ALABAMA STATE EXPENDITURE PLAN

Submitted Pursuant to the

Spill Impact Component of the RESTORE Act

33 U.S.C. § 1321(t)(3)

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State Certification of RESTORE Act Compliance

As part of the project submission process, each project submitter provided narrative to describe both the economic and ecological impact its project will have on the Alabama Gulf Coast. In addition, Alabama's subject-matter experts conducted a technical review on each submitted project to ascertain the descriptions were adequate for inclusion in the State Expenditure Plan. The State of Alabama Department of Conservation and Natural Resources, as Administrative Agent for the Alabama Gulf Coast Recovery Council, hereby certifies:

- All projects, programs, and activities included in Alabama's State Expenditure Plan are eligible for funding under the RESTORE Act (33 U.S.C. §1321(t)(3)(B)(i)(I)) and will be implemented in the Gulf Coast Region;

- Pursuant to the RESTORE Act, 33 U.S.C. §1321(t)(3)(B)(i)(II), all projects, programs, and activities included in Alabama's State Expenditure Plan are deemed to contribute to the overall economic and ecological recovery of the Gulf Coast;

- Pursuant to the RESTORE Act, 33 U.S.C. §1321(t)(3)(B)(i)(III), all projects, programs, and activities included in Alabama's State Expenditure Plan take into consideration the RESTORE Council's Comprehensive Plan and are consistent with the goals and objectives included in the Comprehensive Plan;

- All projects, programs, and activities included in Alabama's State Expenditure Plan are based on the Best Available Science as defined in the RESTORE Act;

- Pursuant to the RESTORE Act, 33 U.S.C. §1321(t)(3)(B)(ii), the total cost of the infrastructure projects requested in this State Expenditure Plan does not exceed 25% of the total Spill Impact Component funds allocated to Alabama.

- Issues crossing Gulf State boundaries have been evaluated to ensure that a comprehensive, collaborative ecological and economic recovery is furthered by Alabama's State Expenditure Plan.

Compliance Verification Process

Website and Project Submission Portal/Solicitation of Public Input

The Alabama Council and its Executive Director engaged in several activities to assure broad-based participation and input into restoration project development. In March 2014, following two years of preparation and public meetings wherein the Alabama Council followed a professionally facilitated organizational development process and received public comments, a project submission portal was opened on the State of Alabama's comprehensive coastal restoration website (www.alabamacoastalrestoration.org). This site encourages public participation as follows: allows public access to enter and review project suggestions; allows submission of public comments through the agcrc@dcnr.alabama.gov email address; and supports publishing notices of all public meetings held by the Alabama Council. In addition to a number of public meetings held over the years where general feedback was welcomed, the Executive Director held one-on-one meetings and made numerous presentations to more than 40 civic organizations, municipalities, and non-governmental organizations as part of a community education and outreach strategy. Finally, the Alabama Council held public meetings on January 25, 2017 and September 27, 2017 to specifically solicit public input on project suggestions in the portal.

Project Selection Process

In December 2014, the Alabama Council developed the Project Selection Process Framework for First Round Multiyear Implementation Plan (MIP) Development. The framework was presented at a public meeting on December 17, 2014 to solicit community feedback into the selection process. It was also published through the Alabama Coastal Restoration email distribution list and posted on both the Alabama Council website (www.restorealabama.org) and Alabama's comprehensive coastal restoration website (www.alabamacoastalrestoration.org). In addition, the Alabama Council narrowed the priority focus areas from the Treasury Qualifying Eligible Activity List to Infrastructure projects benefitting the economy and corresponding planning assistance.

Recognizing both the challenge and expense associated with performing detailed reviews on an unlimited number of project suggestions, the Alabama Council developed a process through which a priority focus area project may be moved forward for more comprehensive evaluation. This process, called a "Request for Evaluation" (RFE), requires a minimum of 4 Council members to request a detailed evaluation on a project. (The Project Selection Process is available on the Alabama Gulf Coast Recovery Council website). The Alabama Council also agreed to evaluate projects based upon individual merit vs. comparison to other submitted projects. Finally, Council members agreed to use the following project-specific factors, as applicable, to complete the technical reviews:

- Demonstrates benefit in relation to cost

- Addresses short-term vs. long-term economic benefit
- Demonstrates a need (impact of no action)
- Demonstrates it does not create adverse impacts elsewhere
- Expands/promotes an existing industry or offers diversification
- Demonstrates short- or long-term job creation (direct and indirect)
- Demonstrates feasibility of success with measurable outcomes
- Demonstrates budget reasonableness
- Demonstrates post-implementation sustainability
- Addresses potential risks and uncertainties
- Addresses penalties, requirements and status of environmental compliance
- Addresses use of cutting-edge technology for construction/implementation
- Addresses readiness/length of time for completion
- Demonstrates it is based on Best Available Science
- Addresses the evaluation and identification of outside funding sources

The Alabama Council reviewed and incorporated the Draft Project Selection Process Framework comments from the public, as appropriate, and released its Final Project Selection Process on December 6, 2016 via the Alabama Coastal Restoration email distribution list and the two websites referenced above. In this same release, the Alabama Council also made a call for project suggestions for First Round MIP Development with a submission deadline of January 13, 2017.

The Alabama Council held a public meeting on January 25, 2017 to receive input on project suggestions under consideration for funding in the portal. The Executive Director advised the Council to have Requests for Evaluations submitted by February 24, 2017, and shortly thereafter, the Executive Director posted a list of all RFE projects on the two websites referenced above.

This project selection process was initially developed for Direct Component opportunities, and subsequently adopted by the Alabama Council for Spill Impact Component opportunities. The Alabama Council also decided to adopt all activities deemed eligible for funding under the RESTORE Act for the State Expenditure Plan (SEP) as follows:

1. Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region;

2. Mitigation of damage to fish, wildlife, and natural resources;

3. Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring;

4. Workforce development and job creation;

5. Improvements to or on State parks located in coastal areas affected by the Deepwater Horizon oil spill;

6. Infrastructure projects benefitting the economy or ecosystem resources, including port infrastructure;

7. Coastal flood protection and related infrastructure;

8. Planning assistance;

9. Administrative costs;

10. Promotion of tourism in the Gulf Coast region, including recreational fishing; and

11. Promotion of the consumption of seafood harvested from the Gulf Coast region.

On July 28, 2017, the Alabama Council issued a call for project suggestions for first round SEP development with a submission deadline of September 15, 2017. The Council held a public meeting on September 27, 2017 to receive input on project suggestions in the portal under consideration for Spill Impact Component funding. Requests for Evaluations were received by November 1, 2017, and shortly thereafter, the Executive Director posted a list of all RFE projects on both the Alabama Gulf Coast Recovery Council website and Alabama's comprehensive coastal restoration website.

Identify Subject Matter Experts for Project Review

Detailed evaluations on each RFE project were conducted by qualified subject-matter experts. ADCNR, as Alabama's natural resources Agent managing Deep Water Horizon (DWH) spill-related programs, including NRDA, NFWF, and as Administrator for the Alabama Council (refer to Section III Financial Integrity), followed State procurement policies and procedures (Code of Alabama 1975 – Title 41, Article 2 - Competitive Bidding Laws (§41-16-20) to identify and select Volkert, Inc. (Volkert) to provide DWH Program Management Services for DWH spill-related services for ADCNR. The Request for Qualifications (RFQ) process included:

- Original RFQ posted on the coastal website 12/19/16

- Amended RFQ subsequently posted on coastal website 12/30/16
- Interviewed all firms that responded 1/24/17 and 1/26/17
- Contracted with Volkert on 2/17/17

On July 26, 2017, following a presentation by the Volkert program management team, the Alabama Council voted to allow ADCNR, as the Administrative Agent (Administrator) for the AGCRC, to engage Volkert through its services contract with ADCNR, to conduct the technical reviews on the RFE projects and to provide additional services, as needed, to complete the MIP and the SEP.

Develop Evaluation Form/Conduct Evaluations

A complete RFE document set ("packet") was provided to project submitters. These documents, which included a detailed evaluation form developed to obtain information necessary for project evaluation, were built from relevant Federal Council guidance and required forms for SEP submission. The RFE packets were emailed to project submitters on November 27, 2017 with a completion deadline of January 9, 2018. Once the evaluation packets were returned to the AGCRC Administrator, the information was reviewed for completeness. The Administrator requested additional information, as needed, to ensure the information received was complete and addressed all required fields. As the Administrator deemed the evaluation packets complete, the information was forwarded to the subject-matter experts (Volkert) for technical review. Volkert completed their review and submitted summary reports to the Administrator. This work was completed on January 24, 2018.

Approval of SEP Projects by the Alabama Council

The Administrator convened the Alabama Council to review the technical evaluations and determine which projects would be included in the SEP. As part of this review process, the following additional criteria were considered:

- Availability and timing of RESTORE funding
- Potential for leveraging (funds and/or prior activities)
- Geographic location
- Disproportionately affected areas
- Included in a strategic/comprehensive plan
- Potential for funding from another source
- Annual recurring costs
- Scope of overall benefit to the community/region
- Appropriate implementing entity
- Ability to implement in phases
- Other factors

Based on the Alabama Council's review and guidance, the Administrator prepared a draft slate of projects for inclusion in the Draft SEP. Once Alabama Council members reviewed the draft slate, a public meeting was announced, and the Council voted in an open forum to approve individual projects for inclusion in the Draft State Expenditure Plan (see the meeting minutes, available on the Alabama Gulf Coast Recovery Council website).

Public Participation Statement

After completion of the Draft SEP, the Alabama Council will review, revise, and adopt the plan. The plan will then be released for public comment for 45 days on the following websites:

- Alabama Gulf Coast Recovery Council website;
- Alabama Department of Conservation and Natural Resources' (ADCNR) comprehensive coastal restoration website;
- Mobile Bay National Estuary Program website;
- Mississippi-Alabama Sea Grant Consortium website; and
- Gulf of Mexico Alliance website.

The Draft SEP release will also be announced through Alabama's comprehensive coastal restoration email distribution list. The Alabama Council will accept comments via email at agcrc@dcnr.alabama.gov and U.S. Mail at 118 N. Royal Street, Suite 603, Mobile, AL 36602. In addition, the Alabama Council will hold a public meeting during the 45-day comment period to accept additional comments. At the end of the comment period, the Administrator will compile and summarize the comments and prepare a report for the Alabama Council. The Alabama Council will review and consider the comments and have the Administrator revise the Draft SEP as appropriate.

After review of proposed revisions, the Administrator will convene the Alabama Council to formally approve the final SEP. The Administrator will then submit the final document to the Federal Council for review and approval. Upon submission to the Federal Council for approval, the final SEP will be released via Alabama's comprehensive coastal restoration email distribution list and posted online on the five websites listed above. Once the SEP is approved by the Federal Council, all project evaluations and public comments for each project included in the Draft SEP will be posted online at Alabama Gulf Coast Recovery Council website.

Financial Integrity

The Alabama Council is committed to providing the financial control environment needed to ensure the public and Congress that funds will be managed appropriately to further the purposes of the RESTORE Act. In May 2013, the Council selected the Alabama Department of Conservation and Natural Resources (ADCNR) to serve as its Administrative Agent (Administrator) for RESTORE Act-funded activities. In this role, ADCNR will serve as the Council's fiduciary agent, outreach coordinator, and administrator. All programs and projects administered by ADCNR are subject to both State of Alabama and ADCNR policies and procedures, thereby providing an additional layer of fiscal oversight for these funds.

As a department of the State of Alabama, ADCNR is subject to the financial policies and procedures mandated by the State, including the Alabama Department of Finance fiscal policy and procedures requirements, the state ethics commission, the state personnel department's rules and regulations, and any regulations imposed by the federal funding agency. ADCNR is also subject to audits and compliance examinations by the Department of Examiners of Public Accounts to ensure compliance with applicable federal, state, and local laws, rules, policies and procedures, and sound financial practices.

Policies and Procedures

Fiscal Policy and Procedures Manual

As authorized by the Code of Alabama 1975 (amended §41-4-35), the Fiscal Policy and Procedures Manual standardizes accounting and financial policies and procedures that are within the authority of the State Department of Finance. The Fiscal Policy and Procedures Manual, updated in 2017, was developed to assist state departments with the operation of the state-wide accounting system STAARS, and to provide guidance in complying with statutory requirements and administrative procedures. The manual also documents the policies and procedures related to State financial controls including budgeting, revenue and receipts, expenditures and disbursements, purchasing, contracts, journal vouchers, payroll/personnel, and financial reporting.

State funds are entrusted to the head of a department, board, bureau, commission, agency, office, institution, authority, council, service, or system. The department head is primarily responsible for the expenditure of public monies in accordance with statutes and federal guidelines where applicable. Each department head makes decisions and exercises authority relative to the expenditure of funds within the bounds of the department's appropriation(s) and legal function. The manual is intended to assist state officials in complying with laws, policies, and procedures that apply to the fiscal administration of state departments and is in addition to ADCNR departmental procedures or policies.

Audits

The Department of Examiners of Public Accounts - The Department of Examiners of Public Accounts was created in 1947 and placed under the direction of the

Legislative Committee on Public Accounts. The Legislative Committee on Public Accounts has 12 members. The House of Representatives elects five members from its membership and the Senate elects five from its membership. By law, the Lieutenant Governor is the Chairman of the committee, and the Speaker of the House is Vice-Chairman. Once every seven years, the Legislative Committee on Public Accounts appoints a Chief Examiner to manage and direct the Department of Examiners of Public Accounts. The Department of Examiners of Public Accounts receives its' authority from the Code of Alabama 1975, Sections 41-5-1 through 41-5-24, and is empowered to audit the books, accounts, and records of all state and county offices, officers, bureaus, boards, commissions, corporations, departments, and agencies and to report on expenditures, contracts, or other audit findings found to be in violation of law. The Department has the authority to make audits of the accounts of all entities receiving or disbursing public funds. The Examiners of Public Accounts is also empowered to conduct investigations as a result of audits and to assist other governmental officers such as the Attorney General, District Attorneys, and federal agencies, and to certify official acts and require the repayment of amounts of monies and other resources due to the State, County, municipality, or other governmental units from various public officers, their employees, or agents.

The majority of audit work performed by the Department of Examiners of Public Accounts consists of traditional financial and compliance audits, including Federal compliance. These audits focus on two areas: reliability and accuracy of financial statements; and compliance with laws, ordinances, regulations, and other requirements. In addition, the Department of Examiners of Public Accounts performs "operational audits" and sunset reviews that go beyond the traditional audits and address economy, efficiency, and effectiveness of operations. Such audits have been developed because the performance of governmental entities is not generally measured by profit and cannot therefore be determined through analysis of financial transactions alone. Operational audits and sunset reviews are not normally comprehensive but focus on particular aspects of operations.

State of Alabama Comprehensive Annual Financial Report (CAFR)

This report presents financial information on all of State government as a single reporting entity. While state law allows many state organizations to operate largely independent of the daily central control and scrutiny of the Department of Finance, State Auditor, and State Treasurer, this report combines the financial data of all state organizations in order to present a comprehensive picture of state finances. The numerous departments, agencies, elected officials, boards, commissions, authorities, colleges, universities, and other organizational units of the State are included in this report in accordance with standards established by the Governmental Accounting Standards Board.

The CAFR is audited annually by the Department of Examiners of Public Accounts. The Examiners conduct their audit in accordance with auditing standards generally accepted in the United States of America, and the standards applicable to financial audits contained in Government Auditing Standards issued by the Comptroller

General of the United States. The Examiners' unmodified opinion appears at the beginning of the financial section of each report.

The State will also undergo an audit of federal programs to conform to the requirements of the Single Audit Act Amendments of 1996 and the U.S. Office of Management and Budget Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations and Title 2 U.S. Code of Federal Regulations, Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements (Uniform Guidance). Information relating to the single audit, including the schedule of expenditures of federal awards, and audit findings and recommendations, is issued in a separate report and made available at a later date from the Department of Examiners of Public Accounts.

Financial Management System (STAARS)

The State utilizes an enterprise-wide accounting system, STAARS (State of Alabama Accounting and Resource System), to support all financial, procurement, and human resource transactions. All vendor interactions and solicitations, purchase orders, payments, and receipts are also maintained in STAARS. This system enables the State to accumulate data for several purposes including budgetary control, budgetary reporting, and financial reporting.

All fees, receipts, and income collected or received by any State department are deposited into the State Treasury or an approved state depository to the credit of a special fund as required by law (Code of Alabama 1975, §41-4-92, as amended). The State Comptroller’s Office is charged with controlling and recording all payments into and out of the State Treasury and each special fund and account. The Comptroller’s Office also audits receipts and receivables (Code of Alabama 1975, §41-4-50, as amended).

When State departments deposit monies received into a State Treasury bank account, the deposit documentation/slip is attached to the STAARS cash receipt document. The Receipts Section of the Comptroller's Office reviews certain Cash Receipt documents for valid account coding and overall completeness. For any errors encountered, the Receipts Section will reject the document back to the State Department requesting the necessary corrections be made to fix the errors. Once the cash receipt document has been corrected, the document may be resubmitted into STAARS workflow for approval.

Alabama Ethics Commission

The Alabama Ethics Commission was created by the Alabama Legislature in 1973 by Act No. 1056 “Ethics Act.” The mission of this Commission is to ensure that public officials are independent and impartial; that decisions and policies are made in the proper governmental channels; that public office is not used for private gain; and, most importantly, that there is public confidence in the integrity of government. The Ethics Commission generally deals with issues involving conflicts of interest, or the use of office for personal gain, on the part of public officials and public employees in Alabama. The Commission is also responsible for collecting

Statements of Economic Interest forms, lobbyist and principal disclosure forms, and many other documents from public officials in Alabama. Finally, the Commission also has jurisdiction over the Fair Campaign Practices Act (FCPA).

Intentional violations of the Ethics Act are Class B felonies punishable upon conviction with a sentence of between 2 to 20 years in prison per violation and a fine of up to $20,000.00 per violation. All other violations are Class A misdemeanors punishable, upon conviction, of up to a year in prison per violation and a fine of up to $6,000.00 per violation. It may either be referred to the Attorney General's office or the appropriate District Attorney for presentation to a grand jury for possible prosecution, or the Commission may resolve the matter administratively through the imposition of a fine. Administrative resolutions are limited to minor violations (defined as less than $250.00 gain to the public official or employee, or less than $250.00 loss to the public entity). Administrative fines may not exceed $1,000.00 per violation.

Alabama Department of Conservation and Natural Resources (ADCNR) – Financial Controls

"*The Department's major goal is to promote the statewide stewardship and enjoyment of Alabama's natural resources, and to ensure that future generations will be able to enjoy these resources."* (From the Alabama Department of Conservation and Natural Resources Annual Report 2015-16)

In addition to being subject to the State's financial control infrastructure, ADCNR is also subject to internal processes for managing programs and grants. ADCNR is uniquely qualified to serve as Administrator for the Alabama Gulf Coast Recovery Council's RESTORE Act funds. ADCNR also serves as Alabama's natural resources Agent managing DWH spill-related programs, including NRDA, NFWF, and as the Governor's Designated Representative as a NRDA Trustee and within the Alabama TIG. ADCNR's scope of operations includes the administration, management, and maintenance of 19 state parks, 23 public fishing lakes, three freshwater fish hatcheries, more than 141 public boat ramps, 33 wildlife management areas, 11 shooting ranges, a saltwater mariculture center, and 645,000 acres of trust lands. Other departmental functions include maintenance of a State Land Resource Information Center and administration of the Forever Wild land acquisition program. The Department consists of four operational divisions and eight support sections. The operational divisions include Marine Resources, State Lands, State Parks, and Wildlife and Freshwater Fisheries. Support sections include Accounting, Engineering, Information and Education, Information Technology, Legal, Personnel and Payroll, and Property Inventory. ADCNR is led by the Commissioner of Conservation (The Commissioner). The Commissioner is appointed by the Governor as a member of his/her Cabinet and advises the Governor and Legislature on management of freshwater fish, wildlife, marine resources, waterway safety, state lands, state parks, and other natural resources.

Advisory Board

The Commissioner is advised by the Conservation Advisory Board, which is also appointed by the Governor. Created by statute, the Advisory Board is composed of

10 members appointed by the Governor for alternating terms of six years, and three ex-officio members in the persons of the Governor, the Commissioner of Agriculture and Industries, and the Director of the Alabama Cooperative Extension System. The Commissioner of Conservation and Natural Resources serves as the ex-officio Secretary of the Board. The Advisory Board assists in formulating policies for the ADCNR, examines all rules and regulations, and makes recommendations for their change or amendment. By a two-thirds vote of the members present and with the Governor's approval, the Board can amend, make any changes, repeal or create, and promulgate additional rules and regulations. The Board also assists in publicizing the Department's programs and activities.

Budgeting and Forecasting

In accordance with Alabama Statutes, ADCNR adopts an annual balanced budget. ADCNR's budget is legally enacted through passage of a Resolution. Intradepartmental budget amendments are approved by the designated Budget Officer or ADCNR Administrator. Budget amendments relating to 1) increasing total personnel services appropriated with each department/elected official or 2) request affecting the general fund and transportation trust fund reserve for contingencies require prior approval of the Agency. Approved budget amendments are filed with the Finance Department and become a part of ADCNR Budget.

Accounting Section

The Accounting Section is the central clearinghouse for all departmental financial data. Accounting maintains and records all receipts and disbursements for the Commissioner's office, staff sections, and each of the four divisions. Accounting is responsible for six internal functions: Accounts Payable, Accounts Receivable, Budgeting, Procurement, Hunting and Fishing License Sales, and Financial Reporting.

a. *Accounts Payable* reviews and approves all payment transactions and transfer journal entries for the Department. Over 15,000 transactions are processed on an annual basis.

b. *Accounts Receivable* reviews and approves all cash receipts and investment transactions for the Department. Over 12,000 transactions are processed on an annual basis.

c. *The Budgeting Office* prepares and submits the annual budget. It also processes budget modifications as required during the year.

d. *Procurement* provides purchasing assistance to each administrative section and to all divisions. This office is the liaison between ADCNR and State Purchasing.

e. *The Hunting and Fishing License Office* is responsible for receiving revenues from license sales and certifying them into the Wildlife and Freshwater Fisheries and Marine Resources funds.

f. *Financial Reporting* processes CAFR entries, closing entries, reports on grants, calculates federal draws, and maintains grant budgets for the Department.

Internal Audits

The Department's Finance staff performs an internal audit on each fund on at least an annual basis, and more regularly for certain higher risk funds. This fund audit includes an analytical review of revenues and expenditures and a tie out of the significant assets and liabilities for the reporting period. The internal fund audits are designed to evaluate non-routine information and provide a means for further investigation of such items.

Operational Self-Assessment (OSA)

During completion of the RESTORE Act OSA, ADCNR management addressed fraud risk by encouraging strong ethical behavior using the following tools:

- **State of Alabama Ethics Commission** – Outlines state code of ethics and standards of conduct
- **Ethics and Fraud Training** – All DCNR employees are required to attend at least two hours of ethics training and fraud training on an annual basis.
- **New Employee Orientation** – Ethics and Standards of Conduct along with other Human Resource policies are included in the Employee Orientation binder. Employees are required to acknowledge the receipt of the policies and that they will abide by the policies and procedures. Violations of these policies may result in disciplinary action.
- **Conflicts of Interest** – Employees are required to comply with financial disclosure requirements on an annual basis.
- **Background Checks** – Criminal background checks are conducted on certain ADCNR employees with financial background checks also conducted on upper level management.

In addition, ADCNR employees must affirm annually they have received and concur with the following policies: Conflict of Interest, Fraud, Debarment and Suspension, Harassment and Discrimination, and Whistleblower and Ethics.

Conflicts of Interest

As a state entity, ADCNR is governed by the Code of Alabama 1975 Code of Ethics for Public Officials, Employees, etc. (Sections 36-25-1 through 36-25-30). A conflict of interest is defined as "...any action, inaction, or decision by a public official or public employee in the discharge of his or her official duties which would materially affect his or her financial interest or those of his or her family member..." In addition, ADCNR implemented a departmental Standards of Conduct Conflict of Interest Policy to prohibit conflicts of interest, including financial conflicts of interest

in: (a) the award of grant funds or the selection, award, or administration of a contract; (b) the use of confidential information; and (c) official actions of the agency and to require the reporting of actual or potential conflicts of interests. This policy is intended to supplement, but not replace, federal and state laws governing conflicts of interest, and it applies to all employees and officials of ADCNR. The selection, development, and implementation of all SEP projects fall under these policies, and ADCNR commits to providing full and open competition as required under 2 CFR 200.319. In consonance with these requirements, ADCNR monitors all grant recipients and subrecipients to ensure all procurement transactions are conducted in a manner providing full and open competition consistent with the standards of this section. In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or invitations for bids or requests for proposals will be excluded from competing for such procurements.

Overall Consistency with the goals and objectives of the Comprehensive Plan

All projects submitted in Alabama's State Expenditure Plan demonstrate they are consistent with at least one of the five Federal Council Comprehensive Plan goals including:

1. **Restore and Conserve Habitat** – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats.

2. **Restore Water Quality and Quantity** – Restore and protect the water quality and quantity of the Gulf Coast region's fresh, estuarine, and marine waters.

3. **Replenish and Protect Living Coastal and Marine Resources** – Restore and protect healthy, diverse, and sustainable living coastal and marine resources.

4. **Enhance Community Resilience** – Build upon and sustain communities with capacity to adapt to short- and long-term changes.

5. **Restore and Revitalize the Gulf Economy** - Enhances the sustainability and resiliency of the Gulf economy.

All projects submitted also demonstrate they address one or more of the seven Federal Council Comprehensive Plan objectives:

1. Restore, Enhance, and Protect Habitats

2. Restore, Improve, and Protect Water Resources

3. Protect and Restore Living Coastal and Marine Resources

4. Restore and Enhance Natural Processes and Shorelines

5. Promote Community Resilience

6. Promote Natural Resource Stewardship and Environmental Education

7. Improve Science-Based Decision-Making Processes

In addition, pursuant to the RESTORE Act, 33 U.S.C. §1321(t)(3)(B)(ii), the total cost of the infrastructure projects requested in this State Expenditure Plan does not exceed 25% of the total Spill Impact Component funds allocated to Alabama. Of the total Spill Impact Component allocated to the State of Alabama, 7.3% is committed to infrastructure in this plan.

Proposed Projects, Programs and Activities

Table 1. Proposed Projects and Programs

	Project Title	Estimated Cost	Infra-structure (yes/no)	Start Date	End Date	Primary Eligible Activity Submittal Guidelines][a]	Informed by Best Available Science (yes/no)
1	Environmental Restoration of Cotton Bayou & Terry Cove	$515,000	No	7/1/2019	6/30/2021	8	Yes
2	Development for a Regional Strategic Plan for the Coastal Alabama Region: Phase III	$579,375	No	7/1/2019	6/30/2021	10	Yes
3	Expansion of the Orange Beach Wildlife Rehabilitation and Education Center/Gulf Coast Wildlife Recovery and Interpretative Center	$472,255	No	7/1/2019	12/31/2020	1	Yes
4	Auburn University Gulf Coast Engineering Research Station	$9,270,000	Yes	7/1/2019	6/30/2024	6	No
5	Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration, Offshore Alabama	$950,175	No	7/1/2019	6/30/2023	8	Yes
6	City of Chickasaw Sewer Rehabilitation Project	$1,339,000	No	7/1/2019	6/30/2024	1	Yes
7	Alabama Gulf Seafood	$2,937,699	No	7/1/2019	6/30/2024	11	Yes

	Project Title	Estimated Cost	Infra-structure (yes/no)	Start Date	End Date	Primary Eligible Activity Submittal Guidelines][a]	Informed by Best Available Science (yes/no)
	Marketing Program						
8	Aloe Bay/Mississippi Sound Water Quality Enhancement Project	$11,845,000	No	7/1/2019	6/30/2022	1	Yes
9	Extension of Effluent Force Main from Bayou La Batre WWTF	$16,068,000	No	7/1/2019	6/30/2021	1	Yes
10	Bayou La Batre Collection System/Lift Station Upgrades	$13,189,150	No	7/1/2019	12/31/2020	1	Yes
11	Lillian Park Beach Habitat and Shoreline Protection	$645,254	No	7/1/2019	12/31/2020	1	Yes
12	Perch Creek Area Sanitary Sewer Trunk Line CIPP	$3,665,048	No	7/1/2019	6/30/2021	1	Yes
13	Longevity, Stability & Water Quality Improvements, Bon Secour DMDA	$350,966	No	7/1/2019	12/31/2020	1	Yes
14	Replacement of Substandard Facilities at the ADEM Coastal Office & Mobile Field Office	$6,038,599	Yes	7/1/2019	6/30/2021	6	No
15	Mobile Area Storm Water	$3,090,000	No	7/1/2019	6/30/2022	8	Yes

	Project Title	Estimated Cost	Infra-structure (yes/no)	Start Date	End Date	Primary Eligible Activity Submittal Guidelines][a]	Informed by Best Available Science (yes/no)
	Mapping & Resiliency Planning						
16	Three Mile Creek Watershed Restoration	$12,081,900	No	7/1/2019	6/30/2023	1	Yes
17	Fairhope Area Community-Based Comprehensive Land Use Plan	$669,500	No	7/1/2019	6/30/2021	8	Yes
18	Fort Morgan Parkway Trail Extension	$4,566,608	No	7/1/2019	6/30/2021	5	No
19	Meaher Park Improvements	$3,553,500	No	7/1/2019	6/30/2021	5	No
20	Mobile County Dirt Road Paving (Sediment Reduction) Program	$10,395,914	No	7/1/2019	6/30/2027	1	Yes
21	Alabama Point Seawall Repair	$2,562,640	No	7/1/2019	6/30/2021	5	No
22	Canal Road Improvements E. of SR 161	$1,903,718	Yes	7/1/2019	12/31/2020	6	No
23	Orange Beach North Sewer Force Main Upgrade	$5,350,850	Yes	7/1/2019	6/30/2021	6	No
24	Storm Water Management Improvements for Toulmin Springs Branch and Gum Tree Branch	$1,222,744	No	7/1/2019	6/30/2021	8	Yes

	Project Title	Estimated Cost	Infra-structure (yes/no)	Start Date	End Date	Primary Eligible Activity Submittal Guidelines][a]	Informed by Best Available Science (yes/no)
25	Fairhope Sewer Upgrade Phase I	$10,300,000	No	7/1/2019	6/30/2024	1	Yes
26	Little Lagoon Restoration Project	$6,175,557	No	7/1/2019	6/30/2024	1	Yes
27	Eastern Shore Sanitary Sewer Overflows Prevention Plan	$1,030,000	No	7/1/2019	6/30/2022	8	Yes
28	One Mobile: Reconnecting People, Work and Play through Complete Streets	$1,287,500	Yes	7/1/2019	6/30/2021	6	Yes
29	Planning Grant to Amend State Expenditure Plan	$300,000	No	7/1/2019	6/30/2024	8	No

[a] Gulf Coast Ecosystem Restoration Council. Oil Spill Impact Component: State Expenditure Plan Guidelines. Sec 4.1.1. Available from the Gulf Coast Ecosystem Restoration Council website.

Project #1: Environmental Restoration of Cotton Bayou & Terry Cove

Project Description/Summary

a) This project will provide planning assistance to develop Best Available Science (BAS) documentation needed to plan and carry out a comprehensive environmental study. Once completed, the BAS will be used to prepare an engineering plan and cost estimate for restoration of the Cotton Bayou/Terry Cove system in Orange Beach, Alabama.

   The Cotton Bayou/Terry Cove system is located in the heart of Orange Beach, Alabama, and is a component of the larger Perdido Bay watershed, which is connected to the Gulf of Mexico by the Perdido Pass. The canals, marshes, and other shallow waters of the Cotton Bayou/Terry Cove system have historically served as nursery habitat for aquatic and avian wildlife. Over time, human development and re-development has replaced much of the natural shoreline with seawalls and other structures. Historically poor storm water run-off management, natural extreme tropical storm events, and an ongoing rapidly growing population may have contributed to sediment has accumulated in ways that disrupt natural hydrodynamic mixing. These and other unknown factors are contributing to sedimentation buildup and water quality degradation; as well as, highly fluctuating temperatures, salinity, and dissolved oxygen concentrations, which may be driving algae blooms, fish kills, and other indicators of poor ecological health.

   The goal of this project is to develop a science-based, comprehensive understanding of the factors governing the environmental and ecological health of the Cotton Bayou/Terry Cove system, leading to a scientifically-defensible plan for restoring the ecological and environmental health within this system.

   Activities associated with this project will also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need:** Without restoration of the Cotton Bayou/Terry Cove system, there will be continued degradation of environmental and ecological conditions with a myriad of known and unknown future consequences for the living resources within this system and the Orange Beach community.

      Purpose: The purpose of this project is to develop BAS documentation (including existing data, peer- and non-peer reviewed literature), use this documentation to plan and carry out a comprehensive environmental study of Cotton Bayou and Terry Cove located in Perdido Bay adjacent to the City of Orange Beach, AL, and use the results of this study to prepare an engineering plan and cost estimate for restoration of the Cotton Bayou/Terry Cove system.

      Objective: The primary objectives of this project are:

- Develop Best Available Science documentation to support historical and existing hydrologic and environmental conditions governing water quality and wildlife habitat in Cotton Bayou and Terry Cove;

- Conduct a comprehensive study of the Cotton Bayou/Terry Cove system, based on BAS documentation, to quantify existing conditions, predict future outcomes, and test potential solutions for improving existing conditions; and

- Develop a professionally designed restoration plan based on the results of the BAS documentation and comprehensive study to achieve long-term improvements in water quality and wildlife habitat in this system.

b. This project is located in the Gulf Coast region and will be carried out in the City of Orange Beach in Baldwin County, Alabama.

c. This project is expected to begin 7/1/2019 and end 6/30/2021 (2 years).

d. The proposed project will be implemented by the City of Orange Beach.

b) This project will provide data necessary to ultimately improve the water quality and ecological conditions of the Cotton Bayou/Terry Cove system. Improved water quality leads to enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #8 - Planning Assistance (primary). Secondary activities include Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region; Category #2 - Mitigation of damage to fish, wildlife, and natural resource; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; and Category 10# - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;

- Goal 2: Restore Water Quality and Quantity – Restore and protect the water quality and quantity of the Gulf Coast region's fresh, estuarine and marine waters;

- Goal 3: Replenish and Project Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources:

- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals;

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to, and withdrawal from critical systems; and

- Objective 7: Improve Science-Based Decision-Making Processes – Improve science-based decision-making processes used by the Council.

Major Milestones

a) Milestone 1: Assessment of existing data

b) Milestone 2: Prepare Best Available Science documentation

c) Milestone 3: Conduct study

d) Milestone 4: Prepare study interim report

e) Milestone 5: Prepare study final report

f) Milestone 6: Draft Phase II plan

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Environmental Restoration of Cotton Bayou/Terry Cove Canals project will be:

- Development of a plan to restore the ecological health of the Cotton Bayou/Terry Cove system.

Table 2. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Development of a plan to restore Cotton Bayou/Terry Cove	Development of Best Available Science documentation Completion of an Environmental Study Completion of Engineering Plan	Development of a restoration plan that is ready for implementation	Improved ecosystem health Enhanced recreational opportunities

Monitoring and Evaluation

a) Submit procurement/bid process results to ADCNR prior to awarding contract(s)

b) Submission of BAS report to ADCNR for review

c) Submission of Environmental Study to ADCNR for review

d) Development and submission to ADCNR of the Restoration Plan

e) Submission of quarterly and final report to ADCNR for review

Best Available Science

It is necessary to develop a science-based, comprehensive understanding of the factors governing the environmental and ecological health of the Cotton Bayou/Terry Cove system, leading to a scientifically-defensible plan for restoring the ecological and environmental health within this system. Once the problems are identified, solutions based on Best Available Science will be developed to ensure the most sustainable outcome for improved ecosystem health.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $515,000 (100% - Planning).

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

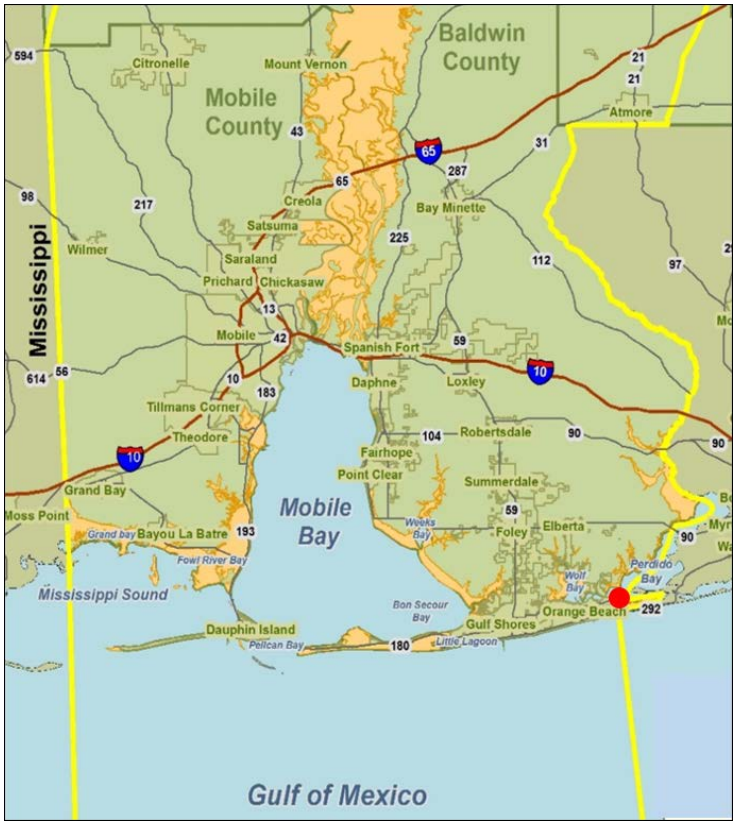

Figure 1: Location of Cotton Bayou and Terry Cove in Orange Beach, Alabama.

Project #2: Development of a Regional Strategic Plan for the Coastal Alabama Region

Project Description/Summary

a) This project will showcase coastal Alabama's ecotourism opportunities in the Mobile Tensaw Delta by developing and implementing a marketing brand and an online resource directory for tourists. The implementation of this marketing campaign will assist in combatting the negative perceptions created due to the Deepwater Horizon oil spill, ultimately restoring and enhancing the Gulf Coast economy.

The Alabama Gulf Coast region is comprised of two counties (Baldwin and Mobile), consisting of over 2,300 square miles of land and 24 different municipalities. There are 3 metropolitan planning organizations, 2 economic development entities, 10 chambers of commerce, multiple utility providers, and literally hundreds of plans to foster economic development in the region.

The Coastal Alabama Partnership (CAP) is a non-profit organization comprised of members from the public and private entities listed above that serve as a sounding board and a resource for the Gulf Coast region. The CAP supports a coordinated effort among these various stakeholders to better develop an effective response to challenges facing the citizens and visitors of the Gulf Coast region. The genesis of CAP was in 2010, following the BP Oil Spill, when former Alabama Governor Bob Riley called for Mobile and Baldwin counties to work together as a region to develop the Coastal Recovery Commission (CRC) Report. CAP was subsequently created in 2012 to focus on building regional collaboration to support five main initiatives identified in the CRC Report: Infrastructure, Insurance, Seafood, Tourism, and Policy and Planning. Phases I and II of the Coastal Alabama Partnership's Regional Strategic Plan was developed by its stakeholders to respond to those initiatives and related challenges, and to create a blueprint for economic development for the Gulf Coast region.

Activities associated with this project will also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

a. **Need**: A simple google search of "Alabama BP" confirms the oil-stained imagery and perception that our region continues to battle. Although there have been multiple successful media campaigns designed to address the lingering negative perceptions of oil spill damage on the coast and to the local seafood industry, negative perceptions still exist. This project captures those multiple efforts through one overall plan that will help ensure both the full recovery and continued restoration of our region. This project will create a consistent, regional brand, to demonstrate that coastal Alabama has fully recovered and is open for business.

Purpose: Coastal Alabama Partnership's Regional Strategic Plan is divided into three phases: the first and second phases included the participation of

stakeholders from the two Alabama Gulf Coast counties of Mobile and Baldwin. The first phase utilized research conducted on the Gulf Coast region, with a comparison of the area to two other southeastern US port cities. The research, which included broad input from hundreds of public and private stakeholders, identified opportunities in the region that would strengthen and diversify our local economy. The second phase of the Regional Strategic Plan was carried out with the help of consultants who are knowledgeable in the regional planning process. The public and private stakeholders were engaged, and an action plan was developed to address the identified priorities for the region. The third phase will allow the stakeholders to implement the recommendations of the plan and to further develop priorities, timeframes, target dates, and critical milestones of the plan, while assessing resource implications and assigning responsibilities.

Each step of the Regional Strategic Plan built upon earlier work and involved a significant investment of time, money, and other resources. Through the efforts of the first and second phases of the plan, CAP identified ecotourism as a major resource that would foster further economic growth and diversification in the Gulf Coast region. Mobile and Baldwin Counties have developed tourism industries related to classic ventures such as conventions, major sports tournaments and single events, the beaches, and historic homes and gardens, to name a few. One major relatively undeveloped tourism venue, however, is the Mobile Tensaw Delta and its inclusion in a robust region-wide ecotourism industry.

Wikipedia defines ecotourism as a form of tourism involving visiting fragile, pristine, and relatively undisturbed areas, intended as a low-impact and often small-scale alternative to standard commercial (mass) tourism. It involves responsible travel to natural areas while conserving the environment. The Mobile Tensaw Delta qualifies as a destination for ecotourism due to the magnitude of its biodiversity.

The major challenge in developing a regional ecotourism industry that includes the Mobile Tensaw Delta is not the creation of venues and activities that would appeal to Gulf Coast tourists, but rather packaging the venues and activities presently available under one management umbrella. The single management concept is important for the creation of a robust branding and marketing campaign for ecotourism that dovetails with existing tourism campaigns in place for Mobile and Baldwin Counties.

As an example, the current Mobile Convention and Visitors Bureau website has a section on OUTDOORS. "*With so many options, it may be hard to decide how to spend a day in Mobile's great outdoors. The area is home to the Mobile Tensaw Delta, the largest river delta and wetland in Alabama and one of the largest in the country. In fact, there are not many places in the world that hold the eco-diversity of the bayous, bays, and beaches of Mobile. From kayaks and canoes to airboats and fishing tours, there are numerous ways to roam this wilderness*." CAP's planning efforts have not

identified a singular entity or service that inventories these numerous ways to enjoy the Mobile-Tensaw Delta or the many other ecotourism opportunities in Alabama's Gulf Coast region and allows a centralized system for its citizens and visitors to identify which venue they wish to enjoy.

Objective: The primary objective of this project is to:

- Develop a Brand and marketing plan showcasing Alabama's Gulf Coast and its potential for ecotourism;
- Identify and develop an online resource directory with a list of ecotourist destinations in the two-county Gulf Coast region; and
- Implement the plan through advertising and publicizing the "brand" developed by this effort utilizing signage, online marketing, and paid advertising to increase tourism in the region.

b. This project is located in Baldwin and Mobile Counties, Alabama.

c. This project is anticipated to begin on 7/1/2019 and end on 6/30/2022 (3 years).

d. The proposed project will be implemented by the Coastal Alabama Partnership.

b) The development and implementation of a branding and marketing plan by the stakeholders of the Gulf Coast region that emphasizes the region's natural resources and cultural diversity will allow a concerted effort by the stakeholders to educate the public about south Alabama's abundant natural resources while simultaneously increasing the public's awareness of the importance of preserving those resources through stewardship activities. In addition, the Mobile-Tensaw Delta region represents a tremendous, untapped opportunity for developing a new ecotourism market that will complement and enhance the region's other ecotourism venues. This project will create a blueprint for the stakeholders to develop, diversify, and enhance the economy of the Gulf Coast region by emphasizing the biodiversity of the Gulf Coast region in Mobile and Baldwin Counties.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing (primary). Secondary activities include Category #8 – Planning Assistance.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes, and

- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.

Major Milestones

a) Milestone 1: Conduct initial research

b) Milestone 2: Draft campaign plan development

c) Milestone 3: Complete brand platform report

d) Milestone 4: Complete branding imagery development

e) Milestone 5: Finalize marketing and brand development

f) Milestone 6: Implement marketing campaign

g) Milestone 7: Monitor and track campaign results

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Coastal Alabama Partnership Regional Strategic Plan will be:

- Development and implementation of a unified coastal Alabama branding and marketing campaign to promote ecotourism and stewardship activities

Table 3. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Creation of a regional brand Development and implementation of a marketing campaign	One brand created Online resource directory created One campaign developed	Create an identity for the coastal Alabama region Marketing efforts shared through social and earned media	Increase ecotourism opportunities utilizing abundant natural resources Development of a more diversified economy

Monitoring and Evaluation

a) Created branding imagery submitted to ADCNR

b) Submission of campaign plan to ADCNR for review

c) Submission of quarterly and final reports

Best Available Science

A Best Available Science (BAS) review is required for programs and activities intended to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is ecotourism promotion; therefore, BAS does not apply.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $579,375 (45-55% - Planning, 55-45% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

CAP intends to contribute $50,000 over 2 years for program management. (Committed)

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

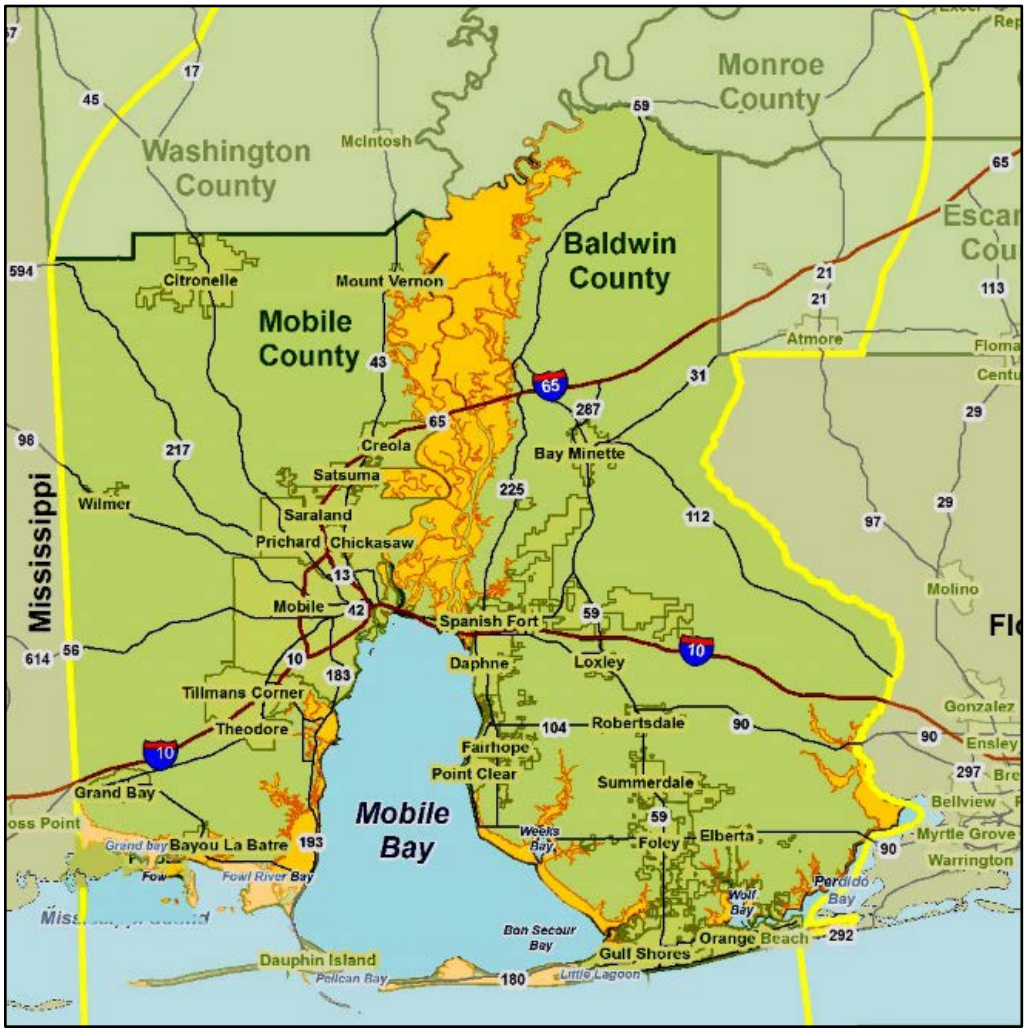

Figure 2. Regional Strategic Plan for the Coastal Alabama Region will encompass Baldwin and Mobile Counties.

Project #3: Expansion of the Orange Beach Wildlife Rehabilitation and Education Center/Gulf Coast Wildlife Recovery and Interpretive Center (Phase I)

Project Description/Summary

a) This project proposal consists of two components:

1) the immediate expansion of the current Orange Beach Wildlife Rehabilitation and Education Center to address critical capacity needs for rehabilitating a variety of injured wildlife species (construction of flight/pre-conditioning enclosures); and

2) the planning and design of a larger, permanent Gulf Coast Wildlife Recovery and Interpretive Center in the City of Orange Beach, Alabama. The vision for this permanent facility is to effectively support the needs of the Alabama Gulf Coast region and potentially provide assistance for areas to the east into the Florida panhandle and to the west into Mississippi. It is anticipated the permanent facility will provide on-site rehabilitation and serve as a multi-facility coordinator for wildlife rehabilitation services on a regional scale for a variety of species, while also offering tourism and stewardship opportunities. This component of the project proposes the initial planning and design groundwork for such a regionally-significant facility and associated program coordination. As part of the development of the plan, Orange Beach staff will seek to partner with other coastal municipalities, state and federal agencies, applicable non-profits and NGOs, and universities to conduct a variety of analyses and benchmarking. Once these efforts are completed, a conceptual framework for the facility and its programs will be developed to economically and effectively improve our Gulf Coast region's preparedness and capacity to respond to incidents impacting wildlife.

As the planning effort (Component 2) described above is underway, previously designed construction activities to enlarge and enhance flight/pre-conditioning enclosures for the current Orange Beach Wildlife Rehabilitation and Education Center will be implemented (Component 1).

Activities also include the comprehensive administration of this grant, including, but not *limited to, project development and oversight, contracting, and sub-recipient monitoring.*

a. ***Need****: Across the northern Gulf Coast, there are but a few small-scale wildlife rehabilitation facilities. Inter-facility coordination is sporadic. The DWH disaster highlighted* a significant need for a permanent wildlife rehabilitation program and facility to not only support Alabama's coastal area, but to also serve as a resource for the Gulf Coast region. It should be noted that between Ft Walton Beach, FL and Orleans Parish, Louisiana, there are five wildlife rehabilitation services advertised online (https://wildliferehabinfo.org), three in coastal Alabama and two in coastal Mississippi. However, some are individuals that only transport injured wildlife, and some web links are no longer active. The US Fish and Wildlife Service provides reliable contact, but limited regular coordination between facilities, NGOs, and individual service providers. In 2012, the City of

Orange Beach took preliminary steps to develop a wildlife program and constructed a state and federally permitted interim rehabilitation facility suitable for the initial intake of all species. Due to its size (1,400 sq. ft. plus outside enclosure space), capacity is limited; however, it is strategically positioned on the Gulf Coast. Orange Beach is located on America's southern coastline, in the heart of the Mississippi Flyway. This area also catches spillover from the Atlantic Flyway migration routes as birds are preparing for or returning from a long, overwater journey. Coupled with extreme storm events, human development impacts, and catastrophic disasters such as the DWH oil spill, annual migrations of birds and sea turtles, combined with our coastline's significance to shorebirds, seabirds, and waterfowl make Orange Beach an ideal location for a rehabilitation and education program. Looking to the future, coastal populations are projected to continue growing with associated human-induced impacts to wildlife. Since the DWH spill, Alabama coastal tourism has seen more than six million visitors annually, offering an exceptional opportunity to combine needed wildlife rehabilitation services with public outreach & education.

Purpose: The overall project purpose is to plan and design a permanent wildlife rehabilitation facility with the ability and capacity to coordinate and respond to injured, ill, and orphaned wildlife incidents on a regional level and to increase program awareness, disseminate educational messaging, and improve passive prevention/mitigation efforts. In addition, this project will fund the immediate construction of flight/pre-conditioning enclosures and equipment for use in the existing Wildlife Rehabilitation and Education Center.

Objectives: The primary objectives of this project are:

- Complete the expansion of the Wildlife Rehabilitation and Education Center to provide greater capacity for rehabilitation of a variety of species;
- Determine the feasibility of building a Wildlife Recovery and Interpretive Center and its programs to serve the northern Gulf Coast region; and
- Develop concepts for a regionally-scaled Wildlife Recovery and Interpretive Center facility and associated programs.

b. This activity is located in the Gulf Coast Region and will be implemented within the City of Orange Beach, Alabama.

c. This project is expected to begin 7/1/2019 and end 12/31/2020 (18 months).

d. This project will be implemented by the City of Orange Beach.

b) This project will assist in the economic recovery of Orange Beach, Alabama and the Gulf Coast region by promoting long-term resilience and recovery for wildlife impacted by natural disasters, such as floods and hurricanes. It will also provide some short-term job opportunities and promote regional education and tourism.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #2 - Mitigation of damage to fish, wildlife, and natural resources; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #4 - Workforce development and job creation; Category #6 – Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; Category #8 - Planning Assistance; and Category #10 - Promotion of tourism in the Gulf Coast region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources.
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats - Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities;
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding; and
- Objective #6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.

Major Milestones

a) Milestone 1: Identify and select implementation team

b) Milestone 2: Complete expansion of existing Wildlife Rehabilitation and Education Center.

c) Milestone 3: Identify successful keystone programs/facilities in the United States and surrounding areas

d) Milestone 4: Complete feasibility assessment for Gulf Coast Wildlife Recovery and Interpretive Center

e) Milestone 5: Develop and implement necessary MOUs/agreements with partners.

f) Milestone 6: Develop conceptual facility/program

g) Milestone 7: Complete procurement for architectural, engineering, and economic needs

h) Milestone 8: Produce a final product consisting of preliminary program/facility design, cost estimates, benefits analysis, and economic/environmental studies for a potential Phase II project

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Orange Beach Wildlife Rehabilitation and Education Center/Gulf Coast Wildlife Recovery and Interpretive Center (Phase I) will be:

- Expansion of the Wildlife Rehabilitation and Education Center and the development of a needs assessment and plan to construct a regional Wildlife Recovery and Interpretive Center

Table 4. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/ Metrics	Short-term Outcomes	Long-term Outcomes
Expansion of Wildlife Rehabilitation and Education Center and development of plan for a regional Gulf Coast Wildlife and Interpretative Center	Complete existing facility expansion Complete needs assessment Complete plans for engineering and design of permanent facility	Improved regional coordination of rehabilitation of wildlife Increased capacity for rehabilitation Updated facility with stewardship opportunities Enhanced tourism opportunities	Improve regional preparedness and resiliency Restoration of wildlife habitat Mitigation of damage to fish and wildlife

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) For existing facility expansion, provide evidence to ADCNR that all required permits were obtained (including State Historic Preservation Office (SHPO)

b) For proposed regionally-scaled facility planning, submit completed needs assessment and proposed facility design and programming to ADCNR

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews during construction

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

This project entails the infrastructure expansion of an existing program currently regulated and permitted by the State of Alabama Department of Conservation and Natural Resources and the United States Fish and Wildlife Service. The state and federal regulations operate according to the standards adopted by the National Wildlife Rehabilitator's Association and the International Wildlife Rehabilitation Council (Minimum Standards for Wildlife Rehabilitation, 4th edition, 2012).

This project is consistent with the values and recommendations set forth in the Comprehensive Conservation & Management Plan, available on the MBNEP website.

Budget/Funding

a) Estimated Cost of the Project and Amount to be Requested from Oil Spill Impact Component Funds: $472,255 (65-75% - Planning, 35-25% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 3. The Wildlife Rehabilitation and Education Center/Gulf Coast Wildlife Recovery and Interpretive Center will be located in Orange Beach, Alabama.

Project #4: Auburn University Gulf Coast Engineering Research Station

Project Description/Summary

a) This project proposes the planning, engineering and design, and construction to establish the Auburn University Gulf Coast Engineering Research Station (GCERS). In addition, the proposed activity includes two years' operation and maintenance. The GCERS will be led by the Samuel Ginn College of Engineering at Auburn University in collaboration with the City of Orange Beach, and with opportunities for collaboration with other institutions.

   The vision is to develop a world-class research facility where engineers and collaborating applied scientists from private and public institutions in Alabama can engage in fundamental and applied engineering research of critical importance to coastal Alabama and the larger Gulf Coast region.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: The Gulf of Mexico ecosystem is comprised of diverse, interconnected coastal, marine, and built environments and resources which together contribute to its function, health, and productivity. The health of the Gulf of Mexico environment and resources is intimately tied to the urban and natural conditions existing within its coastal and upland margins. Northern Gulf of Mexico coastal and upland areas are varied and complex, comprising unique freshwater and estuarine ecosystems, coupled with an array of built infrastructure systems. The effects of urban development and natural and man-made disasters on these systems add considerable complexity. Additionally, factors and issues unique to coastal Alabama infrastructure and economic resiliency and sustainability have historically been poorly addressed. Moreover, access to engineering-related STEM educational opportunities for K-12 students is absent in Baldwin County.

      Purpose: The purpose of this project is to design, construct, and begin operations of the Auburn University Gulf Coast Engineering Research Station. The GCERS will be led by the Samuel Ginn College of Engineering at Auburn University in collaboration with the coastal community of Orange Beach. The GCERS will focus on several broad coastal research areas, including water quality and quantity protection and restoration; engineering approaches for protection and restoration of coastal estuaries and upland freshwater wetlands; coastal community infrastructure and economic resilience and sustainability; coastal emergency management and transportation systems; and engineering-related STEM education opportunities for Baldwin County K-12 students. Internal efforts will be undertaken at the grant application stage to adequately define collaborative relationships and to address any duplication issues.

      Objective: The overall objective of this project is:

- Construct a new world-class research facility to engage in fundamental and applied engineering research; and

- Fund 2 year's operation & maintenance**.**

b. This project is located in the Gulf Coast region and will be implemented in the City of Orange Beach in Baldwin County.

c. The project is expected to begin on 7/1/19 and end 6/30/24 (5 years).

d. The proposed project will be implemented by Auburn University.

b) This project will contribute to the overall economic and ecological recovery of the Gulf Coast by providing a world-class research facility in Orange Beach which will enhance economic resiliency and sustainability by fostering diversification and growth in the region, providing an anchor for both existing and new high-technology, research-oriented businesses.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #6 - Infrastructure project benefitting the economy or ecological resources, including port infrastructure (primary). Secondary activities include Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region; Category #2 - Mitigation of damage to fish, wildlife, and natural resources; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #4 - Workforce development and job creation; Category #7 - Coastal flood protection and related infrastructure; Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing; and Category #11 - Promotion of the consumption of seafood harvested from the Gulf Coast Region. Because the primary activity is classified as infrastructure, the 25% infrastructure cap is applicable.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies; submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals.
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines;
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding;
- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages; and
- Objective 7: Improve Science-Based Decision-Making Processes – Improve science-based decision-making processes used by the Council.

Major Milestones

a) Milestone 1: Planning

b) Milestone 2: Design team selection

c) Milestone 3: Design development

d) Milestone 4: Contract documents

e) Milestone 5: Construction bid

f) Milestone 6: Site work/construction

g) Milestone 7: 1st year operation and maintenance

h) Milestone 8: 2nd year operation and maintenance

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Auburn University Gulf Coast Engineering Research Station will be:

- Completed construction of an engineering research facility with 2 years' operation and maintenance:

Table 5. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Construction and operation of the Auburn University Gulf Coast Engineering Research Station	Completed plans for engineering and design Construction of building Post-construction - 2 years' O&M	Creation of an Engineering Research Program	Improved ecosystem services and resiliency

Monitoring and Evaluation

a) Submission of completed design and engineering for ADCNR review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring/reporting as required

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to design and construct a facility to house an engineering research program; therefore, BAS does not apply.

However, all GCERS buildings will be designed to Auburn University Design Standards and to the character of the surrounding area. The goal is to design and construct all GCERS structures to LID and LEED guidelines.

Budget/Funding

a) Estimated Cost of the Project and Amount to be Requested from Oil Spill Impact Component Funds: $9,270,000 (15-25% - Planning, 85-75% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

During planning/design/construction:

In-kind contributions from City of Orange Beach, Alabama (long term lease interest in 4.5 acre building site (2011 appraised value of $1,195,000); other in-kind contributions valued at not less than $25,000. (Committed)

During first 2 years of operation (period of time RESTORE funds are provided):

In-kind and actual contributions are anticipated from the Cities of Orange Beach and Gulf Shores, Auburn University, and other collaborators/partners (Not yet determined).

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 4. The Auburn University Gulf Coast Engineering Research Station will be located in Orange Beach, Alabama.

Project #5: Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration

Project Description/Summary

a) This planning assistance project will support coastal restoration efforts by promoting sand resource identification and assessing the feasibility of dredging State and outer continental shelf (OCS) sand deposits. The data needed to fully identify "beach quality" sands does not exist, and there is not an updated platform to examine and disseminate this knowledge. In order to maintain and improve coastal infrastructure, economic, and coastal habitat resiliency, viable nearshore sand sources suitable for beach placement are essential. Moreover, the need to identify sand sources through further data assimilation and collection has never been greater.

   Beach restoration does not ensure a long-term solution to erosive influences such as storms and rising sea level. Infrastructure, tourism, storm protection, and ecosystem services are dependent upon a stable beach environment driving the need for long-term beach maintenance. Offshore sand resources are essential to the maintenance of amenity beaches and the intertidal and beach habitat they provide. The Cities of Gulf Shores and Orange Beach, as well as the Alabama Department of Conservation and Natural Resources, have acknowledged the essential importance of Alabama's gulf-fronting beaches through previous investments in offshore "beach compatible" sand searches and nearshore dredging and placement in needed areas. This is a significant financial investment that should be appreciated both in the state and by those with an interest in Gulf of Mexico resources.

   Gulf-fronting beaches along Baldwin and Mobile Counties, Alabama, are continuously monitored by Olsen Associates, Inc. (City of Gulf Shores, City of Orange Beach, Gulf State Park) and the Geological Survey of Alabama (GSA/Fort Morgan Peninsula, Dauphin Island). Both entities are familiar with the stress that natural (e.g., hurricanes) and human-induced (e.g., oil spill response and recovery) disasters can bring to the beach ecosystem and acknowledge the benefits of maintained beaches to the region. The economic importance of Alabama's coastal area is intrinsically linked to the condition of Alabama's Gulf-fronting beaches. The Alabama Gulf Coast region, as classified by the Alabama Tourism Department in its 2016 Travel Economic Impact document (available on its website), significantly leads other Alabama regions in total expenditures, travel-related earnings, and travel-related employment. The 2010 Alabama Tourism Department's Economic Impact document (available on its website) shows that 2009 and 2010, total expenditures and travel-related earnings declined 9% and 5% respectively, reflecting the profound adverse economic impact of the Deepwater Horizon oil spill on Alabama beaches and other ecosystems.

   Sand reserves offshore of Alabama have not been delineated to allow designation as significant Federal Outer Continental Shelf (OCS) sediment resource areas, nor have suitable borrow sources been characterized to maintain engineered beaches long term. The main reasons for this include numerous geophysical and vibracore

data gaps which inhibit detailed characterization of offshore sand sources. The search for existing offshore high-quality sand remains a high priority; however, the cost to obtain seismic and vibracore data is prohibitive. Previously, the cost for sand search investigations was covered by the City of Orange Beach, City of Gulf Shores, and the State of Alabama. The Deepwater Horizon incident resulted in opportunities for states to address their economic and ecological concerns.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

a. **Need**: In order to maintain and improve coastal infrastructure, economic, and coastal habitat resiliency, viable nearshore sand sources suitable for beach placement are essential. There is a pressing need to identify sand sources through further data assimilation and collection.

   Purpose: Alabama offshore sand reserves are essential to the maintenance of amenity beaches and to the intertidal and beach ecosystem functions and services they provide. The purpose of this project is to identify offshore sand resources suitable for beach restoration purposes by initiating a Bathymetric and sand sediment sampling and analysis program.

   Objective: The GSA will address the need and purpose of this proposed work through three tasks:

   - Update the Offshore Alabama Sand Information System (OASIS) platform through collaboration with interested governing and private parties;
   - Acquire geophysical and vibracore data and characterization of offshore sand resource areas of further interest through the use of the OASIS update and collaborative efforts; and
   - Disseminate collected information through the OASIS platform, publication(s), and presentations.

b. This project is located is located in the Gulf Coast Region and will be conducted offshore of Baldwin and Mobile Counties, Alabama out to 5 miles.

c. This project is expected to begin 7/1/2019 and end 6/30/2023 (4 years).

d. The proposed project will be implemented by the Geological Survey of Alabama.

b) This project will identify significant sand sources that will ultimately be used for habitat restoration and conservation, ensuring long-term protection of coastal Alabama's environment and economy. Restored beaches enhance ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

Located in the Gulf Coast Region, this activity is eligible for Spill Impact Component funding under Category #8 - Planning Assistance (primary). Secondary activities include Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines;
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re- establishment of non-structural, natural buffers against storms and flooding; and
- Objective 7: Improve Science-Based Decision-Making Processes – Improve science-based decision-making processes used by the Council.

Major Milestones

a) Milestone 1: Procure professional services

b) Milestone 2: Compile existing data

c) Milestone 3: Update OASIS

d) Milestone 4: Develop seismic and vibracore specs and bidding

e) Milestone 5: Permitting

f) Milestone 6: Complete seismic and vibracore acquisition and analyses

g) Milestone 7: Analyze data and complete report

h) Milestone 8: Final reporting and outreach

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration will be:

- Identification of significant sand resource areas to be used for beach restoration

Table 6. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Collect, analyze and publish geophysical data	5 studies/data published 1 tool developed	Sand sources identified	Ensure coastal resiliency Enhanced tourism opportunities

Monitoring and Evaluation

a) Submission of 5 completed studies and one tool to ADCNR for review

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submission of quarterly and final reports

Best Available Science

Resource information essential to the development, protection, and restoration of a natural resource is included below. GSA offers the following references to indicate a statement of due diligence in the subject area. Many of these references are peer-reviewed publications by the GSA.

Hummell, Richard L., 1996, Holocene geologic history of the west Alabama inner continental shelf, Alabama: Alabama Geological Survey, Circular 189, 68 p. + 125 p. appendix.

Hummell, Richard. L., 1997, Hydrographic numerical model investigation and analysis of an offshore sand resource site for use in beach nourishment projects on Dauphin Island,

Alabama: Minerals Management Service Cooperative Agreement No. 14-35-0001-30781, 151 p.

___1999, Geological and economic characterization and near-term potential of sand resources of the east Alabama inner continental shelf offshore of Morgan Peninsula, Alabama: Minerals Management Service Cooperative Agreement No. 1435-01-98-CA-30935, 123 p. + 107 p. appendix.

Hummell, R. L. and Smith, W. E., 1995, Geologic and environmental characterization and near-term lease potential of an offshore sand resource site for use in beach nourishment projects on Dauphin Island, Alabama: Minerals Management Service Cooperative Agreement No. 14-35-0001-30725, 164 p. + 29 p. appendix.

___1996, Geologic resource delineation and hydrographic characterization of an offshore sand resource site for use in beach nourishment projects on Dauphin Island, Alabama: Minerals Management Service Cooperative Agreement No. 14-35-0001-30781, 168 p. + 38 p. appendix.

Jones, S. C., Darby, S. B., and Tidwell, D. K., 2009, The development of an offshore Alabama sand information system: Minerals Management Service Cooperative Agreement No. M07AC12488, 88 p.

Natharius, J. A., 2002, Sand resources and shoreline profile geospatial data and interactive maps, fiscal year 2001/2002: Project deliverable for Minerals Management Service Cooperative Agreement 1435-01-98-CA-30935, Alabama Geological Survey Open-File Report (on CD-ROM).

Olsen Associates, Inc., 2001, Gulf Shores, Alabama beach restoration project, sand search investigation: Jacksonville, Florida, Olsen Associates, Inc., submitted to the City of Gulf Shores, Alabama, 22 p.

___2003b, Sand search investigation and analysis of borrow site sediment characteristics: Jacksonville, Florida, Olsen Associates, Inc., submitted to the City of Orange Beach, the Alabama Department of Conservation and Natural Resources, and the City of Gulf Shores, Alabama, 59 p.

___2006a, Orange Beach/Gulf State Park/Gulf Shores 2005-2006 beach restoration project, Baldwin County, Alabama, post-construction report: Jacksonville, Florida, Olsen Associates, Inc., submitted to the City of Orange Beach, the Alabama Department of Conservation and Natural Resources, and the City of Gulf Shores, Alabama, 100 p.

___2006b, Orange Beach, Gulf State Park, and Gulf Shores 2006 Phase I deep-water sand search: Jacksonville, Florida, Olsen Associates, Inc., submitted to the City of Orange Beach, the Alabama Department of Conservation and Natural Resources, and the City of Gulf Shores, Alabama, 59 p.

___2012, Orange Beach, Gulf State Park, and Gulf Shores Beach Restoration Project, 2011 Phase II Sand Search: Jacksonville, Florida, Olsen Associates, Inc., submitted to

the City of Orange Beach, the Alabama Department of Conservation and Natural Resources, and the City of Gulf Shores, Alabama, 70 p.

Parker, Steven J., 1988, Data application to hard mineral exploration on the Outer Continental Shelf, in Proceedings of the Ninth Annual Gulf of Mexico Information Transfer Meeting, October 1988: New Orleans, Louisiana, U.S. Minerals Management Service, p. 104-107.

___1989, Occurrence, economic potential and mining feasibility of sand, gravel, heavy mineral, and carbonate rock rubble resources in the exclusive economic zone in offshore Alabama, in John, C.J., project coordinator, Preliminary assessment of non- fuel mineral resources in the outer continental shelf exclusive economic zone of the Gulf of Mexico: Louisiana Geological Survey, U.S. Minerals Management Service Cooperative Agreement #14-12-0001-30404, Report, p. A1-A52.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $950,175 (100% - Planning).

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

The Geological Survey of Alabama (GSA) has worked with the Department of Interior (DOI) and its various bureaus, including US Geological Survey (USGS) and Bureau of Ocean Energy Management (BOEM), for many years. We welcome continuing cooperative and collaborative interactions and communications with these agencies to ensure effective and efficient use of resources related to offshore sand inventory and assessment during the course of this project and with other similar activities.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

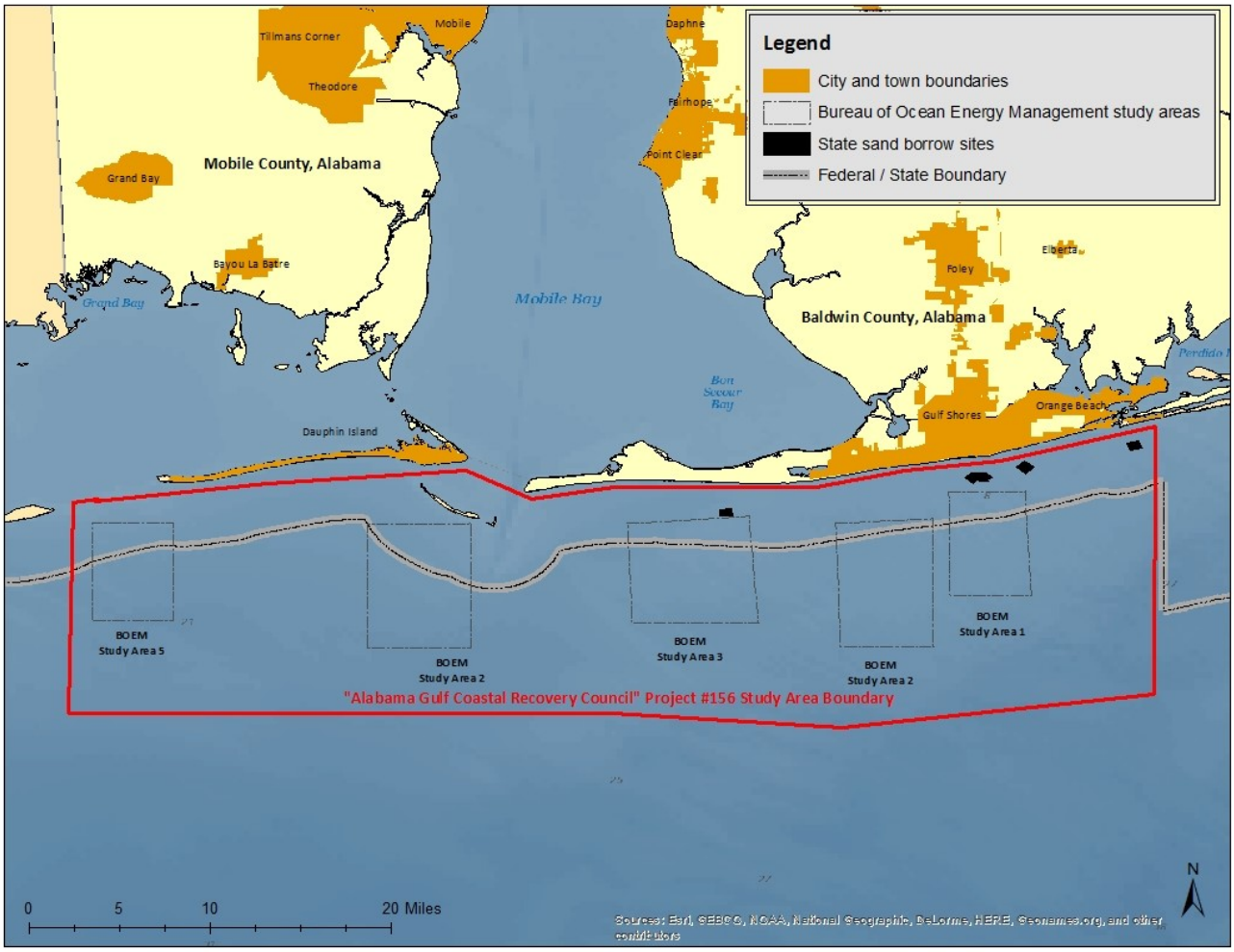

Figure 5. The Characterization and Delineation of Significant Sand Resource Areas Essential for Beach Restoration will be conducted in the Gulf of Mexico off the coasts of Baldwin and Mobile Counties.

Project #6: City of Chickasaw Sewer Rehabilitation Project

Project Description/Summary

a) The proposed project will include the engineering and design, installation of Cured-In-Place-Pipe (CIPP), and the replacement of infrastructure to reduce the wet weather flow volume requiring treatment at the Wastewater Treatment Facility (WWTF) located on Chickasaw Creek adjacent to the Mobile River. This proposed project will support the restoration and protection of water quality of the Gulf Coast Region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading and improving the management of discharges to Chickasaw Creek, and ultimately, Mobile Bay.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need:** Untreated wastewater is a significant source of pollutants to the Chickasaw Creek, Mobile River, and Mobile Bay Estuary system. Many of the City's sewer lines are in a deteriorated condition due to age, shifting soils, and root intrusion, which results in excessive inflow and infiltration during wet weather events. The City has prioritized several areas where the sewer collection lines are failing, and the City of Chickasaw Sewer Rehabilitation Project would address the most critical of these.

      Purpose: The purpose of the City of Chickasaw Sewer Rehabilitation project is to restore and protect water quality by rehabilitating aged and deteriorated gravity sewers to reduce inflow and infiltration resulting from wet weather events.

      Objective: The primary objective of this project is to:

      - Complete design for Gravity Sewer Rehabilitation; and
      - Complete construction for Gravity Sewer Rehabilitation to restore, improve, and protect water resources.

   b. This project is located in the City of Chickasaw in Mobile County, Alabama.

   c. This project is expected to begin 7/1/2019 and end 6/30/2024 (5 years).

   d. The proposed project will be implemented by the City of Chickasaw.

b) This project will improve water quality in Chickasaw Creek which eventually flows into Mobile Bay, the fourth largest estuary in the United States. Improved water quality leads to enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals; and
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to, and withdrawal from critical systems.

Major Milestones

a) Milestone 1: Engineering and design to support permit applications.

b) Milestone 2: Construction contract awarded

c) Milestone 3: Complete construction

d) Milestone 4: Monitor water quality improvements consistent with the Observational Data and Management Plans

Success Criteria/Metrics/Outcomes

The anticipated outcome of Chickasaw Sewer Rehabilitation Project will be:

- Rehabilitation of aged and deteriorated sewer infrastructure

Table 7. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Implementation of Gravity Sewer Rehabilitation project	Completed plans for engineering and design Repair of 15,900 linear feet of pipe Replace 8 manholes Develop monitoring plan to assess water quality improvements	Reduction of SSO incidents Pollutant source repaired	Improved water quality Enhanced tourism opportunities

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

The confluence of the Mobile, Spanish, Tensaw, Apalachee, and Blakely Rivers (Mobile Tensaw River Delta) make up the headwaters of Mobile Bay, the fourth largest estuary in the United States. Chickasaw Creek flows into the Mobile River, therefore, the pollutants entering Chickasaw Creek as a result of sanitary sewer overflows (SSOs) and through inflow and infiltration ultimately end up in Mobile Bay and the Gulf of Mexico. It is known SSOs and infiltration from aging sewer infrastructure contribute to the degradation of water quality in our streams, rivers, and bays.

The Tensaw River Delta system represents one of the most ecologically, culturally, and economically significant wetlands in the nation and includes priority habitats identified by the Mobile Bay National Estuary Program (MBNEP). The estuarine habitats within the watershed support numerous recreationally and commercially important species of finfish and shellfish, as well as waterfowl. USFWS has documented the following Threatened and Endangered (T&E) Species: Florida manatee (*Trichechus manatus latirostris*), Alabama red-bellied turtle (*Pseudemys alabamensis*), Gulf sturgeon (*Acipenser oxyrinchus desotoi*) and American bald eagle (*Haliaeetus leucocephalus*).

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website:

Budget/Funding

a) Estimated cost of the project and amount to be requested from Oil Spill Impact Component Funds: $1,339,000 (5%-15% - Planning, 95%-85% - Implementation). While it is noted funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 6. The City of Chickasaw Sewer Rehabilitation Project will be undertaken in Chickasaw, Alabama.

Project #7: Alabama Gulf Seafood Marketing

Project Description/Summary

a) This project will continue the ongoing Alabama Gulf Seafood Marketing Program. Created in March 2011 by Alabama Governor Robert Bentley with the signing of Executive Order 09, the Alabama Seafood Marketing Commission (ASMC) was established to increase business for Alabama's seafood industry. Alabama Seafood is defined as any seafood product sold by Alabama businesses and sourced from Gulf and local waters.

   The ASMC is comprised of 15 voting members appointed by the Governor to represent the many and varied industries and entities related directly and indirectly to Alabama's seafood industry. It also includes the ex officio non-voting members from the Alabama Tourism Department, the Alabama Department of Conservation and Natural Resources, the Alabama Department of Public Health, and the Alabama Department of Agriculture and Industries. The ASMC also has non-voting members from the Baldwin County and Mobile County Legislative Delegations and a representative from the Alabama Governor's Office.

   The ASMC is responsible for advising its Program Administrator, Chris Blankenship, on the marketing of Alabama seafood, and it is the responsibility of the Program Administrator to develop and implement a seafood marketing program. The ASMC is comprised of volunteer members that include fishermen, processors, charter boat operators, retailers, restaurant owners, consumers, and others directly and indirectly related to the Alabama seafood industry. Led by Chris Blankenship, Commissioner of the Alabama Department of Conservation and Natural Resources, the Commission provides advice, oversight, management, and encouragement to the marketing of Alabama seafood.

   The Alabama Gulf Seafood Marketing Program has had a successful beginning in the short time it has been in existence. The mission of the ASMC is to build a marketing, public relations, and outreach campaign to help consumers feel confident about the safety of Alabama seafood and to discover the availability and positive attributes of this bounty. The ASMC, representing all components of the seafood distribution chain, along with the tourism, charter boat sector, and governmental entities, has been established to coordinate the efforts by providing cohesive vision and overarching strategies to showcase Alabama seafood. These strategies focus on expanding the value, pride, brand, and global market share of Alabama seafood.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need:** Due to the April 2010 Deepwater Horizon Oil Spill, the seafood community in Alabama has experienced immense hardship. The economic impacts to the fishing industry are still being quantified, but it is widely recognized the demand for Gulf and Alabama seafood products came to a

standstill. In addition to the direct financial impact on fisherman, numerous processors, distributors, and wholesale businesses throughout the Gulf Coast region were closed. In a precautionary move, thousands of square miles of waters were closed to the harvest of seafood due to the presence of oil. The continued negative portrayal in the media had an immense adverse impact on the seafood industry of Alabama, as well as on local seafood restaurants, charter boats, and coastal businesses. Protocols were put in place by National Marine Fisheries Service (NMFS) and U.S. Food and Drug Administration (FDA) to reopen the closed fishing areas. This process began on July 22, 2010. Seafood samples were taken by NOAA and the State of Alabama in order to reopen our waters to harvest. All Alabama waters were reopened by September 2010. Once fishermen were allowed to move back to harvesting, the greatest challenge became marketing Gulf seafood as safe to eat. Due to the massive media coverage and daily stories about the oil and seafood, the local, regional, national, and international perception became that Gulf and Alabama seafood was not safe to eat. We continue to fight this perception. The commercial fisheries of Alabama provide significant jobs, income, and sales impact in the State. Over 10,000 jobs are directly related to the seafood industry in Alabama with a total economic impact before the spill of over $445 million dollars annually. The economic impact of the seafood industry in Alabama was reduced over $100 million since the spill.

Purpose: The purpose of this program is to continue to combat the negative media attention and to facilitate recovery of the seafood industry in Alabama. It is imperative that a well-funded, comprehensive seafood marketing and public program be implemented.

Objective: The primary objectives of the program are to:

- Increase sales and market share of Alabama seafood product and related businesses;
- Become the go-to source for information on seafood in Alabama; and
- Create a sustainable seafood marketing organization.

b. The main operation for the Alabama Gulf Coast Seafood Marketing Program will take place in Mobile and Baldwin Counties. However, the marketing effort will be conducted statewide and regionally in the Southeastern United States.

c. This project is expected to begin 7/1/2019 and end 6/30/2024 (5 years).

d. The proposed project will be implemented by the Alabama Department of Conservation and Natural Resources.

b) This program intends to increase the volume of seafood sold from Alabama, enhance sales of seafood in restaurants, and encourage more people to fish and to book charter trips. The project expands and promotes all facets of the seafood

industry in Alabama including fishermen, processors, charter boat operators, retailers, restaurant owners, consumers, and others directly and indirectly related to the Alabama seafood industry. A successful program will increase job opportunities and contribute to the economic recovery of the Gulf Coast.

Eligibility and Statutory Requirements

This activity is eligible for Spill Impact Component funding under Category #11 - Promotion of the consumption of seafood harvested from the Gulf Coast region (primary).

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 5: Restore and Revitalize the Gulf Economy - Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship through environmental education efforts that include formal and informal educational opportunities professional development and training, communication, and actions for all ages.

Major Milestones

a) Milestone 1: Establish baseline and complete development of marketing plan

b) Milestone 2: Complete implementation of marketing plan

c) Milestone 3: Monitor success of marketing program against baseline data

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Alabama Gulf Coast Seafood Marketing Program will be:

- The development of a marketing campaign to increase the consumption of Alabama Gulf seafood.

Table 8. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Implementation of a seafood marketing program	Increase of 10% in sales Secure 10 million + reader impressions Increase website traffic by 15% Increase social media followers by 15% + Participate in 10 marketing events per year	Increased seafood sales Increased reader impressions Increased social media presence Increased website traffic Increase awareness of Alabama seafood	Self-sustaining Alabama Gulf Coast Seafood Marketing Program

Monitoring and Evaluation

a) Submission of completed marketing plan to ADCNR for review

b) Submission of quarterly and final reports (to include sales data/social media stats)

Best Available Science

A Best Available Science (BAS) review is required for programs and activities intended to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to continue an existing marketing campaign to promote the consumption of Alabama Gulf seafood; therefore, BAS does not apply.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $2,937,699 (5%-15% - Planning, 95%-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 7. Alabama Gulf Seafood marketing campaign logo.

Project #8: Aloe Bay/Mississippi Sound Water Quality Enhancement Project

Project Description/Summary

a) The Aloe Bay/Mississippi Sound Water Quality Enhancement Project proposes both the design and implementation (construction) of a new state-of-the-art Biological Nutrient Removal (BNR) wastewater treatment facility on Dauphin Island. Incorporating the latest technologies, the facility will improve both receiving water quality and the general health of the island's surrounding waters, including fishery and shellfish habitats. Known for its family-friendly community, beaches, birds, saltwater marshes, and recreational waters, Dauphin Island is a unique, treasured asset on the Alabama Gulf Coast. With a growing population of long-term residents, outdoor enthusiasts, and nature lovers, and home to Federal and State agencies, the Dauphin Island Sea Lab, and the Alabama Deep Sea Fishing Rodeo, the island's close-knit community shares a passion for both enjoying and protecting its unique natural resources.

   Whether for drinking or discharge, treatment of water is complicated, and sustaining those efforts is exhaustive. The process is further complicated because the utility is physically isolated from the mainland and surrounded by the Gulf of Mexico. With no substantial freshwater-source available, DIWSA designed and built the first municipal reverse osmosis facility in the State, charting new territory for the treatment of drinking water along the upper Gulf Coast. This funding provides a unique opportunity to enhance the receiving waters of Aloe Bay and the Mississippi Sound, and to do so for generations to come. The DIWSA is proposing to integrate long-term sustainability with enhanced wastewater treatment techniques, incorporating environmental awareness and economic stability. This project seeks to reduce the impact on receiving water and improve the overall health of the estuaries in and around Dauphin Island.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: The Dauphin Island Water & Sewer Authority (DIWSA) owns and operates a 0.98 MGD wastewater treatment facility which provides sewer treatment to the Island's residents and visitors. With increasingly tight regulatory discharge limits, DIWSA has begun plans to replace the facility with a state-of-the-art Water Reclamation Facility (WRF). This new facility will be designed and constructed to serve Dauphin Island's needs for high level wastewater treatment.

      Sewage is processed at the Waste Water Treatment Plant before being discharged into Aloe Bay. Effluent water quality for solids removal, Biochemical Oxygen Demand (BOD) reduction, nitrate and phosphorus removal, and disinfection, are controlled throughout the process and meet current State and EPA permit limits, however, with an aging facility and forward focus on environmental protection, we must address the following infrastructure improvements:

- **Enhanced Solids Removal:** The new facility will replace the influent lift station and headworks screening and grit removal. These improvements will provide improved removal of solids, sand, and grit. Pretreatment process components will consist of influent flow monitoring, influent composite sampling, mechanical and manual screening, screenings washing and dewatering equipment, grit removal and handling equipment, odor control, and septage receiving.
- **Enhanced Biological Nutrient Removal:** The proposed facility will utilize Biological Nutrient Removal (BNR) process as the Best Available Science to protect the marine water resources of Aloe Bay and the Mississippi Sound. BNR processes remove total nitrogen (TN) and total phosphorus (TP) from wastewater using microorganisms under different environmental conditions in the treatment process. Nitrogen and phosphorus are the primary causes of cultural eutrophication (i.e., nutrient enrichment due to human activities) in surface waters. The most recognizable manifestations of this eutrophication are algal blooms that occur during the summer. Chronic symptoms of over-enrichment include low dissolved oxygen, fish kills, murky water, and depletion of desirable flora and fauna. Excessive amounts of nutrients can also stimulate the activity of microbes, such as Pfisteria, which may be harmful to human health. Approximately 25% of all water body impairments are due to nutrient-related causes (e.g., nutrients, oxygen depletion, algal growth, ammonia, harmful algal blooms, biological integrity, and turbidity) (U.S. EPA, National Section 303(d) List Fact Sheet, 2007). Reduction of nitrogen and phosphorus from the waste stream is essential to prevent water body impairment and the new facility will incorporate these elements to provide a state-of-the-art enhanced BNR facility.
- **Improved Disinfection Techniques:** Disinfection is considered to be the primary mechanism for the inactivation/destruction of pathogenic organisms to prevent the spread of waterborne diseases to downstream users and the environment. The current treatment plant uses chlorine disinfection which requires proper dosing, contact time and de-chlorination steps prior to discharge. The use of chlorine currently includes the following limitations: 1. Chlorine is not effective for the inactivation of Giardia and Cryptosporidium, which are pathogens that can harm people, particularly from human contact with the proposed irrigation re-use of treated effluent; 2. Chlorine presents a safety risk to plant staff and the general public; and 3. Chlorine has to be chemically de-chlorinated before discharge to the outfall location, which creates further risk of human safety or chemical contamination of natural waters.
- **Virus Deactivation/Improved Disinfection Techniques:** The proposed facility will implement Ultra-Violet (UV) light systems for enhanced disinfection, virus inactivation, and pathogen removal. UV systems are proficient at deactivation of difficult to treat virus and pathogens like cryptosporidium and giardia. An Ultraviolet (UV) disinfection system transfers electromagnetic energy from a mercury arc lamp to an organism's genetic material (DNA and RNA). When UV radiation

penetrates the cell wall of an organism, it destroys the cell's ability to reproduce. UV radiation, generated by an electrical discharge through mercury vapor, penetrates the genetic material of microorganisms and retards their ability to reproduce. UV disinfection is effective at inactivating most viruses, spores, and cysts and is a physical process rather than a chemical disinfectant, which eliminates the need to generate, handle, transport, or store toxic/hazardous or corrosive chemicals. There is no residual effect that can be harmful to humans or aquatic life.

- **Suspended Particulate Removal Through Filtration:** The new facility will provide filtration prior to discharge into Aloe Bay. Filtration will reduce suspended solids concentrations discharged to Aloe Bay. Filtration also further reduces phosphorous and nitrogen levels which can adversely affect aquatic life within the receiving waters.
- **Meet Capacity Requirements:** Although the existing facility is permitted to meet current demand and projected demand from future growth, meeting demands from storms and handling the varied flows from seasonal tourist influx can be problematic. The new facility will provide flexibility to adjust to seasonal tourist influx, storm flows, and varied biological loadings associated with these events. The facility will incorporate proper basin sizing and equipment sizing to provide redundancy for peak operations.

Purpose: The purpose of the project is the planning (E&D), and implementation (construction) of a new state-of-the-art Biological Nutrient Removal (BNR) wastewater treatment facility on Dauphin Island to improve water quality in Aloe Bay and to provide long-term protection for the surrounding environment.

Objectives: The primary objectives of this project are:

- Complete construction for a state-of-the art wastewater treatment facility on Dauphin Island; and
- Achieve improved water quality and ensure more reliable service for residents and tourists.

b. This activity is located in the Gulf Coast region and will be carried out in the Aloe Bay/Mississippi Sound area along Dauphin Island in Mobile County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end on 3/31/21 (33 months).

d. This project will be implemented by the Dauphin Island Water and Sewer Authority.

b) The project will assist in the economic and ecological recovery of the Gulf Coast Region by reducing the negative impacts of effluent waste water on estuaries in and around Dauphin Island and by implementing enhanced nutrient removal,

filtration, and high-level disinfection. While not increasing capacity, this facility will provide Dauphin Island with more reliable service, and thus the ability to better manage within a tourist economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #2 - Mitigation of damage to fish, wildlife, and natural resources; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #4 Workforce development and job creation; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources.
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats - Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats;
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities; and
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made

hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Complete bids for E&D

b) Milestone 2: Complete design including effluent design criteria

c) Milestone 3: Permitting

d) Milestone 4: Complete bids for Construction

e) Milestone 5: Project closeout

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Aloe Bay/Mississippi Sound Water Quality Enhancement Project will be:

- The construction of a Water Reclamation Facility to replace existing outdated facility

Table 9. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/ Metrics	Short-term Outcomes	Long-term Outcomes
Construction of a WRF to replace existing facility on Dauphin Island	Completed E&D w/ effluent design criteria Complete Construction of one WRF Quantifiable TSS, NH3, and CBOD load reduction to Aloe Bay Quantify disinfection of 4-log virus reduction Develop monitoring plan to assess water quality improvements	Reduce impact of effluent waste on estuaries in and around Dauphin Island Load reduction of Total Suspended Solids (TSS), Ammonia (NH3), and Carbonaceous Biological Oxygen Demand (CBOD) to Aloe Bay	Improved water quality More reliable service for local residents and tourists

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

The proposed Dauphin Island treatment facility will utilize Biological Nutrient Removal (BNR) process as the Best Available Science to protect natural resources of Aloe Bay and the Mississippi Sound. BNR removes total nitrogen (TN) and total phosphorus (TP) from wastewater through the use of microorganisms under different environmental conditions in the treatment process (Metcalf and Eddy, 2003).

Nitrogen and phosphorus are the primary causes of cultural eutrophication (i.e., nutrient enrichment due to human activities) in surface waters. The most recognizable manifestations of this eutrophication are algal blooms that occur during the summer. Chronic symptoms of over-enrichment include low dissolved oxygen, fish kills, murky water, and depletion of desirable flora and fauna. Excessive amounts of nutrients can also stimulate the activity of microbes, such as Pfisteria, which may be harmful to human health (U.S. EPA, 2001). Approximately 25% of all water body impairments are due to nutrient-related causes (e.g., nutrients, oxygen depletion, algal growth, ammonia, harmful algal blooms, biological integrity, and turbidity) (U.S. EPA, 2010).

Total effluent nitrogen comprises ammonia, nitrate, particulate organic nitrogen, and soluble organic nitrogen. The biological processes that primarily remove nitrogen are nitrification and denitrification (Jeyanayagam, 2005). During nitrification, ammonia is oxidized to nitrite by one group of autotrophic bacteria, most commonly Nitrosomonas (Metcalf and Eddy, 2003). Nitrite is then oxidized to nitrate by another autotrophic bacteria group, the most common being Nitrobacter. Denitrification involves the biological reduction of nitrate to nitric oxide, nitrous oxide, and nitrogen gas (Metcalf and Eddy, 2003). Both heterotrophic and autotrophic bacteria are capable of denitrification. The most common and widely distributed denitrifying bacteria are Pseudomonas species, which can use hydrogen, methanol, carbohydrates, organic acids, alcohols, benzoates, and other aromatic compounds for denitrification (Metcalf and Eddy y, 2003). In BNR systems, nitrification is the controlling reaction because ammonia oxidizing bacteria lack functional diversity, have stringent growth requirements, and are sensitive to environmental conditions (Jeyanayagam, 2005). Note that nitrification by itself does not actually remove nitrogen from wastewater. Rather, denitrification is needed to convert the oxidized form of nitrogen (nitrate) to nitrogen gas. Nitrification occurs in the presence of oxygen under

aerobic conditions, and denitrification occurs in the absence of oxygen under anoxic conditions.

Total effluent phosphorus comprises soluble and particulate phosphorus. Particulate phosphorus can be removed from wastewater through solids removal. To achieve low effluent concentrations, the soluble fraction of phosphorus must also be targeted. Biological phosphorus removal relies on phosphorus uptake by aerobic heterotrophs capable of storing orthophosphate in excess of their biological growth requirements. The treatment process at Dauphin Island will be designed to promote the growth of these organisms, known as phosphate-accumulating organisms (PAOs) in mixed liquor. Under anaerobic conditions, PAOs convert readily available organic matter [e.g., volatile fatty acids (VFAs)] to carbon compounds called polyhydroxyalkanoates (PHAs). PAOs use energy generated through the breakdown of polyphosphate molecules to create PHAs. This breakdown results in the release of phosphorus (WEF and ASCE/EWRI, 2006). Under subsequent aerobic conditions in the treatment process, PAOs use the stored PHAs as energy to take up the phosphorus that was released in the anaerobic zone, as well as any additional phosphate present in the wastewater. In addition to reducing the phosphate concentration, the process renews the polyphosphate pool in the return sludge so that the process can be repeated (Jeyanayagam, 2005). Some PAOs use nitrate instead of free oxygen to oxidize stored PHAs and take up phosphorus. These denitrifying PAOs remove phosphorus in the anoxic zone, rather than the aerobic zone (Jeyanayagam, 2005). Phosphorus will also be removed from wastewater through chemical precipitation. Chemical precipitation primarily uses aluminum and iron coagulants or lime to form 2 chemical floes with phosphorus. These floes are then settled out to remove phosphorus from the wastewater (Viessman and Hammer, 1998).

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

Design of Municipal Wastewater Treatment Plants: WEF Manual of Practice No. 8 and ASCE Manual and Report on Engineering Practice No. 76, 1992.

Jeyanayagam, Sam. 2005. True Confessions of the Biological Nutrient Removal Process. Florida Water Resources Journal: January 2005.

Viessman, Warren. Hammer, Mark J. 1998. Water Supply and Pollution Control.

Metcalf & Eddy. 2003. Wastewater Engineering: Treatment and Reuse. 4th Edition, McGraw-Hill, New York.

U.S. EPA. 2010. National Section 303(d) List Fact Sheet, which is available on U.S. EPA's website.

U.S. EPA. 2001. Memorandum: Development and Adoption of Nutrient Criteria into Water Quality Standards. Available on the U.S. EPA website.

Water Environment Federal (WEF) and American Society of Civil Engineers (ASCE)/Environmental and Water Resources Institute (EWRI). 2006. Biological Nutrient Removal (BNR) Operation in Wastewater Treatment Plants. McGraw Hill: New York.

U.S. EPA. August 2010. Nutrient Control Design Manual (EPA/600/R-10/100), available on the U.S. EPA website.

U.S. EPA. 2007. Biological Nutrient Removal Processes and Costs. This document is available from the EPA website.

Additional BAS review may be required at the grant application stage.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $11,845,000 (25%-35% - Planning, 75%-65% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No additional funding has been requested for this project.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 8. The Aloe Bay/Mississippi Sound Water Quality Enhancement Project will be implemented on Dauphin Island, Alabama.

Project #9: Extension of Effluent Force Main from Bayou La Batre WWTF

Project Description/Summary

a) This phased project will design, permit, and construct an extension of the Bayou La Batre Wastewater Treatment Facility's (WWTF) outfall line to promote better mixing and to reduce shellfish closures when flow rates are exceeded. Implementation of this project to prevent shellfish closures will benefit the overall economy of south Mobile County.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. Need - The present effluent force main from the Bayou La Batre Wastewater Treatment Facility (WWTF) extends approximately one (1) mile into Portersville Bay. Although the compliance of the WWTF is excellent, there have been studies to indicate that when the effluent flow rate reaches two (2) million gallons, it can cause a temporary closure of the nearshore "Oyster Aquaculture" leases, and when the flow reaches the permitted three (3) million gallons, a permanent closure will result. The closure issues are caused by high amounts of fresh water, including rain events, river stage levels, and outfalls directed into the harvesting areas. This has prompted state health officials to close oyster harvesting due to oysters harboring bacteria. Bayou La Batre officials are working with the ADCNR, Fish & Wildlife, Food & Drug Administration (FDA), US Army Corp of Engineers (USACE), Alabama Department of Environmental Management (ADEM), Mobile County Health Department officials, and the Nearshore Oyster Aquaculture Lease Holders to resolve this problem. The FDA recently conducted a Dye Study (2017) and proposed recommended solutions. Using the study referenced above, the project proposes to relocate the effluent discharge into Portersville Bay out five (5) miles into the Mississippi Sound. It is anticipated that this relocation will result in enhanced water quality and will provide adequate mixing to prevent negative impacts on the nearshore shellfish harvesting.

   Purpose: The purpose of the project is to extend the Bayou La Batre WWTF Outfall Line to enhance water quality and prevent oyster garden closures.

   Objectives: The primary objectives of this project are to:

   - Incorporate the FDA's Dye Study and modeling performed by ADEM and EPA into the design process; and
   - Complete construction of an extended outfall line to enhance water quality and to protect natural resources.

b. This activity is located in the Gulf Coast region and will be carried out in the Mississippi Sound south of Bayou La Batre in Mobile County, Alabama.

c. This project is expected to begin 7/1/2019 and end 6/30/2021 (2 years).

d. The proposed project will be implemented by Mobile County.

b) This project will assist in the economic recovery of Bayou La Batre, one of the coastal Alabama cities hardest hit by the DWH Spill in 2010, by helping to prevent oyster bed closures. It will also improve the overall health of the oyster farming industry and other related natural resources and add short-term construction jobs to the area.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #2 - Mitigation of damage to fish, wildlife, and natural resources; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; and Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals; and
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to, and withdrawal from critical systems.

Major Milestones

a) Milestone 1: Complete bid process for engineering and design, incorporating ADEM, EPA, and FDA studies

b) Milestone 2: Permitting

c) Milestone 3: Complete bid process for construction

d) Milestone 4: Complete construction

e) Milestone 5: Post-project monitoring as required

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Extension of Effluent Force Main from Bayou La Batre WWTF will be:

- The extension of the WWTF outfall line 5 miles offshore from the current location

Table 10. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Extension of Bayou La Batre Outfall Line	Review of ADEM and EPA studies to guide engineering & design Relocation of WWTF outfall line to 5 miles offshore from current location Develop monitoring plan to assess water quality improvements	Prevention of oyster harvesting closures	Protection of seafood industry Improved water quality

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of the completed ADEM, EPA, and FDA studies to ADCNR

b) Submission of final E&D to ADCNR for review and approval

c) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

d) Submit results of bid process to ADCNR prior to awarding contracts

e) ADCNR will conduct periodic onsite reviews

f) Submission of quarterly and final reports

g) Post construction monitoring as required

Best Available Science

A Hydrographic Dye Study was recently conducted by the Food and Drug Administration (FDA) to determine the most acceptable location for the extension of the outfall line. This study included hydrodynamic and transport modeling, dye transport and dispersion comparison, dilution vs. radius distance comparison, and wind condition scenarios, as cited below:

Ao. Y. (2018). “Bayou La Batre WWTP Computer Modeling Results” [PowerPoint presentation]. U.S. Food and Drug Administration, College Park, MD.

In addition, this project is consistent with the values and recommendations set forth in the MBNEP’s Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website and the Bayou La Batre Watershed Management Plan, also available on the MBNEP website

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $16,068,000 (5%-15% - Planning, 95%-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 9. The Extension of Effluent Force Main from Bayou La Batre WWTF will be implemented in Bayou La Batre, Alabama.

Project #10: Bayou La Batre Collection System/Lift Station Upgrades

Project Description/Summary

a) This project proposes the planning, engineering and design, and construction required to rehabilitate the collection system and to replace 16 major pump stations in Bayou La Batre, Alabama. Implementation of this project will result in fewer overflows and an overall reduction of contaminants into local soils and waters.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: The collection system consists of approximately fifteen (15) miles of vitrified clay (V.C.) sewer pipe ranging in size from eight (8") to fifteen (15"). The V.C. pipes installed in the early seventies were four (4) feet in length with PVC joint connections. Over time, many of the joints have partly slipped, and in many cases, have completely opened up and are leaking. The partial and complete slippage of the joints have allowed for high infiltration and inflow (I & I) into the system. During rainfall events and/or above-average high tide, these rates can reach as high as 800,000 gallons per day (GPD). The collection system needs rehabilitation as follows: TV and cleaning line; smoke testing lines; removing obstructions within the main line; point repairs followed by slip lining entire pipes; lining or replacing each service lateral as required; installation of cleanouts; and cleaning and lining manholes. The collection system also includes over sixteen (16) major pump stations. Each station needs upgrading of the structures, pumps, pump rails, floats, valves, piping, and control, and installation of auxiliary backup pumps in lieu of generators. The rehabilitation of the collection system and upgrade of the pump stations will eliminate sanitary sewer overflows to sensitive waterways in the Bayou La Batre Utilities Board sewer service area. If this project is not implemented, the areas that are no longer intact will continue to leak and introduce unwanted nutrients to ground water, wetlands, and local waterways.

      Purpose: The purpose of the project is to replace old, leaking sewer pipes with newer materials to prevent leakage of raw sewage into the ground and area waters. It is also designed to make necessary upgrades to 16 existing lift stations.

      Objectives: The primary objectives of this project are to:

      - Complete needed engineering and design;
      - Replace 15 miles of outdated and leaking sewer pipes with new, reliable materials to prevent sewage leaks; and
      - Upgrade 16 major pump stations in the Bayou La Batre area.

b. This project is located in the Gulf Coast region and will be implemented in south Mobile County, Alabama, within the Bayou La Batre Utilities Board Sewer Service Area.

c. This project is expected to begin 7/1/2019 and end 12/31/2020 (18 months).

d. The proposed project will be implemented by Mobile County.

b) This project will assist in the economic recovery of Bayou La Batre by preventing sewage overflows and inflow and infiltration, thus improving water quality in nearby waterways. Improved water quality leads to enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to, and withdrawal from critical systems.

Major Milestones

a) Milestone 1: Complete procurement for E&D

b) Milestone 2: Update engineering documents

c) Milestone 3: Apply for all permits

d) Milestone 4: Complete bid process

e) Milestone 5: Award contracts

f) Milestone 6: Construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Collection System/Lift Station Upgrades project will be:

- Replace 15 miles of outdated and leaking sewer pipe and upgrade 16 major pump stations.

Table 11. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/ Metrics	Short-term Outcomes	Long-term Outcomes
Replace outdated sewer lines and upgrade pump stations	Completed Engineering and Design Plans Repair/replacement of 15 miles of sewer line Upgrade of 16 major pump stations Develop monitoring plan to assess water quality improvements	Reduction of SSO incidents Pollutant source repaired	Improved water quality Enhance tourism opportunities

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

The Bayou La Batre Watershed covers over 19,500 acres in south Mobile County and flows southwesterly into Portersville Bay and Mississippi Sound. The City of Bayou La Batre, which is located within the watershed, is the source of the urban component of the watershed.

The Alabama Department of Environmental Management's (ADEM) water use classification for Bayou La Batre is Fish & Wildlife. Bayou La Batre was originally placed on the State's 303(d) list for pathogens in 1998 with a total maximum daily load (TMDL) developed in 2009. According to a sub-estuary monitoring report by ADEM based on the National Coastal Assessment water quality index, the lower half of the Bayou la Batre sub-estuary is rated “Fair” while the upper half is rated “Poor”. There are no National Pollutant Discharge Elimination System (NPDES) discharges within the watershed, and nonpoint sources appear to be a significant source of pathogen contamination, with the TMDL indicating sanitary sewer overflows and agriculture runoff being the probable sources.

It is known SSOs and inflow and infiltration from aging sewer infrastructure contribute to the degradation of water quality which, in turn, results in shellfish closures in Portersville Bay and Mississippi Sound.

This project is consistent with the values and recommendations set forth in the MBNEP’s Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website and the Bayou La Batre Watershed Management Plan, also available on the MBNEP website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $13,189,150 (5%-15% - Planning, 95%-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 10. The Bayou La Batre Collection System/Lift Station Upgrades will be implemented in the Bayou La Batre Utilities Board Sewer Service Area in the City of Bayou La Batre, Alabama.

Project #11: Lillian Park Beach Habitat and Shoreline Protection

Project Description/Summary

a) The Lillian Park Beach Habitat and Shoreline Protection Project includes three components: 1) development of a coastal processes study, 2) engineering and design based on the results of the study, and 3) construction of a shoreline restoration project at Lillian Park in Baldwin County. The coastal processes study will support design solutions to create a stable sand beach shoreline and effectively minimize beach erosion and habitat loss along Perdido Bay. In addition, this project will reduce safety risks at the public boat launch at Lillian Park resulting from open, un-attenuated wave action, reduce overall maintenance costs due to rapid sand and debris build up on the ramp due to unknown patterns of transport and deposit, create a more stable and useable public beach, and protect adjacent properties from beach erosion.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: Bay shorelines are subject to a variety of impacts resulting from human development, loss of natural sand replenishment, and storm events. This section of bay shoreline has been significantly modified over time to facilitate greater public access to and enjoyment of the natural resources of the Perdido watershed and the Gulf of Mexico. Sand beach shoreline and associated littoral habitat are a preferred feature for public use, as well as the typically occurring habitat. Economic resilience for the area is impacted when the boat ramp is unusable due to un-attenuated wave conditions or excess sand deposits, which results in high maintenance costs. In addition, adjacent beach habitat to the ramp structures are being potentially impacted.

      Purpose: The Lillian Park Beach Habitat Project's purpose is to fund a coastal process study to inform engineering and design for the construction of appropriate shoreline measures to meet a mix of human use and habitat protection needs.

      Objectives: The objective of the Lillian Park Beach Habitat project is to better understand local shoreline and coastal processes to support design solutions which will:

      - Restore a sand shoreline, increase the resilience of the estuarine and marine habitat;
      - Reduce safety risks to the use of the public boat launch at Lillian Park resulting from open, un-attenuated wave action;
      - Reduce overall maintenance costs due to rapid sand and debris build up on the ramp itself due to unknown patterns of transport and deposit;
      - Create a more stable and useable public beach; and
      - Protect adjacent properties from beach erosion.

b. This activity is located in the Gulf Coast region and will be carried out in the community of Lillian in Baldwin County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end 12/31/2020 (18 months).

d. This project will be implemented by Baldwin County.

b) Completion of this project will provide restoration, protection, and conservation of the health, diversity, utility, and resilience of coastal habitats by establishing a stable sand beach shoreline. It will also improve public safety and mitigate the wave energy contribution to beach erosion and habitat loss along Perdido Bay. The proposed improvements will create 500 feet of stabilized sand beach shoreline, serving to enhance the resilience of the estuarine and marine habitat.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats - Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines;

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding; and
- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.

Major Milestones

a) Milestone 1: Complete Coastal Process Study

b) Milestone 2: Complete engineering & design

c) Milestone 3: Environmental permitting

d) Milestone 4: Complete construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Lillian Park Beach Habitat and Shoreline Protection Project will be:

- Restoration of the shoreline at Lillian Park Beach

Table 12. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Restore and protect shoreline at Lillian Park Beach	Completed coastal shoreline study Completed plans for engineering and design Completed construction of 500 linear feet shoreline protection	Restoration of a sand beach shoreline	Improved coastal resiliency
	Develop monitoring plan to assess water quality improvements		

Monitoring and Evaluation

a) Submission of the completed Coastal Process Study to ADCNR for review

b) Submission of final E&D to ADCNR for review and approval

c) Provide evidence to ADCNR that all required permits were obtained

d) Submit results of bid process to ADCNR prior to awarding contracts

e) ADCNR will conduct periodic onsite reviews

f) Submission of quarterly and final reports

g) Post construction monitoring as required

Best Available Science

This project will start with a Coastal Processes Study, followed by engineering designs based upon results from the Coastal Processes Study. Beyond professional engineering practices & standards, this approach has been documented in scientific studies, recommended procedures, and policy guidance which specifically address local bay area conditions.

Sources indicate that hybrid designs for shoreline habitat restoration and protection are applicable to environs such as the Lillian project location. These are particularly applicable to projects with multiple human use considerations. Headwall breakwaters have been successfully employed in the Perdido and Mobile Bay watersheds. Proper design must come from an initial coastal processes study which defines the wave periods, directions, and shore transport processes.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

For the Coastal Processes Study:

"Coastal Processes of Dauphin Island, Alabama," Scott L. Douglass, PhD., P.E. College of Engineering Report, No. 92-1, 1992. The report is available on the USACE website.

"Summary of Existing Coastal Engineering Data for Dauphin Island, Alabama", Scott L. Douglass, PhD., P.E. College of Engineering Report No. 91-1, 1991. The report is available on the USACE website.

"Guidelines and Specifications for Flood Hazard Mapping Partners [November 2004], D.4.2

Study Methodology. The guidelines and specifications are available on the FEMA website.

For the design concept:

"The Functional Design of Breakwaters for Wetlands," Caren R. Dixon, Dept. of Civil Engineering, university of South Alabama, Mobile, AL, 2010.

"Living Shorelines in the Gulf of Mexico," Scott L. Douglas, University of South Alabama Civil Engineering Department, 2013.

"The Tide Doesn't Go Out Anymore - The Effect of Bulkheads on Urban Bay Shorelines," Scott L. Douglass, PhD, P.E., and Bradley H. Pickel, Civil Engineering and Marine Sciences Departments, University of South Alabama, 1999.

"Mitigating Shore Erosion Along Sheltered Coasts" (2007), Chapter 3: "Methods for Addressing Erosion,"

"Coastal Alabama Living Shorelines Policies, Rules, and Model Ordinance Manual," Chris A. Boyd, Ph.D., Mississippi State university, Coastal Research and Extension Center, 2012.

Additional BAS review may be required at the grant application stage.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $645,254 (35-40% - Planning, 55-60% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time

Partnerships/Collaboration (if applicable)

Not applicable at this time

Leveraged Resources (if applicable)

Not applicable at this time

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time

Other

Not applicable at this time

Figure 11. The Lillian Park Beach Habitat and Shoreline Protection project will be implemented in Lillian, Alabama in Baldwin County.

Project #12: Perch Creek Area Sanitary Sewer Trunk Line CIPP

Project Description/Summary

a) This project proposes the engineering and design and construction of innovative trenchless technology called Cured In Place Pipe (CIPP) to address sanitary sewer inflow and infiltration (I and I) in the City of Mobile's Perch Creek area. CIPP is an efficient way to extend the useful life of existing infrastructure while decreasing treatment costs due to the elimination of inflow and infiltration with minimal damage to the environment. Implementation of this project will lead to a reduction of sanitary sewer overflows improving overall water quality in the Perch Creek area. Perch Creek is the eastern-most downstream tributary in the Dog River watershed which empties directly into Mobile Bay.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need** - The Dauphin Island Parkway Community was developed after World War II to provide housing for the employees and contractors associated with Brookley Air Force Base. Gravity sewer lines and manholes were installed in the low-lying drainage basins to serve the coastal residential community. On-site septic tanks were not feasible due to the poor soils, small lots, and high groundwater levels. Just north of the Dog River Bridge, there are 25,398 linear feet of original sewer trunk lines that have long outlived their useful life and are causing environmental and public health problems in the form of sanitary sewer overflows into Dog River and Mobile Bay as well as exceeding the limits of treatment at the Wastewater Treatment Plant. These trunk lines are located in four (4) sub-basins along Perch Creek and vary from 16-inches to 48-inches in diameter.

      Groundwater entering sanitary sewer lines through defective pipe joints and broken pipes is called infiltration. The volume of leakage increases over time due to damage caused by tree roots, faulty installation, and aged materials. Damaged and broken sewer cleanouts are a major cause of infiltration in the Perch Creek Basins. Furthermore, infiltration occurs where groundwater elevation is higher than the gravity sewer line. Many of these trunk lines are located in the centerlines of the streams and in wetlands. Water entering sanitary sewers from inappropriate connections is called inflow. Typical sources include compromised manholes, roof drains, and alteration of natural drainage from filling lots for construction. In some older sewer systems, the storm drains have been found to be connected directly to the sewer gravity lines. Inflow tends to peak during precipitation events and causes greater flow variation than infiltration. Mobile, Alabama is one of the rainiest cities in the U.S., and high volume intense rainfall events are very common throughout the year, causing peak inflow during storm events. The wastewater effluent collected in the Perch Creek area is pumped to the C.C. Williams Wastewater Treatment Facility (WWTF). This facility underwent a major $27.5 million upgrade in 2016 and has a designed capacity of 28

million gallons per day (MGD), however, during storm events, it is common to reach discharge up to 83 MGD. This large spike signifies inflow of rainwater in the collection system.

Inflow and Infiltration in the Mobile Area Water and Sewer System's (MAWSS) sanitary sewer collections system causes numerous severe problems for the C.C. Williams WWTF. First, it causes dilution of sanitary sewer effluent. Dilution of sewage decreases the efficiency of treatment and may cause sewage volumes to exceed design capacity. Dilution of sewage directly increases costs of pumping and chlorination, ozonation, or ultraviolet disinfection. Physical treatment structures, including screens and pumps, have been enlarged to handle the peak flow. Biological secondary treatment is effective only while the concentration of soluble and colloidal pollutants (typically measured as biochemical oxygen demand or BOD) remains high enough to sustain a population of microorganisms digesting those pollutants. High rates of infiltration/inflow may make the sanitary sewer incapable of carrying sewage from the Dauphin Island Parkway community to the C.C. Williams WWTF. It is common for sewage to back up into the lowest homes during wet weather. Also, street manholes overflow into the streets, causing environmental and public health threats. Smoke testing conducted by MAWSS indicates that numerous manholes along these trunk lines have been compromised and are a main source of inflow.

This area was selected because residents often complain of sewer odors and frequent backups, and it is located in a Federal Emergency Management Agency (FEMA) designated floodplain adjacent to Dog River and Mobile Bay. Installing the 25,398 linear feet of CIPP and rehabbing 95 manholes will result in a significant improvement to the quality of life for the residents in the area by removing negative environmental and public health impacts. Further, the newly lined pipe and manholes will lead to a reduction of sanitary sewer overflows and I and I resulting in improved treatment of wastewater at the C.C. Williams WWTF.

Purpose: This purpose of this project is to improve water quality by preventing sanitary sewer overflows into Dog River and Mobile Bay and to prevent inflow and infiltration in the Perch Creek area through innovative trenchless technology called Cured-In-Place Pipe (CIPP).

Objectives: The primary objectives of this project are to:

- Complete engineering and design;
- Complete installation of approximately 195 linear feet of 16-inch trunk line, 19,086 linear feet of 18-inch trunk line, 4584 linear feet of 30-inch trunk line, 1423 linear feet of 36-inch trunk line and 110 linear feet of 48-inch trunk line for a total of 25,398 linear feet of sealed sanitary sewer collection lines; and
- Complete rehabilitation and sealing of 95 manholes to prevent inflow and infiltration.

b. This project is located in the Gulf Coast region and will be implemented in the City of Mobile in Mobile County, Alabama, just north of the Dog River Bridge on Dauphin Island Parkway.

c. The proposed project is anticipated to begin on 7/1/19 and end on 12/31/21 (2.5 years).

d. The project will be implemented by the Mobile Area Water & Sewer Authority.

b) This project will assist in the economic and ecological recovery of the Gulf Coast by helping to prevent sewage overflows and leaks into the local soils and waters, and by updating and increasing the integrity of MAWSS's sewer system. It also has the potential to create short-term construction job opportunities.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; and Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats - Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats; and
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Professional services procurement

b) Milestone 2: Engineering and design

c) Milestone 3: Complete bidding process for construction

d) Milestone 4: Construction

e) Milestone 5: Project close-out

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Perch Creek Sanitary Sewer Trunk Line Project will be:

- Repair/replacement of 25,398 linear feet of sanitary sewer collection lines and 95 manholes

Table 13. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Repair/replace sewer lines and manholes in the Perch Creek area in the City of Mobile	Complete engineering and design Replace 25,398 LF of sewer lines Repair 95 manholes Develop monitoring plan to assess water quality improvements	Significantly reduce inflow and infiltration Reduced number of sanitary sewer overflows	Reduced collection and treatment costs Improved water quality in Perch Creek, Dog River, and Mobile Bay

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

The Dog River Watershed covers 55,000 acres in southwest Mobile County. The northern portion of the watershed includes part of downtown Mobile and is highly urbanized.

ADEM classifies the lower portion of Dog River, from its confluence with Halls Mill Creek to its mouth at Mobile Bay, for use as Swimming & Whole Body Contact. The upper portion of Dog River and its tributaries are classified for Fish & Wildlife. There are currently two approved TMDLs for Organic Enrichment/Dissolved Oxygen, two approved TMDLs for Pathogens, and the River is 303(d) listed for sedimentation (TMDL scheduled for 2018). The watershed is significantly impacted by nonpoint source pollution, including sedimentation from erosion, litter from storm water runoff, nutrient enrichment, and elevated levels of fecal coliform bacteria.

While MAWSS has not been cited by the Alabama Department of Environmental Management (ADEM) or other regulatory agencies for issues along the Perch Creek line, the utility has had sanitary sewer overflows along the line as a result of failures and inflow and infiltration resulting in penalties being paid to Baykeeper, a local environmental non-governmental organization (NGO). There is evidence from the inflow and infiltration to indicate the pipes are in poor condition. In 2017, MAWSS had a major failure on a portion of this line and manhole failure resulting in an emergency repair in excess of $1 million. There was also a severe failure about 3 years ago resulting in an emergency repair due to a large cave-in outside the sewer lift station in this area. Due to the aforementioned issues and an assessment of the pipes in this area, it was determined lining the upstream pipe is necessary to prevent future failures.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website and the Dog River Watershed Management Plan, also available on the MBNEP website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $3,665,048 (10-15% - Planning, 90-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

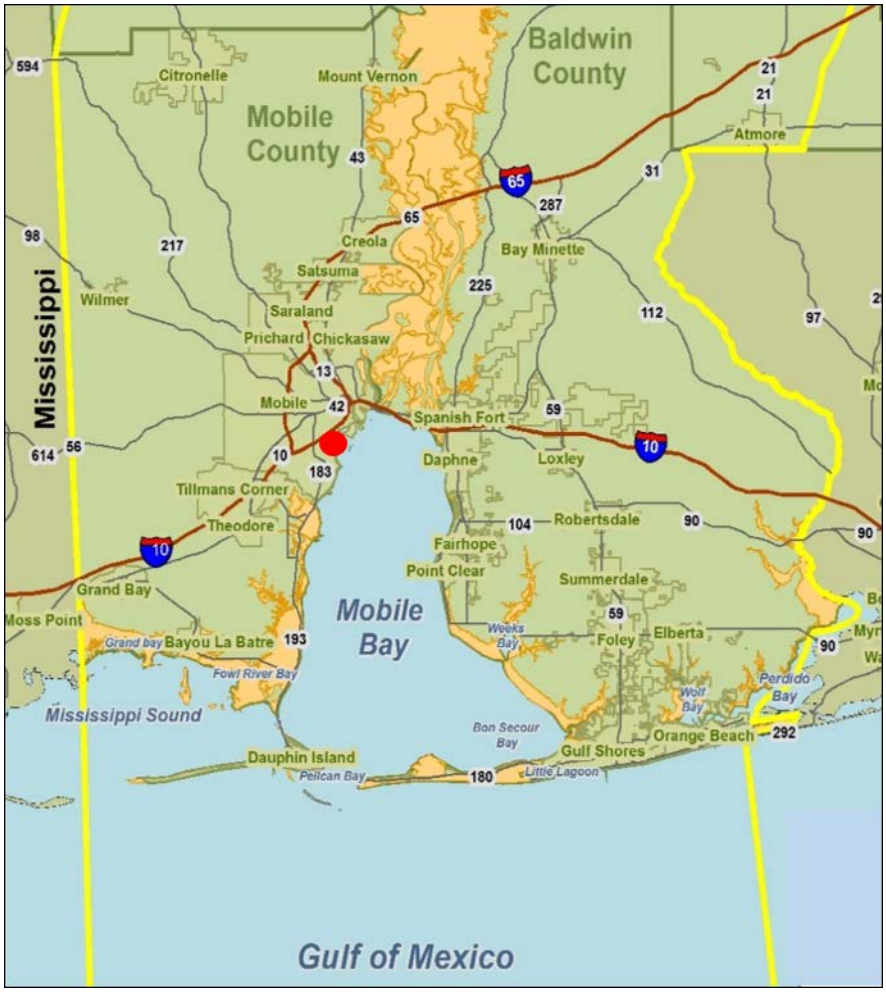

Figure 12. The Perch Creek Area Sanitary Sewer Trunk Line CIPP will be implemented in the City of Mobile, Alabama in Mobile County.

Project #13: Longevity, Stability & Water Quality Improvements, Bon Secour DMDA

Project Description/Summary

a) This project proposes to design and construct a structurally sound weir at the Bon Secour Dredge Material Disposal Area (DMDA). The primary purpose of a DMDA is to ensure there are no downstream effects on wetlands or water quality. As dredge material is placed into the DMDA, the sediment settles to the bottom and an outlet structure releases clean water back into the watershed. The US Army Corp of Engineers (USACE) routinely performs dredging operations of the Bon Secour River, and Baldwin County provides usage of the DMDA. The Bon Secour DMDA has been in use since the late 1980s, and the outlet structure at the site is significantly eroded.

Under USACE guidelines, DMDA's are designed to filter water from dredged material in a manner which is environmentally acceptable under National Environmental Policy Act (NEPA). Weir structures serve to control the containment and release of waters inside the DMDA until they meet regulatory standards. Given the water quality factors associated with the function of a permitted and professionally constructed DMDA and a DMDA's weir structure, wetland environs downstream of the DMDA are protected through the proper functioning of the DMDA system. Wetland benefits occur through managed, controlled release of water which meets environmental standards and provides clean water to healthy wetland ecosystems in the downstream watershed; rather than uncontrolled sediment-filled waters which could potentially settle out in downstream wetlands in a non-natural, ecosystem-damaging manner.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

Need: This submittal seeks funding to replace an aging and structurally failing weir at the Dredge Material Disposal Area (DMDA) used by the US Army Corps of Engineers (USACE) to dispose of sediment materials dredged from the Bon Secour River on a regular basis to maintain navigability and support the economy of the region. At this DMDA, if the existing weir structure fails, the uncontrolled release of water would include massive amounts of sediments and thereby significantly impact water quality in the Bon Secour watershed and downstream wetlands. In its current state, the site is releasing approximately 143 cubic yards (418,918 lbs) of sediment annually; however, should there be a catastrophic event, the site could release up to 740,473 cubic yards (2,169,215,653 lbs.). Visual examination by professional engineers observe significant corrosion of the existing weir, and that inflow to the weir does not match outflow, indicating possible internal leakage, potentially creating conditions towards future catastrophic failure which will endanger downstream wetlands and water quality, as well as nearby properties.

Purpose: The purpose of this project is to protect the water quality in the Bon Secour watershed and in wetlands downstream of an active U.S. Army Corps of Engineers permitted Dredged Material Containment Area (DMDA) by replacing a significantly corroded weir structure which, if not replaced, could potentially fail. Such failure would immediately damage adjacent wetlands and private properties through an uncontrolled release of currently contained dredged sediments from the nearby Bon Secour River. After failure, continued damage could occur for an extended period of time through the ongoing uncontrolled release of sediments from the DMDA. The replacement of this failing weir structure will extend the life of the DMDA and assure the controlled release of NEPA-acceptable water into Bon Secour watershed for 35+ years.

Objectives: The primary objective of this project is to:

- Complete engineering and design;
- Improve the DMDA's water quality management performance by replacing an aging and failing weir structure; and
- Evaluate and restore existing berm system.

b) This activity is located in the Gulf Coast region and will be carried out in Baldwin County, Alabama.

c) This project is anticipated to begin on 7/1/19 and end 12/31/2020 (18 months).

d) This project will be implemented by Baldwin County.

b) Replacing the aged outlet structure will ensure the DMDA continues to release clean water to the neighboring watershed and avoids the potential of major water quality issues in the event of failure. Improved water quality leads to enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems.

Major Milestones

a) Milestone 1: Engineering and design

b) Milestone 2: Construction contract awarded

c) Milestone 3: Construction complete

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Bon Secour DMDA project will be:

- Rehabilitation of aged and deteriorated outlet structure at the DMDA

Table 14. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Design and implementation of the Bon Secour DMDA rehabilitation project	Completed plans for engineering and design Construction of berm wall & weir structure Develop monitoring plan to assess water quality improvements	Sediment prevented from entering the Bon Secour watershed	Improved water quality and protected wetlands downstream Enhance tourism opportunities with healthy watershed

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews during construction

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

The DMDA outlet structure will be designed and constructed in accordance with engineering best practices acceptable for similar structures and in common use by the Army Corp of Engineers.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, located on the MBNEP website and the Bon Secour Watershed Management Plan, also available on the MBNEP website.

Finding of No Significant Impact, Section 404(b)(1) Evaluation, and Environmental Assessment for Proposed Maintenance and Disposal of Dredged Material for the Bon Secour River Navigation Project - 2013; 12/5/2017. The FONSI is located on the USACE website.

Final EA FONSI 404(b)1 Bon Secour AL, 2013. This document is available on the USACE website.

"Draft Environmental Assessment. Proposed Maintenance and Disposal of Dredged Material for the Bon Secour River," 2013. The EA is located on the USACE website.

"Dredging and Dredge Material Management," USACE, 2015. The Dredging and Dredged Material Management manual is available on the USACE website.

"Confined Disposal Facility Improved Weir Design," C.K. Maglio P.E., USACE, B.M. Scully, USACE; 2016. This document is available from the Utah State University website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $350,966 (20-30% - Planning, 80-70% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 13. The Longevity, Stability & Water Quality Improvements, Bon Secour DMDA project will be implemented in Baldwin County, Alabama.

Project #14: Replacement of Substandard Facilities at the ADEM Coastal Office & Mobile Field Office

Project Description/Summary

a) This project includes land acquisition, engineering and design, and construction of a new Coastal Office for the Alabama Department of Environmental Management (ADEM). To effectively manage the statutory mandate to protect Alabama's air, land, and water resources, the agency desperately needs to combine their Coastal Program and Mobile Field Office into one location with updated facilities and equipment.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: Currently, ADEM operates its Coastal Program and its Mobile Field Office in two separate and substandard facilities in Mobile. This arrangement creates logistical, communication, and technological issues leading to inefficiencies in operations. The anticipated influx of projects receiving RESTORE Act funds, which will require ADEM action in the form of construction permits, coastal consistency determinations, environmental modeling, and inspections, will significantly magnify these inefficiencies.

      Operational cost savings from elimination of rapidly escalating repair and maintenance costs, duplicated communications, etc., as well as increased productivity from a single location, which includes the elimination of management travel time between separate facilities, will allow resources to be utilized more effectively.

      Purpose: The purpose of the project is to allow ADEM to provide timely and effective environmental regulation and oversight of environmental projects in Coastal Alabama, including all RESTORE Act projects, by replacing the substandard facilities at the ADEM Coastal Office and Mobile Field Office.

      Objectives: The primary objectives of this project are to:

      - Acquire land suitable for the location of a new ADEM Coastal Office;
      - Develop engineering and design documents; and
      - Complete construction of a new ADEM facility to more efficiently and effectively serve constituents in coastal Alabama.

   b. This activity is located in the Gulf Coast region and will be carried out in the City of Mobile in Mobile County, Alabama

   c. This project is anticipated to begin on 7/1/19 and end 6/30/2021 (2 years).

   d. This project will be implemented by ADEM.

b) This project involves the construction of a facility that will house all ADEM projects, programs, and activities related to the protection, preservation, and restoration of Coastal Alabama environmental resources. ADEM activities impact all areas of the environment as well as every aspect of the coastal economy. Having an updated facility will ensure Alabama's environmental resources are protected and economic activity along the Gulf Coast will be supported.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure (primary). Secondary activities include Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region. Because the primary activity is classified as infrastructure, the 25% infrastructure cap is applicable.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine water;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats;
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through

the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines; and

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Secure Contractor Services

b) Milestone 2: Acquire Property

c) Milestone 3: Secure Facility Design

d) Milestone 4: Complete Construction

e) Milestone 5: Complete Post-Construction Inspection

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Replacement of Substandard ADEM Facilities project will be:

- Land acquisition, design, and construction of a new ADEM Coastal Office/Mobile Field Office

Table 15. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Land acquisition, design, and construction of a new ADEM Coastal Office/Mobile Field Office	Acquire property Complete plans for engineering and design Construct one new facility	More efficient and effective services provided by ADEM	Ensure natural resource protection while supporting a strong economy

Monitoring and Evaluation

a) Submission of due diligence on land acquisition to ADCNR

b) Submission of final E&D to ADCNR for review and approval

c) Provide evidence to ADCNR that all required permits were obtained

d) Submit results of bid process to ADCNR prior to awarding contracts

e) ADCNR will conduct periodic onsite reviews during construction

f) Submission of quarterly and final reports

g) Post construction monitoring as required

Best Available Science

A Best Available Science (BAS) review is required for programs and activities designed to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to design and construct a new facility for the ADEM Coastal Office; therefore, BAS does not apply.

However, this proposed facility will be designed and constructed according to LID and LEED guidelines and will enable ADEM to more effectively and efficiently protect, preserve, and restore Coastal Alabama's environmental resources. ADEM plays an integral role in assuring effective restoration occurs along the Alabama coast, and implementation of this project ensures consistency with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website, as well as those values included as part of the MBNEP's Watershed Management Planning (WMP) process.

A WMP is expected to conform to the U. S. Environmental Protection Agency's nine key elements for reducing pollution in receiving waters. These plans encompass the implementation of practices and measures of the Alabama Coastal Nonpoint Pollution Control Program to enhance coastal waters. Each plan includes a watershed description that educates communities about the geography, geology, biology, ecology, and hydrology of the drainage area's land and water. It identifies causes and/or sources of pollution or impairment, identifies gaps in data related to watershed conditions, and estimates pollutant loads that enter the receiving waters. Each WMP sets pollution reduction goals and identifies potential solutions or management measures to achieve those goals. A WMP provides an implementation program that includes a project implementation schedule, interim milestones, ways to measure or monitor progress, an education/outreach plan, and identification of technical and financial resources needed to ensure implementation program success. Finally, it prescribes a monitoring program and potential adaptation measures that may be necessary.

Some significant funding sources, including State Clean Water Act Section 319 Grants, administered by ADEM, require that a WMP has been developed. These plans ensure restoration efforts are based on science and fit into an overall management program. Watershed planning represents a collaborative shift from traditional city planning, where geopolitical borders limit actions to improve the condition of receiving waters.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $6,038,599 (10-20% - Planning, 90-80% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 14. The Replacement of Substandard Facilities at the ADEM Coastal Office & Mobile Field Office project will be implemented in the City of Mobile, Alabama.

Project #15: Mobile Area Storm Water Mapping & Resiliency Planning

Project Description/Summary

a) This planning project proposes to: 1) Complete a GPS digital inventory and GIS database and map of storm water infrastructure that flow through the City of Mobile into Mobile Bay; 2) Identify properties within the City of Mobile subject to repetitive flood loss and develop a strategy to address and effectively remedy prospective losses; and 3) Obtain information and data to assist with the update of the City of Mobile's outdated Flood Plain Management Plan, last revised in 1984. These efforts will allow the City to locate and map storm water infrastructure throughout the City of Mobile to develop an effective strategy to mitigate repetitive loss.

As a coastal community, the City of Mobile experiences periodic coastal and riverine flooding, including storm surges from hurricanes and flash floods. From 1973 to 2014, Mobile County was included in forty-six federal disaster declarations due to flooding. These severe weather events not only threaten lives and private property, but damage public infrastructure such as overstressed or poorly designed storm water systems.

Underperforming storm water drainage systems hamper the implementation of effective flood control measures that would reduce risk and improve the capacity to recover and adapt to severe coastal weather events. Mobile area storm water networks are also tidally-influenced due to numerous outflows to Mobile Bay; therefore, the City is particularly vulnerable to the effects of changing ocean conditions and storm surge.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

a. **Need**: There is a great deal that is unknown about the City's storm water network. Parts of the system are over 100 years old. It is not uncommon to find wood culverts and structures – still functioning – under the streets of downtown. The system components in the older sections of the City were constructed well before modern standards and, as a result, have needed numerous repairs over time. In some areas, this has resulted in an amalgamation of mismatched materials decreasing the system's efficacy over time.

   Because accurate information about existing storm water infrastructure is currently either lacking or difficult to access, many City staff hours are spent in the field surveying and verifying the location and flow direction of storm water systems for development design reviews and permits. The City of Mobile estimates that as much as 20% of City Engineering Department staff time is spent on such field investigation activities. The City's Public Works and Planning Departments staff are similarly burdened. The costs of maintenance and construction contracts, as well as private-sector

development planning, are also significantly increased due to a lack of reliable as-built drawings and accurate and complete digital map data.

Purpose: The project's purpose is to develop the information and tools necessary to successfully plan and cost-effectively manage communities and economies in the Mobile region that are resilient in the face of flooding, extreme weather events, climate hazards, and changing ocean conditions.

Objective: The primary objectives for this project include:

- Complete a GPS digital inventory and GIS database and map of storm water infrastructure that flow through the City of Mobile into Mobile Bay.
- Identify properties within the City of Mobile subject to repetitive flood loss and develop a strategy to address and effectively remedy prospective losses.
- Obtain information and data to assist with the update of the City of Mobile's outdated Flood Plain Management Plan, last revised in 1984.

b. This activity is located in the Gulf Coast region and will be carried out in the City of Mobile in Mobile County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end on 6/30/22 (3 years).

d. This project will be implemented by the City of Mobile.

b) This project will positively impact communities throughout the City of Mobile. It will increase community resiliency by identifying areas most vulnerable to repeated flood events and executing an adaptation strategy for reducing the potentially catastrophic economic and social impacts of such events. Additionally, it will explore the possibility of entering into FEMA's National Flood Insurance Program (NFIL) Community Rating System (CRS) and reduce flood insurance premium rates by 5% to 45% in vulnerable communities.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #8 – Planning Assistance (primary).

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Complete GIS mapping

b) Milestone 2: Complete identification of flood loss properties

c) Milestone 3: Complete final plan

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Mobile Area Storm Water Mapping and Resiliency Planning project will be:

- The development of a plan which delineates storm water infrastructure throughout the City and identifies repetitive flood loss properties

Table 16. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Develop a plan which delineates storm water infrastructure throughout the City and identifies repetitive flood loss properties	Compete GIS mapping Complete identification of repetitive flood loss properties Complete one Storm Water Mapping Plan	More efficient inspections More effective management and maintenance	Greater coastal resiliency

Monitoring and Evaluation

a) Submit results of bid process to ADCNR prior to awarding contracts

b) Submission of completed Plan to ADCNR

c) Submission of quarterly and final reports

Best Available Science

The Repetitive Flood Loss Strategy and updated Storm Water Management Guidance Manual will be modeled after modern, successful similar documents. The City, along with its consultants, will perform literature searches and coordinate with other government entities to determine best practices.

The inventory and database scope will be performed by a contractor. The anticipated procurement method for the consultant contract(s) is competitive proposals. The City will issue a Request for Qualifications. Interested consultants will be required to provide a general project methodology and describe experience with similar projects. Through independent technical review of the responses, a consultant will be selected, or a shortlist will be developed, and interviews will be conducted. Upon selection of the consultant, a scope of work that maximizes the quality, objectivity, and integrity of the information collected will be developed. The scope of work will be developed in tandem with the consultant and the City of Mobile's long-term planning, land use/zoning technicians, engineering and GIS departments.

It is anticipated the scope for the contract will consist of data collection and data processing (including quality control). Once the data has been accepted by the GIS department, data management will be performed by the City. Additional details for each scope item are provided below.

Data Collection

The surveyor's inventory will include rim elevation, depth, invert elevation(s), material, pipe diameter(s) and condition with an approximate horizontal accuracy of + 0.1 feet and vertical accuracy of + 0.2 feet. A copy of the City of Mobile's existing storm water database will be provided to the surveyor in an ESRI ArcGIS 10.3 file geodatabase format. Field collected data will be uploaded into the provided file geodatabase by the surveyor in the appropriate layers with corresponding attributes and measurements. Layers will include complete and accurate metadata in the North American Profile of ISO 19115 Geographic information - Metadata format as an eXtensible Markup Language (XML) file. Deliverables will be delivered in the Alabama State Plane Coordinate System (West Zone), referenced to NAD83 2007, and expressed in U.S. Survey feet. Vertical control will be referenced to NAVD88 Geoid12A.

Data Processing

The deliverable will be put through a quality assurance process by the City of Mobile's GIS staff for acceptance. Accuracy, feature attributes, and metadata will be validated in ESRI's ArcGIS 10.3 Desktop. Any features that fail the review process will be documented and tracked in the City's geodatabase using coded domains for pre-defined QA/QC data calls along with the reviewer's comments. The data calls will be sent to the surveyor in an ArcGIS 10.3 file geodatabase to be used in the correction and redelivery of the data. Revisions will be redelivered for a repeat of the quality assurance process.

Once accepted, the GIS staff will import the data into the City of Mobile's storm water database. Once imported, the new data will be GIS processed with the GIS staff

connecting the new data to features in other storm water related layers (e.g., gravity mains, laterals, outfalls, ditches, streams, flood control structures). Pipes, ditches, and streams will be digitized in the direction that the water flows. A connectivity network will be developed with valid topology.

City of Mobile GIS Department staff will further utilize the updated storm water network along with the hydro-flattened bare-earth surface DEM based on the 2014 countywide QL2 LiDAR to delineate drainage areas for each outfall.

Data Management

Data Storage and Security: Since 2000, all of the City's GIS data has been centrally located in a GIS database using ESRI's SDE and ArcGIS Server. The GIS Manager administers the City's storm water GIS database with ESRI's ArcGIS Server 10.1 in a Microsoft SQL Server 2012 database running on a VMware virtual machine on a VMware ESXi 5.0 on-site host server which is also administered by the GIS Manager. The VMware host server is connected to a SAN with 2TB of dedicated space that is in a separate City facility than the host server. The SAN is also mirrored to another City facility for fail over. The database server is cloned (copied) to the SAN weekly. In addition, the database is backed up to a removable tape every night with a tape archived weekly to an off-site location and quarterly to a safety deposit box in a bank vault. GIS database security is administered by the GIS Manager using Microsoft's SQL Server database security. At this time, only designated GIS staff members would have edit privileges in ArcGIS Desktop with all other users in the Engineering, Public Works, and Planning and Development Departments having read only.

Data Maintenance: The City of Mobile will maintain those portions of the storm water GIS database within its corporate limits beyond the three-year project period. The storm water data will become a significant part of the City's geodatabase and will be maintained as long as the City's GIS exists. City departments including the Engineering and Public Works Departments will require accurate digital as-built drawings of storm water features from new construction projects in the street right-of-ways or city facilities including all appropriate attributes and measurements required by the storm water database. In addition, the City will continue to fund and coordinate countywide basemap projects for high resolution color orthophotography and surface topography datasets that support mapping of natural and manmade hydrography features and outfall drainage delineation.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $3,090,000 (100% - Planning). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 15. The Mobile Area Storm Water Mapping & Resiliency Planning project will be implemented in the City of Mobile, Alabama.

Project #16: Three Mile Creek Watershed Restoration

Project Description/Summary

a) This project proposes two activities: 1) the stabilization/restoration of approximately 8,200 linear feet of stream in Twelve Mile Creek; and 2) the dredging of Langan Park Lake. This project supports the restoration and protection of water quality of the Gulf Coast Region's fresh, estuarine, and marine water resources by reducing sediment transport into Twelve Mile Creek, Three Mile Creek, and ultimately into Mobile Bay.

   Activities also consist of the overall administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: As identified in the Three Mile Creek Watershed Management Plan, the unstable banks of Twelve Mile Creek are degrading water quality downstream in Langan Park Lake and Three Mile Creek. Concrete-lined channels or other hardening mechanisms upstream of the subject area have replaced vegetated stream banks. While this concrete lining provides better conveyance for storm water and reduces flooding, it also prohibits infiltration, thereby increasing storm water runoff volumes and pollutant loads and eliminates natural habitat from the bed and banks of the stream. Better conveyance, in this case, results in increased velocities within the subject area. These high velocities cause erosion which produces downcutting in the streambed. This downcutting exacerbates the problem by reducing floodplain connectivity, thereby further increasing velocity. Erosion continues to aggravate problems by destabilizing stream banks producing mass wasting. Extensive sanitary sewer structures lie within the stream banks and stream bottoms. Erosion and mass wasting has accelerated to the point that several of these structures have entirely lost their protective trenching and exposing them to the many hazards of the stream. This exposure of the sewer lines dramatically increases the risk of complete failure which results in sewer spills. Mobile Area Water and Sewer System actively maintains these lines by importing fill which provides an additional erosion and sedimentation source.

      Biological pollutants in the form of invasive species are degrading habitat and displacing native species. In fact, at least four of Alabama's 10 worst invasive weeds exist at the site (Alabama Invasive Plant Council).

      Langan Park Lake, a focal point of the surrounding Langan Municipal Park (Park), where citizens in decades past enjoyed water activities such as paddle boats, has been severely impacted by sedimentation. The Park provides many recreational, educational, and cultural activities throughout the year enjoyed by thousands of people throughout the region. However, over the years, the waters have become more swamp-like, making the lake more of an eyesore than an amenity. The continued sedimentation of

Langan Park Lake devalues the Park and surrounding cultural and sports institutions, making redevelopment in the area more difficult.

The cost of no action further compounds the degradation of Twelve Mile Creek resulting in the continued sedimentation of downstream features like Langan Park Lake, Three Mile Creek, and eventually Mobile Bay.

Purpose: The purpose of the project is to reduce further bank de-stabilization, thereby reducing sedimentation to downstream features like Langan Park Lake and Three Mile Creek. Improvements in water quality, storm water management, and flood control support the work in Langan Park Lake to restore its capacity and usefulness.

Objective: The objectives of this project include:

- Reduce downstream sedimentation by stabilizing Twelve Mile Creek from East Drive to Langan Park Lake;
- Restore and protect existing utility structures and assets caused by downcutting and widening of the stream;
- Eradicate or control invasive species;
- Provide instream structures to reduce stream velocity/energy and increase habitat; and
- Dredge Langan Park Lake to its original capacity and usefulness.

b. This activity is located in the Gulf Coast region and will be carried out in the City of Mobile in Mobile County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end on 6/30/2023 (4 years).

d. This project will be implemented by the City of Mobile.

b) This project improves water quality, restores habitat, and improves hydrologic function in Three Mile Creek which eventually flows into Mobile Bay, the fourth largest estuary in the United States. These improvements lead to enhanced ecosystem health, ecosystem services, and recreational opportunities contributing to the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast (primary). Secondary activities include Category #2 - Mitigation of damage to fish, wildlife, and natural resources; Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; Category #7 - Coastal flood protection and related

infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters; and
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement

b) Milestone 2: Baseline monitoring

c) Milestone 3: Complete construction (Section 1)

d) Milestone 4: Complete construction (Section 2)

e) Milestone 5: Dredge Langan Park Lake

f) Milestone 6: Post-implementation monitoring

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Three Mile Creek Watershed Restoration project will be:

- Stabilization and restoration of streambank in Twelve Mile Creek and the dredging of Langan Park Lake

Table 17. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Stabilization and restoration of streambank in Twelve Mile Creek and the dredging of Langan Park Lake	Stabilize and restore 8,200 linear feet of streambank 8 sewer crossings protected / repaired Dredge 310,000 cubic yards of sediment Develop monitoring plan to assess water quality improvements	Pollutant source repaired Reduced sediment in Langan Park Lake	Improved water quality with corresponding decrease in pollutants Reduction in sewer spills

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

Studies have found that aquatic macrophytes “community biomass decreases with increasing velocity” (Madsen 76). Loss of these communities limit their important ecosystem services, including “(1) improving water quality; and (2) stabilizing sediments, reducing sediment resuspension, erosion and turbidity” (Madsen 72). The compounding problems of increased velocity, loss of vegetation, downcutting, and mass wasting accelerate erosion causing heavy sediment inputs to the Langan Park Lake blanketing benthic flora and fauna with layers of silt. This blanketing may destroy feeding grounds

and spawning sites as well as entire populations, causing radical changes in the lake ecosystems (EPA 192). Continued sediment loading leads to advanced eutrophication, swampy or marshy conditions, and finally total infilling of the prior lake environment (Castro 1995). The sediment particles also contain pollutants that impact water quality, including oxygen-demanding substances and nutrients (Three Mile Creek Watershed Management Plan 53, 60, 61).

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website, the Three Mile Creek Watershed Management Plan, also available on the MBNEP website.

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Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $12,081,900 (5-15% - Planning, 95-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

In 2015, the City adopted its current comprehensive plan, Map for Mobile. Protecting the City's natural resources at a watershed scale is an essential element identified in the plan as an important quality of life issue for our citizens. In 2015, Mayor Stimpson and the US Army Corps of Engineers (USACE) Mobile District's leadership formed the Joint Agency Task Force to leverage effort, funds, and energy to maximize ecosystem restoration within the Three Mile Creek watershed. The Joint Agency Task Force is comprised of multiple federal, local, and state regulatory agencies including the City of Mobile, USACE, ADEM, Mobile Bay National Estuary Program, Mobile County, The Nature Conservancy, Alabama State Port Authority, ADCNR State Lands Division, Mobile Area Water & Sewer System, and The University of South Alabama. The City has requested funding to implement an Integrated Water Resource Management (IWRM) process for recommending specific long-term improvements throughout the watershed that impact not only wildlife and water flow but also recreation and flooding. The IWRM study will provide a science-based guidance document for the Joint Agency Task Force to leverage funds to achieve the goal of ecosystem restoration within the Three Mile Creek watershed.

The Mobile Bay National Estuary Program (MBNEP) received RESTORE funds for project planning activity to include engineering and design of a stream restoration plan for restoring Twelve Mile Creek, and for development of an invasive species control program focused on aquatic vegetation in Three Mile Creek; preparation of necessary environmental compliance and regulatory clearances documentation; quality assurance; and pre-restoration monitoring. The Planning activity of the MBNEP RESTORE project ensures that the implementation phase can proceed in a timely and fully compliant manner and includes adequate baseline monitoring data to measure results following implementation. Funds for the planning and monitoring have been awarded in addition to funds to restore approximately 1,000 linear feet of stream.

Leveraged Resources (if applicable)

The proposed project leverages RESTORE funds allocated ($1.15M) to the MBNEP for restoration activities in Twelve Mile Creek, upstream of Langan Lake Park. Also, the grant for the MBNEP funds hydrologic modeling and invasive species management for the entire Twelve Mile Creek to ensure design compatibility. (Approved)

The City of Mobile is committed to providing in-kind services for grant management, project management, technical oversight, and $320,000 (FY18) in engineering services. (Approved)

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 16. The Three Mile Creek Watershed Restoration Project will be implemented in the City of Mobile, Alabama.

Project #17: Fairhope Area Community-Based Comprehensive Land Use Plan

Project Description/Summary

a) This planning project proposes the development of a community-driven comprehensive land use plan for the City of Fairhope to address growth with an emphasis on environmental stewardship and a legal foundation for implementation. Plan development envisions sustainable community growth infused with aspects of green infrastructure.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need** - Named the "2016 Best Small Town in the South" by Southern Living magazine, one of the "Best Places to Raise a Family" in 2010 by Family Circle magazine, and voted the "Most Business Friendly City in Alabama" in 2013 by the Alabama Policy Institute, the City of Fairhope is one of the most desirable places to live and work in the southeast. The Fairhope community's small-town coastal ambiance, blended with state-of-the-art residential and community amenities and services, collectively embody the character and charm that make this community highly-desirable and a unique Alabama treasure. Like many actively growing communities, the City of Fairhope is under a tremendous amount of urbanization and development pressure. On a regular basis, new development is being considered and proposed throughout the Fairhope community. New development is a concern for the City of Fairhope, because it places additional pressure, strain, and financial burden on existing community infrastructure and resources (electric, gas, water and wastewater systems, storm water systems, trash collection services, etc.) and can potentially reduce and diminish natural habitats (wetlands, forests, streams, etc.) and their associated ecosystem services and functions (ecotourism opportunities, flood control, water quality improvement, etc.). Furthermore, the antiquated regulatory and planning framework presently guiding the City of Fairhope allows for the intensification of development and urbanization without the need to properly consider the long-term holistic vision of the community and stewardship of natural environments. While urbanization and development are indicators of a strong local economy, without proper holistic planning and forethought for community growth, these activities can have compounding effects that detract from the historic character and ambiance of the community and surrounding natural environments.

      The proposed Fairhope Area Community-Based Comprehensive Land Use Plan project will allow the City of Fairhope to thoroughly identify, address, and anticipate the issues and concerns about how the community can retain its quality of life, unique coastal character and charm, and natural resources and ecosystems while also supporting economic growth and expansion.

Failure to develop and implement a comprehensive community-based land use plan for the Fairhope community may result in continued loss and degradation of natural ecosystems within the planning jurisdiction of the City and greater Mobile Bay watershed. At-risk ecosystems include aquatic communities (shorelines, streams, wetlands, floodplains, etc.) and terrestrial communities (hardwood, sandhill, and longleaf pine, etc.). Associated with the loss and degradation of these natural habitats are loss and degradation of their ecosystem functions and services. Increased flooding, sedimentation, pollution, and loss of habitat would culminate from the continued development of streams and associated wetlands and floodplains. Loss of ecosystem services and functions would further increase cost and demand of community infrastructure and resources. Additionally, new development and haphazard growth would add significant and reoccurring financial burdens to the Fairhope community through increased demands for infrastructure and resources. The long-term result of poor land use planning and an insufficient regulatory framework to manage and plan for development would result in the loss of the current and past identity that makes the City of Fairhope a treasured coastal community.

Purpose: The purpose of this project is to develop a community-based comprehensive land use plan that recognizes all community concerns and issues and translates this information into a clear framework, plan, and course of action that supports community growth in a responsible, sustainable, and resilient manner. A Fairhope area community-based comprehensive land use plan will recognize the interconnectivity of all community concerns and issues to guide future land use activities and code updates for the purpose of protecting and preserving the culture, heritage, and natural resources within the planning jurisdiction of the City of Fairhope and broader Mobile Bay watershed.

Objectives: The primary objectives of this project are to:

- Develop a community-based plan to manage future growth in the City of Fairhope; and
- Receive support for codes/regulatory changes to guide land use.

b. This project is located in the Gulf Coast region and will be implemented in the City of Fairhope in Baldwin County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end 12/31/2020 (18 mo.).

d. This project will be implemented by the City of Fairhope.

b) This project will assist in the economic and ecological recovery of the Gulf Coast region, specifically the City of Fairhope, by developing a citizen-based plan to manage future growth and development.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #8 – Planning Assistance (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals.
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines; and
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement

b) Milestone 2: Develop a community Facebook page

c) Milestone 3: Develop and adopt a community-based comprehensive land use plan

d) Milestone 4: Update community codes

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Fairhope Area Community-Based Comprehensive Land Use Plan project will be:

- Development of a plan to manage future growth in the City of Fairhope

Table 18. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Development of a community-based Comprehensive Land Use plan	Complete community engagement Development of one plan Update City codes and regulations	Development of a plan to guide City planning, decision-making, and development Encourages community engagement	Management of future growth and development Protection of Fairhope's character and environment

Additional success criteria capturing community engagement may be selected at the grant application stage.

Monitoring and Evaluation

a) Submit results of bid process to ADCNR prior to awarding contracts

b) Submission of completed Plan to ADCNR

c) Submission of quarterly and final reports

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to develop a comprehensive land-use plan to manage future growth; therefore, BAS does not apply.

However, managing future growth should enable the City to better manage storm water runoff, thus enhancing water quality in nearby Mobile Bay. As such, this project is

consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP webpage.

In addition, this project will use cutting-edge technology and outreach methods throughout the community engagement process. Traditional planning is moving beyond ineffective meeting structures and outreach measures to more open, inclusive, and flexible platforms to gather input and understand the desires of the community. This includes such things as using keypad polling and interactive surveying platforms at open house and town hall meetings and online web outreach presence through web sites, social media accounts, and online polls and questionnaires, etc. This Project will implement these engaging methods into the meeting structures and will also include engaging outreach methods that utilize online forums, mapping platforms, and communication tools.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $669,500 (100% - Planning).

b) No other funding sources are anticipated at this time

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 17. The Fairhope Area Community-Based Comprehensive Land Use Plan will be developed in the City of Fairhope, Alabama.

Project #18: Fort Morgan Parkway Trail Extension

Project Description/Summary

a) This project proposes to extend, and ultimately complete, the Fort Morgan Parkway Trail from Fort Morgan Historical Park to Gulf State Park and includes engineering and design and the construction of a midzone to provide parking, restroom facilities, and interpretive signage. When completed, the Fort Morgan Parkway Trail will provide approximately 30 miles of recreation trail from Fort Morgan to Orange Beach and will connect with numerous trail spurs and loops along the way. Following completion of this trail, increased usage of the Fort Morgan Historical Park and Gulf State Park is anticipated, along with improved access and an enhanced visitor experience.

   Activities will also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and monitoring.

   a. **Need** - The funds provided by this grant will be used to design and construct the final segment of the long-awaited Fort Morgan Parkway Recreational Trail. Completion of this 15-mile segment will enable Alabama's citizens and guests to travel approximately 30 miles, from Fort Morgan Historical Park (the western most terminus); eastward to the existing parkway trail within the boundaries of the City of Gulf Shores; continuing eastward into Gulf State Park and connecting with the Back Country Trail, providing trail users with a route all the way to Perdido Bay via the Alabama Coastal Connection, a designated Alabama Scenic Byway.

      Purpose: The purpose of this project is to complete the Fort Morgan Parkway Trail from the Fort Morgan Historical Park in the west to Gulf State Park and the Hugh Branyon Back Country Trail in the east. Currently, a 15-mile gap exists between Fort Morgan and Peninsula Boulevard. The proposed extension will complement the existing ten-foot-wide concrete trail. When completed, the Fort Morgan Parkway Trail will provide approximately 30 miles of recreation trail from Fort Morgan to Orange Beach and will connect with numerous trail spurs and loops along the way. A "midzone" trail head facility within the Parkway will provide parking spaces, restrooms, vending machines, interpretive signage, and informational kiosks.

      Objectives: The objectives of the project include:

      - Complete engineering and design;
      - Develop a baseline in 2018 to establish number of trail users and monitor increases over time; and
      - Complete construction of the Fort Morgan Trail and a mid-zone with amenities to enhance trail user opportunities.

b. This activity is located in the Gulf Coast region and will be carried out on the Fort

Morgan Peninsula in Baldwin County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end 6/30/2021 (2 years).

d. This project will be implemented by the Alabama Department of Conservation and Natural Resources, State Parks Division.

b) This project directly benefits two Alabama State Parks (Fort Morgan Historical State Park, Gulf State Park) by connecting them together as well as with other trails, trail spurs, trail loops, and sidewalks. This project will contribute to the restoration of the Gulf Coast economy by promoting natural resource stewardship efforts and enhancing the visitors' experience in south Baldwin County.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #5 – Improvements to or on State Parks located in coastal areas affected by the DWH oil spill (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 6. Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.

Major Milestones:

a) Milestone 1: Procure grant manager

b) Milestone 2: Procure engineering & design firm

c) Milestone 3: Complete engineering & design

d) Milestone 4: Environmental permitting

e) Milestone 5: Complete construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Fort Morgan Parkway Trail Extension will be:

- Design and construction of a 15-mile trail and construction of “mid-zone” trail head facilities (parking, restrooms, vending machines, interpretive signage, and kiosks)

Table 19. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Design and construct trail and trail head facilities	Complete 15-mile trail Complete trail head facilities Increase number of trail users by 15% Increase website traffic by 25% Increase social media followers by 15%	30 continuous miles of recreational trail from Ft. Morgan Historical Park to Gulf State Park	Increased usage of the trail by local citizens and tourists with enhanced stewardship opportunities

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained

c) Submit copy of results of procurement/bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus

of this project is to construct a trail and trail head facilities along the Fort Morgan Parkway; therefore, BAS does not apply.

However, Best Management Practices will be employed in the design and development of this project. Where possible, ADCNR plans to use composite materials instead of treated lumber; permeable or semi-permeable parking and trail surfaces; renewable sources such as solar energy; and energy conserving fixtures and products such as LED lighting.

In addition, this project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website:

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $4,566,608 (25-35% - Planning, 75-65% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 18. The Fort Morgan Parkway Trail Extension project will be implemented along the Fort Morgan Peninsula in Baldwin County, Alabama.

Project #19: Meaher Park Improvements

Project Description/Summary

a) This project will support the planning, design, and implementation of 78 full-service campsites, including parking, bath houses, a fishing pier, and utility infrastructure to Meaher Park in Spanish Fort, Alabama. In addition, 10 RV park model cabins will be installed along with appropriate skirting, decking, steps, and/or ramps. This project will greatly increase and enhance outdoor recreation opportunities along a major east-west corridor used heavily by citizens and guests of Alabama.

   According to the 2018 North American Camping Report, camping is rising in popularity across the US and Canada. The report also stated that Millennials and Gen Xers make up 75% of all campers; Millennials alone account for 40%; 59% of campers stay within 100 miles of home; and 42% stay at nearby national or state parks. Not only is Meaher situated on a major east-west highway corridor, it is also close to several large population centers.

   Activities will also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and monitoring.

   a. **Need**: The funds provided by this grant will be used to design and construct much-needed additional campsites. This project would greatly increase and enhance outdoor recreation opportunities along a major east-west corridor heavily used by citizens and guests of Alabama. Meaher is a very popular park and its campground frequently fills to capacity. From October 2007 through September 2017, Meaher's campground occupancy rate averaged 78%, which includes weeks-long closures due to severe weather.

      Purpose: The completion of this project will create a "destination park," serving many recreational, cultural, historical, and ecological points of interest and importance. Increased revenue from the new amenities will financially strengthen Meaher State Park. These new amenities will provide the opportunity for Alabama's citizens and guests to enjoy the abundant flora and fauna of the area, in addition to offering access to high-demand public outdoor recreation resources such as bank and pier fishing, boating, improved site camping, and small cabin lodging. Interpretive and educational information on critical habitats and ecosystems will be included, using a combination of "low tech" (i.e. signs, kiosks, etc.) as well as "high tech" (e.g. digital media) means. All portions of the new amenities will be handicapped accessible and inclusive.

      Objective: The objectives of this project include:

      - Develop a baseline in 2018 to establish number of visitors and monitor increases over time;
      - Complete engineering and design; and
      - Add 78 full-service campsites and 10 RV park model cabins with additional parking, bath houses, a fishing pier, and utility and

management infrastructure to enhance visitors' experience at Meaher State Park.

b. This activity is located in the Gulf Coast region and will be carried out in the City of Spanish Fort in Baldwin County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end 6/30/21 (2 years).

d. This project will be implemented by the Alabama Department of Conservation and Natural Resources, State Parks Division.

b) This project will contribute to the economic recovery of the Gulf Coast Region by providing additional amenities at Meaher State Park, thus enhancing the visitors' experience and leading to increased traffic at the Park.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #5 – Improvements to or on State Parks located in coastal areas affected by the DWH oil spill (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.

Major Milestones

a) Milestone 1: Procure grant manager

b) Milestone 2: Procure engineering and design firm

c) Milestone 3: Complete engineering and design

d) Milestone 4: Environmental permitting

e) Milestone 5: Complete bids for construction

f) Milestone 6: Complete construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Meaher Park Improvements will be:

- Construction of 78 full service campsites, as well as parking, bath houses, a fishing pier, and utility and management infrastructure. In addition, 10 RV park model cabins will be installed along with appropriate skirting, decking, steps, and/or ramps

Table 20. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Improved amenities at Meaher State Park	Construction of 78 full-service campsites Construction of a parking lot, bath houses, fishing pier and utility and management infrastructure Installation of 10 RV park model cabins Increase number of campers by 15% Increase website traffic by 25% Increase social media followers by 15%	Increased number of camping and cabin guests Additional traffic on website and social media	Creation of a "destination park," serving many recreational, cultural, historical, and ecological points of interest and importance

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained

c) Submit all results of procurement/bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to construct campsites and other amenities at Meaher State Park; therefore, BAS does not apply.

However, Best Management Practices will be employed in the design and development of this project. Where possible, ADCNR plans to use composite materials instead of treated lumber; permeable or semi-permeable parking and trail surfaces; renewable sources such as solar energy; and energy conserving fixtures and products such as LED lighting.

In addition, this project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $3,553,500 (5-15% - Planning, 95-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

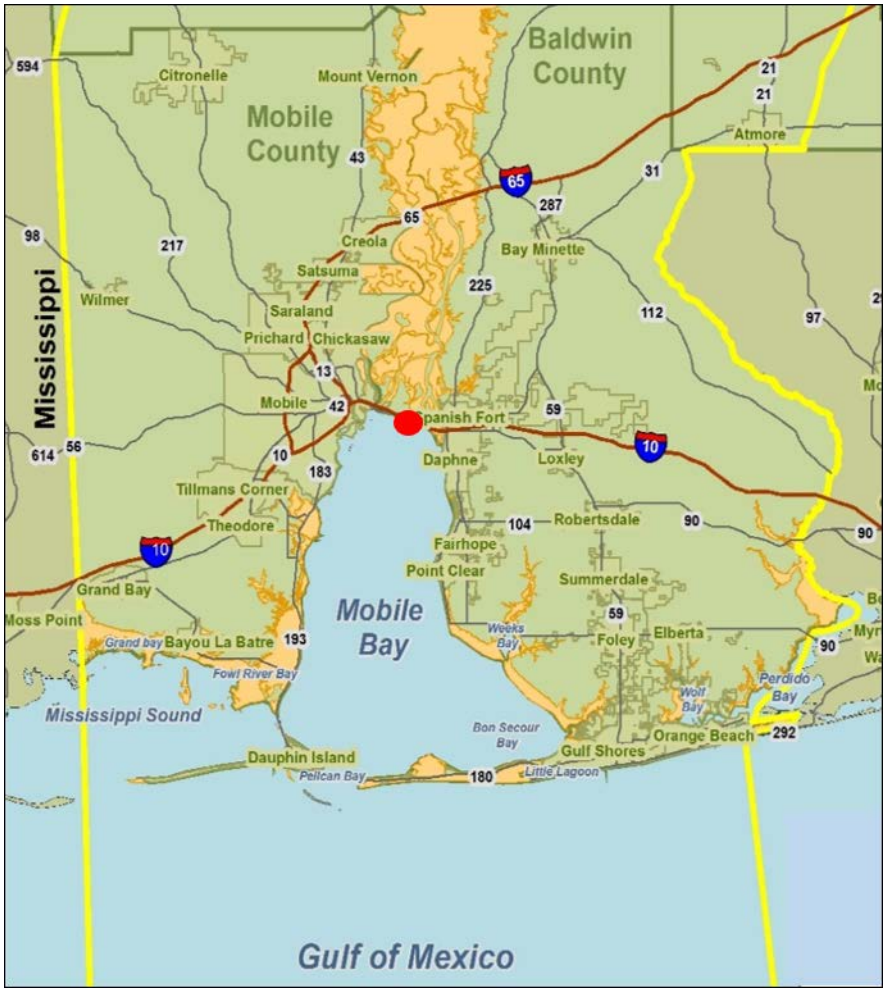

Figure 19. The Meaher Park Improvements project will be implemented along U.S. Highway 98 Battleship Parkway in Spanish Fort, Alabama.

Project #20: Mobile County Dirt Road Paving (Sediment Reduction) Program

Project Description/Summary

a) The proposed project includes both engineering and design and implementation over an 8-year period in south Mobile County. Mobile County Commission District 3 encompasses south Mobile County and is bordered by Mobile Bay to the east and the Mississippi Sound to the south. This district is home to the villages of south Mobile County (Bayou La Batre and Coden) and Dauphin Island. Residents and visitors depend on the many rivers, bays, and bayous for commercial and recreational fishing, water sports, and nature-based recreation.

   Waterways and wetlands in the Bayou La Batre, West Fowl River, and Fowl River are intersected by approximately 57 miles of unpaved roads. The County Public Works/Engineering Department maintains these roads by placing material, smoothing/grading, maintaining and repairing eroded ditches. Records from these maintenance activities demonstrate that approximately 8,000 cubic yards of material were placed on these unpaved roads in 2017.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: Sediment transport from unpaved roads is a problem in south Mobile County, causing increased turbidity, smothering stream and wetland habitats, thereby reducing biodiversity and negatively impacting water quality. Sedimentation in streams can also reduce flood water storage capacity. Paving dirt roads in environmentally sensitive areas eliminates negative impacts due to sediment transport.

      Purpose: The purpose of this project is to protect water quality and the beneficial functions of the floodplain by developing and implementing a dirt road paving program to reduce the number of miles of unpaved roads in environmentally sensitive areas of south Mobile County. In addition, this project also includes stabilization of grass shoulders and ditches that erode and carry sediment into sensitive areas.

      This will be achieved through the development and implementation of a Dirt Road Paving (Sediment Reduction) Program that undertakes road improvement projects based on selection and ranking criteria targeted towards improving environmental conditions and meeting road maintenance needs. A Geographic Information Systems approach will be utilized to identify environmentally sensitive roads to include in the program. Selection and prioritization criteria will include unpaved roads that are within the Alabama Coastal Area (below the 10-foot contour), the regulatory floodplain, and/or near marsh or wetlands in the project area. Preliminary identification indicates that there are at least 13 unpaved roads in the Bayou La Batre, Mississippi Sound Complex, and Fowl River watersheds to consider for this program. Further alternatives analyses will be performed to finalize the list

of roads to be paved during the preliminary engineering phase of this project. Estimated costs to pave the preliminary list of priority roads were obtained from preliminary Mobile County Pay-As-You-Go Program analysis which includes a rating of all unpaved roads. This analysis accounts for maintenance details as well as estimated costs to improve each road to meet requirements of the Mobile County Commission Design Guidelines for Improving Existing County Maintained Unpaved Local Roads and Alabama Department of Transportation (ALDOT) Standard Specifications for Highway Construction.

Objective: The primary objective of this project is to:

- Reduce the potential for erosion and sedimentation from unpaved roads and their unstable/unimproved drainage systems in the coastal areas, wetlands, and floodplains of the unincorporated areas of the southern portion of Mobile County Alabama.

b. This activity is located in the Gulf Coast region and will be carried out in south Mobile County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end 6/30/27 (8 years).

d. This project will be implemented by Mobile County.

b) This project will reduce the amount of sedimentation eventually entering south Mobile County's rivers, bays, and bayous. Decreasing sedimentation in these environmentally sensitive areas will improve water quality and enhance community resilience, thereby resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring and Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine water;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems; and
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement of professional services

b) Milestone 2: Conduct alternatives analyses

c) Milestone 3: Complete preliminary engineering and design

d) Milestone 4: Environmental permitting

e) Milestone 5: Right-of-way acquisition/utility relocation

f) Milestone 6: Complete final design

g) Milestone 7: Complete Construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Mobile County Dirt Road Paving (Sediment Reduction) Program will be:

- The prioritization, engineering and design, and improvement of ~57 miles of dirt roads in south Mobile County, Alabama

Table 21. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Pave dirt roads in south Mobile County to reduce sedimentation in local waterways	One competed alternatives report Completed E&D	Reduced sedimentation in local waterways	Improved water quality Greater coastal resiliency

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
	Completed ROW acquisition/utilities relocation ~57 miles paved road Develop monitoring plan to assess water quality improvements		

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of alternative analyses to ADCNR

b) Submission of E&D to ADCNR for review and approval

c) Provide evidence to ADCNR that all required permits were obtained

d) Submit results of procurement/bid process to ADCNR prior to awarding contracts

e) ADCNR will conduct periodic onsite reviews

f) Submission of quarterly and final reports

g) Post construction monitoring as required

Best Available Science

Addressing erosion and sedimentation by paving dirt roads is based upon widely accepted engineering best practices. These engineering best practices and environmental analyses will be used to achieve the objectives of the project.

Wemple et al examined the role of rural, low-volume, unpaved roads on water quality degradation in the northeastern U.S. to identify the likely importance of unpaved roads as a pollutant source in this setting. Their results suggested that roughly 16% of the average annual sediment flux in the Winooski River may be derived from unpaved roads. This study determined that erosion from unpaved roads is a significant source of water quality degradation in rural watersheds and pointed to the effectiveness of design interventions in mitigation.

Turton et al concluded that unpaved roads may contribute up to 35% of the total sediment load in Stillwater Creek Watershed in Oklahoma. Further results of this study documented that sediment yield was significantly reduced with the installation of BMPS.

In addition, this project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website, and the Bayou La Batre Watershed Management Plan, also available on the MBNEP website.

Wemple, B. C., Clark, G. E., Ross, D. S., and Rizzo, D. M. (2017) Identifying the spatial pattern and importance of hydro-geomorphic drainage impairments on unpaved roads in the northeastern USA. Earth Surf. Process. Landforms, 42: 1652–1665. doi: 10.1002/esp.4113.

Turton, D.J., Smolen, M.D. and Steber, E. (2009), Effectiveness of BMPs in Reducing Sediment From Unpaved Roads in the Stillwater Creek, Oklahoma Watershed. JAWRA Journal of American Water Resources Association, 45: 1343- 1351. Doi:10.1111/j.1752-1688.2009.00367.x

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $10,395,914 (15-25% - Planning, 85-75% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 20. The Mobile County Dirt Road Paving (Sediment Reduction) Program project will be implemented in South Mobile County, Alabama.

Project #21: Alabama Point Seawall Repair

Project Description/Summary

a) The purpose of this planning and implementation project is to rebuild the existing Alabama Point Seawall using a more resilient method of construction to protect both the tidally influenced marine environment and the recent improvements to the upland portion of the area. Implementation of this project on state-owned property will protect a unique and valuable public access point at Perdido Pass Seawall Park, a unit of Gulf State Park.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: The current anchored steel sheet pile seawall suffers from extensive corrosion due to repeated exposure to air as a result of tidal fluctuations. This corrosion has led to the development of numerous holes in the sheets, permitting the loss of backfill behind the wall. It has also created voids that caused the surface improvements (e.g., asphalt parking area) to collapse, creating both hazardous conditions as well as the loss of access to the State waters for recreation and sightseeing. If no action is taken, the seawall will continue to deteriorate, putting public access improvements on the upland portion of the site in jeopardy, and providing less protection in the event of tropical storm events. This could potentially render the existing seawall completely useless and necessitate a complete rebuild, which, according to engineering estimates, could cost between $7-$12 million.

      Purpose: The purpose of the proposed project is to rebuild the existing seawall using a more resilient method of construction for the tidally influenced marine environment and protect the recent improvements on the upland portion of the “seawall park”. The proposed skirt wall method of replacement will be significantly more resilient in the tidally influenced marine environment than the current seawall design. After the project is complete, all areas of the deteriorated steel sheet pile wall in the “splash zone” will be protected by the new concrete wall to eliminate further deterioration and erosion of upland material.

      Objective: The overall objective of this project is:

      - Perform a full-length underwater investigation and provide a report of the existing wall condition to accurately assess and record areas of the wall needing repair;
      - Repair recorded areas of the wall with new concrete skirt to the correct height and depth; and
      - Install riprap to properly toe into new bottom of skirt wall.

b. This activity is located in the Gulf Coast region and will be carried out in the Perdido Pass/Alabama Point area in the City of Orange Beach in Baldwin County, Alabama.

c. This project is anticipated to begin on 7/1/2019 and end on 6/30/2021 (2 years).

d. The City of Orange Beach will implement this project.

b) This project contributes to the overall economic and ecological recovery along the Gulf Coast by protecting vital coastal infrastructure and the prevention of future damage and degradation of upland improvements. In addition, this project supports ongoing tourism and recreation for the local community.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #5 – Improvements to or on State Parks located in coastal areas affected by the DWH oil spill (primary). Secondary activities include Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure; Category # 7 – Coastal flood protection and related infrastructure; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objective:

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement of professional services

b) Milestone 2: Complete pre-construction assessment including diving and video

c) Milestone 3: Conduct preliminary engineering and design

d) Milestone 4: Obtain needed permits

e) Milestone 5: Final designs and specifications

f) Milestone 6: Construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Alabama Point Seawall Repair project will be:

- Complete seawall repairs necessary to protect the tidally influenced marine environment and infrastructure on the upland portion of the area.

Table 22. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Design and engineer the construction of repairs to the Alabama Point Seawall	Completion of one pre-construction assessment and report Completed E&D Completed construction of seawall repairs	Protection for vital coastal infrastructure during hurricanes and other natural disasters Provides 25 short-term engineering and construction jobs	Greater community resiliency Increased tourism Extends the useful life of the seawall by an estimated 20 years

Monitoring and Evaluation

a) Submission of engineering and design plan to ADCNR

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to repair the Alabama Point Seawall, located at a State Park in a coastal area affected by the DWH oil spill; therefore, BAS does not apply.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $2,562,640 (30-40% - Planning, 70%-60% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

The City of Orange Beach will collaborate with the Alabama Department of Conservation & Natural Resources to implement this project.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

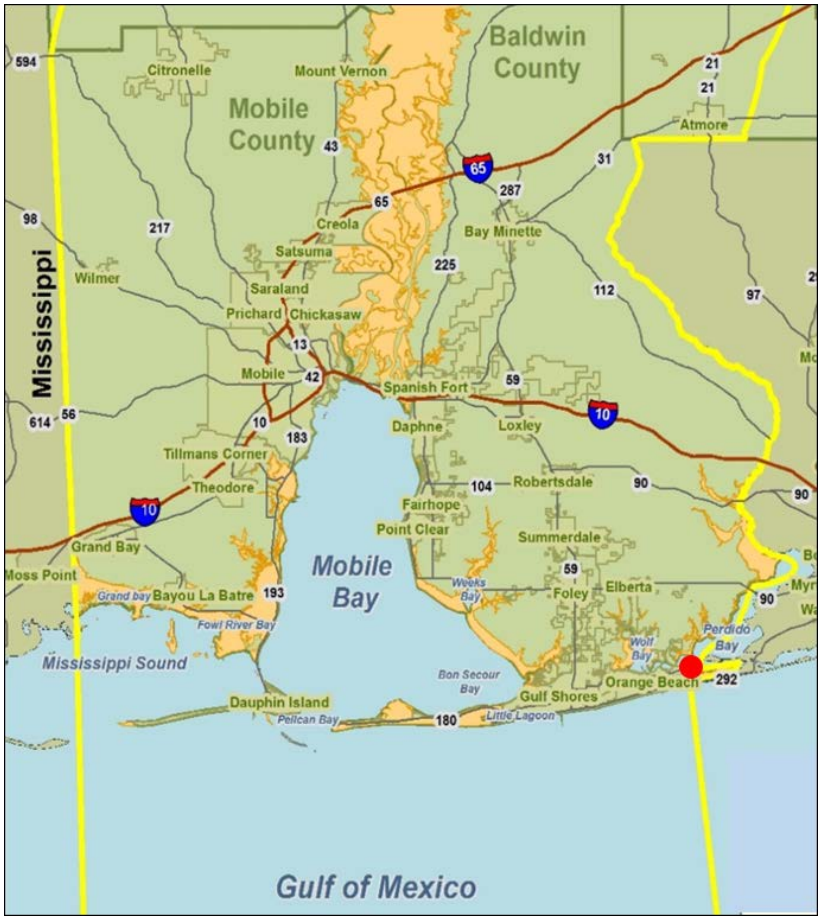

Figure 21. The Alabama Point Seawall project will be implemented in the City of Orange Beach in Baldwin County, Alabama.

Project #22: Canal Road Improvements E. of SR-161

Project Description/Summary

a) This project consists of engineering and design and construction to promote community resilience and economic growth by addressing the hindrance of economic development on Canal Road east of and near the State Road 161 (SR-161) intersection in Orange Beach. Growth of businesses and the tourism industry in Orange Beach have led to increased traffic volumes, resulting in a need to enhance capacity and efficiency. This project will provide sufficient infrastructure improvements to allow the City of Orange Beach to safely address economic growth to benefit the local economy.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need -** Canal Road east of SR-161 is an existing two-lane road that is the only access road serving the residents, businesses, and public facilities (elementary school, senior center, library, arts center, recreation center, etc.) east of the SR-161 intersection. Growth of businesses, and the tourism industry in Orange Beach have led to significant increases in traffic volumes and turning movements on this section of Canal Road, resulting in a need to increase capacity and efficiency by providing a dedicated center turn lane or some variation that allows dedicated left turns on Canal Road between SR-161 and Wilson Blvd. Any new developments immediately east of SR-161 are being denied approval because they would contribute to unacceptable levels of congestion and unsafe turning movements. Without the project, Orange Beach will be forced to deny economic development on Canal Road immediately east of the SR-161 intersection. This will hinder economic growth and limit the community's ability to improve economic resiliency.

      Purpose: The purpose of the project is to provide significant infrastructure improvements to an existing road which is limiting economic growth in Orange Beach.

      Objectives: The primary objective of this project is to:

      - Design and construct the required infrastructure improvements to increase capacity on SR-161.

   b. The area benefitted by this project is located in the City of Orange Beach in Baldwin County.

   c. This project is anticipated to begin on 7/1/19 and end on 12/31/20 (18 months).

   d. This project will be implemented by the City of Orange Beach.

b) The project contributes to the overall economic recovery of the Gulf Coast by providing sufficient infrastructure improvements to allow the City of Orange Beach to safely approve proposed economic development projects that would otherwise be denied. The project would also encourage economic development that would lead to economic growth benefitting the local economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port (primary). Secondary activities include Category #4 - Workforce development and job creation. Because the primary activity is classified as infrastructure, the 25% infrastructure cap is applicable.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement of professional services for engineering and design

b) Milestone 2: Complete preliminary engineering and design

c) Milestone 3: Permitting

d) Milestone 4: Complete final design

e) Milestone 5: Construction

f) Milestone 6: Project monitoring

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Canal Road Improvements project will be:

- Design and construction of infrastructure improvements on Canal Road to enhance traffic flow

Table 23. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Addition of a turning lane/infrastructure improvements to SR-161 in Orange Beach	Complete Bid process Complete engineering and design Obtain permits Complete Construction	Added capacity to Canal Road Increased jobs Increased access for local businesses, residents, and tourists	Increased ability to promote and sustain economic development Improved coastal resiliency

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to design and construct road improvements on Canal Road to improve traffic flow; therefore, BAS does not apply.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $1,903,718 (20-30% - Planning, 80-70% - Implementation). While it is noted that funding available under a grant award cannot exceed the

amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 22. The Canal Road Improvements East of State Road 161 will be implemented in Orange Beach, Alabama.

Project #23: Orange Beach North Sewer Force Main Upgrade

Project Description/Summary

a) This project consists of the engineering and design and construction of approximately 8 miles of sewer force main from a point on Highway 180 in Orange Beach to an existing lift station on County Road 12. The area benefitted by this upgrade will include areas north and east of Wolf Bay to Josephine as well as areas directly served by the force main. Implementation of this project will prevent failures in the existing main and decrease the use of on-site septic systems.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need** - The City of Orange Beach sewer collection system currently serves areas north of the Intracoastal Waterway around the perimeter of Wolf Bay and the Josephine area. Wolf Bay has been recognized by the Alabama Department of Environmental Management (ADEM) and the US EPA as an Outstanding Alabama Water. According to the Wolf Bay Watershed Watch, "Wolf Bay and its watershed hosts a tremendous diversity of habitats that historically supported, and may still support, several Federally listed species including black bears, bald eagles, Florida manatees, sea turtles, Gulf sturgeons, red-cockaded woodpeckers, American alligators, Alabama red-bellied turtles, and Eastern indigo snakes." This portion of the sewer collection system relies on approximately 8 miles of Dimension Ration (DR) 32.5 High Density Polyethylene (HDPE) pipe that was installed in 1987. This was before American Waterways Association (AWWA) specifications for HDPE pipe of this size were released in 1990. The pipe has a very thin wall thickness (.392") and would be rated for 50 pounds per square inch (PSI) using current standards. Repair couplings and inserts are non-standard and have to be special ordered.

      An independent study by the Substantial Solutions Corporation estimates the useful life for current installations of HDPE pipe to be about 50 years with thin walled products being about half of that. This product was installed 30 years ago and appears to be nearing the end of its useful life. As a precaution, new connections on this part of the system have been limited and no extensions into areas currently not served by public sewer can be considered.

      Failure to address this force main will increase the likelihood of failure and the resulting contamination of the Wolf Bay watershed. In addition, the area served by the force main appears to be receiving increased development interest. Without sewer main improvement, there will be increased reliance on on-site septic systems.

Purpose: The purpose of this project is to design and replace the existing force main with modern materials that are properly sized for current and future development.

Objectives: The primary objective of this project is to:

- Reduce the likelihood of sewer leaks adjacent to Wolf Bay and its tributaries;
- Afford the ability to provide sewer service to anticipated developments; and
- Reduce the number of new and existing on-site septic systems.

b. This project is located in the Gulf Coast region and will be implemented in Baldwin County along the Alabama Gulf Coast. Locations affected will include areas north and east of Wolf Bay to Josephine as well as areas directly served by the force main.

c. This project is anticipated to begin on 7/1/19 and end on 12/31/21 (2.5 years).

d. The project will be implemented by the City of Orange Beach.

b) This project will assist in the economic and ecological recovery of Orange Beach and surrounding waterways by helping to prevent sewage overflows and leaks into the local soils and waters, and by updating and increasing the integrity of Orange Beach's sewer system. It also has the potential to create short-term construction job opportunities.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #6 - Infrastructure projects benefitting the economy or ecological resources, including port infrastructure (primary).

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances

community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement for professional services

b) Milestone 2: Data collection/modeling

c) Milestone 3: Engineering and design

d) Milestone 4: Permitting

e) Milestone 5: Construction

f) Milestone 6: Project monitoring

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Orange Beach North Sewer Force Main Upgrade project will be:

- Replacement of 8 miles of sewer force main

Table 24. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Replace existing sewer force mains in Orange Beach and surrounding areas	Complete engineering and design Construct 8 miles of sewer line	Reduce and eventually eliminate the use of septic tank systems Enhance the ability to serve new and existing developments	Improved economic resilience

Monitoring and Evaluation

a) Submission of final E&D to ADCNR for review and approval

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) Submit results of bid process to ADCNR prior to awarding contracts

d) ADCNR will conduct periodic onsite reviews

e) Submission of quarterly and final reports

f) Post construction monitoring as required.

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to design and construct sewer force main improvements on Canal Road to improve opportunities for development; therefore, BAS does not apply.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $5,350,850 (5-15% - Planning, 95-85% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 23. The Orange Beach North Sewer Force Main Upgrade project will be implemented in the City of Orange Beach, Alabama.

Project #24: Storm Water Management Improvements for Toulmin Springs Branch and Gum Tree Branch

Project Description/Summary

a) The Mobile County Commission proposes to undertake planning and engineering and design to define the scope of work and develop construction documents for restoring and improving drainage and streams in Toulmin Springs Branch and Gum Tree Branch.

Funding from the RESTORE Act provides an unprecedented opportunity for the Mobile County Commission, along with the Cities of Mobile and Prichard, to transform degraded urban streams and storm water conveyances into community assets. Crossing and draining largely urban landscapes of Mobile and Prichard, Toulmin Springs Branch suffers from the negative effects of storm water runoff and decaying infrastructure, including trash, bacteria from sewage, excessive nutrients, invasive species, and erosion and sedimentation. Gum Tree Branch suffers from similar effects of urbanization.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

a. **Need**: Toulmin Springs Branch is a tributary in the greater Three Mile Creek Watershed. The sub watershed drains approximately four-square miles of highly-urbanized areas in the cities of Mobile and Prichard. Classified for Fish & Wildlife use by the Alabama Department of Environmental Management (ADEM), Toulmin Springs Branch was first placed on the State's impaired waters list for pathogens (fecal coliform) in 2004. The primary source of the impairment has been identified as storm water runoff and failing sanitary sewer infrastructure. Gum Tree Branch is a tributary in the greater Eight Mile Creek Watershed. Classified for Fish & Wildlife Use by ADEM, Gum Tree Branch was first placed on the State's impaired waters list for pathogens (fecal coliform) in 2004. The primary source of the impairment has been identified as storm water runoff and failing sanitary sewer infrastructure.

   The cost of No-Action will include continued and increased degradation to infrastructure, increased incidences of residential flooding in the communities adjacent to these tributaries, and continued negative impacts to the water quality and habitats of receiving waters.

   Purpose: This planning project will provide planning, engineering and design analyses, and documents required to identify specific projects/activities in Gum Tree Branch and Toulmin Springs Branch. These projects will address stressors affecting water quality, localized flooding, and stream/riparian habitats degradation in the sub-watersheds, contributing to healthier and sustainable ecosystem service delivery.

Objective: The primary objective of this project is to:

- Develop detailed plans and specifications; and
- Develop construction documents for water quality improvements, stream and drainage restoration, and invasive vegetation control and eradication.

b. This activity is located in the Gulf Coast region and will be carried out in Mobile County.

c. This project is anticipated to begin on 7/1/19 and end on 6/30/21 (2 years).

d. This project will be implemented by Mobile County.

b) This project proposes to develop a plan which seeks to improve water quality and reduce incidences of urban flooding in parts of Toulmin Springs Branch and Gum Tree Branch in the cities of Mobile and Prichard, Alabama. Improved water quality and reduced flooding ensures enhanced ecosystem health and community resiliency, serving to contribute to the overall economic and ecological recovery of the Gulf Coast.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #8 – Planning Assistance (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine water; and
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems; and
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and

environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procurement of professional services

b) Milestone 2: Invasive species assessment

c) Milestone 3: Restoration alternatives analyses

d) Milestone 4: Preliminary engineering and design

e) Milestone 5: Environmental compliance

f) Milestone 6: Final design

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Storm Water Management Improvements for Toulmin Springs Branch and Gum Tree Branch project will be:

- The development of plans, specifications, and construction documents to guide future implementation of drainage improvement projects in Toulmin Springs and Gum Tree Branch.

Table 25. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Development of a plan to guide future implementation of drainage improvement projects	One plan written	Development of a restoration plan ready for implementation	Improved water quality Greater community resiliency

Monitoring and Evaluation

a) Submit results of bid process to ADCNR prior to awarding contracts

b) Submission of alternatives analyses to ADCNR

c) Submission of completed plan to ADCNR

d) Submission of quarterly and final reports

Best Available Science

The Three Mile Creek Watershed Management Plan (2014) prepared for the Mobile Bay National Estuary Program by Dewberry & Davis documented the current state of water quality and ecological impairment in the Three Mile Creek watershed (including Toulmin Springs Branch); evaluated improvement measures and practices that could be implemented; and recommended a prioritized list of actions (including costs) needed to improve water quality and improve access for recreation, and by extension, the quality of life in the watershed. The plan also recommended incorporating Low Impact Development (LID) and Green Infrastructure (GI) practices, such as permeable pavement, storm water capture, and minimization of impervious surfaces, to mimic the predevelopment environment of these areas and lessen storm water impacts to the watershed where feasible. The Eight Mile Creek Watershed Management Plan (WMP) identified similar issues in Gum Tree Branch. The Prichard Drainage Study prepared for the Mobile County Commission and the Mobile Bay National Estuary Program (2016) by Neel Schaffer, Inc. performed site assessments along both Toulmin Springs Branch and Gum Tree Branch in Prichard, Alabama. Neel Schaffer also provided preliminary cost estimates for short-term and long-term improvements based on the field assessments.

The Three Mile WMP and the Eight Mile Creek WMP included recommendations for Best Management Practices and prioritized actions to address impairment in Toulmin Springs Branch and Gum Tree Branch. The engineering and design tasks will be guided by information provided in both plans. The Prichard Drainage Study will also be used as source material in the design of long term improvements in both waterbodies.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP's website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $1,222,744 (100% - Planning). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 24. The Storm Water Management Improvements for Toulmin Springs Branch and Gum Tree Branch project will be implemented in the Cities of Mobile and Prichard, Alabama in Mobile County.

Project #25: Fairhope Sewer Upgrade Phase I

Project Description/Summary

a) This project proposes the planning, engineering and design, and implementation of sewer system upgrades in the City of Fairhope. It will address the most urgent needs within the City of Fairhope sewer system by instituting major rehabilitation measures for the complete replacement of 4 main pump stations and rehabilitation of the major gravity outfall lines utilizing cost-effective and environmentally sensitive engineering solutions. The implementation of this project will protect the water quality of Mobile Bay by reducing the frequency of Sanitary Sewer Overflows (SSO's) that occur within the City of Fairhope's public sewer system.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: The City of Fairhope, Alabama's fastest growing city, experienced a 26% population growth in the last five years alone. Currently, the City's sanitary sewer system functions adequately during normal and dry-weather conditions, but during heavy rain events common to the area, sanitary sewer overflows (SSO's) occur, dumping untreated sewage into critical waterways. As the system continues to be strained by additional growth, these overflows will increase in the number of locations and amount of sewage discharged from the system, impairing water quality and causing public health and environmental hazards.

      The current system includes one Wastewater Treatment Plant, 175 miles of gravity collection and force main pipes, over 70 pumping stations, and over 2,000 manholes. Recent engineering studies have pinpointed the most urgent and critical rehabilitation needs within the entire system. There are four major pumping stations representing key drainage basins that are undersized and loaded beyond their design capacity. Most of the major gravity lines that further convey flow from these stations have also outlived their useful lives. The system has approximately 60 miles of old clay pipe that has not been inspected or rehabilitated. These disintegrated lines are allowing ground and storm water to enter the system, as well as allowing sewage to escape the system without proper treatment.

      The City of Fairhope is facing a significant landmark in the life of its sewer system. The major pump stations and gravity lines have reached the end of their useful life and need substantial upgrades to continue serving the residents of Fairhope. Alternatives explored would provide temporary relief, but more significant modifications are needed due to the high growth rate. Project engineers recommend the City make the critical infrastructure improvements to continue providing quality sewer service to its existing customers. Major pump stations and gravity lines need immediate attention. It is also recommended the City progress with a more aggressive Cured-In-Place-Pipe (CIPP) repair plan to reduce inflow and infiltration and protect

the aged infrastructure in the system. Investment in the sewer system is vital to extend its life. It is recommended the City develop its own team of professionals for closed-circuit television (CCTV), line inspection and point repairs, while outsourcing the lining of the pipe and manholes. The over 60 sewage pumping stations in the system create a complex system with a wide range of flows that must be conveyed appropriately to a treatment facility. Flow meters should be installed on gravity and pressure sewer lines and utilized with the existing Supervisory Control & Data Acquisition (SCADA) system to improve the data for evaluation. Such meters should be purchased and installed by the City or temporarily provided by a flow metering service. A Sewer Model is suggested where this data, along with rain gauge data, may provide improved insight into the sewer system. Water usage and projected water usage may be utilized within the model to create dynamic and accurate engineering solutions. The sewer model will then be used to create a Sewer Master Plan that meets all objectives of the City and provides avenues for growth.

Purpose: The implementation of this project will protect the water quality of Mobile Bay, an impaired body of water. The project will reduce the pollutant loading and improve discharges to Mobile Bay, by reducing the number and frequency of Sanitary Sewer Overflows (SSO's) that occur within the City of Fairhope's public sewer system. The proposed Phase I project will solve the most urgent problems existing within the system. Major rehabilitation measures to be funded with RESTORE Act include the complete replacement of the 4 main pump stations (North Section Street, South Section Street, Thompson Hall, and Doghouse Pumping Stations), and rehabilitation of the major gravity outfall lines utilizing cost-effective engineering solutions, having the least impact on the environment. The City will purchase all equipment necessary to develop its own assessment team for system mapping, videoing, line inspection and cleaning, and point repairs. The system's (SCADA) equipment will be upgraded to ensure system reliability, and portable generators will be purchased to provide continuous facility operations during power outages. The old clay collection lines will be rehabilitated with Cured-In-Place-Pipe Liner.

Objective: The objectives of this project include:

- Completion of initial assessment;
- Completion of engineering and design;
- Replacement of 4 major pump stations; and
- Completion of sewer system upgrades.

b. This activity is located in the Gulf Coast region and will be carried out in the Fairhope area in Baldwin County, Alabama.

c. This project is anticipated to begin 7/1/2019 and end 6/30/2024 (5 years).

d. The City of Fairhope will implement this project.

b) This project contributes to the overall economic and ecological recovery along the Gulf Coast by protecting the water quality of Mobile Bay, an impaired body of water. The project will also reduce the pollutant loading and improve discharges to Mobile Bay by reducing the number and frequency of sanitary sewer overflows that occur within the City of Fairhope's public sewer system.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 - Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring and Category #6 - Infrastructure projects benefiting the economy or ecological resources, including port infrastructure.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2 - Restore Water Quality – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters.
- Goal 5 - Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objective:

g) Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems.

h) Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines.

Major Milestones

a) Milestone 1: Complete procurement activities

b) Milestone 2: Purchase needed equipment

c) Milestone 3: Conduct preliminary engineering and design

d) Milestone 4: Obtain needed permits

e) Milestone 5: Final designs and specifications

f) Milestone 6: Construction

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Fairhope Sewer Upgrade Phase I project will be:

- Complete sewer system upgrades to protect the water quality in surrounding waterways.

Table 26. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Complete sewer system upgrades to protect the water quality in surrounding waterways	Completion one pre-construction assessment and report Completion of engineering and design Construction of sewer system upgrades Develop monitoring plan to assess water quality improvements	Reduced SSOs Supports continued community growth	Improved water quality Greater community resiliency

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of engineering and design plan to ADCNR

b) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

c) ADCNR will conduct periodic onsite reviews

d) Submission of quarterly and final reports

e) Post construction monitoring as required

Best Available Science

Water Quality Samples taken throughout the City's watersheds between June 2017 and February 2018 showed significant levels of E Coli and/or Enterococcus bacteria (fecal pollution) in over 70 of the samples. In 2015, 16 different SSO events occurred, in 2016, 14 different SSO events occurred, and in 2017, over 26 SSOs were reported. This is an indication the sewer system fails at least once or twice a month spilling thousands of gallons of untreated raw sewage into nearby waterways. The water test results clearly show the dangerous implications of these system failures.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $10,300,000 (5-15% - Planning, 95-85% Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

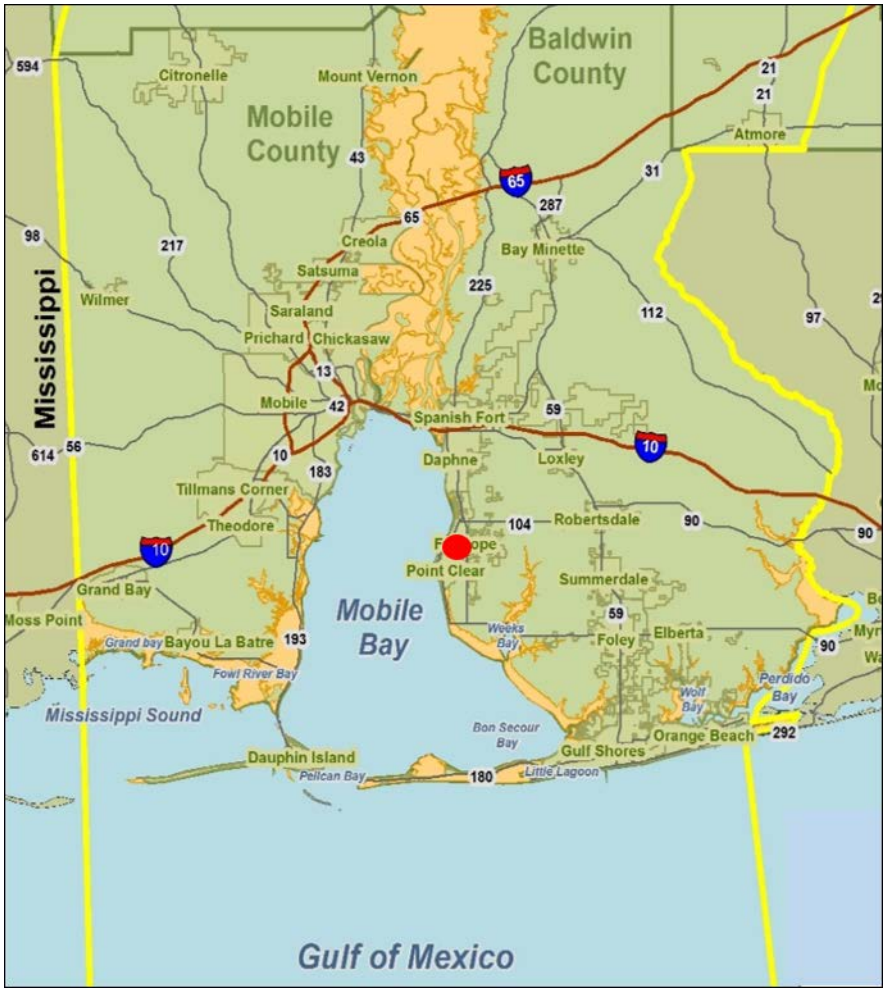

Figure 25. The City of Fairhope Sewer Upgrades Phase I project will be implemented in the Fairhope area in Baldwin County.

Project #26: Little Lagoon Restoration Project

Project Description/Summary

a) This project consists of planning, design and implementation to: 1) construct 1,000 feet of living shorelines; to improve hydrologic connectivity of the existing canal system; 2) convert approximately 200 individual septic systems to city sewer; 3) create shellfish restoration programs; 4) restore marsh and seagrass; 5) create fish habitat structures; and 6) conduct baseline surveys, hydrodynamic modeling, ecological research, and long-term monitoring. It is anticipated the proposed activities will restore and improve approximately 2,500 acres of habitat in the watershed of Little Lagoon in Gulf Shores, Alabama, and will result in the restoration and protection of water quality of the Gulf Coast Region's fresh, estuarine, and marine water resources.

   Little Lagoon is an 8-mile-long, ¾-mile-wide brackish coastal lake hydrologically connected to the Gulf of Mexico. It is part of a system of coastal dune lakes in south Baldwin County including Lake Shelby (678 ac), Middle Lake (250 ac), Little Lake (45 ac), and Gator Lake (45 ac) which are essentially fresh, tannin rich, lakes that receive salt water only during abnormally high (tropical) tides. The Little Lagoon watershed is bounded on the west by the Bon Secour National Wildlife Refuge and to the east by Gulf State Park. The unique hydrology of Little Lagoon creates an environment that is rich in diversity and functions both as a coastal dune lake and as a tidal estuary.

   Little Lagoon is home to more than 64 species of fish, 13 species of crab, 7 species of shrimp, and 11 species of mollusks. Over 370 species of migratory and resident birds have been documented within the western most 1/3 of the watershed, and the area is habitat for many endangered and threatened species, including the Alabama beach mouse, eastern indigo snake, gopher tortoise, loggerhead sea turtle, green sea turtle, and the Kemp's Ridley sea turtle.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need**: The Lagoon was directly and significantly impacted by the Deepwater Horizon Oil Spill in 2010. Implementation of this project will restore and protect habitats, as well as improve and enhance water quality, ensuring increased ecological productivity and improved coastal resiliency.

      Purpose: The purpose of this project is to improve water quality, increase and enhance habitat area, and increase ecological productivity. The project will have secondary beneficial impacts to the region including improved and more resilient infrastructure and increased recreational and ecotourism opportunities.

      Objective: The primary objective of this project is:

- Construct 1,000 feet of living shorelines;
- Improve hydrologic connectivity of the existing canal system;
- Convert approximately 200 individual septic systems to city sewer;
- Create shellfish restoration programs;
- Restore marsh and seagrass;
- Create fish habitat structures; and
- Conduct baseline surveys, hydrodynamic modeling, ecological research, and long-term monitoring.

b. This project is located in the Gulf Coast region and will be implemented in the City of Gulf Shores in Baldwin County, Alabama.

c. This project anticipated to begin on 7/1/19 and end on 6/30/24 (5 years).

d. The proposed project will be implemented by the City of Gulf Shores.

b) This project will improve water quality in Little Lagoon which flows directly into the Gulf of Mexico. Improved water quality leads to enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #1 – Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring; and Category #10 - Promotion of tourism in the Gulf Coast Region, including recreational fishing.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;
- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine water;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources;
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats;

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines; and
- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.
- Objective 7: Improve Science-Based Decision-Making Processes – Improve science-based decision-making processes used by the Council.

Major Milestones

a) Milestone 1: Procure professional services

b) Milestone 2: Develop scope, management plan

c) Milestone 3: Conduct engineering and design

d) Milestone 4: Obtain permits

e) Milestone 6: Implementation

f) Milestone 7: Conduct monitoring

Success Criteria/Metrics/Outcomes

The anticipated outcome of Little Lagoon Restoration Project will be:

- 2500 acres of restored and enhanced habitat in Little Lagoon

Table 27. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Restore Little Lagoon with the creation of living shorelines, removal of septic tanks, restoration of marsh and seagrasses, and the creation of shellfish restoration programs	Develop one management plan Create 1,000 linear feet of living shoreline Remove 200 septic systems Restore/create ~20 acres marsh/seagrass Create shellfish program Develop monitoring plan to assess water quality improvements and ecological benefits	Pollutant source repaired Increased oyster habitat Enhanced shoreline	Restoration and protection of water quality Increased resiliency

Additional success criteria capturing the ecological benefits of this project will be selected at the grant application stage.

Monitoring and Evaluation

a) Submission of final management plan to ADCNR for review and approval

b) Submission of final E&D to ADCNR for review and approval

c) Provide evidence to ADCNR that all required permits were obtained (including SHPO)

d) Submit results of bid process to ADCNR prior to awarding contracts

e) ADCNR will conduct periodic onsite reviews

f) Submission of quarterly and final reports

g) Post construction monitoring as required

Best Available Science

The restoration methods proposed as part of this project are standard methods that have been successful in other areas. Shellfish restoration, living shorelines, seagrass restoration, marsh restoration, and the elimination of septic tanks within a coastal system have all shown to be effective ways to improve water quality and habitat. This project will not attempt to 'reinvent the wheel' but will use tried and true techniques that have proven to be effective for many projects, including RESTORE projects in other areas. The specific components of the project will be analyzed and refined during the initial data gathering and watershed management plan development process.

This project is consistent with the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

Armitage, AR et. al, 2013. The influence of habitat construction technique on the ecological characteristics of a restored brackish marsh. Ecological Engineering 62, 33-42.

Blair, S, et. al., 2015. Ecosystem Services Valuation for Estuarine and Coastal Restoration in Florida. University of Florida IFAS Extension Publication, 1-6.

Boys, CA and Williams, RJ, 2012. Succession of fish and crustacean assemblages following reinstatement of tidal flow in a temperate coastal wetland. Ecological Engineering 49, 221-232.

Fonesca, MS, Julius, BE, and Kenworthy, WJ 2000. Integrating Biology and economics in seagrass restoration: How much is enough and why? Ecological Engineering 15, 227-237.

Hall, QA et. al. 2016. Reopening of a remote tidal inlet increases recruitment of estuarine-dependent nekton. Estuaries and Coasts, 39,1769-1784.

Liefer JD, et al, 2014. Seasonal Alternation between Groundwater Discharge and Benthic Coupling as Nutrient Sources in a Shallow Coastal Lagoon. Estuaries and Coasts 37, 925-940.

Sharma, S, et. al. 2016. Do restored oyster reefs benefit seagrasses? An experimental study in the Northern Gulf of Mexico. Restoration Ecology 24(3), 306-313.

Walters, K., et al 2010. Local-scale characteristics of high-marsh communities next to developed and undeveloped shorelines in an ocean-dominated estuary, Murrells Inlet, SC. Aquatic Sciences 7, 309-324.

Powers, SP et. al. 2009. Success of constructed oyster reefs in no-harvest sanctuaries: implications for restoration. Marine Ecology Progress Series 389, 159-170.

Peterson, CH et. al 2003. Estimated enhancement of fish production resulting from restoring oyster reef habitat: quantitative valuation. Marine Ecology Progress Series 264, 249-264.

Brumbaugh RD et. al., 2000. Making a case for community-based oyster restoration: An example from Hampton Roads, Virginia, USA. Journal of Shellfish Research 19(1), 467-472.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $6,175,557 (10-20% - Planning, 90-80% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 26. The Little Lagoon Restoration Project will be implemented in the City of Gulf Shores, Alabama.

Project #27: Eastern Shore Sanitary Sewer Overflows Prevention Plan

Project Description/Summary

a) This planning assistance project proposes to develop a plan to minimize or eliminate altogether sanitary sewer overflows along the Eastern Shore of Baldwin County, Alabama. This plan will include the cities of Spanish Fort, Daphne, and Fairhope. Improving water quality along the Eastern Shore will restore and enhance the ecosystem functionality of Mobile Bay and the entire estuarine system. In addition, the development of this plan will ensure the protection of public health and recreational assets, as well as providing decision-makers the necessary tools to effectively manage anticipated growth.

   Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

   a. **Need:** The population of the Eastern Shore of Baldwin County is rapidly growing. This area is generally considered the geographic area of Baldwin County lying immediately north of Interstate 10 and south of Interstate 10 to Point Clear along Mobile Bay. The municipalities of Daphne, Fairhope, and Spanish Fort make up most of this area with unincorporated areas of Baldwin County filling some gaps between these municipalities. These municipalities have experienced tremendous growth over the last twenty years which has stressed both the wastewater and storm water systems of the Eastern Shore. The primary stressors from this growth result in capacity constraints in the wastewater systems, creating situations where sewer overflows can and have occurred. In addition, erosion from development adds to sediment loading in Mobile Bay.

      Economic forecasts predict the growth rate for the next twenty years will continue at the historical rates, while some forecasts suggest the growth rates could potentially exceed the historical average. To properly support this growth with effective wastewater and storm water infrastructure, it is imperative the Eastern Shore area identify the potential demand this anticipated growth will have on this vital infrastructure. To provide a comprehensive analysis of the potential impacts this growth will have to the wastewater and storm water infrastructure, the existing systems need to be mapped and modeled, so the demands of the projected growth can be assessed in relationship to the existing capacity(ies).

      With comprehensive wastewater and storm water system models in place, coupled with a comprehensive plan for growth, future capacity constraints can be determined. Such a plan can also identify the short-term and long-term capacity improvements needed to meet the demands of the anticipated growth in the Eastern Shore area in concert with modeling the wastewater and storm water systems of the Eastern Shore. A comprehensive model is needed to better understand the mixing characteristics of the discharges to the waters of the bay, and to eliminate any concerns where discharges may

promote water quality issues from a lack of dispersion due to the locations or the volumes of the existing discharges and outfalls. A comprehensive modeling program can also help predict threshold limitations on discharge volumes to ensure water quality improvement, over time.

Purpose: The purpose of this project is to develop a plan to minimize, or eliminate altogether, sanitary sewer overflows on the Eastern Shore resulting from insufficient capacity and inflow and infiltration from excess storm water. In addition, the project aims to improve the overall water quality of Mobile Bay by protecting runoff to the Bay from sanitary sewers and sediment from storm water erosion.

Objective: The primary objectives of this project are to:

- Map and model projected growth patterns along the Eastern Shore;
- Identify areas of wastewater and storm water needs to address this anticipated growth; and
- Develop short-term strategies for dealing with current capacity issues related to growth and long-term plans for capacity improvements.

b. This project is located in the Gulf Coast region and will be implemented in the cities of Spanish Fort, Daphne, and Fairhope in Baldwin County, Alabama.

c. This project is anticipated to begin on 7/1/19 and end 6/30/22 (3 years).

d. The proposed project will be implemented by the City of Fairhope.

b) This project will develop a plan which will lead to improved water quality in Mobile Bay, the fourth largest estuary in the United States. Improved water quality ensures enhanced ecosystem health and recreational opportunities resulting in the restoration of the Gulf economy.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #8 – Planning Assistance (primary). Secondary activities include Category #3 - Implementation of a federally approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 2: Restore Water Quality and Quantity – Restore and protect the water quality and quantity of the Gulf Coast region's fresh, estuarine and marine waters; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems.

Major Milestones

a) Milestone 1: Procure professional services

b) Milestone 2: Complete Geographic Growth Study

c) Milestone 3: Complete Wastewater System Modeling Study

d) Milestone 4: Complete Wastewater Rehabilitation Study

e) Milestone 5: Complete Wastewater Management Study

f) Milestone 6: Complete modeling of each watershed and establish tracking tool

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Eastern Shore Sanitary Sewer Overflows (SSOs) Prevention Plan will be:

- Development of a plan to eliminate SSOs and sediment runoff along the Eastern Shore in Baldwin County

Table 28. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Coordination and development of an SSOs Prevention Plan	Map growth patterns Identify areas of storm water infrastructure improvements One plan written	Identification of SSO and sediment runoff sources	Prioritization of future projects to implement the Prevention Plan

Monitoring and Evaluation

a) Submission of final plan to ADCNR for review

b) Submit results of bid process to ADCNR prior to awarding contracts

c) Submission of quarterly and final reports

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to develop a plan to eliminate SSOs and sediment runoff along the Eastern Shore in Baldwin County; therefore, BAS does not apply. However, Best Available Science will be considered and utilized, as appropriate, throughout the development of the planning activities.

In addition, this project is supported by the values and recommendations set forth in the MBNEP's Comprehensive Conservation and Management Plan 2013-2018, available on the MBNEP website.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $1,030,000 (100% - Planning). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

2. Other

Not applicable at this time.

Figure 27. The Eastern Shore Sanitary Sewer Overflows Prevention Plan will be developed along the Eastern Shore in Baldwin County, Alabama.

Project #28: One Mobile: Reconnecting People, Work and Play through Complete Streets

Project Description/Summary

This project proposes the construction of storm water infrastructure improvements along Broad Street in downtown Mobile, Alabama. This activity will leverage the City of Mobile's current Transportation Investment Generating Economic Recovery (TIGER) grant to complete the Bring Back Broad Street Infrastructure initiative.

The Map for Mobile, Framework for Growth (http://mapformobile.org/) memorialized a vision supported by actionable directives for moving the City forward. Multiple Action Items within the comprehensive plan address broad goals of enhancing mobility, transportation, and infrastructure, and fostering economic development. Additionally, within the City's new Future Land Use Plan, Downtown Mobile and Broad Street (south of the Hank Aaron Loop) are designated as Priority Investment Opportunities areas, two of eleven within the City. The project will also provide connectivity to the Brookley Aeroplex, also recognized as a Priority Investment Opportunities area. This designation is an acknowledgement and recognition of "strategic infill and redevelopment" programs as "a core value for the City," and as a tool to achieve paramount economic development objectives.

Implementation of the proposed Bring Back Broad initiative, facilitated through redevelopment of existing public infrastructure, is integral to promoting the objective of creating positive change within the City. It is believed through application of sound policies and continued investment, a positive, synergistic outcome will result for the economy of the City of Mobile. Upon completion, the Broad Street infrastructure initiative promises to support long-term revitalization and ensure economic sustainability of existing and future businesses within the Gulf Coast Region.

The overall One Mobile: Reconnecting People, Work and Play through Complete Streets (a/k/a Broad Street Infrastructure) project encompasses over 4 miles of roadway improvements and is funded in large part by a federal TIGER grant. Design, survey, geotechnical, and construction services will be completed prior to the scheduled release of RESTORE funds. The Spill Impact Component funds will be used to supplement the existing project budget, specifically for water, sanitary sewer, and storm water drainage repairs.

Conceptual design and environmental due diligence for the project began in Summer 2016. During project planning, it was determined construction will be phased into four projects to minimize impacts to local businesses and residents during construction. Final design will be completed for all phases by Summer 2019.

The Broad Street Infrastructure project comprises one of the multiple initiatives which are in the planning or implementation stage within or near the City's Central Business District. Collectively, each project represents an action step intended to support the overarching objective of achieving economic development and

revitalization within the downtown Mobile area. The City's Future Land Use Plan, adopted by the Mobile City Planning Commission on May 18, 2017, designated the City's downtown as a Priority Investment Opportunity area for promotion of revitalization efforts to be realized through multiple investment sources.

Activities also include the comprehensive administration of this grant, including, but not limited to, project development and oversight, contracting, and sub-recipient monitoring.

a. **Need:** Existing infrastructure facilities within the Broad/Beauregard/MLK right-of-way are in dire need of repair and enhancement with modern technologies, including drainage, paving, and streetscape facilities. The project will enhance community resilience through improved storm water management and infrastructure. It is believed improvements to public infrastructure will result in the recruitment of additional private sector investments in an area of the City with a languishing economy.

Purpose: The project purpose includes the design and modifications of the roadway, utilities and bike/pedestrian amenities within the Broad/Beauregard/MLK right-of-way. This project seeks to remedy the damage urban renewal caused to Broad Street and the surrounding neighborhoods. Together, with other City initiatives, this project seeks to rectify decades of disinvestment in both the physical infrastructure of Broad Street and the surrounding built environment. As the City encourages pedestrian-friendly environments, underscores sustainable urban planning principles, and revitalizes neighborhoods, the key to the successful revitalization of inner-city Mobile lies in the restoration of this approximately 4.6-mile north-south corridor to its original intent. Modifications and improvements of the existing infrastructure will result in a safe, code compliant, environmentally responsible, and aesthetically inviting streetscape, that guides the creation of a vibrant, economically sustainable community.

Objective: The objectives of this project include:

- The construction of storm water infrastructure to 1) enhance mobility and foster economic development; 2) provide connectivity to the Brookley Aeroplex; 3) further the implementation of the Bring Back Broad initiative; and 4) support long-term revitalization and ensure economic sustainability of existing and future businesses.

b. This project is located in the Gulf Coast region and will be implemented in the City of Mobile in Mobile County, Alabama.

c. This project anticipated to begin on 7/1/19 and end on 6/30/21 (2 years).

d. The proposed project will be implemented by the City of Mobile.

a) The Broad Street corridor is a major arterial street connecting Interstate-165, Interstate-10, and residential areas of Mobile to the Brookley Aeroplex and Garrows Bend shipping container complex (which are major economic engines and employment centers within the City of Mobile and the State of Alabama). Without rehabilitation, the future economic growth of the City of Mobile will be limited due to aging infrastructure within the Project Corridor. By encouraging the development of the corridor along Broad Street, the City is furthering the diversification of the local economy. This is consistent with the Long-Term Economic Diversification and Resilience goals outlined in the U.S. Environmental Protection Agency's America's Gulf Coast: A Long Term Recovery Plan after the Deepwater Horizon Oil Spill, specifically "Supporting the development of a 21st century workforce," which is available on the International Economic Development Council's website.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Activity #6 - Infrastructure project benefitting the economy or ecological resources, including port infrastructure (primary). Secondary activities include Category #4 - Workforce development and job creation. Because the primary activity is classified as infrastructure, the 25% infrastructure cap is applicable.

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project complies with the following Comprehensive Plan objectives:

- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

Major Milestones

a) Milestone 1: Procure project manager

b) Milestone 2: Procure contractor

c) Milestone 3: Construction of infrastructure components

Success Criteria/Metrics/Outcomes

The anticipated outcome of the One Mobile: Reconnecting People, Work, and Play through Complete Streets project will be:

- Improvements to stormwater drainage infrastructure along the Broad/Beauregard/MLK right-of-way

Table 29. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Improvements to stormwater drainage infrastructure along the Broad/Beauregard/MLK right-of-way	4.6 miles infrastructure improved	Improved infrastructure along corridor Enhanced economic development opportunities	Increased property values Increased property tax revenue Economic diversification

Monitoring and Evaluation

a) Submit results of bid process to ADCNR prior to awarding contracts

b) ADCNR will conduct periodic onsite reviews

c) Submission of quarterly and final reports

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to repair drainage infrastructure; therefore, BAS does not apply.

However, the project will include LED street lighting and will increase permeable surfaces where feasible (through the addition of landscaping in select areas where impermeable surfacing currently exists). Green infrastructure techniques such as permeable pavers will be evaluated to increase storm water management efficiency.

Budget/Funding

c) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $1,287,500 (100% - Implementation). While it is noted that funding available under a grant award cannot exceed the amount described in the SEP for this project, the percentages listed in this section are estimated and will be more clearly cultivated in the grant application.

d) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

Leveraged Resources (if applicable)

The following leveraged resources are available:

- Federal: $14,465,044 (FHWA Transportation Investment Generating Economic Recovery Grant FY16) – Obligated and disbursed in phases
- Applicant: $3,320,000 (City of Mobile - General Fund) – Authorized and obligated
- State: $4,540,000 (Alabama Department of Transportation) - Authorized and obligated

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.

Figure 28. One Mobile: Reconnecting People, Work and Play through Complete Streets will be implemented in the City of Mobile.

Project #29: Planning Grant to Amend State Expenditure Plan

Project Description/Summary

a) This project will develop one or more amended State Expenditure Plan(s) to identify eligible Spill Impact Component activities as additional funds become available. Broad-based participation will be obtained from individuals, businesses, and organizations in the Gulf Coast region of Alabama. ADCNR will use a website portal to solicit project suggestions from the public and employ a project selection process to assure a consistent review of all projects submitted. ADCNR will also engage a consultant to serve as a technical expert and to complete detailed evaluations of each supported project. Finally, using information obtained in the technical review, the Alabama Gulf Coast Recovery Council will approve a slate of projects for inclusion in the amended SEP(s). ADCNR will then develop the amended plan and publish it for public review and comment for at least 45 days through the website, email distribution, and a public meeting.

    a. **Need**: As additional Spill Impact Component funds become available, amendments to Alabama's existing SEP will be necessary to identify and fund additional eligible activities.

       Purpose: The purpose of this project is to provide planning assistance to develop amended SEP(s) for the State of Alabama.

       Objective: The objective of this planning grant is to develop amended Alabama State Expenditure Plan(s).

    b. This project is located in the Gulf Coast region and will be implemented in Baldwin and Mobile Counties in Alabama.

    c. This project is anticipated to begin on 7/1/19 and end on 6/30/2024.

    d. This project will be implemented by the Alabama Department of Conservation and Natural Resources.

b) Projects included in amended State Expenditure Plan(s) will remain consistent with RESTORE Act eligible activities and the Comprehensive Plan goals and objectives, thereby contributing to the overall economic and ecological recovery of the Gulf Coast Region.

Eligibility and Statutory Requirements

This activity is located in the Gulf Coast Region and is eligible for Spill Impact Component funding under Category #8 – Planning Assistance (primary).

Comprehensive Plan Goals and Objectives

This project is consistent with the following Comprehensive Plan goals:

- Goal 1: Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats;

- Goal 2: Restore Water Quality and Quantity – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine water;
- Goal 3: Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources;
- Goal 4: Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes; and
- Goal 5: Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

This project supports the following Comprehensive Plan objectives:

- Objective 1: Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats;
- Objective 2: Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems;
- Objective 3: Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities;
- Objective 4: Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines;
- Objective 5: Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding;
- Objective 6: Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages; and
- Objective 7: Improve Science-Based Decision-Making Processes – Improve science-based decision-making processes used by the Council.

Major Milestones

a) Milestone 1: Alabama Council completes project selection process

b) Milestone 2: Alabama Council votes on eligible projects

c) Milestone 3: Draft Amended SEP released for public comment

d) Milestone 4: Final Amended SEP adopted and submitted to Federal Council

Success Criteria/Metrics/Outcomes

The anticipated outcome of the Planning Grant to Amend the State Expenditure Plan (SEP) will be:

- The development of one or more amended SEPs to fund activities in the Gulf Coast Region of Alabama as additional funds are deposited in the Gulf Coast Restoration Trust Fund.

Table 30. Proposed Projects Success Criteria/Metrics/Outcomes

Activity	Anticipated Project Success Criteria/Metrics	Short-term outcome	Long-term outcome
Develop one or more amended State Expenditure Plans	Number of SEPs developed and approved	Amended SEP(s) with eligible projects, programs, and activities	Economic and ecological recovery of the Gulf Coast Region

Monitoring and Evaluation

a) Insure Alabama Council adheres to project selection process

b) Semi-annual reporting to address activities associated with developing amended SEP(s)

Best Available Science

A Best Available Science (BAS) review is required for programs and activities that would restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, and economy of the Gulf Coast. The primary focus of this project is to develop an amended Alabama State Expenditure Plan(s); therefore, BAS does not apply.

Budget/Funding

a) Estimated cost of the project and amount to be requested from Spill Impact Component Funds: $300,000 (100% - Planning).

b) No other funding sources are anticipated at this time.

Partnerships/Collaboration (if applicable)

Not applicable at this time.

2. Leveraged Resources (if applicable)

Not applicable at this time.

Funds Used As Non-Federal Match (if applicable)

Not applicable at this time.

Other

Not applicable at this time.