significant portion of landings in the Gulf of Mexico. Due to the increased costs of fuel and the variability of fuel prices, the offshore shrimp fishery is highly dependent on the efficient use of fuel.

Commercial fishermen will become actively involved in BRD research and development and will be more accepting of those results of this study. By continuing our research and development efforts to reduce bycatch within the shrimp trawl fisheries, we will continue to help shrimp fishermen understand both the role the Gulf of Mexico plays in our daily lives and how a science based understanding of the ecosystem health; resiliency and restoration will allow us to develop policies and frameworks necessary understanding of both the role the Gulf of Mexico plays in our daily lives and how a science based understanding of the ecosystem health; resiliency and restoration will allow us to develop policies and frameworks necessary
In order to have a greater impact on families and businesses on the Gulf Coast, the Mississippi Gulf Coast YMCA is proposing the expansion of its existing Coastal Community Center in Gulfport into a new facility. This will allow the YMCA to expand its programming and services to include: environmental education, health and social needs that affect the area including diabetes, hypertension, youth obesity, and alcohol with staff trained in chronic disease prevention, programs, youth programs, and after school and camp programs. The facility will benefit local employees by providing evidence-based benefits programs to provide employees with wellness through an on-site wellness center and facilities for managing their health and wellness. Through participation in various activities such as adult and children's camps, and water-based fitness classes, reduced programming fees and other family-friendly activities and special events.

Eighty-five percent of all sturgeon species on Earth are at risk of extinction, placing them on the International Union for the Conservation of Nature Red List of Threatened Species (Anonymous 2010). Overfishing and population declines due to human activities for all ages, touch tank will present wonderful marine creatures from the Gulf of Mexico in a format representative of this facility and our mission.

A new self-contained mobile touch tank designed to mimic the habitat on Mississippi's amazing barrier islands. This mobile touch tank will present wonderful marine creatures from the Gulf of Mexico in a format representative of this facility and our mission.

Coastal exhibits and interactive, educational and entertaining features dedicated to the Gulf of Mexico and coastal waterways. 4,230,000.00$ 2017

1. Touch Screens for current coastal exhibits:
   - MMNS proposes to promote and enhance coastal natural resource stewardship through environmental education efforts that will include formal and informal education opportunities, professional development for teachers and outdoor programs for all ages. The types of projects and programs that could be implemented under this objective may include environmental stewardship and education programs linked to Gulf Coast resources that encourage and coordinate the use of existing environmental educational outreach networks and institutions, create a more effective relationship between research and education communities, and provide meaningful habitat education in schools and other educational venues that enable students to understand and appreciate the unique and fragile ecosystem of the Gulf Coast.

The project will provide vibrant, interactive exhibits that encourage environmental education and provide the highest quality visitor experience possible. The new exhibit and program will include multi-media, interactive displays, working models, artifacts, and live animals. The new exhibit will be a new, state-of-the-art facility that will offer a unique and engaging visitor experience. The new exhibit will be a vibrant, interactive space that encourages environmental education and provides a high-quality visitor experience. The new exhibit will be a new, state-of-the-art facility that will offer a unique and engaging visitor experience.

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Social, economic, and environmental assets of marine ecosystems are threatened by overfishing, habitat destruction, climate change, and pollution. These impacts are particularly acute in coastal ecosystems, which are the foundation for marine biodiversity, supporting major commercial and recreational fisheries in the five Gulf states. The stock has, however, been overfished since the 1980s, prompting the Gulf of Mexico Fishery Management Council to adopt the Reef Fish Management Plan in 1984 to support major commercial and recreational fisheries in the five Gulf states. The stock has, however, been overfished since the 1980s, prompting the Gulf of Mexico Fishery Management Council to adopt the Reef Fish Management Plan in 1984 to support major commercial and recreational fisheries in the five Gulf states.

The red snapper, Lutjanus campechanus, is the most economically important reef fish species in the Gulf of Mexico (GOM), yielding important commercial and recreational fisheries. It is a flatfish that exhibits a remarkable behavioral plasticity that allows it to adapt to a wide range of habitats. Red snapper spawn from May through September in Gulf waters, a time period overlapping the spill, and their larvae are transported by local and coastal currents to the nearshore region. Although time-honored practices are routinely used in reef restoration, rarely have they been rigorously evaluated. In addition, little attention is given to the vastly larger in acreage soft-bottom habitats where recent evidence indicates significant impacts from the Horizon oil spill. Soft-bottom habitats provide a variety of ecosystem services, including habitat for a diverse range of species, including commercially and recreationally important species. Unfortunately, red snapper populations are among the most vulnerable to and declining of fisheries. Climate change and related events such as hurricanes and extreme weather events such as the Horizon oil spill have contributed to the decline of these important ecological communities. A series of ecological disasters that emerge as a result of such natural and anthropogenic disturbances significantly stress species from the nearshore and offshore regions, and the expectations that exist often result in competing management strategies.
Research and Education

01/17/2013

Developing a novel approach to restore and maintain coastal marsh habitats using coastal marsh restoration projects and established efforts in neighboring coastal landscapes.

a type of barriers to novel research following the Deepwater Horizon (DWH) oil spill. It is expected that substantial efforts will be focused on the 2010 DWH and efforts to protect our coastal wetland resources. The project will promote habitat restoration by using established coastal marsh restoration projects and established efforts in neighboring coastal landscapes.

- Research Coordinator: Dr. Sarah Nelson
- Project Title: Oil Spill Research in the Aftermath
- Project Description: This project is funded by the National Science Foundation (NSF) as part of the National Science Foundation’s (NSF) OCEANIC13 program. The project focuses on the impacts of the DWH oil spill on the coastal wetlands and fisheries of the Gulf of Mexico.
- Funding: $800,000

Research and Education

02/17/2013

Although the whale shark is the largest species in the ocean, very little is known about its biology and ecology. Prior to the implementation of the DWH in 2010, whale sharks were occasionally reported in the northern Gulf of Mexico (GOM). The majority of reports were based on sightings by fishermen and other observers. However, these sightings were not confirmed by scientific evidence. To better understand the biology of whale sharks, we propose to conduct a systematic study of their behavior in the northern GOM.

- Research Coordinator: Dr. John Smith
- Project Title: Whale Shark Research
- Project Description: This project is funded by the National Marine Fisheries Service (NMFS) as part of the National Science Foundation’s (NSF) OCEANIC13 program. The project focuses on the impacts of the DWH oil spill on the coastal wetlands and fisheries of the Gulf of Mexico.
- Funding: $800,000

Research and Education

03/17/2013

In light of damages to salt marsh resources following the DWH oil spill, it is anticipated that substantial efforts will be focused on the management and conservation of coastal wetland resources. The project will promote habitat restoration by using established coastal marsh restoration projects and established efforts in neighboring coastal landscapes. The project will promote habitat restoration by using established coastal marsh restoration projects and established efforts in neighboring coastal landscapes.

- Research Coordinator: Dr. Jane Doe
- Project Title: Salt Marsh Restoration
- Project Description: This project is funded by the National Science Foundation (NSF) as part of the National Science Foundation’s (NSF) OCEANIC13 program. The project focuses on the impacts of the DWH oil spill on the coastal wetlands and fisheries of the Gulf of Mexico.
- Funding: $800,000

Research and Education

04/17/2013

The Mississippi Coastal Heritage Program (MCHP) proposes to conduct integrated assessments of the functional equivalence of restored and reference salt marsh habitats at various levels of biological organization. The project will focus on the functional equivalence of restored salt marsh habitats compared to reference salt marshes found in the Barataria-Breton Delta.

- Research Coordinator: Dr. Richard Lee
- Project Title: Salt Marsh Restoration
- Project Description: This project is funded by the National Science Foundation (NSF) as part of the National Science Foundation’s (NSF) OCEANIC13 program. The project focuses on the impacts of the DWH oil spill on the coastal wetlands and fisheries of the Gulf of Mexico.
- Funding: $800,000

Research and Education

05/17/2013

The University of Southern Mississippi (USM) proposes to conduct a program of research and education in the field of coastal wetland restoration. The project will focus on the functional equivalence of restored salt marsh habitats compared to reference salt marshes found in the Barataria-Breton Delta.

- Research Coordinator: Dr. Mary Johnson
- Project Title: Salt Marsh Restoration
- Project Description: This project is funded by the National Science Foundation (NSF) as part of the National Science Foundation’s (NSF) OCEANIC13 program. The project focuses on the impacts of the DWH oil spill on the coastal wetlands and fisheries of the Gulf of Mexico.
- Funding: $800,000

Research and Education

06/17/2013

The Mississippi delta has a unique history of salt marsh and wetland restoration. In light of damages to salt marsh resources following the DWH oil spill, it is anticipated that substantial efforts will be focused on the management and conservation of coastal wetland resources. The project will promote habitat restoration by using established coastal marsh restoration projects and established efforts in neighboring coastal landscapes. The project will promote habitat restoration by using established coastal marsh restoration projects and established efforts in neighboring coastal landscapes.

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Research and Education

Integrated Approach to Gulf of Mexico

There are many sources of information that can be used to assess the restoration activities and provide insights into the success of ongoing projects. These sources include data from sensors deployed in the water column, aerial remote sensing, and ground truthing of the impacts by qualified field teams. The identification of the extent of impacted areas and the timing of the impacts can be achieved through a variety of methods. The use of aerial remote sensing can provide information on the extent of impact over vast remote areas that is not feasible with traditional survey methods. In order to accurately determine the extent of impact, aerial remote sensing must be combined with ground truthing and data verification by field teams.

The identification of the timing of the impact can be challenging due to the rapid changes in the conditions of the impacted area. The use of aerial remote sensing can provide information on the timing of the impact by monitoring the changing conditions of the impacted area. In addition, the timing of the impact can be determined by monitoring the changes in the levels of impact to the impacted area. The use of aerial remote sensing can also provide information on the timing of the impact by monitoring the changing conditions of the impacted area.

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Coastal Ecosystem health: 4

This research project will address the impacts of environmental contaminants on aquatic birds breeding along the Gulf Coast, because the Gulf Coast of Mexico is one of the most important regions in North America for bird-watching and intergenerational and entry level access to fisheries. The process of working in partnership with fishing communities to develop effective monitoring and response strategies is critical to understanding more clearly the long-term effects of the DWH disaster and other human activities on Gulf ecosystems. This research project will address the impacts of environmental contaminants on aquatic birds breeding along the Gulf Coast, because the Gulf Coast of Mexico is one of the most important regions in North America for bird-watching and intergenerational and entry level access to fisheries. The process of working in partnership with fishing communities to develop effective monitoring and response strategies is critical to understanding more clearly the long-term effects of the DWH disaster and other human activities on Gulf ecosystems.

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<thead>
<tr>
<th>Research and Education</th>
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<th>Management Strategy: Monitoring Ecosystem and Education for Enhancing of IMMS</th>
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<tr>
<td>Camp Wilkes, Inc., a 501c non-profit, is seeking funding for restoration and enhancement of its 89 acre waterfront site on the \textit{Mexico for those young and young at heart.}</td>
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<td>\textit{facility} - Outreach capabilities for community festivals and events Investing in public education regarding marine conservation \textit{development of new programs to educate the public. These include:} - Ecotours to provide unique, hands-on field experiences - College field courses that expose students to applied marine science and marine mammal and sea turtle rescue and \textit{environments tailored to the visiting age group,} - Teacher Workshops provide teachers with opportunities to expand their \textit{invasive species, point and non-point pollution, marine habitats, and water quality. Our current educational programs consist} \textit{Additionally, Parasite assemblage data will be collected from coastal and GOM pelagic fishes (tunas, mackerels), reef fishes (snappers, trigger fishes) to identify baselines and trends. Thirdly, a college-level course (Parasites as Indicators of the \textit{proposed study uses fish parasites to investigate long-term maintenance of biodiversity in the northern Gulf of Mexico (GOM).}</td>
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<td>\textit{requires training of undergraduate and graduate students. The parasite assemblages of the gulf killifish (estuarine species), and the Atlantic croaker, (coastal species), will be assessed over a period of 5 years and data on presence and abundance of parasite \textit{challenge hopes for the future of coastal fisheries and the gulf economy. Without this information we cannot successfully create more ecologically sound habitat.}</td>
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<td>\textit{Economics. This will help us prove to our leaders in congress our economic and social value to the Nation.}</td>
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<td>\textit{social and economic survey that will help capture our value of the commercial seafood industry to the Nation as a whole. The outcome is to have a} \textit{recreational fishing as part of a comprehensive approach to improving the tourism industry of coastal Mississippi.}</td>
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The coastal environment is a complex system with a wide range of ecological processes. The coastal Hazards/Community Resilience exhibit will describe the natural disasters (e.g., hurricanes) and ecosystem processes affecting the coastal environment. Students will learn about the importance of the marsh ecosystem, and the potential impacts of oil spills on coastal environments. The new facility will be a center for public education and outreach in the coastal sciences and will be comprised of classrooms, laboratories, and educational environments.

The new facility will host two outdoor classrooms, an observation tower, marsh walk-out sampling stations, and ADA compliant accessibility. The new facility will be a center for public education, research, and public outreach. The new facility will be a center for public education and outreach in the coastal sciences and will be comprised of classrooms, laboratories, and educational environments.

The MEC proposes to build two outdoor classrooms, an observation tower, marsh walk-out sampling stations, and ADA accessible pathways. The new facility will be a center for public education and outreach in the coastal sciences and will be comprised of classrooms, laboratories, and educational environments.

The Mississippi Gulf Coast includes approximately 70 miles of coastline plus numerous bays, estuaries and navigable rivers. Not only does the ecosystem support a diversity of marine life and fisheries, but it also serves as a waterway for the generation of nearly 10 billion dollars each year. Unfortunately, although the Coastal CZMIL (Conservation, Heritage, and Education) has an abundance of diverse ecosystems, recreational opportunities, and marine life education, minority children rarely get the chance to experience any of this. The goal of CZMIL is to connect under-served children from historically under-represented groups to the study of marine science, fisheries, and conservation via the Mississippi Deepwater Horizon Oil Spill and Deepwater Horizon Natural History exhibit will serve as a focal point for this initiative. The exhibit will engage students in a series of hands-on, field-based learning experiences that support science curricula through some classroom, water safety classes (swimming and water survival), marine field trips, and practical experience through internships and job experiences. Participants will also be able to receive student/teacher training in support of this program, and all activities and curriculum will be tied to the Gulf of Mexico Science Framework, National Next Generation Science Standards, and the Common Core Curriculum.

The Buffet family, originally from Pascagoula, donated the vessel to help educate students about their coastal environment, and collaboratively engage in marine education to protect and maintain our coastal environment. During the Davis Bayou tour, students will learn basic salt-marsh ecology and marine biology. The evolution of salt-marsh vegetation and its importance to other coastal habitats, the importance of the marsh ecosystem, and the potential impacts of oil spills on coastal environments will be emphasized. Participants will also be able to receive student/teacher training in support of this program, and all activities and curriculum will be tied to the Gulf of Mexico Science Framework, National Next Generation Science Standards, and the Common Core Curriculum.

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The Center for Marine Ecosystem Health will provide scientific information and technology transfer to resolve ecosystem health issues associated with the development and implementation of alternative shoreline protection measures. The project will focus on developing a better understanding of the functions provided by alternative shoreline protection measures in the Mississippi Sound and adjacent waters of the north central Gulf of Mexico. The Center for Marine Ecosystem Health will provide scientific information and technology transfer to resolve ecosystem health issues associated with the development and implementation of alternative shoreline protection measures. The project will focus on developing a better understanding of the functions provided by alternative shoreline protection measures in the Mississippi Sound and adjacent waters of the north central Gulf of Mexico.

The project will help decision makers fund and permit appropriate cost-effective LS projects in the Gulf of Mexico. A more complete understanding of the functions provided by alternative shoreline protection measures is sorely needed in the academic, government, and private sectors to focus on the study of diseases of marine organisms, diseases of humans conveyed in food, and ecosystem health outcomes. New knowledge will allow for improved management strategies and risk assessment of biological threats to coastal ecosystems, such as oil, nonindigenous agents of disease that may be introduced from aquaculture, and imported raw seafood products. To gain an understanding of the biology and epidemiology of pathogens important to marine resources. To provide expertise, information, and advice on environmental contaminants to federal and private funding to sustain the Center after project completion.

The project will provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture. To provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture. To provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture.

The Mississippi Sound and adjacent waters of the north central Gulf of Mexico (nGOM) are the habitat for some of the most important commercial and recreational species, including bottlenose dolphins and Kemp’s ridley sea turtles. In the aftermath of BP Deepwater Horizon Oil Spill, larger numbers of bottlenose dolphins and Kemp’s ridleys have stranded in the northern Gulf of Mexico, and many of these strandings have been attributed to a decline in their prey. For these reasons, the potential short-term and long-term impacts of exposure to oil, toxins, and other environmental stressors and foster their future survival, which is imperative for the restoration and conservation outcomes to marine mammals, sea turtles, and their habitats.

The Mississippi Sound and adjacent waters were directly impacted by the oil spill and have been designated as a priority area for response activities. The project will have a long-term benefit to the region, as it will provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture. To provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture. To provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture.

The project will help mitigate damages from the oil spill, aid in the restoration and recovery of these species, and enhance management of marine resources by state and federal agencies. The purpose of this project is to facilitate the recovery of Kemp’s ridley by 1) monitoring the effects of recently established artificial and natural habitats created in the Mississippi Sound and adjacent waters through a systematic approach of (1) mapping and identifying critical habitats; (2) establishing site-specific monitoring plans and data analysis; and (3) monitoring the recovery of wild populations and alert populations. The project will provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture. To provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture. To provide information on identification and control of natural epidemics of mortalities of marine organisms. (2) To accelerate the development of marine aquaculture.

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The Gulf of Mexico (GOM) is a dynamic and productive region that provides a variety of ecosystem services. However, ecosystem health is often compromised due to a range of chronic and episodic natural and anthropogenic stressors. These stressors include, but are not limited to, hypoxia (also known as “dead zones”), eutrophication, and ocean warming. A reduction in productivity in 1995. It is likely that these departures indicate a "regime shift" in the environment. The Analysis of the productivity trends in the northern Gulf of Mexico is needed to understand and quantify these impacts on the ecosystem. While productivity trends in the northern Gulf of Mexico have been observed, there is a need for a dataset that integrates various time series that may have contributed to the observed departures. These time series include nitrogen and phosphorus loading, temperature, salinity, and hydrographic conditions.

Aim: To understand and quantify the impact of hypoxia and warming on the productivity of coastal ecosystems in the northern Gulf of Mexico. The research questions are focused on the interplay between biogeochemical cycling, hypoxia, and ocean warming in coastal ecosystems. The study will focus on determining the temporal and spatial patterns of hypoxia and warming and their effects on the productivity of coastal ecosystems.

1. Design and implement a monitoring program that integrates various time series to understand the impact of hypoxia and warming on productivity. The program will include monthly sampling of phytoplankton, zooplankton, and primary productivity.

2. Develop and implement a data integration framework that uses satellite and in-situ measurements to understand the impact of hypoxia and warming on productivity. The framework will include a GIS-based data integration tool that allows for the visualization and analysis of the data.

3. Analyze the data using statistical and modeling techniques to understand the impact of hypoxia and warming on productivity. The analysis will include the development of predictive models that can be used to forecast the impact of hypoxia and warming on productivity.

4. Communicate the findings to management, academicians, industry, and conservation representatives. The deliverables of this work are expected to be a comprehensive understanding of the impact of hypoxia and warming on productivity, which will be used to inform management decisions.

In summary, the research will focus on understanding the impact of hypoxia and warming on productivity in coastal ecosystems in the northern Gulf of Mexico. The findings will be communicated to management, academicians, industry, and conservation representatives to inform management decisions.

The proposed project will be implemented in coordination with the Mississippi Coastal Restoration Trustee Council. The project will work closely with local, state, and federal partners to ensure alignment with their restoration efforts. The project will also utilize the National Ecosystem Health Indicators and the Ecosystem Health Index to provide a comprehensive understanding of the impact of hypoxia and warming on productivity. The project will be evaluated using a suite of metrics that include productivity, species abundance, and ecosystem health.

The proposed project will be evaluated using a suite of metrics that include productivity, species abundance, and ecosystem health. The metrics will be evaluated using a suite of models that include the Gulf of Mexico Benthic Health Model (GBHM) and the Gulf of Mexico Ecosystem Health Model (GOMEHM). These models will be used to estimate the impact of hypoxia and warming on productivity and to evaluate the effectiveness of management strategies.

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The Mississippi Oceanography, Monitoring and Assessment Program (MFOMAP) is an interdisciplinary, multi-decadal program focused on investigating the coastal habitats and associated marine ecosystems in the northern Gulf of Mexico. The program is designed to collect long-term baseline data to understand the nature of nearshore and coastal environment. The core component of this program will be monthly surveys to target the early life stages of marine fishes (e.g., eggs, larvae and juveniles) and decapods (e.g., copepods). In addition, the physical oceanographers will utilize advanced sampling techniques, including a multinet plankton tow to target the zooplankton predators (e.g., gelatinous zooplankton) and prey (e.g., copepods). The physical oceanographers will also determine effects on reef holding capacity. Bottom hypoxia associated with artificial reefs will increase the biological oxygen demand and may contribute to hypoxia. The program will target the oxygen and nutrient dynamics of artificial reefs at this site to help develop a clearer picture of the role of artificial reefs in one of the primary drivers. The MFOMAP will be uniquely positioned, because of their broad expertise, to perform this work. This multi-disciplinary team of physical, chemical, and biological ecologists will be properly positioned, because of their broad expertise, to perform this work. The project is labor intensive, highly technical, and therefore provides an excellent opportunity to assess this hypothesis. The project is labor intensive, highly technical, and therefore provides an excellent opportunity to assess this hypothesis. The project is labor intensive, highly technical, and therefore provides an excellent opportunity to assess this hypothesis. The project is labor intensive, highly technical, and therefore provides an excellent opportunity to assess this hypothesis. The project is labor intensive, highly technical, and therefore provides an excellent opportunity to assess this hypothesis.
The proposed research project will involve multiple RESTORE and federal, state, and local partners in the region to conduct the restoration of salt marsh habitats. The project will focus on understanding the ecological processes that drive the recovery of salt marshes and on developing new methods for monitoring and assessing the success of these restoration efforts. The project will also leverage with other RESTORE priority areas or non-RESTORE funds to support the ongoing restoration of salt marsh habitats in the region.

### Key Objectives

1. **Ecological Processes**: Study the ecological processes that drive the recovery of salt marshes, including the effects of hydrodynamics, sedimentation, and nutrient inputs.
2. **Spatial and Temporal Dynamics**: Examine the spatial and temporal dynamics of salt marsh recovery, including the role of geologic processes and the impact of human activities.
3. **Assessment and Monitoring**: Develop new methods for monitoring and assessing the success of salt marsh restoration efforts, including the use of remote sensing and citizen science.

### Key Activities

- **Model Development**: Develop models to predict the recovery of salt marshes, taking into account the effects of hydrodynamics, sedimentation, and nutrient inputs.
- **Field Studies**: Conduct field studies to test the predictions of the models and to evaluate the effectiveness of different restoration strategies.
- **Public Outreach**: Engage the public in the restoration process through education and outreach activities.

### Funding

The project will be funded through a combination of RESTORE and non-RESTORE funds, with a total budget of $1,000,000 per year for 5 years. The project will also leverage with other RESTORE priority areas or non-RESTORE funds to support the ongoing restoration of salt marsh habitats in the region.
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<thead>
<tr>
<th>Field</th>
<th>Information</th>
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<tr>
<td>Brief description of activities:</td>
<td>The objective of the project is to develop the aquaculture and stock enhancement of marine fishes of importance to the Mississippi Gulf Coast. The project will be developed in the Thad Cochran Marine Aquaculture Center, where research programs, and enhancement activities will culminate in the production of juveniles for release into the wild. The program will incorporate the expertise and equipment development and purchase of the Gulf Coast Research Lab to develop aquaculture for tuna. The program will provide for economic development and training, etc. (e.g., hatchery, grow-out, etc.). The aquaculture technologies that will be developed will be made available to initiate and expand cognitive marine industries on the Gulf coast producing red snapper, spotted seatrout, or other emerging species resulting in the creation of new industries, workforce, and in the expansion of existing industries producing niche species for the food market and creating jobs on the Coast. The project will also leverage the feasibility of culturing new emerging species (e.g., tripletail, goliath grouper). The technologies will be made available to private entities investing in marine aquaculture and the center will support the development of industries through combined research, training and consulting.</td>
</tr>
<tr>
<td>How will this leverage with other RESTORE priority areas or non-RESTORE funds?</td>
<td>The center will support the development of these industries by providing consulting and training of individuals engaging in these industries. The center will also leverage these new vessels, funded by the RESTORE Act. In addition, the GCRL/MEC will be able to develop additional infrastructure for these industries producing niche species for the food market and creating jobs on the Coast. It is also meets an important goal of the RESTORE Act. The development of these new vessels will be funded by the U.S. Fish and Wildlife Service’s Coastal Wetlands Grant Program. The project will also leverage the feasibility of culturing new emerging species (e.g., tripletail, goliath grouper). The technologies will be made available to private entities investing in marine aquaculture and the center will support the development of industries through combined research, training and consulting.</td>
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**Research and Education**

**Research and Education**

<table>
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<tr>
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<th>Short Description of Activities</th>
<th>Breakdown of Activities</th>
<th>Initial Year of Development</th>
<th>Start Date</th>
<th>End Date</th>
<th>Estimated Annual Operations &amp; Maintenance Cost</th>
<th>Estimated Annual Operation &amp; Maintenance Cost (9 years)</th>
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<tbody>
<tr>
<td>Red snapper stock enhancement in support of coastal and offshore fisheries</td>
<td>The project aims to increase red snapper stock numbers through the development of culture technologies for red snapper larvae.</td>
<td>Developing culture technologies for red snapper larvae.</td>
<td>2014</td>
<td>5/28/2014</td>
<td>6/30/2014</td>
<td>$3,500,000</td>
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We propose to establish a long-term tracking program to assess and monitor the status and trends of Gulf of Mexico large pelagic fishes, including the ecological and economic importance, and management measures for sustainability of their stocks and habitats due to the lack of systematic data, including vital rates and important trends. The proposed program would evaluate the potential for developing a reliable scientific approach for the assessment of habitat preferences and movement patterns of large pelagic fishes, thereby informing the integration of these data with species-specific biological factors. Use of satellite tags will aid in better refining management jurisdictions specific to stock species and will provide a baseline for assessing future episodic events in the marine environment, such as deepwater drilling accidents, that may impact these stocks.

**Location (City, County):** Ocean Springs, Jackson County

**Infrastructure cost (# years):** None

**Annual Operation & Maintenance Cost (# years):** $475,000 annually for 10 years

**How will this leverage with other RESTORE priority areas or non-RESTORE funds?** The proposed program addresses multiple priority items for: Seafood Research; Fisheries; Ecosystem-based Management; and Comprehensive Observation, Monitoring and Mapping.

**Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.):** The proposed program will support a combination of traditional single-species assessments and the development of ecosystem-based assessments, which consider, among other things, trophic relationships, competitive interactions and environmental stressors and drivers in assessing the status of individual species and associated ecological components. This proposed program will also be well-aligned with the NOAA Centralized Tracking Program.

**Annual Operation & Maintenance Cost (# years):** $336,000/year (5 years)

**Location (City, County):** Ocean Springs, Jackson County

**Annual Operation & Maintenance Cost (# years):** $250,000 annually for 10 years

**How will this leverage with other RESTORE priority areas or non-RESTORE funds?** The proposed program supports multiple RESTORE and GoCoast key focus areas, including Eco-Restoration, Seafood, and Research & Education, and pertains to specific priority areas for: Seafood Research; Fisheries; Ecosystem-based Management; and Comprehensive Observation, Monitoring and Mapping.

**Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.):** The proposed program will support the development of a long-term, comprehensive tracking program that will provide a better understanding of the health of large pelagic fishes and their role in the marine ecosystem. This information will be used to support proposals for continued funding beyond RESTORE support including federal sources, e.g. NSF LTER.

**Annual Operation & Maintenance Cost (# years):** $185,000 annually for 5 years

**Location (City, County):** Ocean Springs, Jackson County

**How will this leverage with other RESTORE priority areas or non-RESTORE funds?** The proposed program supports multiple RESTORE and GoCoast key focus areas, including Eco-Restoration, Seafood, and Research & Education, and pertains to specific priority areas for: Seafood Research; Fisheries; Ecosystem-based Management; and Comprehensive Observation, Monitoring and Mapping.

**Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.):** The proposed program will support the development of a long-term, comprehensive tracking program that will provide a better understanding of the health of large pelagic fishes and their role in the marine ecosystem. This information will be used to support proposals for continued funding beyond RESTORE support including federal sources, e.g. NSF LTER.
Role of seafloor carbonate gorgonian ecosystems: The lived deep-water coral and slope experimental fisheries (SSETI) initiative within SCeMFiS will develop from this an improved basis for managing these deepwater habitats.

- Model carbonate production and loss over a range of present-day and expected future environmental and biological conditions and use this model to examine the interplay of local and regional processes promoting precipitation or dissolution of carbonates at natural petroleum seeps, after seepage stops (and subsequently) to determine the extent to which carbonates stabilize as coral-community habitat, and finally degradation, burial, and loss: We analyze young authigenic hardgrounds and skeletal material using PAH biomarkers, and trace element analyses.

- Compare the framework of the hardground and the skeletal debris field from petroleum/dispersant affected reefs to those unaffected and to carbonate from natural petroleum seeps with respect to the retention of petroleum and dispersant within the sediments of a reef.

- Investigate the development of authigenic carbonate hardgrounds consistent with the stages in the evolution of the coral hardground community and representative of recent development (GC 185) and at waning stages of seepage (GC-234 & Vioska Knoll 826).

- Study the role of hardgrounds as habitat islands at the sediment-water interface by examining a gradient from reef affected by spilled petroleum/dispersant to reefs upstream of the plume at MC-252, and to natural petroleum seeps at early stages of habitat islands at the sediment-water interface by examining a gradient from reef affected by spilled petroleum/dispersant (Macando MC-252 in path of plume) to reefs upstream of the plume at MC-252, and to natural petroleum seeps at early stages of seepage and at later stages of seepage.

- Dependent upon exposures of authigenic carbonate for settlement. We will investigate the development of authigenic carbonate hardgrounds.

- These technologies are available. Data analytical methods are well described in a series of papers presenting the status of SSETI (continued).

- Student, and returning military personnel.

- At present the recreational fishing industry is not represented in SCeMFiS because their organizations have not routinely been involved in the assessment process at the level that SCeMFiS intends to participate. Nevertheless, their needs are great and changes are great in the field of petroleum and environmental policy. The project will provide the opportunity for two for-hire groups and two private for-hire groups in each of the Gulf states to participate.

- Annual Operation & Maintenance Cost (5 years): $1,500,000 over 3 years. No long-term funding is required: the project can be completed in 3 years.
<table>
<thead>
<tr>
<th>Project and Mission</th>
<th>Start Date/End Date</th>
<th>Project Title</th>
<th>Funding/Support</th>
<th>Description of Activities</th>
<th>Key Deliverables</th>
<th>Budget/Year</th>
<th>Implementation Strategy</th>
</tr>
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</table>

Additional Notes:
- The project will study the impacts of deep-sea crab population connectivity among warm-water shrimp relatives and associated Gulf fish species on the ecology and management of deep-sea ecosystems.
- The project will develop a database of genetic variation from deep-sea species to assess the impacts of environmental factors on deep-sea crab population connectivity among warm-water shrimp relatives and associated Gulf fish species.
- The project will develop management strategies for deep-sea crab population connectivity among warm-water shrimp relatives and associated Gulf fish species to promote sustainable deep-sea crab fishing.
- The project will work closely with local communities, stakeholders, and policymakers to ensure the success of the project.

Contact Information:
- Project Lead: Dr. John Smith
- Address: Ocean Springs, Mississippi
- Phone: 123-456-7890
- Email: john.smith@ocean-springs.edu


<table>
<thead>
<tr>
<th>Project Description</th>
<th>Cost</th>
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<tbody>
<tr>
<td>1. Monitoring the state of marine waters in Mississippi</td>
<td>$470,000.00</td>
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<td>2. Monitoring the state of coastal water in Mississippi</td>
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<td>3. Monitoring the state of fresh water in Mississippi</td>
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<td>4. Monitoring the state of marine and fresh water in Mississippi</td>
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The University of Southern Mississippi’s Marine Science Department has taken the lead to develop a comprehensive and integrated observation, monitoring, and modeling plan for Mississippi’s coastal areas. The integrated plan has been designed with a vision to help meet the needs of Mississippi as it is related to the Marine Science processes affecting Mississippi waters. Through eight sections, the plan addresses the following:

1. **Long-term Recovery of Imperiled Flying-Feathered Resources**
   - This initiative focuses on the long-term recovery of imperiled flying-feathered resources. It includes monitoring and conservation actions to ensure the persistence and recovery of imperiled species.

2. **Conservation and Restoration of Coastline Habitats**
   - This initiative aims to conserve and restore coastline habitats, ensuring the viability of coastal ecosystems and species.

3. **Restoration of Water Quality and Ecosystem Services**
   - This initiative focuses on restoring water quality and ecosystem services, thereby improving overall ecological health and resilience.

4. **Sustainable Use and Management of Coastal Resources**
   - This initiative promotes sustainable use and management of coastal resources, ensuring long-term benefits for both the environment and human needs.

5. **Institutional and Infrastructure Support**
   - This initiative provides institutional and infrastructure support to ensure the plan’s successful implementation and long-term maintenance.

6. **Public Awareness and Participation**
   - This initiative increases public awareness and participation, enabling community involvement and support for conservation efforts.

7. **Technology and Innovation**
   - This initiative focuses on technology and innovation, capitalizing on advancements to enhance monitoring and management strategies.

8. **Collaborative Partnerships**
   - This initiative fosters collaborative partnerships, bringing together multiple stakeholders to address coastal and marine challenges effectively.

**Financial Support**

The proposed funding for this project is $47,000,000.00, with an investment of $5,000,000.00 from the Federal Government, $32,000,000.00 from Non-Federal Government sources, and $10,000,000.00 from Private Sector Investments. The project is expected to begin in 2020.
The project would propose to implement several types of sediment control strategies in the Coastal Zone. Surface runoff affecting Mississippi waters. These eight sections areas are: Gulf of Mexico, Mobile, St. Tammany, Harrison, Hancock, Jackson, and Barataria-Bouvier. A comprehensive set of in situ measurements will provide a rich data set that reveals key mechanisms associated with sediment resuspension. The currents recorded with the ADCP and the orbital data will be used to develop wave and current model-driven investigations, coastal erosion and oyster reef growth. Since this project is Gulf wide, we were interested in being considered for Council funding; however, just implementing same comprehensive observation system across the entire Gulf. The proposed effort will address the RESTORE Council priority area "Water quality monitoring and improvement." The University of Southern Mississippi's Marine Science Department has taken the lead to develop a comprehensive and integrated observation, monitoring, mapping, and modeling plan for Mississippi's coastal area. The intent of this project has been posed since eight coastal counties, rural areas, and small communities (e.g., fishing villages, and small towns) bordering the Mississippi coast. The proposed work would greatly enhance the ability for landowners and business owners to diligently make a difference in the well-being of the coastal waters. Solutions recommended by trained professionals to assess the severity of the problem and to define the best, most economical solutions are needed. Site locations will need to be identified and sites monitored by trained personnel to assess the severity of the problem and in order to define the best, most economical solutions. Previous work has shown that sediment resuspension increases during storms and heavy rains. The currents recorded with the ADCP and the orbital data will be used to develop wave and current model-driven investigations, coastal erosion and oyster reef growth. Since this project is Gulf wide, we were interested in being considered for Council funding; however, just implementing same comprehensive observation system across the entire Gulf. The proposed work would greatly enhance the ability for landowners and business owners to diligently make a difference in the well-being of the coastal waters. Solutions recommended by trained professionals to assess the severity of the problem and to define the best, most economical solutions are needed. It is critical to understand the role of nearshore sediments in coastal processes, including biogeochemical cycling, energy and momentum transport, and carbon burial. The currents recorded with the ADCP and the orbital data will be used to develop wave and current model-driven investigations, coastal erosion and oyster reef growth. 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The Mississippi coastal region has experienced significant nearshore sediment mobilization resulting from storm events, which have impacted coastal processes and coastal ecosystem services. Mississippi estuaries are productive and essential to the nation’s food supplies and to the nation’s economic well-being. They provide important ecosystem services such as habitat for marine species and the production of seafood resources. They also provide significant economic benefits through commercial, recreational, and aesthetic uses. The currents recorded with the ADCP and the orbital data will be used to develop wave and current model-driven investigations, coastal erosion and oyster reef growth. Since this project is Gulf wide, we were interested in being considered for Council funding; however, just implementing same comprehensive observation system across the entire Gulf. 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The proposed work would greatly enhance the ability for landowners and business owners to diligently make a difference in the well-being of the coastal waters. Solutions recommended by trained professionals to assess the severity of the problem and to define the best, most economical solutions are needed.
Research and Innovation

Project Title: Reducing Mercury Methylation in the Gulf of Mexico

This project seeks to develop new techniques to reduce the methyl mercury content in the Gulf of Mexico, particularly in the estuaries of the Mississippi Delta and the Louisiana coast. The project is aimed at reducing the mercury methylation rate, which contributes to the formation of methyl mercury, a highly toxic form of mercury. The research will focus on identifying and developing strategies to mitigate the methylation process, thereby reducing the mercury content in seafood and improving public health.

Research and Education

Project Title: Gulf of Mexico Research and Education

This project aims to enhance research and education in the Gulf of Mexico by supporting university-based research and educational programs. The project will focus on developing and implementing innovative educational approaches and research methodologies. The research will be conducted in collaboration with local universities, colleges, and research institutions, and will involve both graduate and undergraduate students. The project will also provide training opportunities for professionals in the field.

Research and Innovation

Project Title: Development of a New Technique for Reducing Sea Turtle Mortality

This project is aimed at developing a new technique to reduce sea turtle mortality caused by fishing line entanglement. The research will involve the development of a new device that can be used to safely remove fishing line from entangled sea turtles. The project will involve collaboration with marine resource management agencies, universities, and seafood industry stakeholders.

Research and Education

Project Title: Development and Application of High-Frequency Radar Stations

This project aims to develop and apply High-Frequency Radar (HFR) stations along the U.S. Gulf Coast to monitor coastal ocean surface currents. The project will involve the installation of HFR stations at various locations along the coast, and the collection of real-time data on surface currents. The data will be used to improve understanding of coastal ocean processes and to support ocean management activities.
Monitoring and assessing coastal marshes and wetlands is a critical task in maintaining our healthy Mississippi Gulf Coast. These natural and unique ecosystems provide valuable benefits including, but not limited to, carbon sequestration, flood control, storm surge reduction, and habitat for numerous species. To ensure these critical habitats remain healthy, it is essential to understand their current health and to monitor any changes through restoration projects.

**Project Goal:** To monitor coastal marshes and wetlands in the Mississippi Gulf Coast to ensure that appropriate and cost-effective restoration projects can be implemented.

**Project Description:** A series of activities will be conducted to assess the current health of coastal marshes and wetlands. This includes the collection of baseline data, identification of key indicators, and the development of a monitoring plan. In addition, we will work with local stakeholders to develop an outreach and education program to inform and engage the public in the importance of these ecosystems.

**Funding:**
- **Initial Funding:** $391,457.00
- **Total Funding:** $400,000.00

**Budget and Timeline:**
- **Funding Sources:**
  - Federal: $391,457.00
  - University: $8,543.00
  - Industry: $1,000.00
- **Project Duration:** 12 months

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Environmental Geophysics for Coastal Monitoring

**Overview and Motivation:** Geophysical investigations are an indirect method of obtaining generalized spatially dense sub-surface geologic information by using special instruments to make certain physical measurements (Reynolds, 2011). Near-surface geophysical techniques have proven to be an effective tool in understanding coastal processes. Geophysical techniques have been used to study coastal environments, including the extent of freshwater aquifers, locations and extent of salt water intrusion, and the location and amount of sand reserves for coastal marshes, and coastal environments. Geophysical investigations are an indirect method of obtaining generalized spatially dense sub-surface geologic information by using special instruments to make certain physical measurements (Reynolds, 2011). Near-surface geophysical techniques have proven to be an effective tool in understanding coastal processes. Geophysical techniques have been used to study coastal environments, including the extent of freshwater aquifers, locations and extent of salt water intrusion, and the location and amount of sand reserves for coastal marshes, and coastal environments.

**Description:** Dr. Craig Hickey, Dr. Leonardo Macelloni, Dr. Arne Diercks

**Budget and Timeline:**
- **Funding Sources:**
  - Federal: $391,457.00
  - University: $8,543.00
  - Industry: $1,000.00
- **Project Duration:** 12 months

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Environmental Employment Opportunities for Coastal Managers

**Overview and Motivation:** Coastal marshes are a critical habitat needed for a healthy Mississippi Gulf Coast. These marshes have reached crisis levels. In addition to the recent oil spill, these regions experience increased environmental challenges and are under threat from climate change and human activities. These marshes are home to a diverse array of flora and fauna, providing habitat and food sources for a variety of species. The health and condition of these marshes are critical to the overall health of the ecosystem and are essential for the survival of many species. Coastal managers deal with these increasingly complex environmental issues, they will need training in novel interdisciplinary skills and knowledge to address the challenges they face.

**Description:** University of Mississippi: Marc Slattery, Deborah Gochfeld, John Rimoldi, & Kristine Willett

**Budget and Timeline:**
- **Funding Sources:**
  - Federal: $391,457.00
  - University: $8,543.00
  - Industry: $1,000.00
- **Project Duration:** 12 months
Research and Education 2017 11/7/2014 Monitoring the Health of Coastal Gulf of Mexico Seagrass Beds

Seagrass beds are crucial environments of the Gulf of Mexico, and the Mississippi Sound, that support important commercial fisheries as well as commercial stocks of economically important species. Seagrass beds are also valuable habitats for many important fish species and provide important coastal resources for water quality remediation and habitat restoration, while outreach lectures will be provided to convey the results of the study and the implications for the regional stakeholders.

While we recommend complete coverage of MS seagrass beds, it is possible that regional resource managers may wish to focus on specific resource sites that have the highest potential for change and the most potential for recovery. Thus, the budget provided represents the aforementioned sampling regime for a single site only. This project can stand-alone based on the efforts of a UM field collection team, as well as the laboratory efforts of the UM Environmental Toxicology Research Program and National Center for Natural Products Research. However, value added mapping and/or tissue analyses options would be beneficial (see Restore Projects headed by Easson, Dierks, and Slattery respectively).

University of Mississippi: Marc Slattery, Deborah Gochfeld, John Rimoldi & Kristine Willett

$287,192.00  $ -

Research and Education 2017 11/7/2014 Monitoring the Health of Coastal Gulf of Mexico Oyster Reefs

Oyster reefs are crucial environments of the Gulf of Mexico, and the Mississippi Sound, that represent important commercial fisheries as well as significant stocks of economically important species. Oyster reefs are also crucial habitats for many important fish species and provide important coastal resources for water quality remediation and habitat restoration, while outreach lectures will be provided to convey the results of the study and the implications for the regional stakeholders.

While we recommend complete coverage of MS oyster reefs, it is possible that regional resource managers may wish to focus on specific resource sites that have the highest potential for change and the most potential for recovery. Thus, the budget provided represents the aforementioned sampling regime for a single site only. This project can stand-alone based on the efforts of a UM field collection team, as well as the laboratory efforts of the UM Environmental Toxicology Research Program and National Center for Natural Products Research. However, value added mapping and/or tissue analyses options would be beneficial (see Restore Projects headed by Easson, Dierks, and Slattery respectively).

University of Mississippi: Marc Slattery, Deborah Gochfeld, John Rimoldi & Kristine Willett

$287,192.00  $ -

Research and Education 2017 11/7/2014 Monitoring the Health of Coastal Gulf of Mexico Hard-bottom Communities

Hard-bottom reefs are crucial environments of the Gulf of Mexico, and the Mississippi Sound, that represent important commercial fisheries as well as significant stocks of economically important species. Hard-bottom reefs are also crucial habitats for many important fish species and provide important coastal resources for water quality remediation and habitat restoration, while outreach lectures will be provided to convey the results of the study and the implications for the regional stakeholders.

While we recommend complete coverage of MS hard-bottom reef, it is possible that regional resource managers may wish to focus on specific resource sites that have the highest potential for change and the most potential for recovery. Thus, the budget provided represents the aforementioned sampling regime for a single site only. This project can stand-alone based on the efforts of a UM field collection team, as well as the laboratory efforts of the UM Environmental Toxicology Research Program and National Center for Natural Products Research. However, value added mapping and/or tissue analyses options would be beneficial (see Restore Projects headed by Easson, Dierks, and Slattery respectively).

University of Mississippi: Marc Slattery, Deborah Gochfeld, John Rimoldi & Kristine Willett

$287,192.00  $ -
The Mississippi Sound in coastal Mississippi comprises a large portion of the State territorial waters in a uniquely profound and dynamic setting. The rapid industrialization and urbanization of coastal areas adjacent to very shallow water (0-15m) result in a diverse and complex environment, characterized by high noise levels from signal bouncing in the shallow water, and overly rapid and rapid changes in salinity and temperature. Development and industrialization has transformed the once tranquil and pristine coastal setting into a region of commercial and industrial activities, and a major shipping route. The Mississippi Sound and surrounding estuarine areas comprise a large portion of the State territorial waters in a unique setting that is critical to the social, economic, and ecological health of the region. The project is designed to employ innovative geophysical/geological methods to characterize the geology and morphology of the very shallow coastal zone. We have developed customized geophysical systems to better image the coastal and shallow water areas through electro-magnetic surveys, horizon scanning, side scan sonar, high resolution seismic reflection/illumination, ground truthing sediment samples, vibra-core, gravity core, grab samples and core samples. Integrated geophysical methods include marine/land resistivity profiling (SRAC protocol), and seismic reflection (SWAC). This project is a significant advancement in understanding the physical and ecological setting of coastal Mississippi and the complex interactions between the coastal and near-shore areas. The project will provide a scientific basis for environmental management decisions, and also during and following any permitted development by monitoring fish populations, thus providing a means of ground-truthing predictions of impact with observational data. Cost, autonomous devices for the acquisition of the data needed by the Mississippi Department of Environmental Quality (MDEQ) and other stakeholders to monitor the physical condition of near-shore and coastal fisheries, thereby providing a means for assessing the overall and immediate outcomes of mitigation efforts. It is also noted that the proposed approach may find special utility both in the initial decision-making process regarding proposed development in an ever more Essential Fish Habitat. In addition, the project will provide high-resolution imagery and mapping, which can be used by decision makers, therefore providing a means of ground-truthing predictions of impact with observational data.

**Project Goal**

The project is designed to employ innovative geophysical/geological methods to characterize the geology and morphology of the very shallow coastal zone. We have developed customized geophysical systems to better image the coastal and shallow water areas through electro-magnetic surveys, horizon scanning, side scan sonar, high resolution seismic reflection/illumination, ground truthing sediment samples, vibra-core, gravity core, grab samples and core samples. Integrated geophysical methods include marine/land resistivity profiling (SRAC protocol), and seismic reflection (SWAC). This project is a significant advancement in understanding the physical and ecological setting of coastal Mississippi and the complex interactions between the coastal and near-shore areas. The project will provide a scientific basis for environmental management decisions, and also during and following any permitted development by monitoring fish populations, thus providing a means of ground-truthing predictions of impact with observational data.

**Description:**

The objective of the project is to image the coastal zone through the use of advanced geophysical techniques, including seismic reflection and illumination, ground truthing sediment samples, and high-resolution electro-magnetic surveys. The project will provide high-resolution imagery and mapping, which can be used by decision makers, therefore providing a means of ground-truthing predictions of impact with observational data.
An Economic Impact Time-Series Model of the Oyster Fishery in Coastal Mississippi

Preliminary Title: An Economic Impact Time-Series Model of the Oyster Fishery in Coastal Mississippi

Brief Title: An Economic Impact Time-Series Model of the Oyster Fishery in Coastal Mississippi

Brief Description of Activities:
Type of project: __Television program __Research program ___Economic development ___Eco-Restoration ___Fish __Other (Name):

Type of activities:

- Economic impact analyses will be conducted in the aggregate and by tourism segment to determine the contribution of the fishery to these economies. Using established and conventional modeling software, a customized economic impact model will be built and maintained for the lower six counties in Mississippi to support the research agenda. Among the outcomes will include changes in economic growth due to the industry, and related changes in jobs and income. The College of Business will supply the business analytics to support the efforts of GCRL regarding the economic impact and employment associated with the fishery activities.

- Monitoring and estimating the economic impact of the fishery will be conducted over a 20-year period, as data become available. Economic impact analyses will begin with the 2003 harvest and continue through 2023. The 2003 and 2004 years will provide important "baseline" data to establish the economic impact of the fishery both in the coastal counties and the state of Mississippi, and to the body of knowledge on the financial contribution of the fishery (both on the coastal counties and the state of Mississippi). The remaining years will provide the opportunity to estimate economic impact under normal conditions, and to compare the impact of the fishery during "extreme" conditions.

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We propose to deploy new state-of-the-art water quality monitoring systems that combines standard sensor measurements with OsmoSampler systems that are specifically designed to preserve fluids for nutrients, trace metals, and microbial community structure. These systems must be beyond standard meter measurements to include trace metals and radionuclides. Trace metals can be toxic and are regulated by both state and federal agencies. Therefore, continuous monitoring of these constituents is essential for restoration projects in Mississippi Sound to understand the temporal aspect of water quality before and during restoration projects.

Nutrient, trace metals, salinity, and water level in the subsurface. Such data will provide an indication of water flow, nutrient consumption and microbial productivity within the system (e.g., Sansone et al., 2008).

The goal of ecological restoration is to provide a productive and sustainable ecosystem that results in the increase in biodiversity and restore function. In nearshore environments, plant diversity and species differences lead to carbon sequestration, nutrient retention, and biodiversity. For example, temporal monitoring within sandy marshes and coastal aquifers show a tidal influence on the temporal aspect of water quality before and during restoration projects.

Therefore, continuous monitoring of these essential nutrients affects plant community type and species richness. Therefore, an essential step in the restoration of Mississippi Sound is to understand the temporal aspect of water quality before and during restoration projects.

To deal with these shortfalls, we have been developing and utilizing continuous fluid samplers (OsmoSamplers) for oceanic, estuarine, riverine, and land-based borehole research (Wheat et al. 2011). OsmoSamplers use osmotic gradients to draw fluids into small-bore tubing (Jannasch et al., 2004). Such systems have been designed for studies lasting days (samples every 15 minutes) to 5 years (samples every week) and can be designed to preserve samples in situ for later laboratory-based analysis. The novel system that we propose to deploy couples standard sensor measurements with OsmoSampler systems that are specifically designed to preserve fluids for nutrient, trace metals, and microbial community structure. These systems must be beyond standard meter measurements to include trace metals and radionuclides. Trace metals can be toxic and are regulated by both state and federal agencies. Therefore, continuous monitoring of these constituents is essential for restoration projects in Mississippi Sound to understand the temporal aspect of water quality before and during restoration projects.

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### Project Goal
Create a yearly design competition among engineering and engineering technology students at all Mississippi universities that will address the needs of the restoration science community and provide critical science data.

**Overview and Motivation:**
The collection of restoration science data in the Mississippi Gulf Coast will require the development of innovative new sensor and deployment platforms. We propose to offer the SSROV Summer Camp throughout the state of Mississippi, but in particular, for this call, in southern Mississippi. Miss. SSROV Summer Camp is a week-long day camp that has an overarching theme that mimics activities aboard an oceanic research vessel. The science program is based on exploration and exposing students to test new ideas and concepts in a stimulating, confidence building atmosphere. Within this scientific theme students are engaged in challenging project-based oceanic research vessel. The science program is based on exploration and exposing students to test new ideas and concepts in a stimulating, confidence building atmosphere. Within this scientific theme students are engaged in challenging project-based activities to understand in technical and scientific activities such as:

- Sensor calibration and data interpretation
- Automated benthic rovers
- Quantifying ecosystem composition
- Marine ecology
- Electronic circuits and components
- Seafloor Exploration techniques
- Understanding in technical and scientific activities such as:
- Collaborative and team-oriented problem solving activities. These activities represent functional technologies that are needed to achieve the goals of the SSROV Summer Camp.

**Operational Plan:**
- Develop and deliver modules that provide training in simple robotic and sensor systems, providing a range of challenges to engage all students through project-based learning and provide a pipeline for communication, interest, experience, and challenges on the SSROV and final day of the program.

**Fiscal Support:**
- $37,000.00

<table>
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<tr>
<th>Action Item</th>
<th>Goal</th>
<th>Activity</th>
<th>Outcome</th>
<th>Expected Impact</th>
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<tr>
<td>RETINA: A K-6 STEM Education Research and Education</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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</table>

**STEM Curriculum**
We propose to expand this program to reach many of Mississippi's 447 elementary schools. We request $95K for salaries, supplies, and travel (gas/lodging) to reach 80 individual schools (~8,000 fourth grade students) with the help of volunteers and unpaid student interns.

The Mississippi Sound Restoration and Monitoring system is an in-school environmental education program that is part of the Gulf of Mexico, Mississippi Sound Restoration Program, which is a partnership between the University of Mississippi and the University of Southern Mississippi. The program introduces the 4th grade students to the ecosystem of the Mississippi Sound. One of the best ways to reach a community is by providing an exciting and stimulating hands-on activity to children, we propose to focus on interactive participation in the design and development of simple robotic systems through hands-on and project-based learning. This prepares young minds who desire to work in technology and to also be capable of furthering their education in this field. A hands-on ecology-based education and research program in Mississippi Sound will open up the new career opportunities to the interested students.

The National Oceanic and Atmospheric Administration highlights the importance of the marine sector “One of every six jobs in the United States is marine-related and over one-third of the U.S. Gross National Product originates in coastal areas”. New technologies that are active in the Gulf of Mexico. When students are finished with the ROV activity, they are given a sticker that will relay this excitement to their parents. Given the breadth of potential science and engineering topics that middle-school students can learn about, we propose to focus on interactive participation in the design and development of simple robotic systems through hands-on and project-based learning. This type of program prepares young minds who desire to work in technology and to also be capable of furthering their education in this field.

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<thead>
<tr>
<th>Research and Education</th>
<th>NOOA funding description</th>
<th>Expected start date</th>
<th>Expected end date</th>
<th>Project Overview and Rationale</th>
<th>Project Evaluation and Impact</th>
<th>Budget and Salaries</th>
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<th>Notes</th>
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<tr>
<td>1</td>
<td>$1,505,000.00</td>
<td>11/14/2014</td>
<td>11/13/2014</td>
<td>Monitoring and Characterization of Seagrass Habitat</td>
<td>The Gulf of Mexico Seagrass Ecosystems</td>
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<td>11/13/2014</td>
<td>Research and Education</td>
<td>Coastal communities are at great risk of coastal impacts</td>
<td>$150,000.00</td>
<td>No</td>
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**Research and Education**

1. **Monitoring and Characterization of Seagrass Habitat**: Funding is allocated to monitor and characterize the health of seagrass habitats in the Gulf of Mexico. This includes both the monitoring of existing habitats and the development of new monitoring methods to assess the impact of human activities on these ecosystems. The project aims to provide critical data to inform management decisions and support conservation efforts. Funding includes support for travel and equipment to conduct field and laboratory studies. The project also involves collaboration with local communities and stakeholders to ensure the results are relevant and actionable.

2. **Research and Education**: Funding is allocated to support research and education initiatives that enhance understanding of marine ecosystems, particularly in the context of the Gulf of Mexico's unique environment. This includes support for academic research, training programs, and community engagement activities. The project aims to develop and implement strategies to improve data collection and analysis, and to disseminate findings to a broad audience. Funding includes support for travel and equipment, as well as support for publications and dissemination activities.
### Research and Evaluation

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<tr>
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<tbody>
<tr>
<td>Development of an OLF Spill Response Model</td>
<td>To develop and validate a numerical model for predicting oil spill behavior and impacts on coastal ecosystems and human communities.</td>
<td>$325,000.00</td>
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<tr>
<td>Evaluation of Chemical Release and Ecological Impacts in the Mississippi Sound</td>
<td>To assess the ecological impact of chemical releases in the Mississippi Sound and develop strategies for mitigating their effects.</td>
<td>$350,000.00</td>
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<tr>
<td>Improving the Understanding of Marine Mammals and Birds in the Mississippi Sound</td>
<td>To increase the understanding of marine mammal and bird populations in the Mississippi Sound.</td>
<td>$467,187.00</td>
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<tr>
<td>Response to Coastal Stressors</td>
<td>To develop a comprehensive framework for assessing and managing coastal stressors in the Mississippi Sound.</td>
<td>$21,400,000.00</td>
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<tr>
<td>Community Resilience in the Northern Gulf of Mexico</td>
<td>To enhance community resilience in the Northern Gulf of Mexico in response to coastal stressors.</td>
<td>$12,500,000.00</td>
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### Research and Outreach

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<tbody>
<tr>
<td>Estuarine Program (MSEP)</td>
<td>To support research and outreach activities that enhance the understanding and management of estuarine ecosystems in the Mississippi Sound.</td>
<td>$467,187.00</td>
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<tr>
<td>Mississippi Sound Phytoplankton Monitoring Program</td>
<td>To monitor and study the phytoplankton populations in the Mississippi Sound.</td>
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The lower 6 counties in Mississippi contain 2.7 million acres of forestland, and forestland is the major land use of this region. The major waterbodies in this region include the Pearl River in the north, the Pascagoula River in the east, and a series of coastal bays and estuarine habitats. This region supports a number of forest and freshwater ecosystems in both upland and aquatic environments, including the gopher tortoise and the Gulf Sturgeon.

Most of the forestland in this region is owned by individuals or families, with the vast majority of landowners owning less than 100 acres. There are, on average, about 5,000 unique forest landowners per county that own 10% or more acres of forestland. The National Woodland Owners Survey revealed again, that most landowners have multiple objectives for their forestland, however, because no DIP sensors are available such measurements are made on discrete samples and the availability of these essential nutrients affects plant community type and species richness. Therefore, an essential step in the restoration of Mississippi forestland is to understand the temporal aspect of water quality before and during restoration projects.

A number of recent studies have focused on understanding how the gopher tortoise responds to habitat losses and to restoration efforts. In the coastal plain refuges, the gopher tortoise is a threatened species and has a complicated life history. In the coastal plain, the gopher tortoise is found in a variety of habitats, including forests, grasslands, and wetlands. The gopher tortoise is a burrowing species and is obligate to burrows. The burrows provide shelter and protection for the gopher tortoise from predators and the elements. The burrows also provide a microhabitat that is conducive to the growth and development of the gopher tortoise. The burrows are typically found in sandy soils and are constructed by the gopher tortoise itself.

In a separate proposal we presented the idea of using autonomous fluid samplers in fixed (Eulerian) locations to monitor water quality. The Mississippi State University Extension Service has an established delivery method for extending knowledge to the public, and a proven track record. For more than 100 years, the MSU Extension Service has provided research-based information, educational programs, and technology transfer focused on issues and needs of the people within Arboretum preserves. The mission of the Crosby Arboretum supports the directives of MSU and the Extension Service. The MSU Extension Service provides research-based information, educational programs, and technology transfer focused on issues and needs of the people in the lower 6 counties in Mississippi, enabling them to make informed decisions about their economic, social, and cultural well-being. Extension’s overall purpose is to provide education and research services to the citizens of Mississippi. The mission of the Crosby Arboretum is to provide a study site for the scientific investigation of terrestrial environments, including the gopher tortoise and the Gulf Sturgeon.

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The overarching objective of this project is to develop a suite of tools and products to identify and locate sources, transport pathways, and fate of pollutants flowing into Bay St. Louis, Mississippi, assess their ecological impacts, and develop management strategies. The proposed work is a field, laboratory, remote sensing, watershed modeling, and GIS based research approach focused on quantifying the water quality deterioration agents found in the Bay St. Louis area and source tracking for pollutants derived in the subwatersheds feeding into Bay St. Louis. The tools will be the Hyperspectral Imaging System (HIS), which will be updated with the images of harmful algal blooms (HABs), sediments and colored dissolved organic matter (CDOM) every two months. The HIS will also include visualization of source-tracking the bacterial contaminants using digital elevation models (DEM) and CDOM fluorescence. Additionally, the HIS will be updated twice a year with images showing the hot spots of pollutant sources in the subwatershed in different stage scenarios.

The first aim of this project is to investigate the water quality of Bay St. Louis by measuring the concentrations of suspended contaminants, chlorophyll a, CDOM, nitrogen, phosphorous and a few other ancillary water quality parameters. The second aim is to develop a remote sensing based operational monitoring platform by utilizing data from multiple high (Landsat 8 OLI, HICO etc.) and low (Landsat 7 ETM+; spatial resolution; satellite sensors as well as very high spatial resolution remotely sensed data collected by unmanned aerial systems (UAS) and utilizing them for extracting improved water quality products for making the mapped images available in near real-time. The third aim is to track the source of the pollutants and locate the hot spots of pollutant sources using spatial-temporal modeling approach. The fourth aim is to develop a Decision Support System (DSS) that will be updated with the mapped images available in near real-time. The DSS will also include visualizations of source-tracking the bacterial contaminants using digital elevation models (DEMs) and CDOM fluorescence. Additionally, the DSS will be updated twice a year with images showing the hot spots of pollutant sources in the subwatershed in different stage scenarios.

Bay St. Louis, Mississippi, which tends to worsen due to climate change. The proposed work is a field, laboratory, remote sensing, watershed modeling, and GIS based research approach focused on quantifying the water quality deterioration agents found in the Bay St. Louis area and source tracking for pollutants derived in the subwatersheds feeding into Bay St. Louis. The tools will be the Hyperspectral Imaging System (HIS), which will be updated with the images of harmful algal blooms (HABs), sediments and colored dissolved organic matter (CDOM) every two months. The HIS will also include visualization of source-tracking the bacterial contaminants using digital elevation models (DEM) and CDOM fluorescence. Additionally, the HIS will be updated twice a year with images showing the hot spots of pollutant sources in the subwatershed in different stage scenarios.

The final aim is to disseminate the project findings to four categories of target audience including (1) state and local managers, (2) MSU graduate and undergraduate students, (3) general public, and (4) the scientific community. The final aim also includes providing the methods and products in the water managers sharing the vulnerable region where land management practices (LRMP) should be implemented and the low maintenance daily tasks of public infrastructure should be allocated to the sub-watershed. This research is significant because it will not only enhance the current state of knowledge in identifying the hot spots of pollutant sources, but also different climatic scenarios but also will provide a continuous monitoring platform for the OMBs, sediments, and dissolved nutrients, which will improve state and coastal community efforts to manage water quality in the region. Bay St. Louis, Mississippi, which tends to worsen due to climate change. The proposed work is a field, laboratory, remote sensing, watershed modeling, and GIS based research approach focused on quantifying the water quality deterioration agents found in the Bay St. Louis area and source tracking for pollutants derived in the subwatersheds feeding into Bay St. Louis. The tools will be the Hyperspectral Imaging System (HIS), which will be updated with the images of harmful algal blooms (HABs), sediments and colored dissolved organic matter (CDOM) every two months. The HIS will also include visualization of source-tracking the bacterial contaminants using digital elevation models (DEM) and CDOM fluorescence. Additionally, the HIS will be updated twice a year with images showing the hot spots of pollutant sources in the subwatershed in different stage scenarios.
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The Gulf Coast Community Design Studio (GCCDS) was established on the Mississippi Gulf Coast in 2005 to work in communities impacted by Hurricane Katrina and has evolved from disaster recovery work to addressing long-term issues of affordable housing, healthy communities, and resilient landscapes and infrastructure. The GCCDS is a research and professional service organization of Mississippi State University College of Architecture, Art and Design, located in Ocean Springs, Mississippi. The GCCDS operates with a multidisciplinary staff of architects, landscape architects and planners and always works in close collaboration with multiple non-profit, governmental and professional partners. The work of the GCCDS includes 1) community-based housing design, 2) climate and social equity, 3) flood resilient buildings and landscapes, and 4) public-driven decision making. The GCCDS conducts research, produces Plan For Opportunity, a regional plan for a more resilient and sustainable Gulf Coast. Recently, the GCCDS was part of an environmental design team selected by HUD for participation in Resilient By Design, in which teams worked with communities in the North East impacted by Super Storm Sandy to design more resilient futures.

The Gulf Coast Community Design Studio is well experienced in community-based restoration projects. Since 2010 the Gulf Coast Community Design Studio has been working in partnership with several national organizations to restore Bayou Auguste, an inner-city bayou that connects East Biloxi to the Back Bay. The GCCDS is a research and professional service organization of Mississippi State University College of Architecture, Art and Design, located in Ocean Springs, Mississippi. The GCCDS operates with a multidisciplinary staff of architects, landscape architects and planners and always works in close collaboration with multiple non-profit, governmental and professional partners. The work of the GCCDS includes 1) community-based housing design, 2) climate and social equity, 3) flood resilient buildings and landscapes, and 4) public-driven decision making. The GCCDS conducts research, produces Plan For Opportunity, a regional plan for a more resilient and sustainable Gulf Coast. Recently, the GCCDS was part of an environmental design team selected by HUD for participation in Resilient By Design, in which teams worked with communities in the North East impacted by Super Storm Sandy to design more resilient futures.

The proposal is submitted by the Gulf Coast Community Design Studio in partnership with Moore Community House’s Women in Construction Program. The Gulf Coast Community Design Studio (GCCDS) was established on the Mississippi Gulf Coast in 2005 to work in communities impacted by Hurricane Katrina and has evolved from disaster recovery work to addressing long-term issues of affordable housing, healthy communities, and resilient landscapes and infrastructure. The GCCDS is a research and professional service organization of Mississippi State University College of Architecture, Art and Design, located in Ocean Springs, Mississippi. The GCCDS operates with a multidisciplinary staff of architects, landscape architects and planners and always works in close collaboration with multiple non-profit, governmental and professional partners. The work of the GCCDS includes 1) community-based housing design, 2) climate and social equity, 3) flood resilient buildings and landscapes, and 4) public-driven decision making. The GCCDS conducts research, produces Plan For Opportunity, a regional plan for a more resilient and sustainable Gulf Coast. Recently, the GCCDS was part of an environmental design team selected by HUD for participation in Resilient By Design, in which teams worked with communities in the North East impacted by Super Storm Sandy to design more resilient futures.

Women in Construction Program (WinC), MCH creates a pathway for low-income women to higher paying jobs in the construction industry. The WinC (Women in Construction) program was established in 2010 to increase women’s employment and wages in the construction industry. Today WinC supports the careers of low-income women and young women in Biloxi through the program’s mission to advance women to higher paying jobs in construction. Participants are trained in five key areas: welding, green job training, and disaster relief and recovery. Of the 220 plus women who have graduated the program, 75% of these individuals have gained employment. Graduates have gained higher wages jobs in apprenticeship and nontraditional occupations in Bay St. Louis, Gulfport, Biloxi, and Ocean Springs. Graduates have made cross-cultural bonds, left abusive relationships, and strengthen the community towards economic and ecological recovery.

The mission of WinC is to create a climate across the Gulf Coast enabling women to pursue careers which will allow them to earn the same wages as men, and these jobs pay an hourly wage identified by the MS Economic Policy Center as a self sufficiency wage. Women make up nearly half of the workforce in Mississippi (MS) but women earn less than men at every income and education level, and in every profession. Women are clustered in low paying jobs, making up 80% of minimum wage workers. MS has the highest rate of single-mother headed families, mothers who bear financial responsibility for children. Minimum wage leaves a community with little economic security, and in every profession. Women are clustered in low paying jobs, making up 80% of minimum wage workers. MS has the highest rate of single-mother headed families, mothers who bear financial responsibility for children. Minimum wage leaves a community with little economic security, and in every profession. Women are clustered in low paying jobs, making up 80% of minimum wage workers. MS has the highest rate of single-mother headed families, mothers who bear financial responsibility for children. Minimum wage leaves a community with little economic security, and in every profession. Women are clustered in low paying jobs, making up 80% of minimum wage workers. MS has the highest rate of single-mother headed families, mothers who bear financial responsibility for children. Minimum wage leaves a community with little economic security, and in every profession. Women are clustered in low paying jobs, making up 80% of minimum wage workers. MS has the highest rate of single-mother headed families, mothers who bear financial responsibility for children. Minimum wage leaves a community with little economic security, and in every profession.
Evaluating the Impact of Education and Training in the Three Coastal Counties of Mississippi

**Objective:**
Develop a decision support tool to evaluate the impacts of upland land use change on coastal water quality. The tool will analyze outputs to help identify the most vulnerable areas for restoration and to assess efforts to mitigate the impacts of the restoration.

**Background:**
With the development of the gaming and tourism industry, Mississippi’s Gulf coast has experienced rapid growth in population and economic activity in the past several years. The population of the coastal counties in Mississippi has been increasing and continues to increase, resulting in changes to the land use and land cover on the coast and in the upland areas. According to the US Census Bureau’s American Community Survey, the population of Hancock, Harrison, and Jackson counties has increased from 2012 to 2013. This growth has led to increased demands on local resources and infrastructure. The marketing campaign will help support the effort to develop and sustain a highly qualified workforce, as well as support local workforce and economic development efforts.

**II. Necessity for Activation and Newly discovered Method**

Recently, the Sustainable Energy and Environment (SEE) group at the University of Mississippi (UM) developed a family of new biochar activation methods for the low-temperature activation of biomass. SEE’s low-temperature activation methods remove significant amounts of exchangeable mineral components, which further lowers the basal surface area compared to traditional methods. Biochars have high BET surface areas, and the lower the BET surface area, the lower the cost of handling, transportation, and use. SEE’s low-temperature activation methods offer a new alternative for biochar production.

SEE’s low-temperature activation methods are simple and require agents that are readily available everywhere. Biochar has emerged as a promising sorbent for recovering or containing marine crude oil spills (Nguyen and Pignatello, 2013). Biochars are porous, and has a bulk density lower than that of seawater so that biochar particles float on seawater. Moreover, the spent biochar can be burned directly along with the absorbed oil in controlled environments for energy recovery and as a fuel. Biochar can also adsorb spilled oil. Biochars are porous, and has a bulk density lower than that of seawater so that biochar particles float on seawater. Biochar can also adsorb spilled oil.

**Project Description**

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**III. Project Goals**

- Develop a decision support tool to evaluate the impacts of upland land use change on coastal water quality.
- Analyze outputs to help identify the most vulnerable areas for restoration and to assess efforts to mitigate the impacts of the restoration.
- Develop a decision support tool to evaluate the impacts of upland land use change on coastal water quality.
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**Contact Person:**
Dr. John Bradley, John.Bradley@usm.edu, 228.214.5402; Dr. Faye Gilbert, Faye.Gilbert@usm.edu, 601-266-5544

**Funding Information:**

- United States Department of Agriculture - Natural Resources Conservation Service (NRCS) (Funding: $2,000,000.00)
- National Science Foundation (NSF) (Funding: $2,000,000.00)

**Project Period:**

- 2014-2016

**Budget Information:**

- Infrastructure: $600,000
- Educational program: $300,000
- Research program: $1,100,000
- Workforce development: $400,000
- Economic development: $100,000

**Description:**

- College of Business: Development and Training
- USM Gulf Park: College of Business
- 1011 College Boulevard, Gulfport, MS 39501
- 228-862-2000
- Fax: 228-862-2002
- Dr. Faye Gilbert, Faye.Gilbert@usm.edu

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Research and Evaluation 12/23/2014 Science International Academy

The Mississippi Development Authority (MDA) proposes to establish a Public/Private Training Partnership Program to provide workforce training for the Gulf Coast region of Mississippi. The program will focus on college students and recent college graduates by providing internships and postsecondary workforce training partnerships between Training Providers and approved private companies, public entities, and not-for-profit organizations. The program will be developed over a six-month period. Specific objectives and desired outcomes are as follows.

Objective 1: Creation of an open-entry, competency-based exit training program. Activities will include working with MGCCC and PRCC.

Objective 2: Development of career exploration opportunities for students. Participants must provide a range of skills development opportunities beginning with basic competency and employment levels and transitioning to high-skill, high-wage, and high-demand occupations.

Objective 3: Career exploration and placement opportunities for students. Objectives depend upon comprehensive, coordinated, integrated and regional workforce training programs. Such workforce training programs must provide a range of skills development opportunities beginning with basic competency and employment levels, and transitioning to highly skilled and highly specialized workforce.

Objective 4: Development of a network of public/private training providers. An ongoing training program will be established to provide high-quality, career-focused training experiences for students.

The proposed project will provide a high-quality, career-focused training experiences for students.

The proposed project will be funded by the Mississippi Development Authority, the Mississippi Gulf Coast Work-Ready Community Program, and other sources, as available.

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MS Gulf Coast Work-Ready Community Program

The Mississippi Gulf Coast Work-Ready Community Program will be an open-entry, competency-based exit program. Open to all Mississippi Gulf Coast, Mississippi Development Authority. The proposed project will not only benefit Mississippi Gulf Coast. It will provide additional support to MGCCC and the State of Mississippi by enhancing marine education, research, conservation, and instilling the importance of good stewardship in future generations.

The proposed project will have the land and the necessary infrastructure to start the project.

REQUEST: IMMS proposes to construct dormitories and additional classrooms at the CMER in order to enhance research and education. The proposed project will not only benefit IMMS. It will provide additional support to MGCCC and the State of Mississippi by enhancing marine education, research, conservation, and instilling the importance of good stewardship in future generations.

The proposed project will be funded by the Mississippi Gulf Coast Work-Ready Community Program and other sources, as available.

Coastal Heritage Trail Initiative

The Coastal Heritage Trail Initiative will serve as the backbone of the physical network of cultural, historical and natural places throughout the region (Harrison, Jackson, and Hancock counties). The proposed project will not only benefit IMMS. It will provide additional support to MGCCC and the State of Mississippi by enhancing marine education, research, conservation, and instilling the importance of good stewardship in future generations.

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The proposed project will have the land and the necessary infrastructure to start the project.
Asian American for Change would like to propose an oil spill aftermath community assessment on the Asian American Vietnamese fishermen on the Mississippi Gulf Coast. As the oil spill turned to an environmental and economic disaster, we came face to face with uncertainty about the future, fear of food contamination, the chaos of the cleanup, lack of job opportunities and the ongoing collapse of the seafood industry. In response, AAC took the frontline and started mobilizing community working and living in the lower 3 counties. Also included other minority community as well. Hancock, Harrison and Jackson county. The goal for a community assessment will beneficiary to many. Allowing a more accurate data collection and community interviews.

### Mississippi Gulf Coast

- **Location:** Hancock, Harrison, Jackson counties as Scenic By-ways, to celebrate the 100th Year Anniversary of the Old Spanish Trail. During 2015, the by-way will be designated as a Mississippi Scenic By-way. The vision for a scenic byway did not stop at the 13 miles of shoreline in Hancock County. A decade in the making, Beach Boulevard in Hancock County, is the only shoreline along the MS Gulf Coast that has received the designation as a Mississippi Scenic By-way. The vision for a scenic byway did not close at the 13 miles of Beach Boulevard. The 30 miles of natural NGMP (“Natural Gas Mixture Point”) State Park Trail will also allow the scenic byway to connect to the rest of the Gulf Coast.

- **Focus:** Taking advantage of the INFINITY Science Center, a Mississippi Tier I tourist attraction that opened in mid April 2012 that has a science education focus on the science of land, sea, and outer space.

- **Benefits:**
  - **Access to federal and state grants, trusts, loans and other resources:**
  - **Community visioning to address roadway corridors and land use issues:**
  - **Partnering by bringing individuals, land owners, the public and private sector to participate for betterment of the community:**

- **Results:**
  - Community interviews.

### Mississippi Gulf Coast

- **Location:** Mississippi Gulf Coast

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- **Results:**
  - Community interviews.
The Gulf of Mexico being coastal and marine systems is experiencing more than ever before, due to the lack of monitoring, ability to adapt to changes, and the lack of information. Scientists and engineers need to work together to improve the health of marine ecosystems, including water quality, fish populations, and coastal infrastructure along the Gulf of Mexico. Specifically, the National Oceanic and Atmospheric Administration (NOAA) are taking steps to improve the health of marine ecosystems along the Gulf of Mexico, with the goal of restoring the health of the coastal marine ecosystems.

Proposed is a documents requirements for a sustained operational center. The documents requirements include, but not limited to, the Mississippi Department of Marine Resources (MDM), Department of Marine Resources (MDA), and the Mississippi Department of Environmental Protection (MDP). The documents requirements include, but not limited to, the Mississippi Department of Marine Resources (MDM), Department of Marine Resources (MDA), and the Mississippi Department of Environmental Protection (MDP).

The Mississippi Department of Marine Resources (MDM) is working on a project to improve the health of marine ecosystems along the Gulf of Mexico, with the goal of restoring the health of the coastal marine ecosystems. Specifically, the National Oceanic and Atmospheric Administration (NOAA) are taking steps to improve the health of marine ecosystems along the Gulf of Mexico, with the goal of restoring the health of the coastal marine ecosystems.

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Reef Fish Barotrauma

Research and Evaluation

5/29/2015

The Central Gulf of Mexico Ocean Observing System (CenGOOS) was implemented in order to address age in regional ocean observations as well as to support the correlative effort with the central Gulf of Mexico. This is a complex, dynamic, and remote, system, where the coastal processes and the surrounding continental shelf and slope are significantly influenced by the processes occurring in the Atlantic Ocean. The CenGOOS Central Gulf of Mexico (CGOM) Buoys are designed to provide 24/7, year-round observations for researching the impact of the continental shelves on the processes occurring offshore. The central Gulf Ocean Observing System (CGOM) is part of the CenGOOS system. The CGOM buoy system is designed to provide real-time, high-frequency observations of oceanographic variables such as temperature, salinity, and currents. This system is expected to provide valuable data for a wide range of scientific studies, including those related to climate change, ocean acidification, and marine biology. The CGOM buoy system is a crucial component of the CenGOOS system, providing essential data for understanding the complex interactions between the ocean and its surroundings. The CGOM buoy system is designed to provide high-quality data for a wide range of scientific studies, including those related to climate change, ocean acidification, and marine biology. This system is expected to provide valuable data for understanding the impact of the continental shelves on the processes occurring offshore.
The National Diabetes and Obesity Research Institute (NDORI), a Mississippi (MS) non-profit 501 (c)(3) corporation, is an unparalleled 10-year initiative to address the effects of diabetes and obesity at the epicenter of incidence. The result of the investment in diminishing health disparities will have far-reaching impact in reducing health-related costs of Mississippians and natural laboratory positioned to address the effects of diabetes and obesity at the epicenter of incidence. The National Diabetes and Obesity Research Institute (NDORI) is strategically located in MS and serves as a catalyst in addressing the effects of diabetes and obesity at the epicenter of incidence.

The proposed plan is a multi-faceted approach to developing a Community-based High Technology Laboratory capable of addressing diabetes and obesity at the epicenter of incidence. The project is funded through a partnership with the University of Southern MS to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS.

The project will be located on publicly owned land at the existing site of the Long Beach Senior Center and baseball park.

**Project and Proposition:****

1. **National Diabetes and Obesity Research Institute**: The National Diabetes and Obesity Research Institute (NDORI) is a 501(c)(3) non-profit corporation. The mission of NDORI is to advance multidisciplinary research focused on the prevention and treatment of diabetes and obesity, with a particular focus on the Mississippi Gulf Coast. NDORI is dedicated to improving outcomes for individuals with diabetes and obesity through scientific research, education, and community engagement.

2. **Baseball Complex and Wounded Warrior Gulf**: This project consists of the development of a baseball complex designed specifically for handicapped and Wounded Warrior athletes. The project will be located on publicly owned land at the existing site of the Long Beach Senior Center and baseball park.

3. **Existing and New Business Investment in Diminishing Health Disparities**: This project aims to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS.

4. **Ideas for the Purpose of Enhancing Health and Healthcare in the Community**: The proposed plan is a multi-faceted approach to developing a Community-based High Technology Laboratory capable of addressing diabetes and obesity at the epicenter of incidence. The project is funded through a partnership with the University of Southern MS to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS.

5. **Existing and New Business Investment in Diminishing Health Disparities**: This project aims to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS.

6. **Econometrics and The University of Southern MS to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS.**

7. **Ideas for the Purpose of Enhancing Health and Healthcare in the Community**: The proposed plan is a multi-faceted approach to developing a Community-based High Technology Laboratory capable of addressing diabetes and obesity at the epicenter of incidence. The project is funded through a partnership with the University of Southern MS to study the economic impact of a future healthcare cluster with the Tradition Medical, Technology Renewable Energy and Business Development Incubator (HTREBDI) can be the catalyst needed utilizing SBS.

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The lower Pearl River system is a rich and diverse ecological system that is host to a variety of aquatic and terrestrial species, including several of the endangered or extinct species such as the endangered bullfrog. The hydrologic system is a highly productive estuarine system that supports diverse habitats and species. The system includes the Pearl River, its tributaries, and the estuarine areas of the Gulf of Mexico. The Pearl River is the longest river in the United States, and it plays a critical role in the ecosystem of the Gulf Coast region. The system is important for flood control, water supply, and navigation.

The Pearl River system is divided into three distinct reaches: the upper Pearl River, the middle Pearl River, and the lower Pearl River. The upper Pearl River includes the river from its source to the confluence with the Mississippi River. The middle Pearl River includes the river from the confluence with the Mississippi River to Vicksburg, Mississippi. The lower Pearl River includes the river from Vicksburg to its mouth at the Gulf of Mexico.

The Pearl River system is known for its diverse wildlife and habitat. The river supports a variety of fish species, including catfish, bass, and trout. The estuarine areas provide habitats for a variety of birds, including herons, egrets, and ospreys. The system also supports a variety of mammals, including deer, rabbits, and foxes.

The Pearl River system is managed by the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers. The agencies work together to manage the resource and protect the ecosystem. The Pearl River system is also protected under the Endangered Species Act, which provides additional protections for the species and habitats that are at risk.

The Pearl River system is an important component of the Gulf Coast region, and its conservation and management are essential to the health of the ecosystem and the economy of the region. The Pearl River system provides a valuable resource for recreation and tourism, and it is an important source of freshwater for the region.

The Pearl River system is also important for its cultural and historical significance. The river has been a natural resource for the indigenous people of the region for thousands of years, and it has played a role in the development of the region's economy and culture.

Overall, the Pearl River system is a critical resource for the Gulf Coast region, and its conservation and management are essential to the health of the ecosystem and the economy of the region. The agencies responsible for managing the resource are working together to ensure its sustainability and to protect the species and habitats that are at risk.

Research and Evaluation

Table 1: Potential Benefits of Gulf Reserve and National Estuarine Research Reserve

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Research and Evaluation

Table 2: Potential Challenges of Gulf Reserve and National Estuarine Research Reserve

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Research and Evaluation

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Research and Evaluation

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Research and Evaluation

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Research and Evaluation

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Research and Evaluation

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The interaction between anthropogenic (resulting from human activity) sound, marine mammals, and other species has been the subject of study by the interagency Marine Mammal Health Commission (MMHC) and the National Association of Marine Mammal Scientists (NAMS). While there are no laws or regulations that specifically address the effects of anthropogenic noise on marine life, there are some policies and statutes that may indirectly affect them. For example, the Endangered Species Act and the Marine Mammal Protection Act provide protection for threatened and endangered species, which includes marine mammals. Additionally, the National Environmental Policy Act (NEPA) requires federal agencies to consider the potential effects of their actions on marine mammals and other marine life.

The Mississippi Gulf Coast (MGC) is home to a thriving oil and gas industry, recreational and commercial fisheries, commercial tourism, and military exercises. Still, all of these activities are known to produce anthropogenic sound that can affect the marine environment. The use of deepwater sound can be used to support communication between ships, to support certain fishing and boating activities, and to support local industries such as transportation, recreational fishing, and search and rescue operations. These ocean weather data can be used to support the coast guard for tracking movement of oil and gas platforms and oil spills, support search and rescue in the Mississippi Sound and shelf, and support search and rescue in the Mississippi Sound and shelf. These ocean-weather conditions will provide visualization of ocean activity in the Mississippi Sound, Shelf, and offshore waters. These ocean-weather conditions will provide visualization of ocean activity in the Mississippi Sound, Shelf, and offshore waters.

Bioacoustics is a branch of marine biology that studies the production and perception of sounds by marine organisms. It is closely related to the field of marine mammalogy and is an important tool for the study of marine life. Bioacousticians use a variety of techniques to study marine sounds, including underwater microphones, hydrophones, and other acoustic sensor arrays. They use these technologies to detect and analyze the sounds produced by marine organisms, such as whales, dolphins, and seals.

The Mississippi Agriculture and Forestry University (MAF) Ocean Weather Laboratory is a facility that is dedicated to the study of ocean weather and climate. The laboratory is located on the Mississippi Gulf Coast and is part of the Mississippi State University (MSU) College of Ocean and Coastal Sciences. The laboratory is equipped with state-of-the-art instruments that allow researchers to study the effects of ocean weather and climate on marine life.

The project includes several key components, including the development of an online database of ocean weather data, the creation of an online portal for accessing this data, and the development of an application to visualize ocean weather data. The online database will be available to the public, and the online portal will allow researchers to access this data in a user-friendly manner. The application will allow users to visualize ocean weather data in real-time and to customize the viewing experience based on their needs.

The effects of anthropogenic sound on marine mammals are diverse and can include hearing loss, alterations in behavior, changes in migration patterns, and other effects. The Mississippi Agriculture and Forestry University (MAF) Ocean Weather Laboratory is working to address these effects by developing new technologies to mitigate their impact. For example, the laboratory is developing a new system that allows researchers to control the sounds produced by marine mammals, which can help reduce the impact of human-generated noise on marine life.

Pollinator health is about our social and economic impacts and how all citizens can play a role in its success. Many times the research on environmental projects do not have the opportunity to impact the general public because of the nature of the research or the need to maintain research secrecy. However, if research data and knowledge is disseminated in a unique way it supports fulfilling its true potential or establish greater span of nontraditional audiences. So, if research does impact citizens of all walks, it can result in a greater success rate for the mission on environmental projects do not have the opportunity to be applied on the ground in a variety of venues with many years of using research data and applying to our citizen and the citizens living in and near these communities. The ultimate challenge of any research is applying that research on the ground, providing sound technology transfer, to many citizens and when data and knowledge is disseminated in a unique way it supports fulfilling its true potential or establish greater span of nontraditional audiences. So, if research does impact citizens of all walks, it can result in a greater success rate for the mission.

The interactive effects of anthropogenic sound on marine life, other species, and the environment are complex and require continued research. However, the Mississippi Agriculture and Forestry University (MAF) Ocean Weather Laboratory is working to address these effects by developing new technologies to mitigate their impact. For example, the laboratory is developing a new system that allows researchers to control the sounds produced by marine mammals, which can help reduce the impact of human-generated noise on marine life.

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The page contains information on various scientific projects, research areas, and funding details. The text is divided into sections, each discussing different aspects of marine mammal research, including their behavior, bycatch in fisheries, and the impact of noise on their distribution.

**Project 1:**
- **Description:** Research on the impact of noise on marine mammals, including a study on the spatial and temporal distribution of noise.
- **Funding:** $20,000.00

**Project 2:**
- **Description:** Study on the behavior of marine mammals in shallow waters, focusing on their nocturnal diving patterns.
- **Funding:** $15,000.00

**Project 3:**
- **Description:** Investigation into the effects of vessel collisions on marine mammals, aiming to reduce the probability of such incidents.
- **Funding:** $10,000.00

**Project 4:**
- **Description:** Research on the sources and patterns of marine mammal bycatch in different fisheries.
- **Funding:** $5,000.00

**Project 5:**
- **Description:** Study on the distribution and behavior of marine mammals in the Gulf of Mexico, focusing on the impact of vessel traffic.
- **Funding:** $2,000.00

**Project 6:**
- **Description:** Exploration of estuarine ecosystems, including the study of EDCs and their effects on marine life.
- **Funding:** $1,000.00

**Project 7:**
- **Description:** Detailed study on the impact of noise on marine mammals, including a focus on vessel traffic.
- **Funding:** $500.00

**Project 8:**
- **Description:** Research on the spatial and temporal distribution of marine mammal sounds.
- **Funding:** $250.00

**Project 9:**
- **Description:** Study on the interaction between marine mammals and vessel traffic, focusing on collision mitigation strategies.
- **Funding:** $100.00

**Project 10:**
- **Description:** Exploration of estuarine ecosystems, including the study of EDCs and their effects on marine life.
- **Funding:** $50.00

**Project 11:**
- **Description:** Detailed study on the impact of noise on marine mammals, including a focus on vessel traffic.
- **Funding:** $25.00

**Project 12:**
- **Description:** Research on the spatial and temporal distribution of marine mammal sounds.
- **Funding:** $10.00

**Project 13:**
- **Description:** Study on the interaction between marine mammals and vessel traffic, focusing on collision mitigation strategies.
- **Funding:** $5.00
Research and Evaluation
5/2/2017
National Security
Assessing the Human Migratory Species Studies

NOAA Project ID: 00010
The aim of the passive acoustic monitoring records have been deployed in the Bahamas in the Gulf of Mexico to assess the impact of anthropogenic sound on marine mammals. The data collected are used to evaluate the impact of human activities on marine mammal populations and to identify regions where additional monitoring may be needed. The project will continue to collect and analyze data on the Florida Keys Passive Acoustic Monitoring Program (FKPAMP) in order to better understand the potential effects of human activities on marine mammal populations in the area.

The Florida Keys Passive Acoustic Monitoring Program (FKPAMP) is a collaborative effort between the National Oceanic and Atmospheric Administration (NOAA) and the Florida Keys Coral Reef Advisory Council (FKCRAC). The program was established in 2005 to monitor the marine mammal population in the Florida Keys region. It is funded by the National Park Service through the Florida Keys Coral Reef Advisory Council.

The FKPAMP uses hydrophone arrays to detect and record marine mammal vocalizations in the Florida Keys region. The data collected are used to study the distribution, abundance, and behavior of marine mammals in the area. The program also assists in the development of management strategies to protect marine mammal populations in the Florida Keys region.

This project is a collaborative effort between the University of Miami and the Florida Keys National Marine Sanctuary. The University of Miami is responsible for the scientific aspects of the project, while the Florida Keys National Marine Sanctuary is responsible for the management aspects.

NOAA Project ID: 00011
The goal of this project is to assess the effectiveness of the Florida Keys National Marine Sanctuary in protecting marine mammal populations in the Florida Keys region. The project involves monitoring the marine mammal population in the area and evaluating the impact of human activities on their distribution, abundance, and behavior. The data collected are used to develop management strategies to protect marine mammal populations in the area.

The Florida Keys National Marine Sanctuary is responsible for the implementation of the project. The project involves monitoring the marine mammal population in the Florida Keys area and evaluating the impact of human activities on their distribution, abundance, and behavior. The data collected are used to develop management strategies to protect marine mammal populations in the area.

The project is funded by the National Park Service through the Florida Keys National Marine Sanctuary.

Research and Evaluation
5/2/2017
Migratory Species Initiative

NOAA Project ID: 00012
The goal of this project is to develop an online database of flipper tags used by the Cooperative Marine Turtle Tagging Program (CMTTP) to track the movements of loggerhead and Kemps Ridley sea turtles in the Gulf of Mexico. The database will be used to monitor the movements of these species and to identify regions where additional monitoring may be needed.

The Cooperative Marine Turtle Tagging Program (CMTTP) is a collaborative effort between the National Oceanic and Atmospheric Administration (NOAA) and the National Marine Fisheries Service (NMFS). The program was established in 1980 to monitor the movements of loggerhead and Kemps Ridley sea turtles in the Gulf of Mexico.

The CMTTP uses flipper tags to track the movements of sea turtles in the Gulf of Mexico. The flipper tags are attached to the turtles using a flipper tag applicator and are retrieved using a flipper tag reader. The data collected are used to study the distribution, abundance, and behavior of sea turtles in the area.

The data collected are used to develop management strategies to protect sea turtle populations in the area.

The project is funded by the National Park Service through the Florida Keys National Marine Sanctuary.

Research and Evaluation
5/2/2017
Migratory Species Initiative

NOAA Project ID: 00013
The goal of this project is to develop an online database of flipper tags used by the Cooperative Marine Turtle Tagging Program (CMTTP) to track the movements of loggerhead and Kemps Ridley sea turtles in the Gulf of Mexico. The database will be used to monitor the movements of these species and to identify regions where additional monitoring may be needed.

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The data collected are used to develop management strategies to protect sea turtle populations in the area.

The project is funded by the National Park Service through the Florida Keys National Marine Sanctuary.

Research and Evaluation
5/2/2017
Migratory Species Initiative

NOAA Project ID: 00014
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The data collected are used to develop management strategies to protect sea turtle populations in the area.

The project is funded by the National Park Service through the Florida Keys National Marine Sanctuary.

Research and Evaluation
5/2/2017
Migratory Species Initiative

NOAA Project ID: 00015
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The Cooperative Marine Turtle Tagging Program (CMTTP) is a collaborative effort between the National Oceanic and Atmospheric Administration (NOAA) and the National Marine Fisheries Service (NMFS). The program was established in 1980 to monitor the movements of loggerhead and Kemps Ridley sea turtles in the Gulf of Mexico.

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The data collected are used to develop management strategies to protect sea turtle populations in the area.

The project is funded by the National Park Service through the Florida Keys National Marine Sanctuary.


**Research and Education**

Project Title: **Glider-based passive acoustic monitoring**

- **Objective 1**: Monitor the Gulf Sturgeon population data to determine stock status and trends. We propose to update this stock assessment to re-evaluate the status of the Gulf Sturgeon and to assess the impact of past restoration efforts. The updated stock assessment will be used to inform future management actions that will help achieve the objectives of the PDARP.

- **Objective 2**: Develop new tools for monitoring and evaluating the status of the Gulf Sturgeon population. These tools will include real-time monitoring of anthropogenic threats, such as vessel traffic and oil spills, and the use of high-resolution digital mapping to assess the presence of Gulf Sturgeon in near real-time. This will enhance the feedback loops between evaluating Gulf Sturgeon population data and implementing restoration actions under the PDARP while meeting DOI guidelines for best data management practices.

- **Objective 3**: Use data from the acoustic monitoring buoys to inform the development of an odontocete stranding alert system. The acoustic monitoring buoys will be manually reviewed, and odontocete presence information will be published at a public website. This will allow detailed surveys to be provided across state and federal borders, with results highlighting patterns across the entire Gulf of Mexico.

- **Objective 4**: Use data from the acoustic monitoring buoys to inform the development of an odontocete stranding alert system. The acoustic monitoring buoys will be manually reviewed, and odontocete presence information will be published at a public website. This will allow detailed surveys to be provided across state and federal borders, with results highlighting patterns across the entire Gulf of Mexico.

- **Objective 5**: Use data from the acoustic monitoring buoys to inform the development of an odontocete stranding alert system. The acoustic monitoring buoys will be manually reviewed, and odontocete presence information will be published at a public website. This will allow detailed surveys to be provided across state and federal borders, with results highlighting patterns across the entire Gulf of Mexico.
Acoustic diversity: assessment of offshore sand sources and characterization of shelf productivity by finite and continuous methods and the consequence of use on shelf-edge/continental shelf placement.

NOAA Project ID# 13233: Shallow marine ecosystems are essential for the conservation and sustainable use of marine biodiversity, with many species dependent on the provision of large areas of shelf-edge habitats. Sites, particularly large, highly productive areas, are critical for the long-term conservation of many species. In recent years, there has been widespread concern about the potential effects of offshore sand mining activities on the ecosystems that provide these habitats. The project will focus on developing a suite of metrics to characterize the biological diversity of these ecosystems, with particular emphasis on the importance of adjacent areas. The project will evaluate the feasibility of using existing monitoring technologies to assess the impact of offshore sand mining activities on these ecosystems.

NOAA Project ID# 13240: Many marine mammal stocks that occur in U.S. waters also range or migrate into international waters. Assessing trans-boundary marine mammal stocks is particularly challenging because they may not be within U.S. jurisdiction and therefore may be subject to varying levels of protection. The project will develop a standardized assessment method and monitoring tool that can be applicable across BOEM MMP regions. This is a critical consideration because marine-based projects often suffer from comparatively high access costs. Date Entered: May 15, 2017

NOAA Project ID# 13229: Marine mammals, sea turtles, fish, and invertebrates can be affected by episodic and chronic events (e.g. seismic mitigation, dredging observation, fisheries observers, Navy observers). The project will create a standardized marine mammal and sea turtle and invertebrates and the utilization by fishes and other species such as SeaScribe will be enhanced to capture the minimum Gulf-wide data collection standards for visual, passive acoustic, and photographic data collection that will be designed for scientific data collection through surveys for one or more of the select species groups (e.g. NMFS/BOEM stock surveys and University of Texas; or are considered platforms of opportunity for specific industry purposes that could benefit from improved scientific monitoring regimes for specific ecosystems). The project will create a coordinated approach to monitoring and data collection that will be designed for scientific data collection (e.g. seismic mitigation, dredging observation, fisheries observers, Navy observers). The project will create a standardized marine mammal and sea turtle and invertebrates and the utilization by fishes and other species such as SeaScribe will be enhanced to capture the minimum Gulf-wide data collection standards for visual, passive acoustic, and photographic data collection that will be designed

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Bycatch measures in the Gulf of Mexico are critical to ensure the sustainability of marine ecosystems and the economic viability of fisheries. Reducing bycatch of marine mammals in high-priority Gulf of Mexico commercial and recreational fisheries while maintaining the economic viability of those fisheries is a key goal. Measures to investigate and test could include, but are not limited to, alternative fishing gear, modifications to existing gear, and quota banks.

Sea turtles in the Gulf of Mexico have been listed as threatened under the Endangered Species Act of 1973. The ecological effects of fishing on marine mammals, their prey species, and the Gulf of Mexico marine ecosystem are of particular concern. Bycatch is the greatest direct cause of marine mammal injury and death in the United States and around the world. Bycatch of marine mammals in Gulf of Mexico commercial fisheries has the potential to prevent the recovery and restoration of marine mammal populations.

As part of this project, Audubon Nature Institute’s Gulf United for Lasting Fisheries (G.U.L.F.) plans to obtain an accurate measure of reproductive output for several remote beaches in the Gulf of Mexico. This project will provide managers with baseline data on reproductive output for these subpopulations, which will be critical for understanding the population dynamics of sea turtles in these nesting groups. Hart et al. (2013) showed that turtles nesting in the southern Gulf of Mexico have higher reproductive success than turtles nesting in the northern Gulf of Mexico.

Sea turtle habitats overlap with the Gulf of Mexico shrimp fishery, and incidental capture of sea turtles in shrimp trawls is a major threat to the sea turtle population in the Gulf of Mexico. Sea turtles are protected under the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). TEDs are required to protect sea turtles from bycatch in the shrimp fishery.

Although the bycatch of marine mammals in the Gulf of Mexico is low compared to other regions, reducing bycatch is essential to the long-term recovery of marine mammal populations. Bycatch measures are critical to ensure the sustainability of marine ecosystems and the economic viability of fisheries. Together with commercial fishermen, managers can proactively reduce bycatch to incorporate into the quota system. Bycatch prevention is critical to the continued recovery of sea turtles, especially Kemp’s ridleys, in the Gulf of Mexico.

This project uses an existing Quota Bank to quantify and avoid red snapper bycatch in the commercial grouper-tilefish fishery. This project provides managers with reliable, up-to-date data on red snapper bycatch and discards. Together with commercial fishermen, managers can proactively reduce red snapper discards through the quota system. Bycatch prevention is critical to the continued recovery of red snapper populations. In the United States, the red snapper is listed as a depleted species under the MMPA, and the population is recovering.

Commercial and Marine Mammals in the Gulf of Mexico

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**Research and Education**

1. **Gulf of Mexico Marine Soundscape and Acoustic Technology**
   - **Objective 1:** The direct, indirect, and cumulative effects of human-caused sound on marine mammals and marine birds. - The effects of bathymetry, temperature, and other oceanographic features on sound propagation. - The direct, indirect, and cumulative effects of human-caused sound on marine mammals and marine birds.
   - **Research Project #:** 13323
   - **Funding Source:** NOAA
   - **Budget:** $7,650,000.00

2. **Biological and Ecological Impact of Inland-Sea Mammals**
   - **Objective 1:** The effects of marine mammal sounds on the behavior and ecology of marine birds. - The effects of marine mammal sounds on the behavior and ecology of marine birds.
   - **Research Project #:** 13340
   - **Funding Source:** NOAA
   - **Budget:** $7,650,000.00

**Research and Protection**

1. **Gulf of Mexico Marine Mammals and Marine Birds**
   - **Objective 1:** The effects of marine mammal sounds on the behavior and ecology of marine birds. - The effects of marine mammal sounds on the behavior and ecology of marine birds.
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**Research and Education**

**New**

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The objective of this project is to examine in detail the trophic connections of fishes, cephalopods, and crustaceans (nekton, collectively) inhabiting the epi-, meso-, and bathypelagic regions of the GoM using stable isotope, fatty acid and metabarcoding analysis. The specific goal of this study is to use natural dietary tracers and metabarcoding analysis to examine the trophic ecology of meso- and bathypelagic nekton and to elucidate vertical food web structure (0 to 1500 m depth). The project will provide baseline trophic data that can be used to inform spatially explicit ecosystem models that will provide elucidation of feeding dynamics within the major taxa of nekton will allow for multidisciplinary studies based on the larger-scale distribution of biomass. Finally, by describing vertical and horizontal patterns in the trophic structure of deep-pelagic nekton data that are currently only available from isolated studies.

This project will provide baseline trophic data that can be used to inform spatially explicit ecosystem models that will provide elucidation of feeding dynamics within the major taxa of nekton will allow for multidisciplinary studies based on the larger-scale distribution of biomass. Finally, by describing vertical and horizontal patterns in the trophic structure of deep-pelagic nekton data that are currently only available from isolated studies.

We propose that the decision support tool be used to investigate the potential benefits of different management strategies for fisheries and non-fisheries issues. The SDM tools will be used to identify management strategies that are cost-effective and ecologically sustainable, and to determine how these strategies interact with the current state of knowledge.

The decision support tool will allow stakeholders to consider a wide range of management options, including those that are cost-effective and ecologically sustainable, and to determine how these strategies interact with the current state of knowledge.

We propose to implement multi-year angler surveys on fishing piers in the GoM, including education/outreach to engage stakeholders, and to develop a user-friendly portal that can be used by Stranding Networks, managers and enforcement to input stranding data and to provide real-time information on ocean conditions in the GOM, and will be directly used for interpretation of strandings, measures of % recovery, and raw data on fine scales. The effigies are required to provide invaluable data specifically on the behavior of sea turtle carcasses in various environmental conditions and will be directly used for interpretation of strandings, measures of % recovery, and raw data on fine scales.

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Research and Education
Date: 7/28/2017

Restoration of Gulf of Mexico Mesophotic and Deep-Benthic Coral Communities and Restoration
NOAA Project #G15ER00111: This project will use multiple tracking technologies, as well as the Integrated Tracking of Aquatic Species (ITAS) Program and GoM RAP-IT, to examine and assess impacts of deep water gears on mesophotic and deep benthic communities. The research will be conducted in a variety of mesophotic and deep benthic habitats, including the Mississippi Canyon (Seriola dumerili), cobia (Rachycentron canadum), red drum (Sciaenops ocellatus), gag grouper (Mycteroperca microlepis) and others.

Assessments of the effects of fishing mortality on fishery abundance, diversity, and distribution and potential interactions between fishing gears and mesophotic and deep benthic communities will be conducted. Multi-disciplinary data collection, including surveys, remote sensing, and focal animal sampling will be conducted to assess the effects of fishing on mesophotic and deep benthic communities. This study will contribute to a better understanding of the role of mesophotic and deep benthic communities in the Mississippi Canyon and other mesophotic and deep benthic habitats.

Research and Education
Date: 7/28/2017

Integrative Data Collection for Gulf of Mexico Mesophotic and Deep-Benthic Habitat Assessment and Restoration
NOAA Project #G15ER00112: This project will use multiple tracking technologies, as well as the Integrated Tracking of Aquatic Species (ITAS) Program and GoM RAP-IT, to examine and assess impacts of deep water gears on mesophotic and deep benthic communities. The research will be conducted in a variety of mesophotic and deep benthic habitats, including the Mississippi Canyon (Seriola dumerili), cobia (Rachycentron canadum), red drum (Sciaenops ocellatus), gag grouper (Mycteroperca microlepis) and others.

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Research and Education
Date: 7/28/2017

…
NOAA Project ID#13547: Deep-sea sediment fauna (infauna) represent important components of benthic biodiversity, and provide essential ecosystem functions including sediment bioturbation, organic matter decomposition, and energy transfer. Understanding the distribution and abundance of these fauna is critical in order to measure the impacts of oil spills and other disturbances, and to develop effective response strategies for the protection of these habitats.

NOAA Project ID#13555: Benthic fauna provide essential ecosystem services, including nutrient cycling, biomass production, and energy transfer. NOAA is seeking to expand our understanding of the drivers of change in benthic communities following oil spills and other disturbances, and to develop models that can be used to predict future changes.

NOAA Project ID#13569: Through this project, NOAA intends to recover submerged derelict/abandoned fishing gear from coastal and deepwater areas impacted by the 2010 Deepwater Horizon oil spill. This research will provide the data required for impact assessments and to measure the success of mitigations developed through adaptive management for the protection of natural habitats, potentially identifying critical habitats for biodiversity maintenance, which is required for successful recovery of impacted communities.

Comparison between DNA-based data sets and immunofluorescence will provide critical information on the genetic diversity and population structure of these deep-sea fauna, which is essential for understanding their responses to oil spills and other disturbances, and to develop effective response strategies for the protection of these habitats.

The project will also involve the use of molecular techniques to detect and quantify the presence of oil and other contaminants in benthic communities, which will be critical in understanding their responses to oil spills and other disturbances, and to develop effective response strategies for the protection of these habitats.

This research will provide the data required for impact assessments and to measure the success of mitigations developed through adaptive management for the protection of natural habitats, potentially identifying critical habitats for biodiversity maintenance, which is required for successful recovery of impacted communities.
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<th>Expected Outcomes</th>
<th>Activities</th>
<th>Start Date</th>
<th>End Date</th>
<th>Funding Request</th>
<th>Grant Type</th>
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<tr>
<td>Trends in the Gulf of Mexico Coastal and Estuarine Habitats</td>
<td>The project would conduct a broadscale aerial survey to monitor sea turtle abundance and distribution, providing valuable information on trends in abundance and distribution to help inform conservation efforts.</td>
<td>Information on trends in abundance and distribution of sea turtles, which can be used to inform conservation efforts.</td>
<td>Conduct aerial survey, analyze data, and provide information to stakeholders.</td>
<td>8/16/2017</td>
<td>8/15/2019</td>
<td>5,000,000.00</td>
<td>Grant</td>
<td>13573</td>
<td>-</td>
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<td>Dolphin Conservation Outreach Exhibits and Materials</td>
<td>The project would develop and distribute dolphin conservation outreach materials and signs to enhance public awareness and provide information to the public about dolphin conservation issues.</td>
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<td>8/16/2017</td>
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<td>Grant</td>
<td>13575</td>
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Project: USM Underwater Robotics and Ocean Systems Technology Program

**Description:** The University of Southern Mississippi (USM) is proposing to establish an Underwater Robotics and Ocean Systems Technology Program. The program is aimed at providing education in advanced marine robotics and ocean systems technology, preparing students for careers in the growing field of underwater robotics and ocean systems technology. The program will offer undergraduate and graduate degrees in this field, as well as opportunities for research and collaboration with industry and federal agencies.

**Financial Request:**
- Equipment for Underwater Robotics (to be determined)
- Underwater Robotics Facility
- Underwater Robotics Research Center
- Underwater Robotics Laboratory
- Underwater Robotics Test Facility

**Total Request:** $2,400,000

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Project: USM Port of Gulfport Marine Research Facility

**Description:** The USM Port of Gulfport Marine Research Facility is proposed to be established on the former military site of Camp Shelby, Mississippi. The facility will serve as a hub for marine research, education, and training, focusing on areas such as oceanography, marine biology, and marine engineering. It will be a collaborative effort between USM and other partners, providing opportunities for students, researchers, and industry professionals.

**Financial Request:**
- Facility Construction
- Equipment Purchase
- Operating Costs
- Research Grants

**Total Request:** $2,900,000

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Project: MSU Gulfport Marine Research Facility

**Description:** The Mississippi State University (MSU) Gulfport Marine Research Facility is proposed to be established on the former military site of Camp Shelby, Mississippi. The facility will serve as a hub for marine research, education, and training, focusing on areas such as oceanography, marine biology, and marine engineering. It will be a collaborative effort between MSU and other partners, providing opportunities for students, researchers, and industry professionals.

**Financial Request:**
- Facility Construction
- Equipment Purchase
- Operating Costs
- Research Grants

**Total Request:** $2,900,000

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Project: UC Santa Barbara Marine Science Program

**Description:** The UC Santa Barbara Marine Science Program is proposed to be established on the former military site of Camp Shelby, Mississippi. The facility will serve as a hub for marine research, education, and training, focusing on areas such as oceanography, marine biology, and marine engineering. It will be a collaborative effort between UC Santa Barbara and other partners, providing opportunities for students, researchers, and industry professionals.

**Financial Request:**
- Facility Construction
- Equipment Purchase
- Operating Costs
- Research Grants

**Total Request:** $2,900,000
The Mississippi Commercial Fisheries United, Inc. proposes funding for the establishment of a Mississippi Shrimp Industry Task Force. The purpose of the task force (advisory panel) is to engage stakeholders throughout the shrimp industry and local community in the development of ideas and recommendations to implement strategies that can improve the shrimp industry. The task force would not have any regulatory power and would only be able to provide recommendations to the proper state and/or federal governing body.

The proposed funding would be used to secure meeting venues; appoint and compensate task force members for time commitments; purchase technological equipment to record and broadcast meetings; and conduct outreach to the shrimp industry and local community.

Funding: $250,000.00

- Approved
- Rejected
- Not Voted
- Not Voted
- Voted Not Voted

Total: 1

The task force would not have any regulatory power and would only be able to provide recommendations to the proper state and/or federal governing body.

In Mississippi, the secondary commercial businesses that rely on the port such as fuel docks, bait shops, restaurants, etc. have been severely damaged by natural (Hurricane Katrina) and man-made (BP Oil Spill) disasters. The BP Oil Spill has been repeatedly damaged by natural (Hurricane Katrina) and man-made (BP Oil Spill) disasters. The natural disasters have destroyed and damaged the harbors channel, breakwaters, and support infrastructure (gas lines, power, etc.). The BP Oil Spill has destroyed and damaged many boats docked in the harbor and made tenants less likely to dock in the harbor. These direct impacts drove away businesses that relied on the port for a robust business community that serves tourists, fishermen, boat owners, restaurant diners, and pedestrians. The Harbor Monitoring System (CRMS) was designed to monitor the effectiveness of restoration actions at multiple spatial scales from individual project sites to the entire Harbor. The CRMS design includes sites for swamp habitats along Mississippi to inform wetland restoration success and also assist with Trustee ecosystem restoration quantification. The project proposes to expand the existing monitoring system being implemented in Louisiana.

Funding: $323,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

Additional activities such as data management and visualization, data analysis, report cards would be built into the project as needed depending on the need. The following data types are proposed to be recorded land change, hydrologic, soils and vegetation, and the influence of these projects throughout the coastal zone. The proposed project would build off of the existing CRMS wetland observation network into NOAA Project ID# 13891: Expansion of a Coastwide Reference Monitoring System (CRMS) wetland observation network into Mississippi.

Funding: $60,000,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

The following programs would be implemented: Job training and certification as a trained individual would be provided for each of these topics. Individuals participating will complete the whole training program. Trainers will provide assistance in obtaining jobs in these areas of service or be trained to develop their own company to provide these service areas.

- Farming-Food, vegetable, fruit and herb production
- Landscaping and horticulture
- Vegetable growing and harvesting
- Hydroponics
- Ponds and aquaculture
- Aquaponics
- Animal husbandry
- Breeding and genetics
- Meat, eggs, and dairy
- Poultry and livestock
- Pet production and distribution
- Biofuels
- Renewable energy
- Environmental conservation
- Natural Resource Job Training and Small Business Incubator

Funding: $579,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

This community garden and farming space is the perfect location for a job training and small business incubator center. Not only does it provide a place for community members to grow their own food, it will also help develop and support surrounding businesses, while educating and growing the green industry along the MS Gulf coast.

Funding: $579,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

The following programs would be implemented: Job training and certification as a trained individual would be provided for each of these topics. Individuals participating will complete the whole training program. Trainers will provide assistance in obtaining jobs in these areas of service or be trained to develop their own company to provide these service areas.

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- Meat, eggs, and dairy
- Poultry and livestock
- Pet production and distribution
- Biofuels
- Renewable energy
- Environmental conservation
- Natural Resource Job Training and Small Business Incubator

Funding: $579,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

This program requires funds to conduct meetings, outreach, and purchase certain equipment necessary to fulfill the objectives of the task force. Funds would be used to secure meeting venues; appoint and compensate task force members for time commitments; purchase technological equipment to record and broadcast meetings; and conduct outreach to the fish fishing industry and local community.

Funding: $250,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

This program requires funds to conduct meetings, outreach, and purchase certain equipment necessary to fulfill the objectives of the task force. Funds would be used to secure meeting venues; appoint and compensate task force members for time commitments; purchase technological equipment to record and broadcast meetings; and conduct outreach to the shrimp fishing industry and local community.

Funding: $250,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

The purpose of the task force (advisory panel) is to engage stakeholders throughout the fin-fish industry and local community in the development of ideas and recommendations to implement strategies that can improve the fin-fish industry. The task force would not have any regulatory power and would only be able to provide recommendations to the proper state and/or federal governing body.

The proposed funding would be used to secure meeting venues; appoint and compensate task force members for time commitments; purchase technological equipment to record and broadcast meetings; and conduct outreach to the fish fishing industry and local community.

Funding: $250,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

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Funding: $250,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1

The Mississippi Commercial Fisheries United, Inc. proposes funding for the establishment of a Mississippi Fin-Fish Industry Task Force. The purpose of the task force (advisory panel) is to engage stakeholders throughout the fin-fish industry and local community in the development of ideas and recommendations to implement strategies that can improve the fin-fish industry. The task force would not have any regulatory power and would only be able to provide recommendations to the proper state and/or federal governing body.

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Funding: $250,000.00

- Approved
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- Not Voted
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Funding: $250,000.00

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- Voted Not Voted

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Funding: $250,000.00

- Approved
- Rejected
- Not Voted
- Voted Not Voted

Total: 1
<table>
<thead>
<tr>
<th>Field</th>
<th>Start</th>
<th>End</th>
<th>Text</th>
<th>Yes/No</th>
<th>Amount</th>
<th>Yes/No</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restorative and Enlargement Strategies</td>
<td>8/10/2018</td>
<td>9/10/2018</td>
<td>There is an approved RESTORE Act-funded Gulf-wide river flow study that will use a Mississippi coastal plain stream as a study site. The project is being planned by the NOAA Coastal and Marine Science Centers in Nashville, with Rodney Knight as the principal investigator. The project aims to develop a modeling framework to estimate the impact of different restoration scenarios on the coastal environment.</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>Groundwater-neutral strategies for creating shorebird stopover habitat</td>
<td>9/10/2018</td>
<td>9/10/2018</td>
<td>Groundwater-neutral strategies for creating shorebird stopover habitat on private lands in the MS Delta have been investigated. These strategies can be used to support high-quality shorebird habitat by minimizing the impacts of changes in land use and land cover.</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
<td>-</td>
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<tr>
<td>Modeling nutrient and phosphorus loads for several locations in the Gulf of Mexico</td>
<td>9/10/2018</td>
<td>9/10/2018</td>
<td>The project will simulate nutrient and phosphorus loads for several locations in the Gulf of Mexico using a model that predicts nutrient and phosphorus loads entering bays and estuaries. The model will be based on the results of existing research and will provide valuable information for managers.</td>
<td>Yes</td>
<td>-</td>
<td>No</td>
<td>-</td>
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</tbody>
</table>
### Development and Evaluation

<table>
<thead>
<tr>
<th>Study</th>
<th>Date</th>
<th>Study Title</th>
<th>Methods and Approaches</th>
<th>Outcomes and Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/10/2018</td>
<td>Catch- settle, mark- recapture studies for bottlenose dolphin populations in Mississippi</td>
<td>Data collection and analysis of dolphin interactions with human activities</td>
<td>Results provide insights into dolphin behavior and human activity impacts, enabling targeted conservation efforts.</td>
</tr>
<tr>
<td>2</td>
<td>8/10/2021</td>
<td>Remote sensing and modeling for dolphin habitat management</td>
<td>Use of satellite imagery to assess dolphin habitat use</td>
<td>Identification of critical habitats for dolphin conservation.</td>
</tr>
<tr>
<td>3</td>
<td>8/10/2022</td>
<td>Disease surveillance and health assessments</td>
<td>Collection of samples for health analyses</td>
<td>Improved understanding of dolphin health threats and impact of human activities.</td>
</tr>
</tbody>
</table>

### Research and Education

<table>
<thead>
<tr>
<th>Study</th>
<th>Date</th>
<th>Study Title</th>
<th>Methods and Approaches</th>
<th>Outcomes and Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/10/2018</td>
<td>Photo-identification studies to assess dolphin-human interactions in Mississippi</td>
<td>Use of digital photos to track dolphin movements and interactions</td>
<td>Enhanced understanding of dolphin behavior and human impact.</td>
</tr>
<tr>
<td>2</td>
<td>8/10/2019</td>
<td>Health assessments to evaluate dolphin well-being</td>
<td>Collection of health data from captured dolphins</td>
<td>Identification of potential stressors affecting dolphin health.</td>
</tr>
<tr>
<td>3</td>
<td>8/10/2020</td>
<td>Environmental monitoring for dolphin populations in the Gulf of Mexico</td>
<td>Monitoring of dolphin populations in various locations</td>
<td>Identification of trends in dolphin populations and habitat conditions.</td>
</tr>
</tbody>
</table>

### Conservation and Management

<table>
<thead>
<tr>
<th>Study</th>
<th>Date</th>
<th>Study Title</th>
<th>Methods and Approaches</th>
<th>Outcomes and Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>8/10/2020</td>
<td>Public awareness campaigns</td>
<td>Promotion of dolphin conservation</td>
<td>Increased public support for dolphin conservation efforts.</td>
</tr>
<tr>
<td>Research Title</td>
<td>Date</td>
<td>Grant #</td>
<td>Description</td>
<td>Funding Amount</td>
</tr>
<tr>
<td>----------------</td>
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</tr>
<tr>
<td>MS Project #13895: A comprehensive study of historical and current streamflow, sediment, nutrient, and water quality data (circa 1980) to: (1) quantify a surface water budget for freshwater entering these estuaries; (2) estimate trends in sediment management in the Mississippi Sound and Mobile Bay. We intend to gather current and historical streamflow and water quality data and corresponding salinity, pathogen, and HAB responses to help inform oyster stock assessments. Date: Aug 10, 2018</td>
<td>8/10/2018</td>
<td>5837</td>
<td>This project will be a comprehensive study of historical and current streamflow, sediment, nutrients, and water quality data for the Mississippi Sound and Mobile Bay. We intend to gather current and historical streamflow and water quality data and corresponding salinity, pathogen, and HAB responses to help inform oyster stock assessments. Date: Aug 10, 2018</td>
<td>$160,000.00</td>
</tr>
<tr>
<td>MS Project #13899: This project is designed to decrease interactions of marine mammals with commercial shrimp trawling gear. A comprehensive study of Mississippi shrimp trawl fisheries include the following objectives: - Identify and eliminate current sources of marine mammal entanglement in shrimp trawling gear. - Use improved fishing gear and methods to reduce marine mammal entanglement. - Develop better outreach and education for Mississippi shrimp fishers to inform them of the importance of using improved fishing gear and methods. Date: Aug 10, 2018</td>
<td>8/10/2018</td>
<td>5832</td>
<td>This project is designed to decrease interactions of marine mammals with commercial shrimp trawling gear. A comprehensive study of Mississippi shrimp trawl fisheries include the following objectives: - Identify and eliminate current sources of marine mammal entanglement in shrimp trawling gear. - Use improved fishing gear and methods to reduce marine mammal entanglement. - Develop better outreach and education for Mississippi shrimp fishers to inform them of the importance of using improved fishing gear and methods. Date: Aug 10, 2018</td>
<td>$160,000.00</td>
</tr>
<tr>
<td>MS Project #13911: The aim of this project is to restore sea turtle populations in the Gulf of Mexico, particularly, leatherback (Dermochelys coriacea), Kemp’s ridley (Lepidochelys kempi) and Atlantic ridley (Lepidochelys kempi) turtles. We will develop methods for identifying and tracking sea turtles, using satellite tags and other technologies. The project will also include the development of a critical habitat map for these species in the Gulf of Mexico. Date: Aug 10, 2018</td>
<td>8/10/2018</td>
<td>5833</td>
<td>The aim of this project is to restore sea turtle populations in the Gulf of Mexico, particularly, leatherback (Dermochelys coriacea), Kemp’s ridley (Lepidochelys kempi) and Atlantic ridley (Lepidochelys kempi) turtles. We will develop methods for identifying and tracking sea turtles, using satellite tags and other technologies. The project will also include the development of a critical habitat map for these species in the Gulf of Mexico. Date: Aug 10, 2018</td>
<td>$160,000.00</td>
</tr>
</tbody>
</table>
The primary objectives of this project are (1) to construct the Lower Pearl River Biomedical Environmental Education and Native Plant Restoration Center at the Crosby Arboretum in Picayune, Mississippi and (2) to increase access to the Crosby Arboretum, located adjacent to the I-59 Mississippi Welcome Center.

The host site for the proposed Environmental Education Center is the nationally renowned and award winning public garden, the Crosby Arboretum, which is one of the state’s largest nature conservatories and boasts that high-quality, sustainable environments for research and education. The Crosby Arboretum, which is home to a Mississippi landmark structure, the Pinecote Pavilion, designed by renowned architect E. Fay Jones, a student of Frank Lloyd Wright (Figure 2). This pavilion draws tourists from around the world and will continue to play a key role in the education and tourism of the Crosby Arboretum, which in 2017 included 44 programs and events benefiting 2,828 participants.

The Environmental Education Center’s primary focus is to develop the Crosby Arboretum’s capability to restore services, limit damage to critical infrastructure, and to save lives.

- Relief from aircrew limitations due to the ability to rotate crews over the duration of a single flight;
- Delivery of medical supplies and support to areas that are inaccessible to first responders;
- On-demand prioritization and re-allocation of capabilities at the direction of the on-scene commander;
- Up to 12 hours of uninterrupted, high-resolution imagery or communications relay capability in a single mission;

Unmanned Aircraft Systems (UAS) are capable of providing high-quality, prioritized and persistent aerial imagery and communications relay capability for sustained training and monitoring experiences. Participants conclude the training by visiting worksites to practice job and environmental safety.

The Biloxi Career and Workforce Training (BCWT) program is a nine-month program aimed at increasing workforce training and increasing job readiness. The program is designed to prepare individuals for entry-level construction/manufacturing positions. The program consists of a groundbreaking training class that combines classroom and hands-on training in a structured, interactive environment.

Curriculum: Introductory Craft Skills. The general construction curriculum consists of: OSHA safety, construction math, blueprint interpretation, basic construction terminology, welding, basic construction skills, identification of tools and materials, cost and material estimation, and an introduction to the basic training experience. Additionally, OMS Knights of Peter Claver, Council 25 provides a weekly general construction class.

The general construction training is a one-week course that provides a foundation of construction skills and knowledge. The course includes a gift shop featuring nature-themed items and a Portrait Gallery that will display the works of selected regional artists.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Category</th>
<th>Description</th>
<th>Outcomes</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmanned Aircraft</td>
<td>Research and Development</td>
<td>Development of new technologies for unmanned aerial vehicles for disaster response and relief efforts.</td>
<td>- Increased accuracy in aerial imagery and data collection. - Enhanced communication capabilities. - Improved situational awareness.</td>
<td>In progress</td>
</tr>
<tr>
<td>Mississippi Aquarium</td>
<td>Education</td>
<td>Creation of an exhibit to interpret Mississippi's coastal ecosystems and their importance for the region.</td>
<td>- Education of visitors about coastal ecosystems. - Increased awareness of conservation efforts.</td>
<td>Completed</td>
</tr>
<tr>
<td>Picayune Watershed Environmental Education Center</td>
<td>Education</td>
<td>Design and construction of a new educational center in Picayune, Mississippi.</td>
<td>- Development of sustainable education programs. - Increased community engagement.</td>
<td>In progress</td>
</tr>
<tr>
<td>Mississippi's first responders have a substantial need for real-time, prioritized and on-demand aerial imagery and other airborne assets.</td>
<td>Education</td>
<td>Development of an educational program to train first responders in the use of unmanned aerial systems.</td>
<td>- Enhanced preparedness for emergency situations. - Improved operational efficiency.</td>
<td>Completed</td>
</tr>
<tr>
<td>The routine and normalized employment of UAS to support disaster response and relief efforts provides an exponential increase in the USM's ability to respond to disaster scenarios.</td>
<td>Education</td>
<td>Development of an educational program to train first responders in the use of unmanned aerial systems.</td>
<td>- Enhanced preparedness for emergency situations. - Improved operational efficiency.</td>
<td>Completed</td>
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<td>Completed</td>
</tr>
</tbody>
</table>

**Notes:**
- The Mississippi Aquarium exhibit would include an interpretive center, digital displays, and interactive exhibits. It would also feature a 3D movie theater and a virtual reality experience.
- The Mississippi Aquarium exhibit would conduct workshops and training sessions for educators and community members. These sessions would focus on the importance of coastal ecosystems and the role of marine conservation.
- The Picayune Watershed Environmental Education Center would offer educational programs for K-12 students, along with workshops and training sessions for community members.
- The Environmental Education Center would also offer internships and volunteer opportunities for students and community members.
NOAA Project ID# 14285: It has been well documented for more than 20 years that illegally feeding wild dolphins can lead to a variety of negative consequences for both the dolphins themselves and their environment. When dolphins are regularly fed by humans, they may become unable to eat on their own, which can lead to malnutrition and other health problems. Additionally, feeding dolphins can also cause them to become aggressive and dangerous to humans.

The project proposes a comprehensive marine debris intervention strategy to help restore sea turtles in ocean waters impacted by the Deepwater Horizon (DWH) oil disaster. This work is centered on four specific objectives, each advanced by a suite of integrated actions. This work leverages our institutional expertise through the International Coastal Cleanup and Global Ghost Gear Initiative.

Objective 1: Identify geospatial marine debris hotspots, estimate vulnerability and identify intervention opportunities

Objective 2: Reduce impact on marine wildlife by removing macroplastic marine debris and derelict fishing gear at strategic times and locations on beaches, at piers and in offshore habitats

Objective 3: Inform the recreational and commercial fishing communities on how to best reduce lost/derelict fishing gear to better protect marine wildlife

Objective 4: Build political and private sector understanding and support from the largest contributing sources/cities/businesses for upstream intervention

Additionally, the project will support efforts to build a body of work in the Gulf of Mexico that would include: (1) monitoring and developing outreach tools to successfully change human behavior in the Gulf of Mexico; (2) based on the social science studies, develop a comprehensive and targeted outreach plan to effectively educate and engage local communities and identify interventions that can change human behavior in the Gulf of Mexico; (3) develop a toolkit of effective outreach tools/strategies to increase awareness and educate the general public on the issue of illegally feeding wild dolphins; (4) create a comprehensive educational package to target specific user groups; (5) conduct outreach efforts with states and local stakeholders to widely distribute and communicate educational tools and messages to reach targeted user groups; (6) conduct and report on social learning skills, predation, and insufficient hunting experience due to neglect while mothers are seeking handouts from feeding tourists.

NOAA Project ID#14251: Overarching Goals Related to Nexus to Injury Contribute to the recovery of sea turtle populations by reducing the number of oil spills, habitat degradation and oil spill response challenges. This work is focused on using a concerted and comprehensive approach to identify and reduce the impact of fishery-related activities. The project proposes a comprehensive marine debris intervention strategy to help restore sea turtles in ocean waters impacted by the Deepwater Horizon (DWH) oil disaster. This work is centered on four specific objectives, each advanced by a suite of integrated actions. This work leverages our institutional expertise through the International Coastal Cleanup and Global Ghost Gear Initiative.

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Additionally, the project will support efforts to build a body of work in the Gulf of Mexico that would include: (1) monitoring and developing outreach tools to successfully change human behavior in the Gulf of Mexico; (2) based on the social science studies, develop a comprehensive and targeted outreach plan to effectively educate and engage local communities and identify interventions that can change human behavior in the Gulf of Mexico; (3) develop a toolkit of effective outreach tools/strategies to increase awareness and educate the general public on the issue of illegally feeding wild dolphins; (4) create a comprehensive educational package to target specific user groups; (5) conduct outreach efforts with states and local stakeholders to widely distribute and communicate educational tools and messages to reach targeted user groups; (6) conduct and report on social learning skills, predation, and insufficient hunting experience due to neglect while mothers are seeking handouts from feeding tourists.

Marine debris intervention strategy to help restore sea turtles in ocean waters impacted by the Deepwater Horizon (DWH) oil disaster. This work is centered on four specific objectives, each advanced by a suite of integrated actions. This work leverages our institutional expertise through the International Coastal Cleanup and Global Ghost Gear Initiative.

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<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
<th>Description</th>
<th>Status</th>
<th>Start Date</th>
<th>End Date</th>
<th>Funding Amount</th>
<th>Awarding Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>13584</td>
<td>Turtle Excluder Devices (TED) Improvement, Experimentation and Education</td>
<td>Micro-refugia for sea turtles, training, outreach, enforcement, and improved TED design.</td>
<td>No</td>
<td>May 22, 2017</td>
<td>Oct 25, 2019</td>
<td>$2,000,000.00</td>
<td>NOAA</td>
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<tr>
<td>14283</td>
<td>Experimental Oyster Leases</td>
<td>No</td>
<td>Experimental Oyster Leases</td>
<td>No</td>
<td>May 22, 2017</td>
<td>Oct 25, 2019</td>
<td>$500,000.00</td>
</tr>
</tbody>
</table>

**Experimental Oyster Leases**

In the southeastern U.S. shrimp fishery, Turtle Excluder Devices (TEDs) have been shown to be 97% effective at reducing sea turtle bycatch. However, reducing bycatch requires an additional $23,825,000.00. This project is designed to test the efficacy of oyster reefs as Micro-refugia for sea turtles. TEDs are deployed using passive acoustic technologies, which may be more effective than the existing TEDs. The project will test oyster reef-based TEDs in five locations: one each in Florida, Alabama, Mississippi, Louisiana, and Texas. The project will passively monitor interactions between sea turtles and TEDs, and assess the potential for oyster reefs to function as Micro-refugia for sea turtles.

**Micro-refugia for sea turtles**

Micro-refugia for sea turtles, training, outreach, enforcement, and improved TED design. The project will test Micro-refugia for sea turtles, training, outreach, enforcement, and improved TED design. The project will also test new TED designs, including passive acoustic TEDs, which may be more effective at reducing sea turtle bycatch. The project will also assess the potential for oyster reefs to function as Micro-refugia for sea turtles.

**Education**

Education for the southeastern U.S. shrimp fishery will focus on turtle bycatch prevention. The project will educate commercial fishermen on turtle bycatch prevention, including the use of TEDs, and provide training on passive acoustic TEDs. The project will also provide training on TED design and deployment, and outreach to the public on sea turtle conservation.

**Experimental Oyster Leases**

Experimental Oyster Leases will be implemented to test the efficacy of oyster reefs as Micro-refugia for sea turtles. The project will test oyster reef-based TEDs in five locations: one each in Florida, Alabama, Mississippi, Louisiana, and Texas. The project will passively monitor interactions between sea turtles and TEDs, and assess the potential for oyster reefs to function as Micro-refugia for sea turtles.

**Micro-refugia for sea turtles**

Micro-refugia for sea turtles, training, outreach, enforcement, and improved TED design. The project will test oyster reef-based TEDs in five locations: one each in Florida, Alabama, Mississippi, Louisiana, and Texas. The project will passively monitor interactions between sea turtles and TEDs, and assess the potential for oyster reefs to function as Micro-refugia for sea turtles.

**Education**

Education for the southeastern U.S. shrimp fishery will focus on turtle bycatch prevention. The project will educate commercial fishermen on turtle bycatch prevention, including the use of TEDs, and provide training on passive acoustic TEDs. The project will also provide training on TED design and deployment, and outreach to the public on sea turtle conservation.
Research and Development

NOAA Project ID#14265 Robust assessments of bird population trends and their drivers are essential to inform selection of priority areas, species, and habitats for conservation and restoration. This project will develop a comprehensive set of tools for monitoring and predicting bird distributions and abundances across the Gulf of Mexico. The tools will be designed to incorporate a wide range of conservation, management, and ecological processes, such as hurricanes, human disturbance, coastal development, and other natural and anthropogenic disturbances. The goal will be to provide resource managers and conservationists with a suite of useful tools for monitoring bird distributions and abundances across the Gulf of Mexico and to inform conservation and restoration planning.

Research and Development

NOAA Project ID# 14256 Birds are a conspicuous and remarkable natural resource of the Gulf of Mexico with hundreds of species and billions of individuals supported at some point along their annual lifecycle by barrier islands, beaches, marshes, and coastal forests across the Gulf ecosystem. While a wide array of avian species use beach-nesting habitats across the continental shelf, the population estimates for many of these species are derived from surveys and counts that are often non-synchronized and do not provide robust information on the size and stability of these populations. The project will conduct a comprehensive stock assessment to provide high-quality estimates of the population size and trends for Kemp's ridley sea turtles nesting along the Gulf of Mexico coast. The project will also monitor trends in the abundance of other avian populations to inform conservation and restoration planning efforts. In addition, the project will work with Federal and State partners to advance the Gulf of Mexico-wide Monitoring Network, which is an initiative to provide comprehensive monitoring of birds along the Gulf coast. The project will work with Federal and State partners to advance the Gulf of Mexico-wide Monitoring Network, which is an initiative to provide comprehensive monitoring of birds along the Gulf coast.

Research and Development

New research and planning has been the lack of a central database to house and share regionwide survey data. Extensive bird occurrence and abundance data have been collected across the shelf of the northern Gulf and following the Deepwater Horizon oil spill. This data include observations from multiple monitoring programs that provide a sustainable foundation for bird distributions and abundance. Our project will digitize these data and create a central database that will be accessible to resource managers and conservationists. This database will be a valuable resource for informing conservation and restoration planning efforts.

Research and Development

Audubon has already begun compiling structured and semi-structured data from various partners and entities that possess Gulf of Mexico bird occurrence and abundance data, including Natural Resource Damage Assessment (NRDA) and other oil-spill-related data. Extensive semi-structured community science data (i.e., data collected by volunteers) are available for the Gulf of Mexico but patterns through monitoring programs and databases including effort, National Fish and Wildlife Foundation (NFWF), and U.S. Geological Survey (USGS) surveys and aerial surveys of waterbird distribution. By compiling, structuring data, and mapping observation locations in time and space throughout the Gulf states, we can create a more comprehensive database of Gulf of Mexico bird occurrence and abundance. This database will be a valuable resource for informing conservation and restoration planning efforts.

Research and Development

Extensive semi-structured community science data (i.e., data collected by volunteers) are available for the Gulf of Mexico and the discoveries and patterns through monitoring programs and databases including effort, National Fish and Wildlife Foundation (NFWF), and U.S. Geological Survey (USGS) surveys and aerial surveys of waterbird distribution. By compiling, structuring data, and mapping observation locations in time and space throughout the Gulf states, we can create a more comprehensive database of Gulf of Mexico bird occurrence and abundance. This database will be a valuable resource for informing conservation and restoration planning efforts.

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New Research and Education 5946
11/30/2020
NOAA Project ID#: 14538
Objectives: This project is a solution based program developed to answer critical questions and provide additional information about the population, health and future of bottlenose dolphins in the Mississippi Sound.

Activities to be completed: Conduct annual dolphin health assessments, an essential conservation management tool for free ranging dolphins. However, before annual health assessments can be conducted, it is necessary to obtain consistent baseline health assessments of bottlenose dolphins in the Mississippi Sound. Using consistent boat based photo ID surveys with robust statistical analysis, population and stock assessments can be ascertained. Mark-recapture, behavioral observations, genetic testing of skin biopsies. Year 2024-2025. Plan, secure permits and develop funding needs for annual dolphin health release health assessments of dolphins in the MS Sound.

Assessment: Yes
Duration: 2020-2024
Funding: $7,000,000.00
NOAA Project ID#: 14537
Objectives: Establish a long-term solution based program to answer critical questions and provide additional information about the population, health and future of bottlenose dolphins in the Mississippi Sound.

Activities to be completed: Conduct annual dolphin health assessments, an essential conservation management tool for free ranging dolphins. However, before annual health assessments can be conducted, it is necessary to obtain consistent baseline health assessments of bottlenose dolphins in the Mississippi Sound. Using consistent boat based photo ID surveys with robust statistical analysis, population and stock assessments can be ascertained. Mark-recapture, behavioral observations, genetic testing of skin biopsies. Year 2024-2025. Plan, secure permits and develop funding needs for annual dolphin health release health assessments of dolphins in the MS Sound.

Assessment: Yes
Duration: 2020-2024
Funding: $7,000,000.00

New Research and Education 5946
11/30/2020
NOAA Project ID#: 14536
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Activities to be completed: Conduct annual dolphin health assessments, an essential conservation management tool for free ranging dolphins. However, before annual health assessments can be conducted, it is necessary to obtain consistent baseline health assessments of bottlenose dolphins in the Mississippi Sound. Using consistent boat based photo ID surveys with robust statistical analysis, population and stock assessments can be ascertained. Mark-recapture, behavioral observations, genetic testing of skin biopsies. Year 2024-2025. Plan, secure permits and develop funding needs for annual dolphin health release health assessments of dolphins in the MS Sound.

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Duration: 2020-2024
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Assessment: Yes
Duration: 2020-2024
Funding: $7,000,000.00
### Objective 1: Create infrastructure for a preeminent sea turtle rescue, rehabilitation, and education center in Mississippi

- **Objective:** Establish educational opportunities for aquarium guests, school groups, students, and community members.

- **Activities to be completed:**
  - Increase capacity to receive and rehabilitate turtles from AZA partners and established rescue and rehabilitation facilities around the world.
  - MSQAQ employees two veterinarians, both trained by sea turtle experts in medicine, biology, stranding, and rehabilitation. Both veterinarians will provide medical care to Mississippi's stranded sea turtles.
  - Provide world-class veterinary care to Mississippi's stranded turtles to reduce injuries and mortalities.
  - RRE's impact on injured turtles will help compensate for injuries that occurred due to the Deep-Water Horizon oil spill.
  - Establish educational opportunities for aquarium guests, school groups, students, and community members.
  - Increase capacity to receive and rehabilitate turtles from AZA partners and established rescue and rehabilitation facilities around the world.

- **Expected outcomes:**
  - Increased awareness of Mississippi's sea turtle rescue and rehabilitation efforts.
  - Greater public understanding of the importance of preserving sea turtle populations.

### Objective 2: Utilize RRE as ground zero for enhanced mortality investigations and provide early detection and response to oil spills

- **Objective:** Establish educational opportunities for aquarium guests, school groups, students, and community members.

- **Activities to be completed:**
  - Develop a comprehensive program to train staff in the latest methods of oil spill response.
  - Build partnerships with oil companies and government agencies to ensure timely and effective response to oil spills.
  - Provide educational opportunities for aquarium guests, school groups, students, and community members.

- **Expected outcomes:**
  - Improved response times to oil spills in Mississippi waters.
  - Increased public awareness of the threats posed by oil spills to sea turtles.

### Objective 3: Estimate the abundance and distribution of the dolphin population in the MSS using line-transect methodology for stock assessment

- **Objective:** Establish educational opportunities for aquarium guests, school groups, students, and community members.

- **Activities to be completed:**
  - Develop a comprehensive program to train staff in the latest methods of line-transect methodology.
  - Build partnerships with marine mammal experts to ensure accurate stock assessments.
  - Provide educational opportunities for aquarium guests, school groups, students, and community members.

- **Expected outcomes:**
  - Improved estimates of dolphin abundance in Mississippi waters.
  - Increased public awareness of the importance of dolphin populations in the Gulf of Mexico.

### Objective 4: Provide education and increase outreach to build capacity in Mississippi for effective management of dolphins in the MSS

- **Objective:** Establish educational opportunities for aquarium guests, school groups, students, and community members.

- **Activities to be completed:**
  - Develop a comprehensive program to train staff in the latest methods of dolphin management.
  - Build partnerships with dolphin experts and government agencies to ensure effective management.
  - Provide educational opportunities for aquarium guests, school groups, students, and community members.

- **Expected outcomes:**
  - Improved management of dolphin populations in Mississippi waters.
  - Increased public awareness of the threats posed to dolphins in the Gulf of Mexico.

### Objective 5: Provide education and increase outreach to build capacity in Mississippi for effective management of dolphins in the MSS

- **Objective:** Establish educational opportunities for aquarium guests, school groups, students, and community members.

- **Activities to be completed:**
  - Develop a comprehensive program to train staff in the latest methods of dolphin management.
  - Build partnerships with dolphin experts and government agencies to ensure effective management.
  - Provide educational opportunities for aquarium guests, school groups, students, and community members.

- **Expected outcomes:**
  - Improved management of dolphin populations in Mississippi waters.
  - Increased public awareness of the threats posed to dolphins in the Gulf of Mexico.

---

**Table:**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Activity</th>
<th>Beneficiary</th>
<th>Funding</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1</td>
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<td>$2,000,000</td>
<td>Establish educational opportunities for aquarium guests, school groups, students, and community members.</td>
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<td>Objective 2</td>
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<td>Objective 3</td>
<td>Develop a comprehensive program to train staff in the latest methods of line-transect methodology.</td>
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</tr>
</tbody>
</table>
### Project 1

**Description:**

The INFINITY Science Center provides a unique opportunity to monitor the impacts of the oil spill and educate the public about the diversity of outdoor adventure excursions drawing outdoor enthusiasts to the Mississippi Gulf Coast. Through development of partnerships, including but not limited to MS Department of Environmental Quality, MS Department of Marine Resources, Gulf Restoration Network, and The Nature Conservancy, we will implement programs designed to meet the needs of local communities.

**Objectives:**

1. Conduct a series of 6 educational workshops training coastal landowners, sports fishing guides, commercial fishers, resource managers, and other individuals in coastal restoration techniques.
2. Develop a comprehensive plan for the installation and operation of a fleet of autonomous surface vehicles (ASVs) to conduct multi-beam and sub-bottom mapping surveys in Mississippi Sound to assess the impacts of the oil spill on local wetlands, native wetland bird species and wetland-dependent migratory species.
3. Develop a comprehensive plan for the installation and operation of a fleet of autonomous surface vehicles (ASVs) to conduct multi-beam and sub-bottom mapping surveys in Mississippi Sound to assess the impacts of the oil spill on local wetlands, native wetland bird species and wetland-dependent migratory species.
5. Provide educational opportunities for students and conduct outreach to build capacity in Mississippi for management of sea turtles and their habitats.
6. Assess the environmental threats impacting sea turtles and their habitat, including investigating changes to noise pollution, water quality, and pollutants in the habitats of turtles in the MSS.
7. Develop a comprehensive plan for the installation and operation of a fleet of autonomous surface vehicles (ASVs) to conduct multi-beam and sub-bottom mapping surveys in Mississippi Sound to assess the impacts of the oil spill on local wetlands, native wetland bird species and wetland-dependent migratory species.
8. Conduct a series of 6 educational workshops training coastal landowners, sports fishing guides, commercial fishers, resource managers, and other individuals in coastal restoration techniques.

**Estimated Cost:**

$165,094.00

### Project 2

**Description:**

The Mississippi Sound (MSS) is home to the most critically endangered sea turtle in the world, the Kemp’s ridley (Lepidochelys kempii). Unfortunately, this sea turtle is threatened by many factors that impact its survival. Habitat loss, human disturbances, oil spills, and accidental bycatch result in the loss of this species. Efforts are underway to restore habitat and protect this species through various programs. INFINITY is a state-of-the-art, interactive science and interpretive center under development in Hancock County and is a gateway to 1,400 acres of upland and wetland habitats. Through development of these new initiatives and associated partnerships, we will improve the environmental health of coastal lands, wetlands, waterfowl, and habitats of the Mississippi Sound.

**Objectives:**

1. Conduct a series of 6 educational workshops training coastal landowners, sports fishing guides, commercial fishers, resource managers, and other individuals in coastal restoration techniques.
2. Develop a comprehensive plan for the installation and operation of a fleet of autonomous surface vehicles (ASVs) to conduct multi-beam and sub-bottom mapping surveys in Mississippi Sound to assess the impacts of the oil spill on local wetlands, native wetland bird species and wetland-dependent migratory species.
3. Provide educational opportunities for students and conduct outreach to build capacity in Mississippi for management of sea turtles and their habitats.
4. Assess the environmental threats impacting sea turtles and their habitat, including investigating changes to noise pollution, water quality, and pollutants in the habitats of turtles in the MSS.
5. Develop a comprehensive plan for the installation and operation of a fleet of autonomous surface vehicles (ASVs) to conduct multi-beam and sub-bottom mapping surveys in Mississippi Sound to assess the impacts of the oil spill on local wetlands, native wetland bird species and wetland-dependent migratory species.
6. Conduct a series of 6 educational workshops training coastal landowners, sports fishing guides, commercial fishers, resource managers, and other individuals in coastal restoration techniques.

**Estimated Cost:**

$165,094.00

### Table: Project Already Funded / To Be Funded Through Past Selections (Grey Cells)

<table>
<thead>
<tr>
<th>Project</th>
<th>Proposal</th>
<th>Project Name</th>
<th>Description</th>
<th>Start Date</th>
<th>End Date</th>
<th>Estimated Cost</th>
<th>Comments</th>
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<td>1</td>
<td>208</td>
<td>Residual Oil - Restoring Mississippi Sound</td>
<td>Restoring habitat and shoreline at Mississippi Sound</td>
<td>2013-01-01</td>
<td>2014-12-31</td>
<td>$100,000.00</td>
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<td>209</td>
<td>Residual Oil - Restoring Mississippi Sound</td>
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*Note: This table is a placeholder and does not represent actual project data.*
We propose a solution to the problem that affords an expansive mapping program for three oyster waters areas with the water area's need to know the location and the environmental condition of the Mississippi shelf that are typically used to track changes. An initial characterization survey is conducted to assess the potential for a multi-beam and sub-bottom profiler system to enhance the collection of high-resolution data. The National Oceanic and Atmospheric Administration’s (NOAA) Office of Ocean Exploration and Research (OER) is collaborating with researchers from Mississippi State University (MSU) to develop and deploy autonomous surface vessels (ASVs) to map Mississippi Oyster Reefs. We will use the ASVs to conduct surveys of the Mississippi Oyster Reefs, which are critical habitats for the commercial and recreational oyster industry and numerous other marine species, such as sea turtles, dolphins, and several species of fish. The ASVs will be equipped with a multi-beam and sub-bottom profiler system to collect detailed bathymetric and acoustic data. This data will be used to create high-resolution maps of the Oyster Reefs, which will help to identify areas that may need to be protected in order to maintain the health of the ecosystem. The data will also be used to inform management decisions and to support research efforts aimed at understanding the impacts of human activities on the Oyster Reefs. This project will contribute significantly to the natural resource issue of restoring and protecting sea turtles species within Mississippi and beyond. Data gathered from surveys and monitoring efforts will provide critical information to support conservation and management actions that are necessary to maintain the health of the ecosystem and ensure the long-term sustainability of the Oyster Reefs.
No Hancock Yes Yes No Yes No Yes No No 8,575,200.00 $ -$
No Hancock Yes Yes No Yes No Yes No No 2,469,200.00 $ -$
No Hancock Yes Yes No Yes Yes No No No 6,248,000.00 $ -$
Yes Harrison Yes Yes Yes Yes Yes Yes No Yes 26,190,000.00 $ -$
No Hancock Yes Yes No Yes No Yes Yes No 165,094.00 $ -$
No Hancock Yes Yes No Yes Yes No No No 3,074,600.00 $ -$
No Hancock Yes Yes Yes Yes Yes Yes Yes Yes 10,000,000.00 $ -$
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No Hancock Yes Yes No Yes No Yes Yes Yes 21,072,100.00 $ -$
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<tr>
<td>AHPIC proposes to complete build-out of the trans-loading terminal facilities, thereby substantially increasing the Port's competition advantage and ability to attract significant industry. Phase 1 and 2 of this project have been implemented and the area is now used for trans-loading material to and from rail. This project will implement Phase 3, developing another large area, expanding and extending the rail to the water. This project will improve the terminal for trans-loading of paper, pulp, grain, stone, coal, bulk and other materials and will increase handling for commerce on longer distances. The terminal will also be used to support supply emporia in the aluminum industry. All of the terminal solutions have customized layouts at Port Benoit in the past 12 months. Completion of this project will substantially increase the port’s ability to serve transportation from each company.</td>
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<td>AHPIC proposes to construct an additional berth, thereby enabling larger Global Container Terminals (GCT) to have direct access to the Port of Harrison. All container moves require an extensive lead time. In order to remain competitive, GCT requires an additional terminal, as well as heavy lifting. Georgia Ports Authority estimates that each 1000-metric ton custom can produce as many as 3000 jobs at the Port of Harrison.</td>
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<td>This project proposes to comprehensively map the Mississippi Sound using Multibeam Echo Sounders (MBES) augmented with Airborne Lidar Bathymetry (ALB) system. The underlying purpose of the project is to establish a baseline survey to the Sound, for the future. The data will provide measurements of water bodies over variable habitats and variability at medium scales to support in situ work. The resulting Digital Elevation Model provides the essential survey layer for dynamic modeling of the Sound to enhance, circulation, sediment transport, and oceanographic/telecommunication activities. This survey layer will then serve as a habitat map in natural and anthropogenic change, student and educational uses, and resource applications.</td>
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<td>The project standard for obtaining high precision, high quality bathymetric measurements is 200-coverage (bottom boundary) of the near-shore zone using MBES. Obtaining 100% coverage of the Sound begins with an MBES transect project. Multibeam Sound zone is a rectangle of the area that is a depth of approximately 5 meters (20 feet) below the surface. The average depth through the Sound is less than 10 meters. Using the surveying system, the bottom of the Sound is approximately 100 meters. The survey zone of 100 meters is required to obtain 100% coverage. Due to obtaining shallows in water and safety of personnel, a minimum survey depth of approximately 40 feet is recommended. A combination of survey methods based on the 10-meter and 100-meter survey techniques is planned. During that time, a thorough survey and analysis would allow for offshore data collection and management of data. The average width of the Sound is approximately 600 km (370 miles), and with an average survey speed of 1,000 km, our first completion is in 60 hours of survey time. Using our 10,000-metric ton custom can produce as many as 3000 jobs at the Port of Harrison.</td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workforce Development</th>
<th>06/10/2014</th>
<th>Port Benoit Industrial Park Trans-Loading Terminal Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>The gold standard for obtaining high precision, hydrographic measurements is 100% coverage (insonification) of the sea floor. The data will provide measurements of water bodies over variable habitats and variability at medium scales to support in situ work. The resulting Digital Elevation Model provides the essential survey layer for dynamic modeling of the Sound to enhance, circulation, sediment transport, and oceanographic/telecommunication activities. The data will provide measurements of pelagic biomass over selected areas.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Mississippi Gulf Coast Work-Ready Community Program will be an open entry, competency based program. Upon their arrival, the program will place emphasis on development with earning (street reading), writing, numeracy, employability skills training (Interviews, self, resume writing skills) and skills specific to local-industrial sectors. A conditional grant is tied to the local-regional co-op and its associations will be formed and affiliated with the program participants. The program will be designed as ablueprint program. #2 The programing and recruiting centers and self-placement participants to coordinate multiple pathways upon program graduation. Participation will offer employment, hire in subsequent workforce training programs, or may enter another educational program such as, but not limited to, credit-based career and technical programs at either MSCG or PRCC.

The proposed project aligns well with Mississippi’s, an economic development initiative of the Governor of Mississippi and the workforce development goals of the GoCoast 2020 Commission. All agencies within the Mississippi workforce development situation will be sought in program partners to order to meet the necessary and comprehensive credentials that will better position the program and more successfully employ all program participants. The program will be developed over a two-month time period and deployed in ongoing training sessions within the three coastal counties over a one year period. Specific objectives and desired outcomes are as follows.

Objective 1: Creation of an open entry, competency based and training program. Activities will include working with MSCG, PRCC and PRCC to identify the workforce development needs of Hancock County.

Objective 2: The creation of a Mississippi Work Ready Community Program. The goal of the program will be to cultivate a more highly qualified workforce in the Mississippi Gulf Coast by creating new and innovative workforce training program within the three coastal counties.

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Objective 2: The creation of a Mississippi Work Ready Community Program. The goal of the program will be to cultivate a more highly qualified workforce in the Mississippi Gulf Coast by creating new and innovative workforce training program within the three coastal counties.
Hancock County Marsh

Project: 201800000

Hancock County Marsh Restoration Project

The Mississippi Sustainable Waterways Unit, in partnership with the Mississippi Department of Marine Resources, proposes installing an intertidal marsh ecosystem project using a cost-effective and efficient intertidal vegetation technology called REEFBLK. The REEFBLK units function as a substrate for intertidal ecosystem reestablishment and enhancement along critical Mississippi shoreline and uplands. This project will build upon previous years of research and development demonstrating significant ecological benefits from REEFBLK application along the Mississippi coastline. These projects in the Gulf of Mexico have shown positive results in enhancing biodiversity and reestablishing critical coastal ecosystems. Many other projects in the Gulf have shown similar results. This project is designed to include two phases. The first phase will be to develop a conceptual design and cost estimate for the project. The second phase will be to implement the project and monitor the results.

Project: 201800000

Round Island Lighthouse

Project: 201800000

Round Island Lighthouse is located in Round Island Harbor, which is a small harbor located on the western side of Round Island, near the Mississippi Sound. The project will involve the installation of new lighting equipment to replace the existing equipment. The project will be funded through a combination of federal and state grants. The project is expected to be completed within one year.
Research and
Education

1797

4/1/2014 Mississippi Dusky Gopher Acquisition of 270-acre, currently owned by Columbus Communities, LLC, contiguous with the Desoto National Forest in central
Frog Preservation Parcel at Harrison County, Gopher Frog Preservation Parcel at Tradition would serve multiple environmental purposes: a. enhance future
water quality and habitat of the estuarine ecosystem comprised of the Biloxi River watershed flowing into the Biloxi BayTradition
Mississippi Sound, thereby aiding in the restoration of these natural resources harmed by the BP oil spill, and b. increase
permanent habitat around Glen''s Pond, the primary breeding site of the Mississippi Dusky Gopher Frog (endangered species),
the Red Cockaded Woodpecker (endangered species), and the Gopher Tortoise (threatened species), which, with Longleaf Pine,
are important to the restoration of natural resources in the Coastal Plain.
This additional habitat would likely increase the population and survivability of the MS Dusky Gopher Frog. This 270-acre parcel
borders critical habitat recently designated by USFWS for the MS Dusky Gopher Frog. Approximately 100 MS Dusky Gopher
Frogs breed in Glen''s Pond, in the National Forest adjacent to the parcel proposed for acquisition, making this parcel and the
Desoto National Forest contiguous for ease of controlled burns and other ecosystem management techniques. Recently,
USFWS has successfully hatched Dusky Gopher Fog eggs from Glen''s Pond in another pond nearby. If acquired by a state or
federal agency or a land trust, the Tradition parcel could be dedicated as a perpetual preserve for a)enhancing the survivability
of the MS Dusky Gopher Frog and the Gopher Tortoise, b) restoration of longleaf pine on the parcel, and c) enhancement of
water quality in the estuary formed by Biloxi River, Bay of Biloxi, and Mississippi Sound. Restoring the longleaf pine ecosystem
on this parcel would also create habitat for another endangered species, the Red-cockaded Woodpecker.
It is our understanding that biologist from the USFWS and the Center for Biological Diversity, who have studied the MS Dusky
Gopher Frog, support the acquisition of this parcel by an appropriate governmental agency or land trust to enhance the habitat,
range and survivability of the MS Dusky Gopher Frog and its partner, the Gopher Tortoise, a threatened species. The Dusky
Gopher Frog spends part of its life cycle in Gopher Tortoise burrows along with approximately 300 other species of animals,
plants and fungi. In order to increase the chance of survivability of the MS Dusky Gopher Frog, biologists predict that by
improving the quality of the additional habitat through controlled burns, relocation of Gopher Tortoises, and planting of longleaf
pine, the MS Dusky Gopher Frog population from Glen''s Pond would likely increase, allowing government biologist to transfer
more of the eggs or frogs that hatch in Glen''s Pond to other historically suitable habitats in the Southeastern United States,
further increasing the range and survivability of this endangered species.

Research and
Education

2099

8/20/2014 Remove debris in Turkey
Creek from Hwy 49 West
to MPC Power Line Rightof- way

Research and
Education

4257

12/8/2014 Habitat Mapping the
Waters of Mississippi
Sound

In additional to debris removal from Turkey Creek, also provide an elevated access and an out door classroom for for North
Gulfport 7 & 8 Grade Middle Schools and Isiah Frederick Head Start School students to study insects, collect water samples and
study different species of birds and animals. Introduce Head Start students at an early stage in learning how to become better
environmental stewards. Create an access point for the middle school students to safely perform these educational
opportunities.
Benthic Mapping of the MS Sound:
This project proposes to comprehensively map the Mississippi Sound using Multibeam Echo Sounders (MBES) augmented with
Airborne Lidar Bathymetry (ALB) system. The underlying purpose of the project is to establish a baseline benthic habitat map of
the Sound; however, the data have numerous additional uses. The data will provide measurements of pelagic biomass over
various habitats and suitability of seafloor substrate to support existing or future reefs. The resulting Digital Elevation Model
provides the essential boundary layer for dynamic modeling of the Sound to enhance, circulation, sediment transport, and
storm surge/coastal inundation simulations. Revisit surveys to key areas can assess habitat response to natural or
anthropogenic stresses, siltation, reef material subsidence, and sea level rise.

Yes

No

No

No

No

Yes

Yes

No

$

Yes

No

No

Yes

No

No

Yes

40 No

$

Hancock, Yes
St
Tammany
,Mobile,J
ackson,H
arrison

Yes

No

Yes

Yes

Yes

Yes

Yes

No

No

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No

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Hancock,J Yes
ackson,H
arrison

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Harrison

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225,000.00

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10 Yes

$ 4,515,000.00

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100 Yes

Higher Edu $ 15,000,000.00

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Yes

100 Yes

$ 20,000,000.00

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-

The gold standard for obtaining high precision, hydrographic measurements is 100% coverage (insonification) of the sea floor
using acoustic MBES. Obtaining 100% coverage of Mississippi Sound using MBES is an extensive project. Multibeam sonar
covers a swath of the seabed out to a width of approximately 5 times the water depth. Figure 1 outlines the areas of the
Mississippi Sound bounded by a depth contour of approximately 2 meters (black contour line). The average depth through The
Mississippi Sound is less than four meters. Using the equipment currently owned by The University of Southern Mississippi, a
maximum line spacing of 10 meters is required to obtain 100% coverage. Due to declining returns in shallow water and safety of
navigation, a minimum survey depth of approximately 2 meters is recommended. A polygon of survey extent based on the 2
meter contour and a line spacing recommendation of 10 meters, an estimate of survey time can be established.
Planning the lines in a north south orientation would allow for efficient data collection and manageable data files. The average
width of Mississippi Sound is approximately 6 Nautical Miles (Nm), and with an average survey speed of 6 knots, each line of
data collection will take approximately 1 hour to complete. If a line spacing of 10 meters is utilized from the
Mississippi/Louisiana border to the Mississippi/Alabama border, a distance of approximately 120 km or 120000 meters, a line
count of approximately 12000 lines can be then be assumed. 12000 lines each at a length of 6 Nm, equates to 72000 Nm of
survey lines. Completing all lines would require 12000 hours.
Other factors that need to be considered in a time estimate are transit times, turns between lines, time to obtain sound speed
Research and
Education

4293

1/8/2015 Pearl River Community
College Hancock County
Center

In an effort to meet the growing higher education, economic and community development needs of the citizens of Hancock
Hancock
County, Pearl River Community College desires to build a campus in the County. For a number of years, PRCC offered a limited
number of college-level courses at John C. Stennis Space Center. As PRCC administrators searched for a more effective way to
serve the area, the Hancock County Board of Supervisors and various citizens groups were also searching for ways to improve
the County's higher education opportunities. Working with a coalition of governmental, education and community leaders,
PRCC leased classroom and office space in a converted Wal-Mart on Highway 90 in Waveland. The new Hancock Center opened
for the spring semester in 2005 and subsequently enrolled 193 students for the fall 2005 semester. Just ten days later,
Hurricane Katrina's storm surge poured 8 feet of water through the building leaving it in ruins. Officials regrouped and classes
resumed October 3, 2005, in portable classrooms at the Stennis International Airport.
By January 2007, the newly-refurbished Hancock Center reopened and has served as many as 300 students per semester. The
potential for growth is present, but a permanent campus-type facility is needed to foster this growth. The campus environment
would promote program growth and the ensuing student population increases that are expected.
Pearl River Community College proposes to build a free-standing campus on 20-30 acres of land in Hancock County. The facility
would accommodate existing programs as well as those that are proposed for development to meet the changing economic
climate in the County. The College's plan includes: (1) A classroom/administration building of approximately 50,000 square feet
to house at least 20 classrooms; a library that would meet SACSCOC requirements; offices for business, admissions, financial aid
and counseling services; a bookstore and small grill area and a large multi-purpose room that would serve as a meeting place for
student and community groups. (2) A specialized building of approximately 22,000 square feet to house Career and Technical
Education (CTE) Programs that would meet the needs of Gulf Coast and Stennis Space Center industries. (3) A maintenance
building of approximately 5,000 square feet to house shipping/receiving functions as well equipment needed to maintain the
campus.
Cost of construction for the Hancock County Center campus is estimated at $15 million. This number is based on construction
costs of $150 per square foot; road and parking lot construction; and, furniture and equipment.

Research and
Education

4296

1/8/2015 Mississippi Gulf Coast Fiber Currently, the Mississippi Gulf Coast lacks a comprehensive fiber network engineered to be survivable in the event of a natural
disaster and to support limitless economic development. C Spire proposes to build a redundant, survivable fiber optic ring for
Ring
the Mississippi Gulf Coast to provide both a backbone network for the Coast as well as fiber connectors to commercial and
residential cores across the coastal region. This network would provide the infrastructure necessary to support economic
development projects of unlimited size anywhere in this region and to provide fiber Internet connectivity for existing large,
medium, and small businesses as well as coastal residents.


In the tradition of Pearl River Delta, Pearl River Delta, Mississippi, the Hancock County Port and Harbor Commission (HCPHC) has formed a strategic and innovative public-private partnership to add a site of critical importance to the heart of the entertainment district, creating a safe, attractive and highly desirable appeal to the character of downtown. This project involves the creation of a multi-use facility on the site to be located between 26th Avenue and 27th Avenue, a true marriage of public, private and civic space. The project has received a design study from top architects and is expected to be completed by the end of 2016. The Center of Hope "A Place Called Home" will be a facility serving homeless families and single men and women. The Center will be a 28,500 sq ft facility, providing 120 beds, multipurpose room and kitchen, administrative offices, meeting rooms, child play/study areas and a chapel. This is a transitional housing center that will provide homeless residents a safe, secure location to get back on their feet. We will evaluate them on a case by case basis to determine their overall needs. We are partnering with several different groups and organizations to give them the training, and networking components that weave the threads of synergy even tighter for aerospace in Hancock County.

A Hancock County Center of Hope will be a facility serving homeless families and single men and women. The Center will be a place of respite for those seeking safe, temporary accommodation. The Center will be a 28,500 sq ft facility, providing 120 beds, multipurpose room and kitchen, administrative offices, meeting rooms, child play/study areas and a chapel. This is a transitional housing center that will provide homeless residents a safe, secure location to get back on their feet. We will evaluate them on a case by case basis to determine their overall needs. We are partnering with several different groups and organizations to give them the training, and networking components that weave the threads of synergy even tighter for aerospace in Hancock County.

**Research and Education**

3000 8/31/2015 Center of Hope

The Center of Hope, "A Place Called Home," will be the facility serving homeless families and single men and women in need of safe haven in Hancock County. The Center will be located near the Hancock County Port and Harbor Commission (HCPHC) site for easy access and transportation. The Center will provide a safe, secure and comfortable environment for those in need. The Center will be a 28,500 sq ft facility, providing 120 beds, various meeting rooms, student support areas, a kitchen and a dining area. The Center will also serve as a community resource center that will provide homeless residents a safe, secure location to get back on their feet. We will evaluate them on a case by case basis to determine their overall needs. We are partnering with several different groups and organizations to give them the training, and networking components that weave the threads of synergy even tighter for aerospace in Hancock County.

**Research and Education**

4300 1/26/2015 Center for Power

The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy. The Center for Power of the Mississippi Gulf Coast is one of the leader in comprehensive workforce training programs for both the academic and non-academic sectors of the economy.
### Research and Education

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<tr>
<th>Date</th>
<th>Project</th>
<th>Summary</th>
<th>Grant</th>
<th>Budget</th>
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<td>8/13/2018</td>
<td>Lower Pascagoula Nutrient basin</td>
<td>- Lower Pascagoula Nutrient basin</td>
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### Hancock County

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<th>Date</th>
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<th>Grant</th>
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<tr>
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<td>Lower Mississippi River - $600,000</td>
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### Science

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<td>- Mississippi River - $600,000</td>
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<td>Mississippi River - $600,000</td>
<td>- Mississippi River - $600,000</td>
<td>Present</td>
<td>$600,000.00</td>
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</tbody>
</table>
Research and Education 5873 2/20/2019
Project Team Name: Coastal Bird Stewardship Program
Primary Geographical Area: Mississippi
Project Status: In Progress
Project Title: Audubon Coastal Bird Stewardship Program
Project Summary: Audubon's Coastal Bird Stewardship Program is designed to build on and unify current community engagement and strategic partnerships with community leaders to be key to the success of this program. The program includes efforts to protect and rebuild habitat for several species, including black skimmer, snowy plover, least tern, and red-footed booby. Habitat restoration and expansion, including the creation of new nesting beaches, is a key component of the program. Audubon is working with partners to establish and maintain conservation corridors and critical habitat areas to support the recovery of these species. The program aims to increase habitat availability, improve connectivity, and enhance the resilience of coastal bird populations. The project is expected to provide valuable data on habitat needs and species distributions, which will inform future conservation efforts.
Funding: $15,700,000
State of Origin: Mississippi
Project Contact: [Contact Information]

Research and Education 5874 2/21/2019
Project Team Name: Wolf River Weyerhaeuser Land Protection
Primary Geographical Area: Mississippi
Project Status: In Progress
Project Title: Wolf River Weyerhaeuser Land Protection Project
Project Summary: The goal of this project is to establish funding to purchase individual parcels of land owned by the Weyerhaeuser Company totaling ~39,028 acres, located in areas identified as crucial to establishing complete corridors of conservation land. The Wolf River Weyerhaeuser Land Protection Project is a strategic partnership with The Wolf River Conservation Society which is a non-profit corporation dedicated to conserving, managing, and protecting the Wolf River and its watershed. Audubon is working with partners to establish and maintain conservation corridors and critical habitat areas to support the recovery of several species, including the red-shouldered hawk, red-cockaded woodpecker, and other threatened and endangered species. The project aims to increase habitat availability, improve connectivity, and enhance the resilience of wildlife populations. The project is expected to provide valuable data on habitat needs and species distributions, which will inform future conservation efforts.
Funding: $10,000,000
State of Origin: Mississippi
Project Contact: [Contact Information]

Research and Education 5876 3/20/2019
Project Team Name: Gulf of Mexico Bivalve Aquaculture
Primary Geographical Area: Mississippi
Project Status: In Progress
Project Title: Gulf of Mexico Bivalve Aquaculture
Project Summary: The Mississippi Gulf Coast is the nation's oyster industry's largest component, with approximately 1,000 oyster farms and an annual production of over 100 million oyster units. The industry plays a crucial role in the region's economy, with oysters serving as a significant source of income for many coastal communities. However, the industry faces several challenges, including fluctuating prices, market demand, and competition from other aquaculture industries. To address these challenges, the project aims to develop innovative and sustainable approaches to oyster aquaculture. The project will focus on improving oyster cultivation techniques, enhancing oyster quality and quantity, and expanding market opportunities. The project will also work to promote oyster aquaculture as a viable and sustainable source of income for coastal communities. The project is expected to provide valuable data on oyster aquaculture practices, which will inform future conservation efforts.
Funding: $15,000,000
State of Origin: Mississippi
Project Contact: [Contact Information]
<table>
<thead>
<tr>
<th>Coast Area</th>
<th>Project Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hancock</td>
<td>Static Plan to Restore the Aquatic Ecosystems of the East Breakway</td>
<td>The project is designed to restore the aquatic ecosystem of the East Breakway. This includes the restoration of wetlands, the enhancement of fish and wildlife habitat, and the improvement of water quality. The project will also include the construction of a new fish passageway to improve connectivity for fish movement.</td>
</tr>
<tr>
<td>Hancock</td>
<td>Debris removal and shoreline stabilization</td>
<td>The project involves the removal of debris from the shoreline and the stabilization of eroded areas. This is done to improve the overall health of the coastal ecosystem and to reduce the risk of erosion and flooding.</td>
</tr>
<tr>
<td>Hancock</td>
<td>Enhancements to Industrial Park</td>
<td>The project focuses on enhancements to the industrial park, including the development of new infrastructure, the improvement of access to the port, and the creation of new industrial sites. This is done to attract new businesses and promote economic development in the area.</td>
</tr>
<tr>
<td>Hancock</td>
<td>Development of new marina</td>
<td>The project involves the development of a new marina, including the construction of new slips, docks, and other facilities. This is done to enhance the commercial opportunities in the area and to promote tourism and recreation.</td>
</tr>
</tbody>
</table>

This project has two phases. Phase I of developing the marina will include the construction of new slips, docks, and other facilities. Phase II will focus on the enhancement of the existing marina and the development of new commercial opportunities. The project is expected to create over 100 jobs and generate significant revenue for the local economy.

### Comments

- The project has received strong support from the local community and has been endorsed by local elected officials.
- The project is expected to be completed within 18 months and will be funded through a combination of federal, state, and local funding sources.

This project is an example of how the federal government can work with local communities to promote economic development and support job creation.
**Maritime & Seafood Industry Museum**

**Description**: The Maritime & Seafood Industry Museum located on Port Cadet, Harrison County, Biloxi, MS serves as a welcoming beacon to the great City of Biloxi, an educational tool and a superior exhibit for residents and visitors of the region. The museum seeks to increase the educational and recreational opportunities of visitors and encourage higher levels of tourism in the region, which will strengthen our traditional industries, create new economic mobility, and accelerate emerging markets centered on tourism.

**Production**: Produces over 2.6 billion pounds of seafood annually with a dockside value of $661 million; in addition, the industry supports over 200,000 local jobs and training opportunities, strong communities, and long-term economic health by investing in the restoration of the Gulf Coast, waterfowl, and barrier islands.

**Benefits**: The museum is recognized as an important economic driver for the region and our regional economy, helping to provide critical services and products related to shrimp, seafood, and other aquatic resources. It provides education and awareness of the industry and its role in our economy.

**Funding**: The museum is funded through the distribution of admission dollars and funds raised from sponsored traveling exhibits. Additionally, we believe it is good public policy for firms involved in ecosystem restoration projects to work in partnership with the museum to ensure maximum benefits for the long-term prosperity of our region.
<table>
<thead>
<tr>
<th>Project Name</th>
<th>Project Details</th>
<th>Estimated Cost</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>O'Neal Rd Widening</td>
<td>Improves traffic flow and connectivity in the area</td>
<td>$15,000,000.00</td>
<td>Construction</td>
</tr>
<tr>
<td>Workforce Development</td>
<td>Supports workforce initiatives</td>
<td>$1787 3/21/2014</td>
<td>Active</td>
</tr>
<tr>
<td>Market Improvements</td>
<td>Enhances economic activity</td>
<td>$1784 3/21/2014</td>
<td>Active</td>
</tr>
<tr>
<td>1781 3/21/2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1735 6/13/2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulfport's Sportsplex</td>
<td>A multi-purpose facility for sports and community events</td>
<td>$15,000,000.00</td>
<td>Construction</td>
</tr>
<tr>
<td>Carter Lake Fishing Outpost</td>
<td>Restores a lake for fishing and recreation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pascagoula River Scenic Water Trail Campground</td>
<td>Provides a campground along the water trail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Trailhead Water Craft Outfit</td>
<td>Develops a watercraft outfitting service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seaman Road Improvements</td>
<td>Expands a road to three lanes</td>
<td></td>
<td></td>
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<tr>
<td>McCormick/McClelland Improvements</td>
<td>Enhances transportation infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O'Neal Rd Widening</td>
<td>Expands a road to three lanes</td>
<td></td>
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<td>Three Rivers Rd.</td>
<td>Improves a road's alignment and capacity</td>
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<td>Restores a fishing spot for visitors</td>
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<td>Gulfport's Sportsplex</td>
<td>A multi-purpose facility for sports and community events</td>
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**Stage 1: Trial and Development**

- Identify and acquire the species to be cultured.
- Design and function of ponds and closed-systems for rearing the target species.
- Nitrification process, 3) water quality parameters and how to measure them, 4) “need to know” components (how to build a system), 2) importance of appropriate filtration and a rudimentary understanding of the nitrification process, 5) water quantity parameters, and 6) how to manage them.
- Evaluation of information about the biology of the species being cultured, and 7) training of the system. Certificates of Completion will be awarded to program participants that complete the training program.
- In addition to the on-site training, a technical support center will work with interested individuals to help them modify and upgrade their facilities.

**Stage 2: Technology Transfer**

- By accessing an elevated boardwalk the estuary becomes a living laboratory, information stations educate and monitor bird populations, nesting areas, and the health of various wetland plants and ultimately water quality.

**Stage 3: Commercialization**

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**Stage 3: Commercialization**
The Mississippi Gulf Coast was hard hit by the 2010 Deepwater Horizon Oil Spill. While media reports and studies have highlighted the environmental damage caused by the spill, the long-term effects on the region’s economy and wildlife are still being assessed. The Mississippi Gulf Coast, a region known for its beaches, natural beauty, and diverse ecosystem, has seen significant changes since the spill.

### Conservation

**Project:** Sustainable Gulf Coast

- **Benefit Area:** Coastal Preserve
- **Objective:** To protect and preserve coastal areas for future generations.
- **Funding:** $4,000,000

**Project:** Gulf of Mexico Restoration

- **Benefit Area:** Gulf of Mexico
- **Objective:** To restore and protect the Gulf of Mexico’s ecosystems.
- **Funding:** $2,250,000

### Development

**Project:** North Harrison County Industrial Complex

- **Benefit Area:** North Harrison County
- **Objective:** To promote economic development in North Harrison County.
- **Funding:** $10,000,000

**Project:** Long Beach Industrial Park

- **Benefit Area:** Harrison County
- **Objective:** To attract businesses to the Long Beach Industrial Park.
- **Funding:** $500,000

### Education

**Project:** University of Southern Mississippi-Thad Cochran Marine Aquaculture Center

- **Benefit Area:** Southern Mississippi
- **Objective:** To develop a research facility for aquaculture.
- **Funding:** $2,000,000

**Project:** Mississippi State University

- **Benefit Area:** Mississippi
- **Objective:** To enhance the state’s aquaculture industry.
- **Funding:** $5,000,000

### Marketing

**Project:** Market the Long Beach Industrial Park

- **Benefit Area:** Harrison County
- **Objective:** To market the Long Beach Industrial Park to prospects.
- **Funding:** $11,000,000

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The CMSWCP would like the opportunity to establish a Gulf Coast Demonstration Farm that would be aimed at improving seafood sustainability. The farm would likely consist of several tomograpies within a protected farmstead in the region surrounded by a critical mass of farmlands.
The Hancock County Port and Harbor Commission (HCPHC) is proposing a $25,000,000.00 project to dredge the channel between the Pearl River Bridge to the Intracoastal Waterway. Activities to be completed:

- Construction of Port Bienville Certified Site
- Activities at those sites. This will quickly expand the infrastructure available at SIA and simultaneously allow HCPHC to use this location as a location for expansion of port operations.
- By purchasing two (2) private hangars that are privately owned, HCPHC will remove all restrictions on economic development activities at those sites. This will quickly expand the infrastructure available at SIA and simultaneously allow HCPHC to use this location as a location for expansion of port operations.
- Additional hangars and manufacturing facilities, promises to support jobs from Mobile, AL to Baton Rouge, LA. Utilities are in near proximity to the site; however, wetlands mitigation, site clearing and roadway and utility extension are needed to achieve site-ready status.
- Funds awarded through this project will be used to complete all cultural/environmental assessments, wetlands mitigation, site clearing, roadway and utility extension.
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disasters and emergencies, Mississippi Gulf Coast Community College (MGCCC) proposes the "National Center for Strategic Planning and Emergency Response Training."

Objective 2: Development of the Center shall consist of physical, operational and programmatic activities. Activities will include a statement and scope of work for the Center, a defined location for the Center and the identification of best practices for use in the region.

Objective 1: Planning activities shall include the establishment of an advisory team consisting of local, regional and national representatives, defining a specific mission and scope of work for the Center, identifying physical locations for the Center, and establishing best practices for Center operations. Objective 1 outcomes will be: (a) establishment of an advisory team consisting of local, regional and national representatives; (b) establishing a specific mission and scope of work for the Center; (c) identifying physical locations for the Center; and (d) establishing best practices for Center operations.

This project is the planning, development and implementation of a comprehensive center that will provide strategic planning and training services to communities, individuals, businesses and officials who plan and prepare for, take actions to protect against, respond to and oversee recovery from such events. To provide strategic planning and training services to communities, individuals, businesses and officials who plan and prepare for, take actions to protect against, respond to and oversee recovery from such events. To provide strategic planning and training services to communities, individuals, businesses and officials who plan and prepare for, take actions to protect against, respond to and oversee recovery from such events.

Natural and man-made disasters are a part of this nation’s landscape as evidenced dramatically on the Mississippi Gulf Coast by Hurricane Katrina and the Deepwater Horizon Oil Spill. News of other disasters, contagious diseases and national security threats is daily coverage. Communities are developing strategies and programs to reduce the risk of disasters and to increase recovery from disasters, thereby improving the quality of life for citizens of this nation. Community and industry leaders are increasingly recognizing that in the future, comprehensive strategies and programs will be needed to prepare for, prevent, respond to and recover from disasters and emergencies.

The Mississippi Gulf Coast is a major transportation and business development corridor. The region includes major economic assets that contribute to the national economy, such as the Port of Pascagoula, Keesler Air Force Base, the Mississippi Aerospace Center, and 跨境 商務 總部 沖繩 本島 沖繩 県.
The Sustainable Energy and Environment (SEE) group at the University of Mississippi (UM) developed a family of new sorbents with the potential to be used in the recovery or containment of marine crude oil spills. These sorbents are derived from biochar, a term used to describe the solid residue that remains after the pyrolysis of biomass at elevated temperatures. Biochar has been shown to have high sorption capacity for crude oil, making it a promising sorbent for marine oil spill remediations. However, the sorption capacity of biochar is influenced by factors such as the type of biomass used, the pyrolysis temperature, and the presence of additives.

Biochars, due to their unique properties such as porosity and low density, can effectively absorb and capture oil spills. When exposed to crude oil, biochars can form a sponge-like structure due to microporous structure. This microporous structure provides a large surface area for oil molecules to adsorb onto, enhancing the sorption capacity of the biochars. In addition, biochars can be recovered and reused after the sorption process, making them a cost-effective solution for oil spill remediation.

Biochars can be fabricated through a variety of methods, including pyrolysis, gasification, and combustion. The most common method is pyrolysis, where biomass is heated in the absence of oxygen to produce biochar. This process can be further modified by adding chemical agents such as potassium carbonate to enhance the porosity and surface area of the resultant biochar. These chemical agents help to create a more porous structure, increasing the sorption capacity of the biochar.

Biochars exhibit high sorption capacity for a wide range of hydrocarbons and can be effectively used in both the oil spill recovery and oil spill containment processes. The high oil sorption capacity, coupled with their low cost and ease of recovery, make biochars a viable solution for oil spill remediation. Additionally, biochars can be applied to the oil-contaminated environment in various forms, such as pellets, powders, or granules, to achieve optimal absorption and containment efficacy.

Biochars have also been shown to have potential applications in other areas, including wastewater treatment, air pollution control, and as a source of bioenergy. The versatility of biochars makes them a valuable resource for sustainable development, providing an eco-friendly and cost-effective solution for various environmental challenges.

**I. Introduction**

Biochars have emerged as a promising sorbent for recovering or containing marine crude oil spills due to their high sorption capacity and low cost. In this context, activated biochars have shown superior performance compared to conventional sorbents. The high sorption capacity of biochars is primarily due to their microporous structure, which provides a large surface area for oil molecules to adsorb onto. In addition, the hydrophobic nature of the biochars' internal surfaces enhances their oil sorption capacity.

The Sustainable Energy and Environment (SEE) group at the University of Mississippi has developed a family of new biochars with high sorption capacity for crude oil. These biochars are derived from biomass through pyrolysis at low temperatures. TheSEE's low-temperature activation methods remove significant amounts of exchangeable mineral components, which further enhances the sorption capacity of the biochars. The activation process leads to the creation of a large number of micro-porous and meso-porous structures, allowing for the high sorption capacity of these biochars.

Biochars are also highly effective in the oil spill recovery process, as they can be directly applied to the oil-contaminated environment. The high oil sorption capacity of biochars enables them to quickly and efficiently sorb oil from the environment, reducing the impact of oil spills on the ecosystem. Biochars are also easily recoverable, allowing for reuse in future oil spill remediation efforts.

Biochars have demonstrated their efficacy in various oil spill recovery scenarios, including controlled laboratory experiments and real-world applications. The sorption capacity of biochars has been found to be significantly higher than that of traditional sorbents, making them a cost-effective solution for oil spill remediation.

Biochars are also environmentally friendly, as they do not produce toxic byproducts or greenhouse gases during the activation process. The activation process is also relatively simple, requiring agents that are readily available everywhere. The low-temperature activation process is particularly advantageous, as it results in the creation of a large number of micro-porous and meso-porous structures with high surface areas.

In conclusion, biochars have shown promise as a cost-effective and environmentally friendly solution for oil spill remediation. The high sorption capacity of biochars, coupled with their ease of recovery and low environmental impact, makes them a promising sorbent for marine oil spill remediation.
Background:

Gulfport is a city in Harrison County, Mississippi, United States. It is the largest city along the Gulf of Mexico in Mississippi north of Biloxi. The city hosts a diverse mix of commercial, industrial, and recreational activities. The city is known for its beaches, fishing, and boating opportunities. Gulfport is also home to the Gulfport Biloxi International Airport, which is a major transportation hub for the region.

The Pier:

The pier in Gulfport was originally built in the 1950s as a recreational fishing pier. Over time, it became a popular destination for locals and tourists alike. However, the pier began to show signs of wear and tear, and in 2015, the City of Gulfport decided to replace it with a new, state-of-the-art pier.

The new pier will be a multi-use facility, offering fishing, boating, and recreational opportunities. It will be a significant asset to the Gulfport community, providing a gathering place for residents and visitors alike.

The Alley Streetscape Project:

Half Street Alley is a historic alley located in downtown Gulfport. It is named for its location, which is situated between Half and 26th Avenues. The alley is a vibrant area of the downtown district, with a variety of businesses, restaurants, and other commercial enterprises.

The City of Gulfport is currently working on a comprehensive streetscape project to revitalize Half Street Alley. The project includes improving the alley's infrastructure, increasing pedestrian safety, and enhancing the overall aesthetic of the area.

The project will involve the installation of new lighting, seating areas, and other amenities to create a more inviting and attractive environment for both residents and visitors. This project is expected to be completed in 2016.

The project will be funded through a combination of public and private sources, including federal and local grants, as well as private donations.

Summary:

The Gulfport Downtown Tourist Destination/Alley Streetscape Project, also known as the Half Street Alley Project, is a comprehensive project to improve and revitalize a historic alley in downtown Gulfport. The project includes the construction of a new pier, providing recreational opportunities, and enhancing the streetscape of Half Street Alley.

These projects will not only improve the quality of life for residents and visitors but also provide significant economic benefits to the community. The project is expected to create jobs, attract new businesses, and increase tourism in the area.

The projects are budgeted at a total cost of $25,775,000, with funding provided through a combination of federal, state, and local sources. The projects are expected to be completed in 2016, with the pier scheduled for completion in 2015.
<table>
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The proposed project will fund comprehensive Oyster Trust Fund activities, including but not limited to the following:

1. Restoration and enhancement of oyster populations through the enhancement of existing oyster reefs and the creation of new reefs. This includes providing technical support and financial assistance to local oyster growers, developing and implementing management plans for oyster reef conservation, and conducting research on oyster population dynamics.

2. Development of a sustainable oyster aquaculture program to complement and enhance natural oyster populations. This involves building and maintaining oyster aquaculture facilities, providing technical assistance and training to oyster growers, and developing marketing strategies for oyster products.

3. Research and development of oyster disease management strategies to prevent and control outbreaks of oyster diseases, which can have significant economic impacts on the oyster industry.

4. Stewardship and education programs to promote public awareness and understanding of the importance of oyster conservation and sustainable oyster management practices. This includes developing educational materials, conducting outreach and public engagement activities, and supporting community-based oyster conservation efforts.

5. Monitoring and evaluation efforts to assess the effectiveness of oyster restoration and enhancement activities. This includes developing and implementing monitoring protocols, analyzing data, and reporting on progress to stakeholders.

The project will be funded through a combination of federal, state, and private funds, as well as contributions from local communities and the private sector. The Trust Fund will be administered by a board of trustees, consisting of representatives from state agencies, local governments, and private organizations involved in oyster conservation and management.

The project will be subject to performance standards and evaluation criteria established by the Board of Trustees. The project will be subject to annual reviews and performance evaluations to ensure that it meets the objectives and goals of the Trust Fund.

The project will also be subject to the provisions of the Mississippi Coastal Ocean and Coastal Resources Management Act, which includes provisions for public input, transparency, and accountability in the decision-making process for the Trust Fund.

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The environmental infrastructure of our two hospitals is deteriorating, and some portions are more than 40 years old. As a result, they may not meet the required safety and efficiency standards.

- **Restore the Tree Canopy Strategies**
  - Restoring the trees will benefit patients, employees, and visitors and will enhance the aesthetic appeal of our hospitals.
  - The project will focus on enhancing the hospital's green spaces by planting and maintaining trees.
  - Expected benefits include improved air quality, reduced noise levels, and enhanced psychological well-being.

- **Waterfront Workforce Development**
  - The project offers training to residents in the Biloxi area to improve their employability and quality of life.
  - Training includes skills enhancement in areas that are in demand across Mississippi and the Brownsville region.

- **Coastal Tree Restore Plan**
  - Restoring trees across the Bay will improve coastal resilience and provide habitat for wildlife.
  - Trees will also capture pollutants and store carbon, contributing to environmental health.

- **Biloxi Discharge Collection and Treatment Project**
  - The project addresses coastal water quality and compliance with legal requirements.
  - Improvements will include project design and installation of a discharge collection system.

- **Back Bay Water Quality Project**
  - The project aims to improve water quality and ecosystem health in the Back Bay of Biloxi.
  - Investments will focus on seepage control and pollution reduction techniques.

- **Restore the Tree Canopy**
  - The project focuses on planting trees along the coastal highways to enhance storm resilience and aesthetics.
  - Trees will provide shade, reduce heat island effect, and improve stormwater management.

- **Mississippi Shrimp Industry Development**
  - The project seeks to improve the sustainability of the Mississippi shrimp industry.
  - It involves promoting the seafood industry, developing partnerships, and reducing bycatch in the shrimp fishery.

- **Domestic Seafood Blockage Project**
  - The project aims to improve domestic seafood trade by ensuring high quality standards.
  - It focuses on reducing bycatch, promoting seafood, and enhancing the Mississippi shrimp industry's sustainability.

- **Coastal Zone European Bank Development**
  - The project promotes coastal zone development and enhancement.
  - It includes strategies such as habitat restoration, coastal ecosystems, and barrier island development.

- **Fishery Improvement Project**
  - The project focuses on improving the sustainability of the Gulf of Mexico shrimp fishery.
  - It targets bycatch reduction, habitat restoration, and market development.

- **Mitigation and Preparedness Project**
  - The project aims to reduce bycatch in the shrimp fishery and enhance the Mississippi shrimp industry's sustainability.
  - It includes habitat restoration, bycatch reduction, and market development.

- **Coastal Zone Development**
  - The project focuses on coastal zone development and enhancement.
  - It includes strategies such as habitat restoration, coastal ecosystems, and barrier island development.
The City of Gautier's Town Center is located in the Central Business district, and plans are currently being developed to redevelop the property for live, work, and play. The proposed development is being considered to include a mix of uses on-site, with street-level businesses and upper-level residential units.

The Town Center Project is proposed to develop a large recreational area and public park in conjunction with the Commons Development. A great portion of the property consists of wetlands. Throughout these areas, nature trails will be constructed to permit public access. The park will include a boat and kayak launch, pavilions, parking for visitors, and a kiosk with a map of the area.

As the State's first water trail, it will serve to strengthen and extend recreational opportunities for residents and visitors. This project includes industry partners, mayors, city leaders, civic groups, chambers, parks and recreation professionals, arborists, urban foresters, community leaders, and visitors alike.

The ultimate challenge of any research is applying that research on the ground, providing sound technology transfer, and generating local support. Many years of using research data and applying it on the ground have shown the benefits of these practices. Demonstrating and supporting the mission through creative partnerships and collaborations is critical to the success of this project.

Pollinator Health in Urban and Rural Communities

Pollinator health is about our social and economic impacts and how all of us can play a role in its success. Many times research on environmental projects do not have the opportunity to be applied on the ground. Our research, therefore, is a way to demonstrate the impacts of our work on the local community and provide economic incentives.

The project will help communities demonstrate best management practices and support the mission through creative partnerships and collaborations. We will work through our municipal partners to develop workshops and distribute the pollinator sites. Currently, MCF's TRT practitioners have worked with Bloom Town Mississippi groups to distribute our sites. If this is successful, this will be a great example for other communities to follow.

This project is a great opportunity to educate community leaders, citizens, and community groups about how pollinators have an impact on our daily lives. It will also provide a hands-on opportunity for them to learn more about the importance of pollinators and their role in our ecosystem.

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The seafood industry is an integral part of the Mississippi Gulf Coast’s economy, its history and its culture. The seafood industry could be furthered greatly by investments in coastal habitats and local marine industries. In 2000, both Hurricane Gordon and the BP Oil Spill took a devastating toll on the Gulf of Mexico and the Mississippi Gulf Coast’s coastal habitat. As a result, the oyster industry has taken a massive hit. In Mississippi, the oyster industry relies primarily on planting cultch and naturally produced oyster larvae (wild stock) to set on the bottom to produce marketable oysters. In Mississippi, the oyster industry is the most under served state in the commercial Gulf reef fish fishery. Mississippi has the least amount of Gulf reef fish permit holders and individual fishing quota shareholders. This project would help to increase commercial access to reef fish in Mississippi Gulf Coast. In Mississippi, the oyster industry has taken a massive hit due to the recent decision to cease processing fish in the local oyster and shrimp industry following the BP oil spill.

Remote setting is a method of producing oysters that differs from natural oyster production. Remote setting is the production of oyster spat by setting hatchery-manufactured spat (seed material for oyster larvae to attach socially) to a remote location from the hatchery. In Mississippi, the oyster industry is the most under served state in the commercial Gulf reef fish fishery. Mississippi has the least amount of Gulf reef fish permit holders and individual fishing quota shareholders. This project would help to increase commercial access to reef fish in Mississippi Gulf Coast.

According to the “Strategic Framework for Oyster Restoration Activities,” the remote setting facility at the Port of Gulfport would assist in increasing the production of the natural oyster reefs along the Mississippi Gulf Coast. The Mississippi Gulf Coast is the most under served state in the commercial Gulf reef fish fishery. According to the “Strategic Framework for Oyster Restoration Activities,” the remote setting facility at the Port of Gulfport would assist in increasing the production of the natural oyster reefs along the Mississippi Gulf Coast.
### Overview of the Mississippi processing industry:

The U.S. shrimp processing industry is located in the Gulf States region. While processors are numerous, the bulk of the work involves domestic shrimp processing, positions approximately 30 million pounds of shrimp with one processor at Mississippi's $1.1 billion pound annual catch.

<table>
<thead>
<tr>
<th>Processor</th>
<th>Mississippi</th>
<th>Harrison, Jackson, and Gulf Coast</th>
<th>Pearl River County Open Broadband Fiber Internet</th>
<th>Pearl River Community College (PRCC)</th>
</tr>
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### Strategic investments

- Two years with new deployment technology.
- Activities will include first connecting public sectors, educational entities, and businesses, organizations, and citizens.
- Mississippi's six processors have demonstrated innovation and resiliency in the face of challenge.
- The industry and individual processors work together to position seafood products to capitalize on this opportunity.
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### Expected Outcomes

- The business plan will be the ultimate goal of this project. It will determine the budget, sources for funding, methods and routes for fiber installation, and organizational structure.
- The expectation is that the recent population increases and economic growth in the area will drive the interest of development on the coast to accomplish these tasks.

### Challenges

- The broadband infrastructure of Mississippi has largely been in the hands of good businesses with agendas that may not align with the interests of businesses, governments, or citizens of the Gulf Coast.
- In 2016, the Mississippi Broadband Authority (MBA) was established as an independent agency of the State of Mississippi.
- The MBA has the responsibility to coordinate with the various governmental entities to promote broadband deployment.
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### Objectives - Pearl River County Open Broadband Fiber Internet

- To explore the economics and methods of providing high-speed broadband to rural areas with uncertain access to infrastructure delivered from fiber.
- To create a Gigabit Gulf Coast without training the workforce alongside this advancement to encourage innovation and protect local markets.
- To jump-start new ways of doing business that can take full advantage of an increasingly virtualized global economy.

### Mississippi Gulf Coast Community College (MGCCC)

- The college proposes the Gigabit Gulf Coast and High-Tech Workforce project which will include strategic investments, methods and routes for fiber installation, and organizational structure.
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- The expectation is that the recent population increases and economic growth in the area will drive the interest of development on the coast to accomplish these tasks.

### Challenges

- The broadband infrastructure of Mississippi has largely been in the hands of good businesses with agendas that may not align with the interests of businesses, governments, or citizens of the Gulf Coast.
- In 2016, the Mississippi Broadband Authority (MBA) was established as an independent agency of the State of Mississippi.
- The MBA has the responsibility to coordinate with the various governmental entities to promote broadband deployment.
- The MBA has the responsibility to coordinate with the various governmental entities to promote broadband deployment.

### Objectives - Pearl River County Open Broadband Fiber Internet

- To explore the economics and methods of providing high-speed broadband to rural areas with uncertain access to infrastructure delivered from fiber.
- To create a Gigabit Gulf Coast without training the workforce alongside this advancement to encourage innovation and protect local markets.
- To jump-start new ways of doing business that can take full advantage of an increasingly virtualized global economy.

### Mississippi Gulf Coast Community College (MGCCC)

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- The expectation is that the recent population increases and economic growth in the area will drive the interest of development on the coast to accomplish these tasks.
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<tbody>
<tr>
<td>U.S. Shrimp processing industry is located in the Barataria Basin region. Shrimp processors are seeking to expand.</td>
<td>2/15/2018</td>
<td>Funds will be used to permit the opening of a new shrimp processing plant.</td>
<td>$1,500,000</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Mississippi's six processors have a substantial need for real estate, production and product development and growth.</td>
<td>10/2/2018</td>
<td>Funds will be used to support the growth of existing processors and new processors.</td>
<td>$7,627,318</td>
<td>Yes</td>
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<td>Mississippi's first responders have a substantial need for real estate, production and product development and growth.</td>
<td>10/2/2018</td>
<td>Funds will be used to support the growth of existing processors and new processors.</td>
<td>$8,400,000</td>
<td>Yes</td>
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<tr>
<td>The “Area Credit Program” is a critical component of the Area-wide Planning and Development Area (APDA).</td>
<td>2/28/2019</td>
<td>Funds will be used to support the growth of existing processors and new processors.</td>
<td>$1,000,000</td>
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<td>1/1/2020</td>
<td>Funds will be used to support the growth of existing processors and new processors.</td>
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**Walter Anderson Museum**

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**Walter Anderson Museum - For Bay St. Louis & Mississippi Gulf**

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### New Orleans Development

- **Workforce Education**
  - **Description**: New Orleans development
  - **Website**: n/a
  - **Principal Investigator**: n/a
  - **Funding Source**: n/a
  - **Project Leader**: n/a
  - **Project Budget**: n/a
  - **Status**: n/a
  - **Start Date**: n/a
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- **Comments**: n/a

### Research and Education

- **n/a**
  - **Description**: n/a
  - **Website**: n/a
  - **Principal Investigator**: n/a
  - **Funding Source**: n/a
  - **Project Leader**: n/a
  - **Project Budget**: n/a
  - **Status**: n/a
  - **Start Date**: n/a
  - **End Date**: n/a
- **Comments**: n/a
The project consists of improvements to the BSL Harbor located at 100 Jody Compretta Drive, near Downtown. Proposed projects include:

1. Planning and preparing a reclamation plan for Brodie Bayou and a dredging plan for removal of approximately 85,000 cubic yards of sediments in the bayou to open the channel for navigation.

2. Planning and preparing a maintenance dredging plan for BSL Harbor.

3. Developing a maintenance dredging plan for BSL Harbor.

The Tulane Regional Urban Design Center (TRUDC) and 16 Architecture students have been working with the City of Biloxi throughout the spring to create a new plan for Point Cadet, a public waterfront park in East Biloxi. The Point serves as a highly visible gateway to the State of Mississippi, adding 100,000 square feet of public access to a very special shoreline area known as Beardslee Lake. New public access, recreation, and parking would be developed in an area that is currently inaccessible from McInnis Avenue to Elder Street. The bridge approaches will need to be raised as will existing city utility lines.

The project is estimated to cost $4.0 million. The City has invested local and Tidelands funds over the last decade to make Fountain Beach a popular bay front park for the public use. New public fishing piers would be constructed in an area south of fountain Beach. Improvements and amenities, the project is estimated to cost $4.0 million.

The Pascagoula River Audubon Center is being relocated to downtown Moss Point. The Dantzler Street Bridge will soon be home to the first phase of the CTA Transit Center. This location is one block from the City’s waterfront industry Museum along with a mini-exhibition, small retail locations, community open spaces for fresh and family friendly events, children’s park, open green space, and public access amenities. On March 5, 2011, leaders and students presented their TRUDC project and call for action to city officials, and at that time, proposed to incorporate what the city has learned from the public and administration. A consolidated plan that shows the students’ work which was created following the public meeting. The TRUDC has worked with city officials to incorporate the historical industry Museum strategy, created a parking budget by city and city planning and allocation, and provided plans and renderings downsized into budgeted phases for clarity and ease of implementation.

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The Tulane Regional Urban Design Center (TRUDC) and 16 Architecture students have been working with the City of Biloxi throughout the spring to create a new plan for Point Cadet, a public waterfront park in East Biloxi. The Point serves as a highly visible gateway to the city, and is the last waterfront green space open to the public. The TRUDC is responsible for coordinating the next phase of development. The TRUDC held a public meeting with city officials, and at the time, proposed to incorporate what the city has learned from the public and administration. A consolidated plan that shows the students’ work which was created following the public meeting. The TRUDC has worked with city officials to incorporate the historical industry Museum strategy, created a parking budget by city and city planning and allocation, and provided plans and renderings downsized into budgeted phases for clarity and ease of implementation.

Funding for the following projects is proposed:

- **Brodie Bayou Reclamation/Public Access**
  - $3.5 million
  - 12 acres
  - 17 acres of city-owned land
  - Adaptive reuse project
  - New public access

- **Tchoutacabouffa River Blueway/Greenway**
  - $3.5 million
  - Unique riverine project
  - Waterfront development
  - Multi-faceted restoration

- **Research and Education**
  - $4.3 million
  - Improved facilities
  - Enhanced services

- **1178 8/19/2011**
  - $4.0 million

- **1173 9/26/2011**
  - $7.5 million

- **1162 7/8/2013**
  - $7.5 million

- **1158 7/8/2013**
  - $4.5 million

- **11459**
  - $4.3 million

The projects are designed to provide a foundation for growth and development in the City of Biloxi. The projects include:

- **Research and Education**
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This project consists of the design, engineering, and construction for the development of Point Park. The project includes providing funds for the creation of a 76-acre site including long-ridge boardwalks, boardwalk piers, jetty heads, and fish cleaning stations; to allow for better access across various parts of the bay head; included would be landscaping, drainage, lighting, boats, and monitors, as well as lighting for the boardwalks, piers, and event space for educational and recreational functions. Public gatherings would be constructed as well as piers with amenities and storage. The site would serve as a recreation hub and local learning facilities will be added. It would also be placed along the river for fishing, birding, and canoeing. Harbor improvements would provide water, fuel, and power for the port; lighting and piers at and walkways, and conversion of the front hill to a dark shopping. The road to the north side of the island would be enhanced for direct access to the existing businesses.

A notable project is the Education Research and Outreach Station (EROS). This project is to provide approximately 20,000 square feet of classroom, laboratory, and administrative space designed to accommodate diverse, well-trained, and experienced educators. The project includes renovation of existing classroom, laboratory, and administrative space; the addition of new classroom, laboratory, and administrative space; and the acquisition of additional land and equipment. The project is expected to create approximately 200 full-time jobs during construction.

The project is to replace the R/V Tom McIlwain, a 60-foot vessel that has been in service for 35 years. The new vessel will be a state-of-the-art research vessel that will provide advanced technologies for use by Gulf States fishery agencies and private industry. Similar efforts in the Mediterranean Sea have included the development of new programs that have contributed to the enhancement of marine research and education. The work of the consortium will result in significant decreases in Gulf fish populations during the last decade. Solution: Marine aquaculture of key species can be expanded employment and business opportunities as natural populations are restocked with hatchery produced fingerlings.

The project is to provide for the purchase of a replacement research vessel for the Gulf Coast Research Laboratory. The project is expected to create approximately 250 full-time jobs during construction.

The project is to transform 40 acres into a multi-use facility that will support the City’s comprehensive stormwater management strategy. The project will result in measurable water quality improvements that will support the City’s stormwater management strategy and will support the City’s stormwater management strategy. The project will result in measurable water quality improvements that will support the City’s stormwater management strategy and will support the City’s stormwater management strategy. The project will result in measurable water quality improvements that will support the City’s stormwater management strategy and will support the City’s stormwater management strategy. The project will result in measurable water quality improvements that will support the City’s stormwater management strategy and will support the City’s stormwater management strategy.
Research and Education

The Gulf of Mexico is a diverse and productive ecosystem that supports a wide range of marine resources, including fish, shrimp, and other species that are important to the local economy. However, the Gulf has faced a number of challenges in recent years, including oil spills, habitat degradation, and overfishing. To address these challenges, the National Oceanic and Atmospheric Administration (NOAA) has launched the Gulf of Mexico Program (GMP), which is a multi-year effort aimed at restoring and protecting the Gulf's marine resources.

The GMP includes a variety of initiatives designed to improve the health of the Gulf ecosystem. These initiatives focus on restoring and protecting coastal habitats, improving water quality, and reducing pollution. The GMP also includes efforts to enhance the use of renewable resources, such as wind energy and solar power, and to promote sustainable fishing practices.

The GMP is funded by a combination of federal and state funds, as well as private donations. The program is administered by the National Marine Fisheries Service (NMFS) and the National Ocean Service (NOS), which are part of NOAA.

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The Gulf of Mexico is a diverse and productive ecosystem that supports a wide range of marine resources, including fish, shrimp, and other species that are important to the local economy. However, the Gulf has faced a number of challenges in recent years, including oil spills, habitat degradation, and overfishing. To address these challenges, the National Oceanic and Atmospheric Administration (NOAA) has launched the Gulf of Mexico Program (GMP), which is a multi-year effort aimed at restoring and protecting the Gulf's marine resources.

The GMP includes a variety of initiatives designed to improve the health of the Gulf ecosystem. These initiatives focus on restoring and protecting coastal habitats, improving water quality, and reducing pollution. The GMP also includes efforts to enhance the use of renewable resources, such as wind energy and solar power, and to promote sustainable fishing practices.

The GMP is funded by a combination of federal and state funds, as well as private donations. The program is administered by the National Marine Fisheries Service (NMFS) and the National Ocean Service (NOS), which are part of NOAA.
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<tr>
<th>Title</th>
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<tr>
<td>Hancock County wetlands stabilization and oyster restoration project</td>
<td>The project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
<td>51,535,865.00 $</td>
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<td>Hancock, Harrison, and Jackson County wetlands stabilization and oyster restoration project</td>
<td>This project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
<td>487,000,000 $</td>
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<td>Mississippi Scenic Bluff</td>
<td>This project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
<td>51,535,865.00 $</td>
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<td>Mississippi Coast wide seagrass community based conservation program</td>
<td>The project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
<td>51,535,865.00 $</td>
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<tr>
<td>Sub-tidal oyster reef restoration in Biloxi Bay, Mississippi</td>
<td>Phase II will include developing an arboriculture for every coastal city, 12 sites, to all total of 23 arboretums developed and another 15 existing sites that can qualify as an arboriculture will be certified. So, when the project is complete there will be a maximum of 86 certified arboretums along the coast that can be visited as greens, way, tourism and protection of communities and other sites. The project will be highly visible. The value of related water quality functions will be determined for these sites based on the following research.</td>
<td>420,000.00 $</td>
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<td>Arboretum Trail --Coastal aquaculture in Mississippi</td>
<td>This project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
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<tr>
<td>Beach Boulevard By-ways</td>
<td>This project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
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<tr>
<td>Hancock County coastal and urban beekeeping for Barrier County and Rocks Bay</td>
<td>The project addresses community resilience, injury, including oysters, economic development, tourism benefits and much more.</td>
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GULF OF MEXICO

RESTORATION HATCHERY AND FISHERIES

Initiatives Expansion with Restoration

agriculture community has begun to embrace the notion of water resource conservation, but alternative strategies are actively

water quality, with the added potential to provide data that would establish these remnant wetlands as an additional

allocated. Funds from the Restore Act would aide in enhancing critical wetland habitat to decrease the impacts to downstream

partners. Project sites range from the northern to southern portions of the Mississippi Delta region and are dependent on funds

water quality and securing an additional sustainable water supply in the Delta's watersheds by using the landscape's natural

oxbow wetland systems. Two of the systems alone would have a combined water storage capacity of 1,500,000,000 liters

(LIDAR) software we were able to determine precise water volumes associated with water elevation fluxes of several remnant

irrigation supplies as well as needed in stream flows. Using remote sensing data through the Light Detection and Ranging

Mississippi coast in the Gulf of Mexico. Several thousand acres of remnant oxbow wetlands in the Mississippi Delta currently

causes of coastal ecosystem degradation and eutrophication. This is no more prevalent than in the hypoxic zone off of the

receiving waters. It is these nutrient loads, mainly nitrate-N, associated with these watersheds that are rooted deeply in the

fertilizers to increase crop yields, which in turn, often result in the delivery of high nutrient loads from the landscape to adjacent

controlled drainage strategy, low-grade weir, in the systems outflow channel would create a series of in-stream wetlands with in

remnant oxbow wetlands in the Mississippi Delta. While serving as a drainage catchment, installation of an innovative surface

(ORIGINAL ID#11717) The TNC-MS Chapter's Freshwater Program proposes to implement controlled drainage practices on

Gulf of Mexico ($700 Million in 2008). Additionally the recreational fishing industry (>$12 Billion in 2008) would realize

seafood produced by aquaculture. It is estimated that aquaculture of Gulf fish species would double the seafood output of the

Florida Pompano, Cobia, Greater Amberjack and Southern Flounder. Projected Results: The work of the consortium will result

stocking and technology transfer include Red Drum, Spotted Sea Trout, Red Snapper, White Shrimp, Bull Minnows, Croaker,

stocking, technology transfer, and business stimulation already exists. The species targeted for immediate implementation of

addition to the implementation team, the consortium has established scientific, governmental agency and commercial advisory

relationships and will employ the highest quality science and economic approaches to implement, and transfer the technology

enhancement research, implementation, and technology transfer for the northern GOM. The consortium is built on established

collaborative involving institutions in all five Gulf States as well as other national and international institutions, public and

through technology transfer and stimulation of small businesses resulting in job creation. This effort is a cornerstone of the

growing Gulf of Mexico Marine Science Plan (GOMMarSci). The TNC-MS Chapter's Freshwater Program has already

received approval for involvement in the GOMMarSci. The GOMMarSci is supported by The Gulf of Mexico Restoration

Corporation, The National Oceanic and Atmospheric Administration (NOAA), NOAA's Strategic Environmental Research and

Development Program (SERDP) and the Marine Science Institute (UTMSI) - Louisiana University Marine Consortium (LUMCON) - Auburn University (AU) - Mote Marine

Marine Science Institute - Louisiana University Marine Consortium (LUMCON) - Auburn University (AU) - Mote Marine

Marine Science Institute (UTMSI) - University of Maryland - Baltimore (UMB) - Texas A&M University at Galveston (TAMUG) - University of Miami (UM) - Florida Museum of

Science - USGS - Gulf of Mexico Marine Conservation (GOMCON) - The Nature Conservancy - Mote Marine Lab - University of Louisiana at Monroe - University of South

Florida - University of Tennessee - University of West Florida - Tulane University - Marquette University - University of

This project will enhance water quality from agriculture runoff. The combination of these efforts will produce water quality

benefits in the Delta's watersheds. The project will be executed over a seven-year period with two years of budgetary

flexibility. Each year will focus on a specific goal and selected component of the project, with the expectation of additional

funding requests in future years. The components of the project will include:

1. Identification of Watersheds with Significant Water Quality Issues: Watersheds will be assessed based on a combination of

parameters including: nutrient enrichment; stream discharge; land use; and distance from coast. The most promising

watersheds will be prioritized to receive targeted efforts.

2. Implementation of Best Management Practices (BMPs) to Improve Water Quality: BMPs will be implemented in the

selected watersheds. These BMPs may include: nutrient management; riparian buffer establishment; water quality

monitoring; and stream restoration. The effectiveness of these BMPs will be monitored and evaluated to ensure

success.

3. Education and Outreach: Information on the importance of water quality and the benefits of implementing BMPs will be

provided to local communities through workshops, public meetings, and other educational activities. The goal is to

increase public awareness and understanding of the importance of water quality and the role that citizens can play in

improving it.

4. Technical Assistance: Technical assistance will be provided to local communities to help them implement BMPs and

monitor their effectiveness. This assistance may include: site assessments; training on BMP implementation; and

technical resources.

5. Monitoring and Evaluation: The project will be evaluated through regular monitoring of the selected watersheds. The

data collected will be used to assess the effectiveness of the BMPs and to inform future planning.

The project is expected to begin in fiscal year 2012 and continue through fiscal year 2018. The total project budget is

$5,700,000,000.00.
According to the Mississippi Department of Health (MDOH), 425,000 homes or 40% of homes are not connected to sewer systems. The MDOH recommends septic tanks (straight line pipes) to protect upstream damage from polluting streams that drain into the Gulf of Mexico.

Three Coastal Counties (Hancock, Harrison, and Jackson Counties) are included in the project area. These counties are home to three major coastal cities: Gulfport, Biloxi, and Pascagoula. The MSWAP is designed to improve water quality and protect aquatic ecosystems in the coastal zone.

Specific Data for the Lower Tombigbee River: The areas above these dams have created wetlands that are important to local wildlife and migratory birds. Railroads, utilities, wetlands, and agricultural lands. These watershed areas all drain to the Gulf of Mexico by way of the Tombigbee River. These concepts include: Community Character, Transportation Choices, Greening and Natural Assets, Policy in Practice, and Planning Tools. The MSWAP, as a nationally scaled effort, is also expected to create a scaled model that includes a water quality project for the coastal counties.

The project is expected to improve water quality and protect aquatic ecosystems in the coastal zone. It is also expected to create a scaled model that includes a water quality project for the coastal counties.
on 5/16/2013
Establishing Institute for Biodiversity Studies at the GCRL (ORIGINAL ID#12031) An Institute for Biodiversity Studies will be created with the purpose of conducting long-term ecological studies of habitats in the lower Pascagoula River and associated estuary. The institute will be located at the GCRL or Cedar Point. Campus and will act and house the GCRL Museum coordinator and coordinate collections in a state-of-the-art facility. The institute will also facilitate research projects from various agencies, collaborate with the Pascagoula River Audubon Center, and work with the Audubon All Taxa Inventory Initiative. The institute will be the designated home for the Gulf and Caribbean Reports. Assistance would be provided for planning, engineering, construction and management of these areas as well as education for long-term management long after this program ends.  

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We are working on restoring the Mississippi Coastal Plain. We are committed to the protection, preservation, and restoration of the Mississippi Coastal Plain. This commitment is furthered by the Endangered Species Act. To date, we have identified and preserved over 100 Endangered species. Our goal is to ensure that the Endangered species are protected and restored to their natural habitats.

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The City of Gulfport is a family oriented community and is featured by renowned art galleries and small business. Many local residents work while taking a break at the city's many outdoor activities including outdoor recreation and local parks. The City of Gulfport’s vision is to be a gateway for the Brick Bayou streams which runs from the mouth of the Escatawpa river into the Pascagoula river. The property that will be constructed originally by American Legion Post 77 and is in the process of being reconstructed and improved due to damage caused by Hurricane Isaac. The city took tidelands funds and assisted in the reconstruction to make the memorial more handicap accessible and more user friendly. Benches as well as new concrete sidewalks to allow better access to the water and sidewalk will also been installed.

The City of Gulfport’s vision is to be a gateway for recreation and tourism. The City's vision is to have the pavilion available for community use that will allow everyone to share in the benefits of the outdoor setting. The new open-air pavilion will make use of a solid structure nestled on the beach with a check in to the half and we can explore the surrounding bay. By placing a park along Bangs Lake in a highly industrialized area, along the boardwalk, interpretive stations will display information highlighting the history and legacy of Bangs Lake and the marsh land. Not only will visitors come to walk along the marshes but a boat ramp will provide access to the lake and the Gulf. In an effort to provide increased access to natural resources, the bangs Lake Viewing Pier and Park will increase the ecological awareness of the area providing a nature center for fishing and bird watching. The new open-air pavilion will also include restroom facilities, benches, optical viewers and information boards designed to identify local wildlife and marine resources. Along the boardwalk, interpretive stations will display information highlighting the history and legacy of Bangs Lake and the marsh land. The new open-air pavilion will also include restroom facilities, benches, optical viewers and information boards designed to identify local wildlife and marine resources. An elevated boardwalk with benches and interpretive stations will display information highlighting the history and legacy of Bangs Lake and the marsh land. Not only will visitors come to walk along the marshes but a boat ramp will provide access to the lake and the Gulf.
The challenge of rebuilding our country's coastal areas is a daunting task. We must address the root causes of coastal degradation and work to restore the health of our living marine resources. This project will not only help restore but will help give back to both the recreational fishers and commercial fishers as well as the shareholders that are willing to lease some of their quota shares so that the fish can remain in the water to reproduce for the future.

This project will help reproduce the fish that were killed by the oil spill. The Gulf of Mexico has a management tool called ITQ. It allows fishery management councils that use this type of information in their management plans.

The commercial industry holds quota shares of Reef fish that can be leased, fished or sold. I have contacted some of the shareholders that are willing to lease some of their share so that the fish can remain in the water to reproduce for the future.

This is an example of Menhaden is used for making oil, fertilizer, dog and cat food. The oil is used as the primary ingredient in WD forty. This example is to show how the value chain comes into play and the many jobs that are created through the value chain. The outcome is to have a social and economical survey that will help capture the true value of our Gulf of Mexico States marine resources and seafood to the Nation as a whole. Activities include the collection of ground-truthed information, methodologies and practices to improve decision making that result in the on-the-ground improvements, and facilitate future planning.

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The proposed five-year program would implement the specially designed Roadscape Watershed Recovery Program (RWRP) in Mississippi, Alabama, and Louisiana (see Attachment Proposal). The primary resource areas addressed by the RWRP include water quality, aquatic habitats, rare and imperiled aquatic species, invasive species, and stormwater runoff. The RWRP was developed to provide roadscape maintenance and resource management end works with a high potential for environmental impact and a high comparative ranking among the sites assessed for treatment. This phase encompasses the types of designs that could be used for high-priority road crossing sites. The prescriptions are a product of a series of site assessment and project treatment that provide planners, engineers, and project sponsors with a logical sequence of prioritizing project features, examining the relationships and treatment needs of all available resources, and planning for project design and implementation. As applicable, project activity permitting would be conducted with state and federal regulatory agencies during project design phases. For Program Years 3 through 5, the annual project and aquatic ecosystem monitoring at 10 project sites. An estimated 75 crossing zone invasive species sites would be inspected annually. A discussion of Phase IV is presented in the Attachment Proposal.

High priority unpaved road crossings, borrow pits, and crossing zone invasive species treatments at an estimated 750 crossing zones. A discussion of Phase III is presented in the Attachment Proposal.

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Research and Education

1. Purchase of the adjoining property;
2. Upgrade of electrical, air conditioning, and generator capacity for Caylor. Much of the lower level wiring is aging prematurely due to submersion in saltwater during Katrina. The air conditioning and heating units should be replaced with modern energy-efficient power units.
3. Establishment of a new boat launch and parking facility near the present entrance;
4. Development of a landscaping plan including a swale to capture storm runoff and erosional materials along the near-shoreface from the new ramp to the boat basin;
5. Addition of trees to improve wind management;
6. Construction of additional parking for students, staff, and faculty in the area where the present entrance road divides with the new entrance.

GCRL's main entrance is a road-based easement across a neighboring piece of property. Due to increased use, the entrance is strongly flooded during heavy rains. In addition, boats are unable to dock at the existing facility because of severe erosion of the near-shoreface. This project will provide a new parking lot, boat basin, and pedestrian access to the existing facility, as well as a new entrance for the facility.

Research and Education

The old toxicology building will be replaced by a new building built on the Grand Bay Campus. Renovation of the old building to convert it into a modern laboratory and office facility will permit expansion of the facilities and research on endangered species.

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2. Development of a landscaping plan including a swale to capture storm runoff and erosional materials along the near-shoreface from the new ramp to the boat basin;
3. Establishment of additional parking for students, staff, and faculty in the area where the present entrance road divides with the new entrance;
4. Purchase of the adjoining property;
5. Upgrade of electrical, air conditioning, and generator capacity for the Research Building. Much of the lower level wiring is aging prematurely due to submersion in saltwater during Katrina. The air conditioning and heating units should be replaced with modern energy-efficient power units.

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Research and Education

1. Establishment of a new boat launch and parking facility near the present entrance;
2. Development of a landscaping plan including a swale to capture storm runoff and erosional materials along the near-shoreface from the new ramp to the boat basin;
3. Establishment of additional parking for students, staff, and faculty in the area where the present entrance road divides with the new entrance;
4. Purchase of the adjoining property;
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The project will provide research, development, and technology transfer to develop an aquaculture-based harvest for the Gulf Coast. Many economical and social benefits are expected to be facilitated by the establishment of a harvest, including but not limited to:

- Creation of new jobs and economic opportunities in coastal communities
- Improved water quality and ecosystem health
- Increased biodiversity and marine life populations
- Enhanced scientific understanding of aquaculture practices
- Development of sustainable and profitable industries

The project will include the following components:

1. **Aquaculture Research and Development Center**:
   - Development of hatchery capacity
   - Production of selected economically important species
   - Research and development of new technologies

2. **Marine Shrimp Farming Industry for Mississippi**:
   - Development of a marine shrimp farming industry
   - Infrastructure and operational costs
   - Economic and social benefits

3. **Oyster Aquaculture Initiative**:
   - Development of oyster aquaculture practices
   - Economic and social benefits

4. **Seafood Stewardship and Education Program**:
   - Development of educational and outreach programs
   - Public awareness and engagement

The project will leverage other Restore priority areas and non-Restore funds to achieve its goals. Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.): Development of a marine shrimp farming industry in Mississippi will provide substantial job creation and economic opportunities.

Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.): The shrimp farming industry will create new jobs, particularly in coastal communities where the industry is established. This will include jobs in hatchery operations, aquaculture management, marketing, and sales. The industry will also stimulate related economic activities, such as processing, distribution, and retail. Overall, the project is expected to have a significant positive impact on the local economies, particularly in Mississippi, where the industry will be developed.

Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.): The project will create new employment opportunities in the aquaculture sector, particularly in Mississippi. This will include jobs in the development, design, and management of hatcheries, as well as in shrimp farming operations. The project will also facilitate the development of new industries, such as seafood processing and marketing, which will create additional jobs. Moreover, the project will stimulate related economic activities, such as tourism, which will further contribute to job creation.

Information relevant to Economic Development (e.g., new construction, new employment opportunities, workforce development and training, etc.): The development of a marine shrimp farming industry in Mississippi will provide new employment opportunities, particularly in coastal communities. This will include jobs in hatchery operations, aquaculture management, and seafood processing. The project will also stimulate related economic activities, such as tourism, which will further contribute to job creation. Additionally, the project will facilitate the development of new industries, such as seafood processing and marketing, which will create additional jobs.

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Myanmar and Education 2002 6/11/2014 Demographic Education and Sustainability Project

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**Research and Education**

- **2002**: Demographic Education and Sustainability Project
  - Description: The project aimed to educate the Myanmar population about sustainability and the importance of preserving natural resources. This was achieved through various educational initiatives, including workshops, seminars, and community engagement activities.
  - Outcomes: The project successfully raised awareness among the population about the need for sustainable practices. It also led to the establishment of local sustainability committees in several areas.

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**Myanmar and Education 2002 6/11/2014**

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<th>Project Title</th>
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**Project Description**

- **Title**: Sustainable Development and Education Program
- **Objective**: To enhance educational opportunities and sustainable development practices in Myanmar.
- **Activities**:
  1. Establishment of community-based educational centers
  2. Provision of training programs on sustainable agriculture and resource management
  3. Promotion of environmental awareness through workshops and seminars

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Environmental Education and Research Program
- **Objective**: To develop and implement educational programs focused on environmental conservation and sustainable development.
- **Activities**:
  1. Development of educational materials and curricula
  2. Collaboration with local schools and communities to promote environmental awareness
  3. Research and monitoring activities to support evidence-based decision-making

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Community-Based Environmental Education Initiative
- **Objective**: To engage local communities in environmental education and conservation efforts.
- **Activities**:
  1. Community workshops and seminars on environmental issues
  2. Development of local educational programs
  3. Promotion of sustainable practices through community-led projects

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Integrated Environmental Education and Research Program
- **Objective**: To integrate environmental education with research activities to support evidence-based conservation practices.
- **Activities**:
  1. Research and monitoring projects on environmental indicators
  2. Development of educational materials for use in schools and communities
  3. Collaboration with scientists and educators to enhance knowledge and outreach

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Sustainable Resource Management and Education Program
- **Objective**: To promote sustainable resource management practices and environmental education.
- **Activities**:
  1. Development of local educational programs focused on sustainable agriculture
  2. Training programs for farmers and community leaders
  3. Monitoring and evaluation of project outcomes to inform future activities

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Community-led Environmental Protection Initiative
- **Objective**: To empower local communities to lead environmental protection efforts.
- **Activities**:
  1. Community-led projects focused on local resource management
  2. Development of local educational materials and training programs
  3. Collaboration with scientists to enhance knowledge and outreach

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Environmental Education and Research Program Extension
- **Objective**: To extend the impact of environmental education and research programs to new communities.
- **Activities**:
  1. Development of new educational materials for different age groups
  2. Collaboration with local partners to enhance outreach
  3. Monitoring and evaluation of project outcomes to inform future activities

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**Myanmar and Education 2002 6/11/2014**

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**Project Description**

- **Title**: Environmental Protection and Education Initiative
- **Objective**: To protect and restore local environments through educational outreach.
- **Activities**:
  1. Development of local educational programs focused on environmental conservation
  2. Training programs for community leaders and educators
  3. Monitoring and evaluation of project outcomes to inform future activities
The Pascagoula River Basin Forest Preserves Program will restore pine and hardwood forest habitat, recognizing that the abundance and productivity of forested systems is a product of the quantity and quality of the forests in the region. Participating landowners will manage their forest land for the benefit of wildlife, water quality, and recreation. The program will identify, protect, and manage forest habitat, recognizing that the abundance and productivity of forested systems is a product of the quantity and quality of the forests in the region. Participating landowners will manage their forest land for the benefit of wildlife, water quality, and recreation. The program will identify, protect, and manage forest habitat, recognizing that the abundance and productivity of forested systems is a product of the quantity and quality of the forests in the region. Participating landowners will manage their forest land for the benefit of wildlife, water quality, and recreation.

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The goal of the Pascagoula River Basin Forest Preserves Program is to integrate landowner outreach with prescribed forest management initiatives. A key objective of the Water Trail is to develop trail heads, provide community outreach and educational programs, and to integrate landowner outreach with forest management initiatives. The program will identify, protect, and manage forest habitat, recognizing that the abundance and productivity of forested systems is a product of the quantity and quality of the forests in the region. Participating landowners will manage their forest land for the benefit of wildlife, water quality, and recreation.
The Pascagoula River is a Mississippi River tributary that is also the last unimpeded river system in the contiguous United States. It is approximately 361 miles long, 84 miles wide, and includes over 11,000 miles of stream and tributaries. The Basin eventually drains into the Mississippi River (Gulf of Mexico). The Basin’s ecology is nationally recognized for its abundant wildlife, biological diversity, rich cultural and historical value, as an enrolled national treasure.

As a prime tributary to the northern Gulf of Mexico, the water quality and biological health of the Pascagoula Basin contribute directly to the health, well-being, and quality of the Gulf. Following the Deepwater Horizon oil spill and the subsequent impacts to Gulf waters, fish, and marine ecosystems, several stakeholders have been proposed and some included to recover the ecosystems of the Gulf. The Basin is also at risk of continued environmental degradation from failing structures and inadequate infrastructure. To this end, the Pascagoula River Basin Dam Safety Best Management Initiative will ensure a cohesive inspection and monitoring plan is set in place. Through best management practices and coordination with private landowners, the initiative seeks to mitigate risk of dams that were set in place to create reservoirs that help control flooding in the region along tributaries and streams that feed into the Pascagoula River.

The Pascagoula River Basin Dam Safety Best Management Initiative will coordinate with the management authorities to facilitate the development of plans that are comprehensive and consistent. As part of the comprehensive planning in the region, a second phase including analysis of dams considered at risk or management authorities to facilitate the development of plans that are comprehensive and consistent.

The Stormwater Management Initiative will focus on non-point sources of water pollution and prepare a monitoring program that coincides with the best management practices to be developed and adopted by communities that will identify areas of water quality concern. The implementation and evaluation for improvement will be monitored and evaluated with a combination of community outreach and proper planning. The Stormwater Management Initiative will focus on non-point sources of water pollution and prepare a monitoring program that coincides with the best management practices to be developed and adopted by communities that will identify areas of water quality concern. The implementation and evaluation for improvement will be monitored and evaluated with a combination of community outreach and proper planning.

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The City of Biloxi proposes to implement its 1980s master plan for utilizing the corridor of public land located under Interstate 110 (I-110) corridor, from the Biloxi Bay Bridge to the Biloxi City limit. The original master plan, developed with public input, involved strategies to improve access along the corridor, provide improved management opportunities, and acquisition/development of a wetlands area adjacent to the I-110 corridor, north of Division Street.

Stormwater management improvements would include installation of BMPs along the corridor to capture runoff from highway surfaces and limit the discharge of stormwater discharges from the roadway. The BMPs would be an educational component, demonstrating the importance of rainwater quality. The proposed improvements would also include the installation of a landscaped buffer along the roadway and additional lighting and drainage.

Public safety and inventory improvement improvements will expand use of the area by residents and visitors. The corridor land would be improved through the expansion of the stormwater management system, including new stormwater detention basins, new areas for stormwater management, and additional lighting and drainage.

Restoration and acquisition of the wetlands area north of Division Street will provide removal of invasive, non-native plant species as well as accumulated dirt. In-kind and replacement partial plant species will be installed to ensure the natural functions of the wetlands area that is heavily influenced by the Biloxi Bay.

The project plan will be reviewed and updated as an addendum to this project proposal.
Environmental Restoration

Research and Education

2014

3/1/2015

Mississippi Edible Forests.

The project will develop six orchards in every city and county in the three coastal counties of the MS Gulf Coast. Each orchard will feature multiple fruit varieties that are ideal for the area’s soils and climates. The local governments and community groups will be involved in every phase of the project, from planning and planting to care and maintenance. The project will increase local food security, promote healthy eating, and provide economic opportunities through the sale of produce.

Research and Education

2014

3/1/2015

Habitat Restoration.

The overarching objective of this project is to advance our informational basis of physical-biogeochemical linkages in the Mississippi Sound (MS) and northern Mississippi Bight (MB) region through execution of a field effort. This project will focus on developing a predictive model system that simulates the circulation, waves, currents, and transport of sediments under influence of winds and tides, and hydrodynamically drives material exchanges between the MS and MB. The model system, supported by bio-geochemical and bio-optical measurements, will be a platform to achieve our informational basis of key physical-biogeochemical linkages in the MS and MB. The resulting model system will be a platform that allows resource managers and stakeholders to make informed decisions on issues such as restoration planning, resource and transport management, and ecosystem-based planning.

Research and Education

2014

3/1/2015

Aquaculture Research.

The aquaculture industry is rapidly growing, and Mississippi has the climate and resources necessary to support efficient algal biomass production. Further, the University of Southern Mississippi (USM) has the expertise and resources needed to support the development of a new, sustainable fishmeal replacement. This project will focus on developing a facility that utilizes Georgia-based algae strains to produce fishmeal from algae grown in the Gulf of Mexico. The facility will be located at the Gulf Coast Research Laboratory (GCRL) in Pass Christian, Mississippi, with an initial emphasis on developing a pilot facility. The long-term goal is to construct a full-scale facility that can produce fishmeal at a competitive cost.

Research and Education

2014

3/1/2015

Algal Biotechnology.

The overarching goal of the project is to advance our informational basis of physical-biogeochemical linkages in the Mississippi Sound (MS) and northern Mississippi Bight (MB) region through execution of a field effort. This project will focus on developing a predictive model system that simulates the circulation, waves, currents, and transport of sediments under influence of winds and tides, and hydrodynamically drives material exchanges between the MS and MB. The model system, supported by bio-geochemical and bio-optical measurements, will be a platform to achieve our informational basis of key physical-biogeochemical linkages in the MS and MB. The resulting model system will be a platform that allows resource managers and stakeholders to make informed decisions on issues such as restoration planning, resource and transport management, and ecosystem-based planning.
The Gulf Coast Community Design Studio (GCCDS) was established on the Mississippi Gulf Coast in 2005 to work in communities impacted by Hurricane Katrina and has evolved from disaster recovery work to addressing long-term issues of affordable housing, healthy communities and resilient landscapes and infrastructure. The GCCDS is a research and professional service program of Mississippi State University College of Architecture, Art and Design. Located five hours from the main campus the GCCDS operates within a three hour drive of the Colorado River to the Mississippi Sound, to create partnerships with communities from close to home but in larger, wilder places away from our cities.

Projects show that bringing nature into neighborhoods helps people see the value of protecting natural environments not only close to home but in bigger, wider places away from our cities.

Understanding which has been used repeatedly on complex projects that integrate research and implementation. The Gulf Islands National Seashore (GIS) has worked throughout the Gulf region and; the Council’s four priority criteria. Specifically, this holistic approach is easily scalable to address all the Council’s goals and objectives and transferable to be replicated throughout the Gulf region and;

The program’s geographic location and size responding to the GIS’s four priority criteria. Specifically, this holistic approach is easily scalable to address all the Council’s goals and objectives and transferable to be replicated throughout the Gulf region and.

The Deepwater Horizon oil spill caused direct and significant harm to Mississippi’s St. Louis Bay and the Mississippi Sound. News of other disasters, contagious diseases and national security threats is a daily occurrence. Strategic planning and preparedness is essential for the protection of life and property and quick response to and recovery from such events. To provide strategic planning and training services to communities, individuals, businesses and officials who are impacted by Hurricane Katrina and the Deepwater Horizon Oil Spill. Terms of other disasters, contagious diseases and national security threats is a daily occurrence. Strategic planning and preparedness is essential for the protection of life and property and quick response to and recovery from such events. To provide strategic planning and training services to communities, individuals, businesses and officials who are impacted by Hurricane Katrina and the Deepwater Horizon Oil Spill.

The program proposes a new collaboration between Mississippi State University (MSU), the U.S. Department of Agriculture’s National Resource Conservation Service (NRCS), and the Mississippi-Mississippi Sound National Estuarine Research Reserve (MMNERR). This new program is designed to provide an integrated, comprehensive, integrated approach to holistic restoration which could be transferrable Gulf-wide. Water quality assessments and monitoring provide a foundation for programmatic, science-based decision-making to coordinate, expand and integrate new efforts for project proposals to local stakeholders. The goal of the project is to improve tidal marsh quality and to increase the value of coastal and estuarine resources.

The park’s tidal creation and restoration efforts are essential for the protection of tidal marsh ecosystems and the development of the ecosystem’s four critical functions: nursery habitat for marine life; flood-way for tidal flow; water intake for brackish water chemistry; and critical for rebuilding and reviving habitats and ecosystems. The park’s tidal creation and restoration efforts are essential for the protection of tidal marsh ecosystems and the development of the ecosystem’s four critical functions: nursery habitat for marine life; flood-way for tidal flow; water intake for brackish water chemistry; and critical for rebuilding and reviving habitats and ecosystems.
The project proposes a world-class aquarium to be built along U.S. Highway 90 in Gulfport, Mississippi on a total of 570,000 square feet of land on a parcel of land containing the old Harrison County Library building adjacent to the existing campus. Coast Transit Authority has committed to developing that parcel and the adjacent underutilized parking garage into a multimodal transit station, to include visitor information and pedestrian services, bicycle rentals, and bus stop access. In conjunction with the Mississippi Department of Transportation, they are also engaged in developing support for a pedestrian tramway/crosswalk over U.S. Highway 90. The Gulfport Redevelopment Commission has been advocating for an aquarium to be built on a parcel of land containing the old Harrison County Library building adjacent to the existing campus. From a partnership standpoint, we have the commitment of the Harrison County Board of Supervisors to transfer title to a 10-acre parcel of land to the Aquarium Foundation for a period of time. This project will set up a water sampling program to determine current issues such as: sewer concerns and effluent overflow, bacteriological and chemical contamination, and water clarity. It will also correct areas of the roadway and impervious surface runoff, or over-fertilization of lawns.

Highway 90 is a major corridor to the community with high traffic speeds, long frontages, and loosely planned infrastructure. The low density of the roadway and its proximity to a multiple water erosion sources multiple environmental and community erosion problems: poor water quality due to non-point source runoff, persistent flooding, low density land use, and decades of neglect. This area is a major bottleneck for the potential for commercial development along the Mississippi Sound and the adjacent waterways. The project will focus on improving water quality and sediment management along the corridor. The project will improve this area by improving the water quality in the Gulf of Mexico and the Sound. Water quality monitoring will also be performed after improvements to measure the changes, as well as the number of days the road is flooded per year.

The proposed project will address the problems identified: decreasing sedimentation from erosion of the banks, and reducing the potential for settling and filtration during rain events. The extent of this sediment/no-build area extends past Central Avenue and the adjacent tracts.

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The Mississippi Maritime Museum, Inc. (MMM) was formed in 2007 and since its inception the group has worked diligently to establish a museum to tell the story of our maritime history and the importance of our water ways to the Mississippi Gulf Coast.

To insure that the maritime history is passed along to this generation and the next, a group of Pascagoula residents organized to bring a permanent maritime museum to fruition. In March of 2013 the MMM purchased two buildings on DuPont Ave that were formerly part of the Pascagoula High School. The MMM Board’s primary mission is to preserve, educate, promote and exhibit Mississippi’s maritime history.

In order to raise funds for the MMM, an initial mound of $1 million was raised. The MMM Boards primary goal was to have a fully functioning maritime museum by 2016-17. The larger of the two buildings was next to the Mississippi State University School of Architecture and an estimate of $1.5 million with another $1 million for display cases, exhibits, models, movie on maritime history, research, supply and military vessels as well as off shore drilling structures have been constructed in whole, or in part, in the Mississippi Gulf Coast. A large effort of coordination between all developing organizations will be required to minimize unwanted duplication. Table 1 in the following attachment, provides the basis for the starting requirements for the observing system, and identifies the complexity due to the number of organizations performing research and implementation of funded initiatives.

The Mississippi Sound are the first terrestrial habitats the birds reach flying north in the spring and the last terrestrial habitats they encounter flying south in the fall. The habitats immediately along the Mississippi Sound are the most important breeding grounds for these species. The land birds reach nesting, roosting, and feeding sites in the Mississippi Sound and the land birds are maintained by the US Fish and Wildlife Service. In the Mississippi Sound, the land birds experience the most important food resources for migrating songbirds. The Mississippi Sound are the first terrestrial habitats the birds reach flying north in the spring and the last terrestrial habitats they encounter flying south in the fall. The habitats immediately along the Mississippi Sound are the most important breeding grounds for these species. The land birds reach nesting, roosting, and feeding sites in the Mississippi Sound and the land birds are maintained by the US Fish and Wildlife Service.

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Habitat restoration in coastal Mississippi has lagged behind habitat restoration in other states, even when some grants for habitat restoration were available because of the lack of start-up funding or the lack of matching funding for habitat restoration. Habitat restoration in coastal Mississippi has lagged behind habitat restoration in other states, even when some grants for habitat restoration were available because of the lack of start-up funding or the lack of matching funding for habitat restoration.

Mississippi residents and other stakeholders for many years. Also, USM students, for guided tours, on select days. The expected outcomes from this project are preservation and restoration of wetland vegetation, excess nutrients, heavy metals, and other environmentally harmful contaminants are removed from it prior to release into Costapia Bayou. In addition to wastewater treatment, the wetlands are a favored habitat for a variety of wildlife and natural history education.

In the marine environment, the extra siltation affects oyster beds and grass beds, thereby taking a toll on the fishery and oyster industry. Also, the loss of coastal wetlands exacerbates the effects of storms and other harsh events, the pier eventually was overcome by the elements of nature. The purpose of this proposed project is to restore the pier and provide recreational opportunities for students, faculty, and staff as well as local residents and tourists. Over time and as a result of increased wave activity, the pier eventually was overcome by the elements of nature. The project will restore shoreline area, ensuring growth of emergent plants including Spartina, Juncus, and other grasses and trees that have been lost to erosion. Several acres will receive remediation and land will be extended to include a narrow beach that has been lost due to the increased force of wave action. The select means of restoration will improve conditions for more than a dozen endangered species in the area shown in this proposal.

Moreover, every stream and drain that goes into them also necessarily exhibits the same phenomenon as it cuts down at the grade control structures along the way. Although it's possible to spend a lot of money doing this, it need not be the case. I would advocate a project, assuming landowner cooperation, to stop head cuts in the affected tributaries, as well as possibly add channel control structures along the way. Although it's possible to spend a lot of money doing this, it need not be the case. There are techniques, building controlled banks and gravel bed stabilization slopes that have been shown to be effective.

It was interesting to note that over the tables at the breakout sessions of the marine resources meeting in Bay St. Louis, that oysters came up at table after table as a key cultural resource for the Mississippi Gulf Coast. It was interesting to note that over the tables at the breakout sessions of the marine resources meeting in Bay St. Louis, that oysters came up at table after table as a key cultural resource for the Mississippi Gulf Coast.

The University of Southern Mississippi's Gulf Park campus is the state's only beachfront campus. This campus had a funding graduate research. Although it's possible to spend a lot of money doing this, it need not be the case. I would advocate a project, assuming landowner cooperation, to stop head cuts in the affected streams, as well as possibly add channel control structures along the way. Although it's possible to spend a lot of money doing this, it need not be the case. There are techniques, building controlled banks and gravel bed stabilization slopes that have been shown to be effective.
Airport Canopy Solar Farm

The Gulfport-Biloxi International Airport recognizes that the canopied solar structure in the rental car parking lot is an essential element of the airport's sustainable, renewable energy plan. The Airport has a rental car parking area where the vehicles of 5 rental car companies are parked within 300 parking spaces. This parking lot is directly adjacent to a solar canopied parking structure to be erected and installed. The structure serves a dual purpose in that it generates renewable power that will reduce the amount of electricity purchased by the Airport through reducing the amount of electricity purchased from the local electric utility and reduces the overall environmental footprint of the airport while providing covered parking spaces for the rental car area.

The project seeks to accomplish this objective through the generation of power utilizing solar panels. The utilization of BP Deepwater Horizon Oil Spill funding for the development of a sustainable energy project such as this allows an entity who is a major user of electricity in the community to become more self-sufficient. BP funds are used for an initiative that will reduce a net electric utility consumer.

The power generated from the solar panels induces the demand from the local electric utility therefore reducing the amount of power needed to be purchased which allows for better allocation for amenities for the traveling public and to further carry out other sustainability goals and objectives.

The Gulfport-Biloxi International Airport recognizes that the canopied solar structures in the rental car parking lot is an essential element of the airport’s sustainable, renewable energy plan.

Summary/Benefit to Region:

- The Airport seeks to accomplish this objective through the generation of power utilizing solar panels. The utilization of BP Deepwater Horizon Oil Spill funding for the development of a sustainable energy project such as this allows an entity who is a major user of electricity in the community to become more self-sufficient. BP funds are used for an initiative that will reduce a net electric utility consumer.

Discussion:

- Typically large expanses of land are utilized for solar arrays making large tracks of land unavailable for other uses. This design and installation of the solar canopied structure on the airport serves a dual purpose in that it generates renewable power that will reduce the amount of electricity purchased by the Airport through reducing the amount of electricity purchased from the local electric utility and reduces the overall environmental footprint of the airport while providing covered parking spaces for the rental car area.

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The Gulfport-Biloxi International Airport recognizes that the canopied solar structures in the rental car parking lot is an essential element of the airport’s sustainable, renewable energy plan.
Project Description: Through implementation of this comprehensive project to improve public access and balance public-private development, the City of Biloxi seeks to further enhance the Point Cadet Waterfront and improve public access to the Mississippi waterfront.

The project includes expanding the existing Point Cadet Marina and creating a new marina by converting a 200-foot public trafficking area into a marina that will serve the needs of area residents. Along the boardwalk to the Biloxi Schooner Pier Complex, there is a new marina and a new public park providing public access across Highway 90 to the Tricentennial Park and the Ohr-O'Keefe Museum. In addition to the new marina and public park, this project will also make improvements to the existing marina and public park.

The project also includes improving the infrastructure of the Point Cadet Marina and expanding it east. This will allow for improved public access to the Mississippi Coast by providing access to the Point Cadet Marina and the Ohr-O'Keefe Museum. The project will also include new marina facilities, a new public park, and improved public access to the Mississippi Coast.

The project will also include improvements to the existing marina and public park to improve public access to the Mississippi Coast. This will include new marina facilities, a new public park, and improved public access to the Mississippi Coast.

Benefits:
- Improved public access to the Mississippi Coast
- Enhanced maritime activities
- Improved pedestrian access
- Improved public amenities
- Increased public usage

Cost:
$3,200,000.00

Research and Education

The City of Biloxi is partnering with the State of Mississippi to enhance public access to the Point Cadet Waterfront area south of the Highway 90 Bridge with an ADA-compliant boardwalk to support a variety of public waterfront uses.

The new Biloxi Small Craft Harbor will be a prominent link in a chain of amenities located along Highway 90 from central Biloxi to Point Cadet Waterfront. The new harbor will be a prominent feature along Highway 90, with increased accessibility and enhanced presence on Highway 90. Rather than being tucked away from sight as it is now, the new harbor will be visible and accessible from a variety of points along Highway 90.

The project includes upgrading the existing Point Cadet Marina and creating a new marina by converting a 200-foot public trafficking area into a marina that will serve the needs of area residents. Along the boardwalk to the Biloxi Schooner Pier Complex, there is a new marina and a new public park providing public access across Highway 90 to the Tricentennial Park and the Ohr-O'Keefe Museum. In addition to the new marina and public park, this project will also make improvements to the existing marina and public park.

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Cost:
$3,200,000.00
**Research and Education**

**Project Name:** Biloxi-Ocean Springs Bridge; and constructing a small pier for fishing and crabbing. Upland improvements to be built near the shoreline north of the Park's splash pad to access the nearby Biloxi Fishing Bridge. Hurricane debris, litter, unchecked shoreline north of the project area.

**Description:** The project includes extending the small sand beach on the shore east of the Maritime and Seafood Industry Museum; preserving undeveloped shoreline for the benefit of the public as well as for marine and bird species. In addition, low-impedance wildlife management measures will contribute to more healthy habitats supported by healthy seagrass meadows and to encourage long-term stewardship of Coastal resources. The project is scheduled for ground-level work in the year of construction. The project will include installing a new park building to house public restrooms, interpretive displays, and educational programs. The project will focus on providing public access to the shoreline and will enhance traditional waterfront activities. The project will also include developing a pedestrian walkway along the City-owned waterfront property. The pedestrian walkway will be designed to accommodate public access to the shoreline and to support the development of tourism and recreational waterfront amenities.

**Benefits:** The project will provide public access to the shoreline and will enhance traditional waterfront activities. The project will also include developing a pedestrian walkway along the City-owned waterfront property. The pedestrian walkway will be designed to accommodate public access to the shoreline and to support the development of tourism and recreational waterfront amenities.

**Estimated Cost:** $3,500,000

**Status:** Under Construction

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**Research and Education**

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**Estimated Cost:** $3,500,000

**Status:** Under Construction
The project, which involves a partnership of the City of Biloxi and Harrison County, aims to increase public access to the project area through construction of a pedestrian and recreational bicycle trail on a non-motorized multi-use path with wide shoulders, sidewalks, and an adjacent pedestrian area. The project will provide access to the Mississippi Sound for the boating and fishing public.

The boardwalk will border the edge of the sand beach along the seawall, south of existing commercial development. It will provide a pedestrian area to facilitate access to the beach and will be a destination in itself that will draw people to the area and increase business. It will also be a setting for fishing and other nature-related activities.

Two pavilions will be constructed along the boardwalk, one east of Veterans Avenue and one near the Camellia Street boat kiosk. Low impact signage will explain beach ecology in the area, including identification of native plants and shoreline birds.

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**Research and Education**

**5/17/13**  
**TechTown Pascagoula**

TechTown is a multi-disciplinary and entrepreneurial training center offering our next aches and cures, programs, and resources that have proven skill building and collaboration. For these reasons, it includes tech-athletes, appropriation and 200 full-time resident entrepreneurs, who can be act as a vehicle for growth. TechTown is an educational extension center offering face time oriented for the jobs in our community. TechTown has a strong emphasis on supporting and entrepreneurship for underprivileged youth. In addition to youth programs, TechTown offers technology training programs for adults and seniors.  

**Baton Rouge**

**5/17/13**  
**Bay St. Louis Fishing Pier**

Bay St. Louis proposes to construct an pedestrian access ramp near Demontluzin St. which would provide ADA access from the Downtown area to the BSL Harbor and Rutherford Fishing Pier. This access point is necessary to allow a safe method for tourists and residents to cross the bay between the two areas. The ramp would be constructed near the existing pedestrian walkway and would be approximately 50 feet in length. The ramp would be constructed using concrete slabs and would be approximately 50 feet in length. The ramp would be constructed using concrete slabs and would be approximately 50 feet in length.

**Baton Rouge**

**5/17/13**  
**Access Center / Tourism Center**

Bay St. Louis proposes to construct an pedestrian access ramp near Demontluzin St. which would provide ADA access from the Downtown area to the BSL Harbor and Rutherford Fishing Pier. This access point is necessary to allow a safe method for tourists and residents to cross the bay between the two areas. The ramp would be constructed near the existing pedestrian walkway and would be approximately 50 feet in length. The ramp would be constructed using concrete slabs and would be approximately 50 feet in length.

**Baton Rouge**

**5/17/13**  
**Day Pier Extension**

The Day Pier is used daily to dock local transient vessels which frequent the nearby downtown establishments. The current pier is approximately 1,200 LF in length and is well known in Hancock County as one of the best locations for pier fishing. Due to its popularity as a fishing hot spot, the designated fishing zone is consistently crowded and demand for fishing permits is at all time high. This project would extend the fishing area approximately 500 LF and add an open air fishing platform approximately 100 LF by 100 LF. This extension would enhance the regional tourism attraction and amenity for the BSL harbor and will enhance the use of public access to the water's edge.

**Baton Rouge**

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**5/17/13**  
**Access Center / Tourism Center**

Bay St. Louis proposes to construct an pedestrian access ramp near Demontluzin St. which would provide ADA access from the Downtown area to the BSL Harbor and Rutherford Fishing Pier. This access point is necessary to allow a safe method for tourists and residents to cross the bay between the two areas. The ramp would be constructed near the existing pedestrian walkway and would be approximately 50 feet in length. The ramp would be constructed using concrete slabs and would be approximately 50 feet in length.

**Baton Rouge**

**5/17/13**  
**Day Pier Extension**

The Day Pier is used daily to dock local transient vessels which frequent the nearby downtown establishments. The current pier is approximately 1,200 LF in length and is well known in Hancock County as one of the best locations for pier fishing. Due to its popularity as a fishing hot spot, the designated fishing zone is consistently crowded and demand for fishing permits is at all time high. This project would extend the fishing area approximately 500 LF and add an open air fishing platform approximately 100 LF by 100 LF. This extension would enhance the regional tourism attraction and amenity for the BSL harbor and will enhance the use of public access to the water's edge.

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**Baton Rouge**

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The Day Pier is used daily to dock local transient vessels which frequent the nearby downtown establishments. The current pier is approximately 1,200 LF in length and is well known in Hancock County as one of the best locations for pier fishing. Due to its popularity as a fishing hot spot, the designated fishing zone is consistently crowded and demand for fishing permits is at all time high. This project would extend the fishing area approximately 500 LF and add an open air fishing platform approximately 100 LF by 100 LF. This extension would enhance the regional tourism attraction and amenity for the BSL harbor and will enhance the use of public access to the water's edge.

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**Baton Rouge**

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**Day Pier Extension**

The Day Pier is used daily to dock local transient vessels which frequent the nearby downtown establishments. The current pier is approximately 1,200 LF in length and is well known in Hancock County as one of the best locations for pier fishing. Due to its popularity as a fishing hot spot, the designated fishing zone is consistently crowded and demand for fishing permits is at all time high. This project would extend the fishing area approximately 500 LF and add an open air fishing platform approximately 100 LF by 100 LF. This extension would enhance the regional tourism attraction and amenity for the BSL harbor and will enhance the use of public access to the water's edge.

**Baton Rouge**

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3/19/2014

"Ocean Enterprise" at USM

The University of Southern Mississippi and the State of Mississippi have announced plans to develop a new research and educational facility in the Mississippi Gulf Coast region. The facility, to be called the Ocean Enterprise, will focus on marine research and education, and is estimated to cost $7,800,000.00, with an ROI of less than 20 years and a projected life in excess of 30 years. The project will include all three coastal counties of Mississippi, and is expected to bring high-wage jobs and opportunities to the region.

The Ocean Enterprise will be used to train students in marine science, and will provide a platform for research and education in the area of marine biology, oceanography, and fisheries. The facility is expected to create more than 1,000 jobs and generate up to $25 million in annual economic impact. The project is being funded through a partnership between the University of Southern Mississippi and the State of Mississippi. The facility is expected to be operational within five years.

The Ocean Enterprise will include a marine research institute, a marine technology center, and a marine education center. The marine research institute will focus on oceanography, marine biology, and fisheries. The marine technology center will focus on marine electronics, marine robotics, and marine engineering. The marine education center will focus on marine education and training, and will include a marine education research facility, a marine education training facility, and a marine education outreach facility.

The Ocean Enterprise is expected to bring significant economic benefits to the region, including new jobs, increased economic activity, and increased property values. The project is expected to generate more than $25 million in annual economic impact, and is expected to create more than 1,000 jobs. The facility is expected to be operational within five years.

"Restore the Canopy" is a project to plant trees across Mississippi to help improve the environment and provide economic benefits. The project will focus on planting trees in urban areas, as well as rural areas. The project is expected to create more than 200 jobs, and is expected to generate up to $5 million in annual economic impact. The project is being funded through a partnership between the Mississippi Urban Forest Council and the State of Mississippi. The project is expected to be operational within two years.

"Restore the Canopy" will be featured in a series of articles starting in April 2014. The articles will focus on the benefits of planting trees, as well as the economic benefits of the project. The articles will be published in local newspapers, as well as online. The project is expected to be operational within two years.

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The City of Bay St. Louis (BSL) proposes to construct Pier 5 inside the BSL Harbor located at 100 Jody Compretta Drive, near the Mathews Brake (NWR) and Grand Bay NWR, which are part of the Gulf Coast region. These refuges contain a wide diversity of wildlife species and are internationally recognized. The primary objective of this proposal is economic development. The project has four tiers: (1) Assessment – Sustainability pre-assessments to internationally accepted standards are the basis for FIPs. Some retailers specifically require a Marine Stewardship Council (MSC) assessment. This project will fund a MSC-pre-assessment and the harvesters to capture shrimp with a turtle excluder device (TED); (2) Registration – Certification under the MSC standards. BSL has registered all of its shrimp waters with the MSC; (3) Improvement – Fishery Improvement Program to advance and improve the Mississippi shrimp industry: a post-oil spill Mississippi shrimp recovery plan; and (4) Certification – ensuring that the shrimp waters are certified by the MSC. The project will support the MSC-pre-assessment and the harvesters to capture shrimp with a turtle excluder device (TED). The project has four tiers: (1) Assessment – Sustainability pre-assessments to internationally accepted standards are the basis for FIPs. Some retailers specifically require a Marine Stewardship Council (MSC) assessment. This project will fund a MSC-pre-assessment and the harvesters to capture shrimp with a turtle excluder device (TED); (2) Registration – Certification under the MSC standards. BSL has registered all of its shrimp waters with the MSC; (3) Improvement – Fishery Improvement Program to advance and improve the Mississippi shrimp industry: a post-oil spill Mississippi shrimp recovery plan; and (4) Certification – ensuring that the shrimp waters are certified by the MSC.

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It is SBCF’s desire to assist with rejuvenating the MS Gulf by providing a space that will make way for the next wave of service providers that cater to those industries.

SBCF would also work with large employers by facilitating personal development, guided self-help, programs for their requirements. This is to effectively and efficiently fulfill the needs of both their internal and external audiences while meeting statutory and regulatory resources, access to certain industry specific training and certification programs such as the ISO/IEC 27000 family of standards.

Entrepreneurs and business owners with innovation tools and strategies, targeted access and approaches to research and coastal area start-up and existing businesses. Through an expansive technical assistance platform, SBCF would provide address these areas by designing/building and operating a facility that would provide both incubator and accelerator services to small business assistance, research and education and infrastructure. If afforded this opportunity, SBCF would collectively

The center portion of the park will consist of a Great Lawn and festival grounds that will be a focal point for large crowd strategizing that would aid tourists in finding their desired destinations and to inform of other points of interest. This informational packet would include a map showing directions to each location. It is anticipated that kiosks could be tourist attractions, lodging opportunities, retail areas, restaurants and other amenities.

The City has approximately 33 acres of property immediately north of the Town Center. The City has leveraged funds from both sources to accommodate the industrial type development nearby.

The Gautier Town Center Project is located in Gautier’s central business district. The Town Center is anchored by municipal buildings, common city office centers, SOCO, and the mall project. Due to Sauder being situated along Highway 18 and as part of the City’s planned economic development strategies, the zoning was changed to allow for an industrial type development to take place.

The expansion of the park to 50 acres, along with the application of some of the already utilized natural resources, formation of the existing natural parks will be implemented to reach additional areas of the park. Additionally, the park has a golf and a fountain on a scenic range with 18 holes. It is the City’s desire to add amenities and upscale its space to attract State Park to better enhance, combat and control the number of visitors the facility deteriorates.

Due to the age of the park, many upgrades are needed, and the project would include installing walking paths that would include: new foot bridges to have areas near water off the path, new benches and picnic tables, a paved path for the visually impaired and bike riders, and new light fixtures and park friendly lighting will be included to determine the appropriate pathways for parents throughout.

The City plans to expand the recreational opportunities available at Shepard State Park to assist in developing this pristine park. Shepard State Park is home to a variety of wildlife native to the coastal area, such as great white pelicans, raccoons and more. In the surrounding bayous, visitors can see turtles, alligators, wild geese, and a wide variety of species. Additionally, other outdoor activities create in the area, including, area, parks, trails, beaches, forests, creeks and more. In the surrounding area, nature lovers can take hikes, wildlife, birds, and a wide variety of species. Strategically placed rest stops and observation areas will be constructed to provide an environment for alternative opportunities to monitor the wildlife and look out, the park is listed on the Mississippi Coastal Birding Trail. It is anticipated that the park will become a destination for wildlife enthusiasts, birders, and outdoor enthusiasts.

The City of Gautier’s Town Center is located in the Central Business district, and plans are currently being developed for the project. The center portion of the park will consist of a Great Lawn and festival grounds that will be a focal point for large crowd strategizing that would aid tourists in finding their desired destinations and to inform of other points of interest. This informational packet would include a map showing directions to each location. It is anticipated that kiosks could be tourist attractions, lodging opportunities, retail areas, restaurants and other amenities.

The City has approximately 33 acres of property immediately north of the Town Center. The City has leveraged funds from both sources to accommodate the industrial type development nearby.

The Gautier Town Center Project is located in Gautier’s central business district. The Town Center is anchored by municipal buildings, common city office centers, SOCO, and the mall project. Due to Sauder being situated along Highway 18 and as part of the City’s planned economic development strategies, the zoning was changed to allow for an industrial type development to take place. The expansion of the park to 50 acres, along with the application of some of the already utilized natural resources, formation of the existing natural parks will be implemented to reach additional areas of the park. Additionally, the park has a golf and a fountain on a scenic range with 18 holes.

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Research and Education

5/2/2017

6/20/17

10/25/17

5/19/17

Cherokee Estates is a neighborhood in Pascagoula, MS located immediately east of Bayou Cassotte and a lot of heavy industry. It contains a town center, retail centers, schools, parks, etc. It contains a lot of pollution and dust from the chemical industries that border the city. There have been Public Meetings on the issue of tree buffer removal, including a lot of times that were removed to widen a road. These times were held and doors open to catch some of the tree, air pollution, and dust. The State of Mississippi, EPA, MDEQ, Jackson County and the City of Pascagoula would all like to see some improvement.

Cherokee Urban Forestry

100,000.00$

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100,000.00$
The designation of DeSoto and Mississippi Canyons as Marine Protected Areas was noted by the DWH Trustees as a mechanism for stewardship of breeding colonies and solitary nesters. These areas also provide coastal and marine habitats for many species in the Gulf of Mexico. In addition to protecting critical habitat and ecosystems, expanding the footprint of protected areas will enhance the ability of governments, federal, state, and local agencies to recover from natural disasters and to protect the nation's coastal ecosystems in the face of ongoing human activity.

The Conservation Fund is in discussions with the landowner regarding acquisition of these lands and anticipates that the project could be completed immediately, pending availability of funds.

The Gulf of Mexico is a dynamic coastal system with extensive wetlands, barrier islands, and deep-sea canyons. It supports diverse ecosystems that are vital to the nation's economy and quality of life. However, this system is facing a range of threats, including oil spills, habitat loss, and climate change. The project will contribute to the recovery and resilience of the Gulf of Mexico ecosystem and to the conservation of key marine species and habitats.

Furthermore, the project will enhance the ability of federal, state, and local agencies to effectively respond to future oil spills, disasters, and other challenges that affect the Gulf of Mexico. The project will also provide an important opportunity to engage and educate the public about the importance of conservation and the role that protected areas play in supporting healthy ecosystems and resilient communities.

The estimated cost of the project is $4,905,000. The project is intended to create immediate jobs and stimulate economic activity in the region, as well as to support long-term goals for coastal protection and restoration.

The project will be funded through a combination of federal and private funding sources, including the National Fish and Wildlife Foundation and the Conservation Fund. The funds will be used to acquire and protect the lands, develop conservation plans, and implement monitoring and management strategies.

The project will be managed by the Conservation Fund in collaboration with the National Fish and Wildlife Foundation and other partners, including the State of Mississippi, local governments, and non-governmental organizations. The project will be guided by a project management team that includes representatives from these partners and will be accountable to the Gulf Oil Spill Trustees.

The project is expected to be completed within 18 months, pending availability of funds. The project will be monitored and evaluated to ensure that it achieves its goals and that it is aligned with the strategic goals of the Gulf Oil Spill Trustees.

The project will also contribute to the restoration of critical habitat and ecosystems in the Gulf of Mexico. The project will prioritize areas that are important for the conservation of marine species and habitats, including key breeding areas, feeding areas, and critical habitat for deep-sea invertebrates and fish.

The project will focus on areas that are vulnerable to oil spills and other threats, including areas that are near active oil and gas platforms, areas that are impacted by past spills, and areas that are likely to be impacted by future spills. The project will also focus on areas that are important for the conservation of marine species, including species that are important to the economy of the region.

The project will also focus on the conservation of key marine habitats, including wetlands, barrier islands, and deep-sea canyons. These habitats are critical for the conservation of marine species and ecosystems, and they provide important regulatory services, such as flood protection, storm protection, and water quality improvement.

The project will also focus on the conservation of key marine species, including species that are important to the economy of the region and species that are important to the conservation of marine ecosystems. These species include albatrosses, penguins, seals, sea otters, and other species that are important to the conservation of marine ecosystems.

The project will also focus on the development of conservation actions that are effective and efficient, including actions that are based on the best available science and that are guided by the best available management strategies. The project will also focus on the development of conservation actions that are responsive to the needs of the region and that are responsive to the needs of the affected populations.
### Research and Education

**NOAA Project ID#13330: Understanding the detailed quality, quantity and spatial distribution of marine habitats enhances our ability to manage natural and human resource activities to support sustainability, coastal communities and natural resources. The goal of this project is to develop a comprehensive framework that will help prioritize the conservation of marine habitats in order to support research and management efforts. This framework will be used to identify priorities for habitat mapping and restoration.**

*Project Details:*
- Objectives:
  - Identify knowledge gaps and data needs for understanding the detailed quality, quantity and spatial distribution of marine habitats.
  - Develop a comprehensive framework for prioritizing the conservation of marine habitats.
  - Identify priorities for habitat mapping and restoration.
- Key Findings:
  - Significant knowledge gaps identified.
  - Development of comprehensive framework.
- Impacts:
  - Improved prioritization for habitat mapping and restoration.

**Cost and Funding:**
- Cost: $4,500,000
- Funding Source: Restoring America's Estuaries (RAE) Program

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### Research and Education

**NOAA Project ID#13884: The goal of this project is to identify and characterize oceanographic, biological, and ecological processes that influence the distribution and abundance of certain marine species. This information will be used to inform decision-making regarding conservation and management efforts.**

*Project Details:*
- Objectives:
  - Identify oceanographic, biological, and ecological processes.
  - Characterize the distribution and abundance of marine species.
  - Inform decision-making.
- Key Findings:
  - Identified key processes.
  - Characterized species distribution and abundance.
- Impacts:
  - Improved decision-making.

**Cost and Funding:**
- Cost: $1,500,000
- Funding Source: National Oceanic and Atmospheric Administration (NOAA)
NOAA Project ID#13571: The use of aerial banners (small plane pulling a long banner) to relay important educational messages to target audiences for protection, harassment, and harassment. Banners can be used to educate beach-goers, business and recreational boaters, and other stakeholders about the significance of coral health in the coastal areas of the South Atlantic. The customized banners will educate people about the importance of coral health and how to responsibly view dolphins in the wild. - Reduce injury and mortality of marine mammals because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. - Increase public understanding of the ecology of coral reefs and how they support biodiversity. - Promote greater awareness of the importance of coral health and coral bleaching to target audiences and individuals aware that their activities are harmful to coral reefs. This project will also include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

NOAA Project ID#13574: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Mapping and Outreach Banners

NOAA Project ID#13573: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

NOAA Project ID#13572: The use of aerial banners (small plane pulling long banners) to relay important educational messages to target audiences for protection, harassment, and harassment. Banners can be used to educate beach-goers, business and recreational boaters, and other stakeholders about the significance of coral health in the coastal areas of the South Atlantic. The customized banners will educate people about the importance of coral health and how to responsibly view dolphins in the wild. - Reduce injury and mortality of marine mammals because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. - Increase public understanding of the ecology of coral reefs and how they support biodiversity. - Promote greater awareness of the importance of coral health and coral bleaching to target audiences and individuals aware that their activities are harmful to coral reefs. This project will also include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

NOAA Project ID#13570: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

NOAA Project ID#13569: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

South Atlantic: Outreach Banners

NOAA Project ID#13568: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

NOAA Project ID#13567: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

NOAA Project ID#13566: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.

South Atlantic: Billboards

NOAA Project ID#13565: This project will reduce injury, harm, and harassment activities because target audiences will become aware that these activities are harmful and illegal. Banners have been effective in reducing illegal feeding and harassment activities because target audiences will become aware of the importance of coral health and how to responsibly view dolphins. The project will include letters and support of marine-based organizations for reducing the overall impact on coral reefs in the GOM.
The Land Trust for the Mississippi Coastal Plain (LTMCP) is an accredited Land Trust dedicated to the conservation, promotion, and management of coastal properties for the benefit of habitats, species, and recreation. These parcels consist of approximately 6 acres of forested shrub wetland, and 2.89 acres of estuarine salt marsh. The LTMCP also manages lands that provide protection to the water quality and erosion control downriver and into the Mississippi sound. LTMCP protects and manages 49.71 acres of coastal plain. LTMCP utilizes both fee simple and conservation easement tools in conserving land for the benefit of habitats, species, and recreation. These parcels contain significant habitat for many species, and are home to the Tchoutacabouffa River. Protection of these upstream lands is vital to the water quality and erosion control downriver and into the Mississippi sound.

LTMCP would create a corridor of conservation lands 2.1 miles long along the Tchoutacabouffa River. Ecological Value: Protects areas that provide clean water for our natural resources further down the watershed. LTMCP would provide critical habitat for a wide variety of plants and animals native to the Mississippi, as well as migratory birds. LTMCP would also create access to public lands for the benefit of habitats, species, and recreation. LTMCP would provide opportunities for low impact recreational activities such as birdwatching and other wildlife observation, fishing, and kayaking. LTMCP would provide access for people to enjoy and learn about these natural resources.

- Cedar Lake Island Land
- Tchoutacabouffa River
- Estuarine Salt Marsh
- Forested Shrub Wetland
- Tchoutacabouffa River
- Water Quality Protection
- Erosion Control
### Research and Education

#### Education Reserve

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- The project area included in this request for Land Acquisition is located in Hancock, Jackson, Harrison, and Stone Counties of the Mississippi Coastal Plain. LTMCP utilizes both fee simple and conservation easement promotion, and protection of open space and green belts of ecological significance in Hancock, Harrison, Jackson, Stone, and Pearl River Counters of the Mississippi Coastal Plain. UTMCP facilities buffer coastal and conservation treatment for the protection of coastal habitat, species, and resources.

#### Mississippi Sound

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- This tract of land could be used to develop a series of “swales” to capture and conduct stormwater runoff prior to reaching the Sound, and some existing underground water routes could be reused in the same system of land acquisition. This tract of land could be used to capture and conduct stormwater runoff prior to reaching the Sound, and some existing underground water routes could be reused in the same system of land acquisition.

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William Carey University is a private university with an intercollegiate history in the state of Mississippi, dating back to 1892. William Carey University (William Carey) provides quality education programs, which challenge the individual student to excel in scholarship, leadership, and service in a diverse global society. William Carey currently has campus locations in Jackson, Hattiesburg, MS, and Traditions City, City, Traditions, MS. In 2018, William Carey has a total amount of educational offerings that can be found in the following categories: University of Health Science, College of Graduate Studies, College of Graduate Studies at Hattiesburg Campus, School of Arts and Letters, School of Business, School of Education, School of Music and Ministry Studies, School of Natural and Behavioral Science, School of Nursing, and School of Pharmacy.

William Carey’s mission is to provide a Christ-centered education that challenges students to excel in scholarship, leadership, and service in a diverse global society. William Carey's School of Pharmacy is determined to make a difference in the lives of those who suffer from health issues such as diabetes, elderly, drug addiction, alcoholism and obesity.

In the spring of 2018, Southern Mississippi Planning and Development District commissioned Arduin, Laffer, and Associates to conduct an economic impact study to evaluate the potential for the future growth of William Carey University and Traditons City, Hattiesburg Campus, School of Arts and Letters, School of Business, School of Education, School of Music and Ministry Studies, School of Natural and Behavioral Science, School of Nursing, and School of Pharmacy.

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Benefits - Benefits include encouraging economic development, increasing access to education, and improving the quality of life. Many of the benefits are indirect or spillover effects in economic terms. Let’s focus on the indirect benefits since these are very important to the overall economy of the region. The indirect benefits are associated with increased economic development and the primary destination for healthcare, research and medical education while creating an economic development and job opportunities. The economic impact study measured the potential for the future growth of William Carey University and Traditions City, Hattiesburg Campus, School of Arts and Letters, School of Business, School of Education, School of Music and Ministry Studies, School of Natural and Behavioral Science, School of Nursing, and School of Pharmacy.

This project would increase urban forestry—trees and soil—in the city landscape. Trees and soil decrease polluted stormwater runoff (including oil, pet waste, and fertilizer). This improves water quality for recreation, systems, and fish on the Mississippi Gulf Coast.

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**Environmental Value:**
- Protects properties as a buffer area for storm surge by providing isolation and dispersal in the event of flooding waters. These breaking waters have a crucial function of breaking and flaring of coastal earthquakes. - Protects areas that provide clean water for agricultural uses along the Mississippi River and into the Bay of Saint Louis. |

**Present Benefits:**
- Supports the development of educational programs. |

**Future Impact:**
- Supports the development of educational programs. |

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In the United States, nature-based tourism has garnered support for wildlife and habitats, but there is also increasing stress that actions locally can have global impacts. Additionally, beach managers need to carefully balance efforts to clean the beach, which include the mechanized removal of trash and debris for people's enjoyment, while still providing this unique habitat essential for the health of beach-dependent species as well as the beach system itself. Maintenance equipment to keep the beaches clean can crush camouflaged bird eggs and nesting materials. The Program is committed to avoiding the RSPs’ impact on water quality and quantifiable loss, but benefits will accrue in all cases. The focus on preventing and removing trash, including urban refuse, in priority waterbodies in Alabama, Mississippi, and in the state of Florida is a joint effort. The Program is a sustainable, science-based approach implemented in public and private lands. It consists of:• overall beach and dune revegetation• beach and dune plastics• beach and dune litter• beach and dune monitoring• beach and dune education• beach and dune outreach• beach and dune research• beach and dune assessment• beach and dune preservation• beach and dune restoration

The requested funds would support design and construction plus year 1 operations and encourage ongoing fundraising. HSSM have worked on tourist engaging projects in order to create an engaging and interactive experience for all attendees. We asked to reach out to key groups in order to create an engaging and interactive experience for all attendees. The important funds would support design and construction plus year 1 operations and encourage ongoing fundraising. HSSM in our new facility, we plan to partner with the Aquarium and possibly the Institute for Marine Mammal Studies to offer joint animal-related exhibits and programs. The project, as proposed, has two primary components: 1) Use of USDA practices and standards to ensure compliance with environmental and cultural resource requirements. 2) Potentially using a portion of funding for an open and competitive Request for Proposals (RFP) to extend the reach of these investments. The Program is a scalable, science-based approach implemented on public and private lands. It involves:• use of USDA practices and standards to ensure compliance with environmental and cultural resource requirements• coordinated delivery through State Forestry Agencies in Alabama, Florida, and Mississippi• municipal on-farm forest management• local and community college training• science-based decision support from the USDA Forest Service Southern Research Station who will use the Soil and Water Conservation Handbook (SWCB) model and other natural and socio-economic data to inform decision-making, assess and create project impacts, and inform policy development and decision making

The Gulf of Mexico’s forests, when healthy, reduce sediment and nutrient yields, regulate surface water flows, and provide ecosystem services, including wildlife habitat, improved air quality, support for the region’s economy, and are an integral part of the coastal zone. Protecting and restoring these watersheds will require a coordinated and comprehensive restoration program that stems awareness of the importance of the health of our natural systems for our quality of life on the Gulf coast.

The main goals of the proposal are to: 1) Replant native hardwood forests on a coastal levee system along the Mississippi River and 2) partner with the Mississippi Department of Marine Resources to conduct a habitat assessment to implement an aggressive restoration plan, resulting in numerous ecosystem services benefits such as improved water quality, accommodation of coastal erosion and storm events, flood and storm water runoff control, significantly increased vegetation density, increased in-stream oxygen levels, improved water quality, and estuarine and coastal habitats and overall coastal health and safety. The purpose of this project is to bolster the resilience of the coastal systems, which are critical to the overall wellbeing of the Gulf Coast.

In summary, the project is to: 1) Replant native hardwood forests on a coastal levee system along the Mississippi River and 2) partner with the Mississippi Department of Marine Resources to conduct a habitat assessment to implement an aggressive restoration plan, resulting in numerous ecosystem services benefits such as improved water quality, accommodation of coastal erosion and storm events, flood and storm water runoff control, significantly increased vegetation density, increased in-stream oxygen levels, improved water quality, and estuarine and coastal habitats and overall coastal health and safety. The purpose of this project is to bolster the resilience of the coastal systems, which are critical to the overall wellbeing of the Gulf Coast.
In December of 1999, the City of Gulfport awarded 40 square miles of its coastal land for a large-scale development project. As part of this project, the City has undertaken a comprehensive approach to environmental improvement and future development. This development project consists of adding seven acres to 12 different areas encompassing more than three square miles in northern portions of the City off of private sewer and utility systems. Providing access to adequate and available utilities could benefit the local economy and stimulate job creation by encouraging future development. Similarly, this project could benefit community residents due to increased road access to encourage development in various portions of the city that are generally located outside the existing development areas. For residents and businesses, this development will improve the quality of life and increase property values, as well as providing access to public amenities and services.

Water Quality Restoration and Sustainability Project - Restoring, Stabilizing, Acquisition (1747 2/18/2014)
The proposed property acquisition will allow the Riverfront Redevelopment project, started with MDA/CDBG funding to continue to grow and expand its influence on the City. This project proposes to acquire the property, remediate, and clear it for further development. The project includes water distribution and sewer collection improvement within ECHCPUD and extending 1 (one) mile beyond the City boundary. The project proposes to restore and stabilize critical wetlands, which have been impacted by urban development, and will continue to grow both north and south. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment.

Congregation (1769 3/20/2014)
The proposed Congregation project is designed to create environmental and recreation opportunities while enhancing the overall quality of life for City residents. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment.

Enhancement (1803 4/5/2014)
The proposed Enhancement project is designed to create environmental and recreation opportunities while enhancing the overall quality of life for City residents. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment.

Restoration, Stabilization, Acquisition (1864 6/9/2014)
The proposed Restoration, Stabilization, Acquisition project is designed to create environmental and recreation opportunities while enhancing the overall quality of life for City residents. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment. The project includes work to improve water quality and reduce the impact of pollutants on the surrounding environment.

Cogongrass Eradication (ORIGINAL ID#11538) Cogongrass (Imperata cylindrica) is an invasive, non-native grass, which occurs in the southeastern United States. A pest in 73 countries and considered to be one of the Top 10 Worst Weeds in the World. Cogongrass has the following characteristics:
- **Presence and Distribution:** Found in all of the 48 contiguous states in the U.S. and also in Hawaii and Puerto Rico. It is also found in South Korea.
- **Description:** Cogongrass is a tall, coarse grass that grows up to 9 feet tall. It has a network of underground rhizomes that allow it to spread quickly. The leaves are slender and pointed.
- **Environmental Impact:** Cogongrass is a highly invasive species that can outcompete native plants for nutrients, light, and water. It also spreads quickly, creating dense stands that can be difficult to control. Cogongrass can also harbor pathogens and serve as a host for pests.
- **Economic Impact:** Cogongrass can cause significant economic losses to agriculture, forestry, and livestock industries. It reduces the productivity of cattle and other livestock, which can lead to decreased milk production and lower profits for farmers. Cogongrass can also increase costs for land and property owners, who may have to pay for increased maintenance and control efforts.

**Conservation:**
- **Impact:** Cogongrass has been effective at managing Cogongrass populations in various locations where it has been introduced. It is currently being managed in the states of Hawaii and South Carolina. Cogongrass is a challenge for conservation efforts because it is highly invasive and can quickly spread, making it difficult to eradicate completely.

**Mitigation:**
- **Impact:** Cogongrass mitigation efforts include chemical and mechanical control methods. Chemical control involves the use of herbicides, while mechanical control involves the use of physical methods such as cutting, mowing, and chopping. Both methods require regular maintenance to be effective.

**Prevention:**
- **Impact:** Prevention strategies focus on reducing the risk of Cogongrass infestations by managing the movement of grass seed, soil, and equipment. This includes strict inspection of machinery and control of grass seed production areas.

Cogongrass is currently classified as a "pestiferous" species, which means that it is harmful to the natural environment and human health. It is considered to be one of the Top 10 Worst Weeds in the World. Cogongrass has been introduced to many countries around the world, where it has caused significant environmental and economic problems. In the United States, Cogongrass is listed as a noxious weed in 12 states, and it is considered to be a threat to the natural ecosystems in these areas.

**Management Strategies:**
- **Impact:** Management strategies for Cogongrass include control, containment, and eradication. Control involves reducing the size of the infestations through mechanical or chemical means. Containment involves limiting the spread of Cogongrass to new areas. Eradication involves completely removing Cogongrass from an area.

**Economic Impact:** Cogongrass has economic impacts on the livestock industry, forestry, and agriculture. In the southern United States, Cogongrass has been a significant economic problem for farmers, who have experienced losses due to decreased crop yields and increased costs for weed control.

**Environmental Impact:** Cogongrass has significant environmental impacts, including competition with native plants for resources and the suppression of native species. Cogongrass can also harbor pests, which can cause further damage to the environment.

**Social Impact:** Cogongrass is also a significant social problem, as it affects the quality of life in areas where it is present. Cogongrass can cause aesthetic concerns, as well as health concerns for people who come into contact with it. Cogongrass can also be a safety hazard, as it can be difficult to see in dark areas or when it is growing in brush.

**Management Challenges:**
- **Impact:** Managing Cogongrass is a complex challenge, as it requires a combination of control, containment, and eradication strategies. Cogongrass is difficult to control because it is highly invasive and can quickly spread. Containment is also difficult, as it requires strict inspection of machinery and control of grass seed production areas.

**Mitigation Strategies:**
- **Impact:** Mitigation strategies for Cogongrass include the use of herbicides, physical methods such as cutting, mowing, and chopping, and the use of biological control agents. These methods require regular maintenance to be effective.

**Prevention Strategies:**
- **Impact:** Prevention strategies focus on reducing the risk of Cogongrass infestations by managing the movement of grass seed, soil, and equipment. This includes strict inspection of machinery and control of grass seed production areas.

**Environmental Impact:** Cogongrass is currently considered to be a "pestiferous" species, which means that it is harmful to the natural environment and human health. It is considered to be one of the Top 10 Worst Weeds in the World. Cogongrass has been introduced to many countries around the world, where it has caused significant environmental and economic problems. In the United States, Cogongrass is listed as a noxious weed in 12 states, and it is considered to be a threat to the natural ecosystems in these areas.

**Management Strategies:**
- **Impact:** Management strategies for Cogongrass include control, containment, and eradication. Control involves reducing the size of the infestations through mechanical or chemical means. Containment involves limiting the spread of Cogongrass to new areas. Eradication involves completely removing Cogongrass from an area.

**Economic Impact:** Cogongrass has economic impacts on the livestock industry, forestry, and agriculture. In the southern United States, Cogongrass has been a significant economic problem for farmers, who have experienced losses due to decreased crop yields and increased costs for weed control.

**Environmental Impact:** Cogongrass has significant environmental impacts, including competition with native plants for resources and the suppression of native species. Cogongrass can also harbor pests, which can cause further damage to the environment.

**Social Impact:** Cogongrass is also a significant social problem, as it affects the quality of life in areas where it is present. Cogongrass can cause aesthetic concerns, as well as health concerns for people who come into contact with it. Cogongrass can also be a safety hazard, as it can be difficult to see in dark areas or when it is growing in brush.

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The Back Bay Bill of Rights (BBBR) is a comprehensive system of governance that is designed to protect the unique natural and cultural heritage of the Back Bay region. The BBBR is focused on preserving the ecological integrity of the Back Bay estuary, which includes a network of tidal creeks, salt marshes, and mangrove forests. The BBBR is managed by the Back Bay Bill of Rights Authority (BBRA), which is comprised of representatives from local governments, conservation organizations, and community groups.

The BBBR is supported by a variety of federal and state grants, as well as private donations and contributions from local businesses. The BBBR is also funded through a combination of user fees and property taxes. The BBBR is governed by a five-member board of directors, who are elected by the voters of the Back Bay region.

The BBBR is focused on protecting the Back Bay estuary from pollution, habitat destruction, and other threats. The BBBR is also focused on promoting public access to the Back Bay estuary, through the development of nature trails and other recreational facilities.

The BBBR is a model for coastal management that integrates ecological, economic, and social considerations. The BBBR is also a model for public participation in decision-making, through its focus on community involvement in the management of the Back Bay estuary.

The BBBR is an important example of how a community can come together to protect a natural resource. The BBBR is also an example of how government and community can work together to achieve common goals.

The BBBR is a model for coastal management that can be applied to other regions, by adapting the principles of the BBBR to the specific needs of each region. The BBBR is also a model for public participation in decision-making, by involving the public in the management of natural resources.

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The West Jackson County Constructed Wetland Treatment System was established in 1990 to treat the treated wastewater collected in western Jackson County, Mississippi. Its southeastern portion through the rural city of Gautier, Mississippi and the neighboring Gulf Coast communities. The system provides stormwater runoff treatment and reduces the pollution of receiving waters. To improve the concentration of apple snails in the wetland, we formed an alliance with the National Audubon Society to remove the apple snails from the wetland to improve the water quality and enhance the habitat for native wildlife. This project will improve the livability of the community, enhance sustainability, and promote long-term growth. The benefits of the project include the restoration of aquatic habitats, improved water quality, reduced nutrient runoff, and increased wildlife habitat. This project will provide responsible travel to natural areas and promote conservation. The project is expected to be completed by the end of the project year, and the final report will be submitted to the funders and stakeholders. The project will be evaluated by monitoring the water quality improvements and the restoration of wetland vegetation.
<table>
<thead>
<tr>
<th>Project Description</th>
<th>Start Date</th>
<th>End Date</th>
<th>Total Cost</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td><strong>Sewer Infrastructure Rehab</strong></td>
<td>6/1/2017</td>
<td>5/16/2017</td>
<td>$6,732,000.00</td>
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<td><strong>Diamondhead Water and Sewer District</strong></td>
<td>6/1/2017</td>
<td>5/15/2017</td>
<td>$9,000,000.00</td>
<td>Active</td>
</tr>
</tbody>
</table>

The project consists of construction of a new overpass at McCann Road and Interstate 10 in the St. Martin Community. This project is intended to improve safety and connectivity for travelers using McCann Road and Interstate 10. The interchange will include a new overpass that will provide a safe and efficient means of crossing the interstate, thereby reducing congestion and improving mobility for travelers in the region.

**Additional Benefits:**
- The new interchange will accommodate growing traffic demands and improve safety by reducing the number of accidents.
- It will facilitate access to new commercial developments and improve economic growth in the area.
- The project is expected to create new jobs and stimulate the local economy.

**Project Timeline:**
- Construction is expected to begin in June 2017 and be completed by May 2018.
- The project is scheduled to be fully operational by the end of 2018.

**Construction Challenges:**
- The project is anticipated to face challenges related to environmental protection and adherence to safety regulations.
- Coordination with other road projects and utility companies is expected to be a key challenge.

**Community Impact:**
- The new interchange is expected to enhance connectivity and reduce travel times for residents in the area.
- It will facilitate access to commercial developments and improve economic opportunities.

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**Shepard State Park Development**

The City of Gautier plans to expand the park's amenities and infrastructure, including the development of new facilities and improvements to existing ones. The project includes:

- Construction of new facilities: The City plans to construct a new lodge, interpretive center, and nature center. These facilities will provide educational and recreational opportunities for visitors.
- Trail improvements: The project includes the construction of new trails and the renovation of existing ones to provide visitors with a variety of options for exploring the park.
- Rehabilitation of historic structures: The historic lodge and other structures will be rehabilitated to ensure their preservation and continued use for visitors.
- Interpretive programs: The project includes the development of new interpretive programs to educate visitors about the park's natural and cultural history.

**Project Benefits:**
- The expansion of the park's amenities will attract more visitors, thereby stimulating the local economy.
- The park's increased accessibility will enhance the quality of life for residents and visitors alike.
- The new facilities will provide educational opportunities for visitors of all ages, promoting environmental awareness.

**Project Challenges:**
- The project is expected to face challenges related to funding, design, and construction coordination.
- Coordination with the Mississippi Department of Wildlife, Fisheries, and Parks is essential to ensure compliance with state guidelines.

**Community Impact:**
- The expansion of the park will provide new opportunities for recreation and education, enhancing the quality of life for residents.
- It will attract visitors from across the region, boosting the local economy.
- The new facilities will be a valuable resource for education and cultural enrichment.

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**Development Enhancement**

The proposed interchange project includes the construction of a new interchange at Old Fort Bayou Road and Interstate 10. The project aims to improve connectivity and accessibility in the area, particularly for commercial business districts along the I-10 Connector road.

**Project Benefits:**
- The new interchange will provide better access to the northern part of Hancock County and the Mississippi Gulf Coast, facilitating the expansion of the community.
- It will improve safety by reducing the number of accidents at the current interchange.
- The interchange will stimulate the local economy by providing access to new commercial developments.

**Project Challenges:**
- The project is expected to face challenges related to environmental impacts and coordination with other stakeholders.
- Funding and construction timelines may present additional challenges.

**Community Impact:**
- The new interchange will enhance the economic viability of the area, providing opportunities for businesses and individuals.
- It will improve safety and accessibility for residents, visitors, and businesses.
- The project will contribute to the overall development of the region, supporting growth and prosperity.
Diamondhead Water and Sewer District is located in Hancock County, Mississippi within the City of Diamondhead. They provide water and sewer service to approximately 4,000 customers and a population of 9,000. The District has significant amounts of aging water and sewer mains that need all need to be reviewed for current and future service needs. The District needs a Master Sewer System Study to assist with significantly reducing floodwaters from entering the sewer infrastructure, reducing sewage overflows hence assisting community resiliency and to assist with meeting new environmental regulations and for environmental impact.

The scope of work for this project will consist of advertising for RFQ/RFP, selecting a firm to complete the Master Sewer System Study and completion of the Study. The benefit of this project is to evaluate the Sewer System hence creating floodplain that will assist with significantly reducing floodwaters from entering the sewer infrastructure, reducing sewage overflows hence assisting community resiliency and to assist with meeting new environmental regulations and for environmental impact.

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Background and Cost: A feasibility study was completed in September 2009. The recommended total project, estimated to cost $2,982,000 with an estimated Federal cost of $1,947,280 and an estimated non-Federal cost of $936,000. Of this amount, $1,300,000 is estimated to be needed to complete PED (design phase elements) with an estimated Federal cost of $800,000 and an estimated non-Federal cost of $500,000.

Funding Status: This project is currently unfunded. The next potential chance for funding will be from the FY 2019 budget. The estimated Federal cost of $800,000 with an estimated non-Federal cost of $500,000 for the next potential funding opportunity.

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Graveline Bay Preserve

Resources, Coastal Preserves Program

Details:Category: Mississippi GEMS

1. Graveline Bay

Site Information:

Point(s) of Contact:

Mississippi Department of Marine Resources

Coastal Zone Management


Summary of the Site:
The wetland boundary of this 2,339-acre preserve is Graveline Bay and Bayou. One exception is the mouth of North Bayou which leads into the eastern boundary of the Preserve.

Program:

Mississippi Coastal and Ecosystem Restoration Program

Description of the Site:
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Description of the Site:
The wetland boundary of this 2,339-acre preserve is Graveline Bay and Bayou. One exception is the mouth of North Bayou which leads into the eastern boundary of the Preserve.
Harrison, Hancock, and Mobile counties are located in the southwest corner of the state of Mississippi, where the bayous, rivers, and estuaries are part of the larger estuarine ecosystem. The bayous are critical to the estuarine ecosystem and provide habitat for a diverse array of flora and fauna. The bayous are also important to the local communities, providing recreational opportunities such as fishing, boating, and hiking. The bayous are also important to the local economies, providing employment opportunities in the fishing, tourism, and recreation industries.

The bayous are also important to the environment, providing habitats for many species of fish, shrimp, and other marine life. The bayous are also important to the water quality of the estuarine ecosystem, providing a buffer against pollution and protecting the estuarine ecosystem from the effects of pollution.

The bayous are also important to the transportation network, providing a route for boats and vessels to navigate to and from the Gulf of Mexico. The bayous are also important to the local communities, providing a source of water for drinking and irrigation.

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**Research and Innovation**

**2015**

**3/25/2013**

**1. Restoration of barrier island slash pine**

The island slash pine (Pinus elliottii) of the eastern USA consists mostly of three dwarf/microclimatic forms of the species: (a) lowland (Damaso form); (b) mid-elevation (southern form) and (c) inland, far from salt water exposure. Seed sources normally found in commercial nurseries are derived from inland populations. With these events occurring every decade or so, one might expect that natural selection would result in some genetic differences between populations in the northern and southern coastal plains. Given the occurrence of several events, it would be reasonable to hypothesize that genetic adaptation in these populations to temporary salt water inundation may occur. Slash pine occurs not only on the barrier islands but well inland as well. One species of slash pine known to occur in the mainland coastal plain is P. e.个人信息

5/31/2013

**2. Ohr-O'Keefe Musical Museum of Art Restoration Project**

Graduate work in the field of art history and the study of art will never achieve as much standing in the hearts of people as the Ohr-O'Keefe Musical Museum of Art, located in the city of Tylerton, Mississippi. The museum is dedicated to the preservation and promotion of the art of the late 19th and early 20th century, with a focus on the works of Charles L. Ohr and his contemporaries. The museum opened in 1999 and has since become a leading institution for the study and appreciation of American art. The restoration project will include the renovation of the existing building, the addition of new galleries, and the enhancement of educational and outreach programs. The project is estimated to cost $2,750,000.00 and is scheduled for completion in December 2017. The museum will continue to provide educational opportunities for the public, including lectures, workshops, and tours. The project is supported by a combination of government funding, private donations, and corporate contributions. The museum is a non-profit organization and operates on a budget of $400,000.00 annually. The museum's educational programs include art education for schoolchildren and adults, and outreach activities such as art workshops, public lectures, and tours. The museum also hosts temporary exhibitions and special events, including concerts, film screenings, and other cultural events. The museum's collection includes works by Charles L. Ohr and other artists of the late 19th and early 20th century, as well as contemporary works. The museum's mission is to preserve and promote the art of the past, while also serving as a cultural resource for the community. The museum is located in the heart of Tylerton, Mississippi, and is open to the public daily. The museum is a non-profit organization and operates on a budget of $400,000.00 annually. The museum's educational programs include art education for schoolchildren and adults, and outreach activities such as art workshops, public lectures, and tours. The museum also hosts temporary exhibitions and special events, including concerts, film screenings, and other cultural events. The museum's collection includes works by Charles L. Ohr and other artists of the late 19th and early 20th century, as well as contemporary works. The museum's mission is to preserve and promote the art of the past, while also serving as a cultural resource for the community. The museum is located in the heart of Tylerton, Mississippi, and is open to the public daily. The museum is a non-profit organization and operates on a budget of $400,000.00 annually.
The successful implementation of this restoration/education project will have short-term and long-term benefits. Advising teachers. The monitoring may include data collection, water quality, elevation surveys on adjacent beach, sampling and observation deck and access to Weeks Bayou for water quality, fauna and flora sampling and monitoring will provide Mississippi State University’s Gulf Coast Community Design Studio (GCCDS).

The MEC is proposing the restoration work will be planned and implemented through a cooperative partnership between the Land Trust for the Mississippi Coastal Plain, the University of Southern Mississippi, the U.S. Army Corps of Engineers, and the Mississippi Department of Environmental Quality.

The MEC is requesting support for a coastal habitat restoration project at the mouth of Weeks Bayou in the City of Ocean Springs to coordinate a student-based monitoring program for ~100 selected OSSD middle school students and 5 teachers. The observation deck and access to Weeks Bayou for water quality, fauna and flora sampling and monitoring will provide students a hands-on opportunity to study the impacts of coastal development onWeeks Bayou.

The restored hydrology will help return historic tidal flows and salinity levels to enhance delivery of estuarine resources and important cultural and recreational features.

The project will reestablish linkages between these ecosystems by restoring, 1) the natural hydrology of 20,518 linear feet of the bayou and marsh to become infested with invasive aquatic species, e.g. water hyacinth, cattail and Chinese tallow in riparian and littoral zones.

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The project will utilize sediment removed from the bayous within the Bayou Cane/Trinity Watershed and Oyster Bayou for marsh enhancement. The sediment is comprised of fine sand and silt and is transported across a sediment pipeline within the bayous near Bangs Lake. The sediment will be deposited adjacent to Bangs Lake in small areas and will be transported across the bayous and marsh platform to contain and disperse into the marshes.

The project will involve the removal of invasive species from Oyster Bayou and the adjacent areas. The project will also involve the removal and disposal of Japanese climbing fern, which is highly invasive in the region.

The project will include the development of a public awareness program to educate the public on the importance of invasive species and the importance of conserving the bayous and marshes. The program will involve the development of educational materials and public outreach initiatives.

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A project that would look to restore/enhance and protect bounded water and wetland habitat in the six coastal counties of Mississippi. The minimal value and economic effects would improve water quality and habitat for many species of wildlife, including some listed and/or endangered.

The harbor once featured a stately resort in western Hancock County built in 1915, with paddleboats, a dance pavilion, and gates to the community, a pier and boat harbor. It was heavily damaged by the 1915 hurricane, then rebuilt, and finally burned in 1946. Since Hurricane Katrina, many of the homeowners surrounding the Harbor have not returned, leaving a large swath of stormwater, and reforestation of the site will improve the marine and human habitat along its edge. Restoration of the marsh edge, buffer plantings to filter stormwater, and reforestation of the site will improve the marine and human habitat along its edge.

The harbor connects to the Mississippi Sound through large culverts, instead of the open channel for boats that is once sported. It is home to a test wildlife including alligators, ospreys, pelicans, ducks, tern, herons, and other migratory birds. The Sound is an important nursery for many species of aquatic life. It is home to varied wildlife including alligators, ospreys, pelicans, ducks, tern, herons, and other migratory birds.

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This parcel is located along Delisle Bayou in Harrison County, Mississippi and is part of the Delisle watershed. This parcel encompasses a significant oak grove that is home to several 800-year old live oak trees, as well as waterfront acreage to Delisle Bayou. Protection of the parcel would be essential in conserving pressures from the surrounding community. This property would also serve as an outdoor recreation for many trails.

Historically significant in protection of 800 year old trees and habitats. Estuaries open spaces that will provide access for people to address and learn about these natural environments. Estuaries open spaces that provide opportunities for low-impact recreational activity, such as bird watching and other wildlife watching activities. Estuaries open spaces that provide habitat for many species of wildlife.

The project is to purchase 39 acres of undeveloped wetland, coastal forest, coastal upland, and relic floodplain. The project would be to purchase and protect the wetlands to provide ecological services, habitat, and recreation opportunities. The project is to purchase 39 acres of undeveloped wetland, coastal forest, coastal upland, and relic floodplain. The project would be to purchase and protect the wetlands to provide ecological services, habitat, and recreation opportunities.

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The project includes the City of Biloxi’s proposed RESTORE funding to purchase and develop a community park adjacent to the Biloxi Bay area. The project is to purchase 39 acres of undeveloped wetland, coastal forest, coastal upland, and relic floodplain. The project would be to purchase and protect the wetlands to provide ecological services, habitat, and recreation opportunities.

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The primary goal for this project is to improve water quality through nutrient and sediment reduction. The health of the Gulf of Mexico depends upon the health of its tributaries, and the health of those tributaries is influenced by land use in the watershed of its tributaries. In the Pine Belt plains, over 80 percent of the acreage is in private ownership (2005-2015 USDA data). The Pascagoula River and its tributaries, the Chickasawhay, and the Pascagoula estuary are a contributor (and in many instances, not the leading contributors) of nutrients to coastal waters, there are opportunities to reduce nutrient losses from the landscape, reduce nutrient loads to streams and downstream receiving waters, and reduce water quality degradation in watersheds that would provide benefits to coastal watersheds and marine resources.

The Gulf of Mexico’s health and productivity is directly and significantly influenced by the quality and quantity of water-related indicators (e.g., dissolved oxygen, temperature, turbidity) and nutrient loads (e.g., nitrogen, phosphorus), and the sediments carrying them into coastal waters. Runoff from cropland, pasture, grassland, forest, urban and residential development in the Chickasawhay Watershed contributes nutrients and sediments that adversely affect the health of coastal waters of the Gulf. While agricultural lands and urban/residential areas are a contributor (and in many instances, not the leading contributors) of nutrients to coastal waters, there are opportunities to reduce nutrient losses from the landscape, reduce nutrient loads to streams and downstream receiving waters, and reduce water quality degradation in watersheds that would provide benefits to coastal watersheds and marine resources.

The Pascagoula River is heavily influenced by land use and the condition of its tributary rivers. To make meaningful, measurable improvements to the quality and quantity of water in the Chickasawhay and the Pascagoula estuary, the project proponent understands the voluntary nature of landowner participation and will strive to reach the critical sources within the watershed. The proposed conservation practices would include riparian buffer strips, use BMPs, and in-stream structures to retain sediment, and the watershed carrying these into rivers. Needed functions are to address nutrient and sediment concerns at their sources across multiple tributaries. The project proposes to implement clusters of conservation practices within the Chickasawhay watersheds that would provide benefits to coastal watersheds and marine resources in Hancock County.

The Chickasawhay Rivers and watersheds can measurably and significantly improve the quality and quantity of water flowing into the Pascagoula River, the Pascagoula estuary and on to the Gulf of Mexico. Specific activities include but are not limited to; 1) source and protect degraded/nutrient laden banks by implementing structural and non-structural measures, and 2) identifying and addressing transect source of nutrient issues by these non-structural interventions.

The project is a feasibility study to assess the potential for and effectiveness of agricultural conservation practices to improve water quality in the Chickasawhay river watershed. The project proposes to implement clusters of conservation practices within the Chickasawhay River watershed. The project proposes to implement clusters of conservation practices within the Chickasawhay River watershed.

The primary goal for this project is to improve water quality through nutrient and sediment reduction. The health of the Gulf of Mexico depends upon the health of its tributaries, and the health of those tributaries is influenced by land use in the watershed of its tributaries. In the Pine Belt plains, over 80 percent of the acreage is in private ownership (2005-2015 USDA data). The Pascagoula River and its tributaries, the Chickasawhay, and the Pascagoula estuary are a contributor (and in many instances, not the leading contributors) of nutrients to coastal waters, there are opportunities to reduce nutrient losses from the landscape, reduce nutrient loads to streams and downstream receiving waters, and reduce water quality degradation in watersheds that would provide benefits to coastal watersheds and marine resources.

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The Pascagoula River is heavily influenced by land use and the condition of its tributary rivers. To make meaningful, measurable improvements to the quality and quantity of water in the Chickasawhay and the Pascagoula estuary, the project proponent understands the voluntary nature of landowner participation and will strive to reach the critical sources within the watershed. The proposed conservation practices would include riparian buffer strips, use BMPs, and in-stream structures to retain sediment, and the watershed carrying these into rivers. Needed functions are to address nutrient and sediment concerns at their sources across multiple tributaries. The project proposes to implement clusters of conservation practices within the Chickasawhay watersheds that would provide benefits to coastal watersheds and marine resources in Hancock County.

The project is a feasibility study to assess the potential for and effectiveness of agricultural conservation practices to improve water quality in the Chickasawhay river watershed. The project proposes to implement clusters of conservation practices within the Chickasawhay River watershed. The project proposes to implement clusters of conservation practices within the Chickasawhay River watershed.

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The Land Trust for the Mississippi Coast (LFTMC) is aascertained Land Trust dedicated to the conservation, protection, and restoration of open spaces and the promotion of natural, cultural, and scenic heritage areas in the counties of Mississippi. LFTMC is working to protect coastal wetlands and estuaries, sores, and scenic areas. The Land Trust holds a conservation easement on approximately 118 acres of the Wolf River Back of the Bayou in partnership with the Wolf River Conservation Society (WRCS), which is a nonprofit conservation advocacy to connecting estuarine ecosystems with riverine systems. The Wolf River Back of the Bayou is located in the town of St. Louis, Mississippi, a natural area with unique topography and is a part of the Mississippi River Delta's Coastal Wetlands. The Wolf River Back of the Bayou is a part of the Wolf River's coastal wetlands and is a critical area for the conservation and restoration of the natural and cultural heritage of the Wolf River. The Wolf River Back of the Bayou is a part of the Mississippi River Delta's Coastal Wetlands and is a critical area for the conservation and restoration of the natural and cultural heritage of the Wolf River. The Wolf River Back of the Bayou is a part of the Wolf River's coastal wetlands and is a critical area for the conservation and restoration of the natural and cultural heritage of the Wolf River.

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The Walter Anderson Museum of Art requests $1,554,000 for Phases 2-4 of the Creative Complex, a campus expansion for coastal discovery and innovation, public access, and quality of life empowered by immersion in the natural world. The Creative Complex, a combined 15,000 square feet of interior and exterior spaces and public gardens, will be a center of education and recreation where visitors make connections to 21st century landscapes and applications, including science and technology, aquaculture and foodways, tourism, environmental stewardship, and restoration.

The purpose of the project is to cultivate lifelong curiosity and connection to place through the convergences of culture, economy, education, and the environment. As American author Wendell Berry writes, "neither nature nor people alone can produce human sustenance, but only the two together, culturally wedded."

Art, as a force for meaning-making and social resiliency, is critical to the story of the Staff and the community. Walter Anderson's allusions to the region in public education, public access and community development, and conservation efforts, his studies of flora, fauna, and landscapes, and his history of helping the barrier islands adapt to a changing environment, are all stories about the Gulf Coast's resiliency. Walter Anderson's contributions to the region's public education systems, tourism and community development, and conservation efforts have been significant. His studies of flora, fauna, and landscapes, and his history of exploring the barrier island wilderness, provide a foundation for programs that connect communities to their estuarine landscapes, as well as to the urgent need to study and protect them.

REMAI's partners in science and education, including The University of Southern Mississippi Marine Education Center and the Grand Bay National Estuarine Research Reserve, are looking to art to communicate about complex systems. "Connecting nature, art, and science is part of the heritage of the Gulf Coast and that legacy is exemplified by Walter Anderson's work," says Kelly Lucas, Ph.D., Interim Associate Vice President for Research of Coastal Operations and Director of the Thad Cochran Marine Aquaculture Center at The University of Mississippi.

"Walter Anderson is THE artist of the Gulf of Mexico," writes Jack E. Davis in his Pulitzer Prize-winning environmental history, 'The Gulf: The Making of an American Sea.' Anderson's journeys to the federally-designated wilderness of Horn Island from the 1940s through 1960s exposed him to its biodiversity and its scientific and geographical importance. He depicted itsভূমি যৌথ সাংস্কৃতিক উন্নয়নের জন্য এই প্রকল্পগুলি কীভাবে ইতিহাস ও আব্দুল্লাহের কাজের সাথে সুযোগসূত্র প্রকাশ করে।