

Mobile Bay National Estuary Program Management Conference Annual Work Plan For Implementing the Comprehensive Conservation and Management Plan



Year Five
Fiscal Year 2017-2018
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Table of Contents

Preface	4
Introduction	5
Part One: 2017-2018 WorkPlan Executive Summary	6
Major Goals and Focus	6
Budget Overview: 2017-2018	12
Project Details: Estuary Status and Trends	13
EST: Coastal monitoring program	14
EST: Watershed Sediment Studies	16
EST: Data development- Habitat/sav mapping/soil survey	17
EST: Data development- EPA Data integration/updates	19
EST: ADEM Monitoring stations-D'Olive: operational costs	20
Project Details: Ecosystem Restoration	23
ERP: General Watershed Implementation	24
ERP: D'Olive Watershed: Stabilization of actively eroding areas	25
ERP: Eight mile Creek watershed: Water Quality restoration	27
ERP: Fowl River Watershed: Restoration	29
ERP: Three Mile Creek Watershed: Restoration	31
Toulmins Spring Branch – Engagement and Drainage Study	33
Three Mile Creek Trail	34
Coastal Alabama Conservation and Resiliency Corps	34
ERP: Intertidal Watersheds: Planning	36
Project Details: Technical Assistance/ Capacity Building	39
TAC: Volunteer Ecosystem monitoring Program w/AWW	40
TAC: Coastal Clean Water Partnership- Non-Point Source Pollution Program	42
TAC: Dauphin Island History to Future -Complete	44
TAC: Estuary Corps	45
TAC: Coastal marine planning	47
Project Detail: Education and Public involvement	49
EPI: Management conference support	50
EPI: Semi Annual Newsletter	52
EPI: Educational/Informative Signage	53

EPI: Video Production _____	54
EPI: Special Events _____	55
EPI: Community Awareness Campaigns: Clean water future _____	56
EPI: Community Outreach Promotional Materials _____	58
EPI: Oyster Gardening _____	59
MPA: Program implementation _____	60
Staffing plan _____	63
Travel _____	64
<i>PARTNERS</i> _____	65
The Management Conference _____	65
Federal Partners _____	66
State Resources _____	69
Local Resources _____	70
In-Kind Contributions _____	70
Geographic Distribution _____	71
<i>Part Two: Ongoing Projects</i> _____	72
Implementation Progress _____	77

PREFACE

In 1972, the Clean Water Act was created to restore and maintain the chemical and biological integrity of the nation's waters so they can *support the protection and propagation of fish, shellfish, wildlife and recreation in and on the water*. In 1987, the National Estuary Program (NEP) was created by the U.S. Congress via amendments to this Act to identify, restore, and protect nationally significant estuaries. Authorized under Title 3, Section 320, Public Law 94-117, 33 U.S.C 466, the goal of this program is to protect and restore the water quality and living resources of estuaries and associated watersheds designated by the EPA Administrator as estuaries of national significance.

NEPs work to implement estuarine ecosystem-based management by characterizing the priority problems in their estuaries and surrounding watersheds, developing Comprehensive Conservation and Management Plans (CCMPs) that list and describe actions to address those problems, and identifying partners, including lead entities, to implement the actions. Locally, the Mobile Bay National Estuary Program (MBNEP), in existence for the last 22 years, facilitates the creation of the CCMP and its updates through coordinating scientific assessment of where and what stresses are impacting the health of our estuarine ecosystems, capturing the input of citizens throughout Mobile and Baldwin counties, and initiating the development of actions identified by community leaders, resource managers, and scientists to conserve, restore, protect those things that we value most about living in coastal Alabama.

Using the input of over 30 scientists, 1,000 citizens, 100 community leaders, and federal, state and local government agencies, the CCMP represents a strategic plan of action for the next five years (2013-2018). This Work Plan identifies actions that will be initiated in support of the priorities laid out in that document.

INTRODUCTION

MBNEP's mission is to promote the wise stewardship of water quality and living resources of the Alabama's estuaries. MBNEP's purpose is to catalyze actions of estuary stakeholders, build community organizational capacity for sound resource management, and leverage commitment and investment to ensure the estuary's sustainability. MBNEP's objectives: Engage estuary stakeholders in the development of CCMPs; 2) expand resources and involvement in the implementation of these CCMPs; and 3) promote how to best protect this nationally-significant ecological, economic, and cultural resource to ensure its conservation for our lifetime and beyond. To maximize effectiveness in promoting estuary health, the program's guiding principles are:

Those that live it know it - Citizens, fishermen, boaters, scientists, hunters, and others have a unique insight into the environmental challenges we face, what works, and what doesn't. **Stakeholder input is vital to developing long-term solutions to local challenges.**

Economic opportunities must be available - Our coast is an economic engine, creating significant wealth for our state each year through activities such as trade through the Port of Mobile, recreational and commercial fishing, tourism, hunting, and coastal construction. **Many jobs depend on coastal water quality, healthy populations of fish and wild life, and a mosaic of habitats that provides essential natural functions.**

It happens in the river, in the sea, and on the street - Residents, towns, cities, counties, business and industry, academia, community developers, and social services all have a vested interest in preserving the quality of life derived from Mobile Bay and coastal Alabama's estuaries. Involvement of citizens in carrying out activities aimed at improving the Bay and its watersheds is paramount to ensuring the long-term health and vitality of the Mobile estuary. **Citizens must be actively engaged in balancing the many uses of the Bay so that we can preserve its unique natural resources for all of our needs.**

Our vision: Alabama's estuaries ("where the rivers meet the sea") are healthy and support ecological functions and human uses. Everyone deserves the opportunity to experience the beauty and bounty of Alabama's estuaries - its rivers, creeks, bays, and bayous; abounding diversity of fish and wildlife; productive wetlands; and forests, dunes, and beaches. Alabama's estuaries are integral to our common good.

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PART ONE: 2017-2018 WORKPLAN EXECUTIVE SUMMARY

Major Goals and Focus

In October of 2013, MBNEP began implementation of a Comprehensive Conservation Management Plan for 2013-2018. Over the course of the first year, each of the committees of the Mobile Bay National Estuary Program adopted a five-year strategy to protect/improve management of: **Access** to the water and open spaces (for recreation and vistas); **Beaches and Shorelines** (Protection, economy, beauty); **Fish** (Fish and wildlife habitats, abundance, livelihood); **Heritage and Culture** (Protecting the legacy); **Environmental Health/Resiliency** (Protecting); **Water quality** (drinking water quality and quantity, rivers, creeks, bay-fishable, swimmable, drinkable). These committees continue their commitment toward the successful implementation of this plan. During the coming year, these committees will focus on the following **goals** and *objectives*:

Ecosystem Status and Trends

ECOSYSTEM STATUS AND TRENDS

Science Advisory Committee

1. **Increase data related to how the estuarine ecosystem responds to anthropogenic stressors.**
 - 1.1. *Maintain/improve existing level of coastal monitoring.*
 - 1.1.1. **Develop and execute policies and procedures** for data storage with the Dauphin Island Sea Lab to codify the Lab as a coastal data repository for MBNEP related data.
 - 1.1.2. **Conduct one Metadata training** in concert with the Sea Lab for MBNEP contractors; modify MBNEP contract language to include a requirement for metadata generation as applicable.
 - 1.1.3. **Continue compilation of data** including but not limited to: mobile county soils; watershed characterization data; and other data sets to establish a GIS based habitat restoration plan which can be continuously improved through future data entry.
 - 1.1.4. **Initiate development of methodology for acquiring periodic updates to EPA datasets** included in the Watersheds Tool.
2. **Establish process for measuring change in estuarine conditions.**
 - 2.1. *Build a biological Condition Gradient Framework for coastal Alabama.*
 - 2.1.1. **Continue to build monitoring framework** based on parameters being collected in D'Olive watershed, land development index, and other factors effecting system health (Year two of three-year project).
 - 2.1.2. **Continue development of a "State of the Bay" Report** to the public for publication, 9/2018.
3. **Improve understanding of relationship between biological condition and provision of ecosystem services resulting from improvements in resources.**
 - 3.1. *Manage system for multiple services.*
 - 3.1.1. **Continue to compile available data** to determine improvements due to restoration of D'Olive watershed (Year two of three-year project).
 - 3.1.2. **Undertake baseline monitoring program for Fowl River watershed** related to future restoration of spits; continue to support volunteer water quality monitoring to inform future restoration. Initiate comprehensive study of marshes in the transition zone of the Fowl River watershed.

Ecosystem Restoration

ECOSYSTEM RESTORATION AND PROTECTION

Project Implementation Committee

1. **Improve trends in Water Quality in priority watersheds with impairments (either 303(d)-listed or those with approved TMDLs) or other intertidal watersheds that discharge into priority fish nursery areas.**
 - 1.1. *Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.*
 - 1.1.1. **Complete sediment studies** in Wolf Bay and West Fowl River; **initiate sediment studies** for Fly Creek, Deer River and Tensaw Apalachee.
 - 1.1.2. **Initiate watershed plans** in at least three watersheds/complexes (Wolf Bay, Tensaw Apalachee, Fly Creek); **complete watershed management plans** in one watershed (Mississippi Sound Complex- Bayou la Batre, West Fowl River, Dauphin Island).
 - 1.1.3. **Continue/Facilitate implementation of seven watershed plans** (D'Olive, Three Mile, Eight Mile, Fowl River, Dog River, Bon Secour Complex, Weeks Bay); achieve substantial completion of remainder of D'Olive Stream Restoration Program, including installation of stormwater facilities (DAE) and enhanced stream restoration activities (DAF/1).
 - 1.1.4. **Coordinate establishment of a Septic Pump-out/Repair Program** (Eight Mile Creek).
 - 1.1.5. **Support implementation of Drainage Improvement Plan** for Gum Tree Branch (Eight Mile Creek) and Toulmins Spring Branch (Three Mile Creek); pursue construction of stormwater park in Toulmins Spring Branch.
2. **Improve ecosystem function and resilience through protection, restoration and conservation of beaches, bays, backwaters, and rivers.**
 - 2.1. *Install living shorelines along publically owned property.*
 - 2.2. *Install living shorelines along privately-owned property.*
 - 2.2.1. **Complete living shoreline along 1,400 feet of privately owned property** on the northern tip of Mon Louis Island.
 - 2.3. *Plant 25 acres of sea oats to stabilize dune system along gulf-fronting beaches.*
 - 2.4. *Explore increased hydrological exchange through Hwy 98 causeway.*
 - 2.4.1. **Include Causeway hydrological exchange** in Tensaw-Apalachee watershed plan.
 - 2.5. *Restore 2,500 acres of nearshore and intertidal marshes and flats.*
 - 2.5.1. **Complete creation of four acres of marsh** on tip of Mon Louis Island.
3. **Restore/Expand human connections.**
 - 3.1. *Create 10 new access points.*
 - 3.1.1. **Seek funding to prepare a comprehensive recreation plan** for coastal Alabama.
 - 3.2. *Protect/conservate priority habitats for public benefit.*
 - 3.2.1. **Conduct one Conservation Easement workshop.**
 - 3.3. *Create driving/walking/biking/paddling trails on historical, ethnic and religious themes.*
 - 3.3.1. **Continue to support the design and construction of trail** in Three Mile Creek Watershed.

Technical Assistance and Capacity Building

TECHNICAL ASSISTANCE AND CAPACITY BUILDING

Business Resources Committee

1. **Improve Business community understanding of how coastal natural resources and estuaries contribute to economic, cultural, and community wellbeing.**
 - 1.1. *Conduct 15 tours highlighting three most stressed habitats.*
 - 1.1.1. **Host a minimum of six tours** of the estuary focused on educating the private sector about the value of our coastal resources.
 - 1.2. *Deliver a series of presentations to private sector establishments on Create a Clean Water Future campaign and estuary values.*
 - 1.2.1. **Conduct twelve presentations** on issues related to the CCMP.
 - 1.3. *Develop and implement the Create a Clean Water Future (CCWF) messaging and marketing campaign to be an identifiable brand to foster private sector stewardship.*
 - 1.3.1. **Continue implementation of the Clean Water Future Campaign** with focus on business sector to include development of Rack Card for recruitment purposes and updates to interactive website; promote membership in campaign statewide.
2. **Increase business support for protecting the estuary/coast.**
 - 2.1. *Promote business “team” participation in service opportunities to support the CCWF campaign.*
 - 2.1.1. **Implement strategy for engaging business sector** in watershed planning and implementation with a **focus on stakeholders upstream of Tensaw Apalachee** watershed.
 - 2.1.2. **Partner with Partners for Environmental Progress** to install and monitor three Litter Gitter traps as a pilot in Three Mile Creek watershed.
 - 2.1.3. **Continue Amphibious Assault on Maple St. Canal** through Business Resources Committee.
 - 2.2. *Identify and connect business partners to a minimum of three existing opportunities to celebrate cultural heritage of the estuary.*
 - 2.3. *Promote improved stormwater management by the private sector.*
 - 2.3.1. **Produce 5-7minute video to educate** about new technologies being employed along Alabama coast to better manage stormwater runoff.
 - 2.3.2. **Facilitate the creation of Watershed Plan Implementation structures/coalitions** to champion watershed plan activities for Mississippi Sound Complex, Dog River, Fish River, Bon Secour.
3. **Conserve and improve working waterfronts and preserve fishing communities.**
 - 3.1. *Create oyster farm enterprise zones to provide alternative livelihood for traditional fishing families.*
 - 3.2. *Develop safe harbor in Bayou la Batre and Bon Secour River.*
 - 3.3. *Pilot “model working waterfront.”*
 - 3.4. *Advocate for the assessment, improvements and designation of estuary ports as green ports.*
 - 3.4.1. **Support promotion and implementation of the Clean and Resilient Marina Program** with a goal of certifying at least two marinas.
 - 3.5. *Develop planning tools to balance conservation, restoration and multiple uses of estuary.*
 - 3.5.1. Work with Auburn University and Working Waterfronts Coalition to **develop App for an online visualization tool** to assist waterfront community with better coordination of uses.

- 1. Establish long-term capability of local governments to manage and maintain coastal environmental resources.**
 - 1.1. Improve elected officials' understanding of issues that impact environmental health and comprehensive land use and water resources management.*
 - 1.1.1. Develop a strategy for local government participation in watershed planning** using highlights of efforts currently underway.
 - 1.2. Develop platform of necessary regulatory changes needed to manage and maintain coastal environmental resources.*
 - 1.2.1. Use Assessment of Local Regulations** to develop a platform of necessary changes needed to strengthen local governance of coastal resources.
 - 1.3. Create and Implement enabling legislation to improve local government authority over environmental protection.*

- 2. Minimize impacts and amount of contaminated stormwater runoff entering coastal waterways.**
 - 2.1. Establish voluntary initiatives to reduce the incidence of non-point source pollution.*
 - 2.2. Educate elected officials about existing ordinances and effectiveness for reducing non-point source pollution.*
 - 2.2.1. Distribute 5-7minute video to educate** about new technologies being employed along Alabama coast to better manage stormwater runoff.
 - 2.3. Establish watershed consortiums across geopolitical boundaries in priority watersheds to better coordinate stormwater management.*
 - 2.3.1. Create watershed consortiums** for Fowl River, Fish River, and Bon Secour Complex.

- 3. Promote the protection and restoration of Gulf-fronting beaches, dunes, and shorelines as a first line of defense.**
 - 3.1. Develop a strategy for restoration and protection of beaches, dunes, and shorelines that is endorsed by elected officials in Mobile and Baldwin Counties.*

Education and Public Involvement

- 1. Increase awareness of coastal resources that support what people value about living in coastal Alabama.**
 - 1.1. Give 50 presentations to community groups about the CCMP or issues impacting our coastal values.*
 - 1.1.1. Conduct presentations at five community groups** on topics of concern/activities of the CCMP.
 - 1.2. Host 15 workshops annually to educate citizens and property owners on how to protect and restore what people value most.*
 - 1.2.1. Host four rain barrel workshops** in Toulmins Spring Branch (Three Mile Creek watershed).
 - 1.3. Participate in 15 festivals to celebrate cultural/natural connections to the coast.*
 - 1.3.1. Support local events**, including but not limited to: Birdfest, Blessing of the Fleet, Creekfest, Wolf Bay Water Watch Kids Fishing Tournament, and other festivals celebrating heritage/culture.

- 1.4. *Create and support programs that expose more people to local waterways.*
 - 1.4.1. **Install watershed signage** throughout Mobile and Baldwin counties, with a focus on locations in close proximity to waterways.
 - 1.4.2. **Support Coastal Clean Up.**
 - 1.4.3. **Support a local conservation corps** in partnership with MLK Avenue Redevelopment.

2. Improve community ability to participate in ecosystem-based management actions

- 2.1. *Engage grassroots groups in assisting with development and implementation of watershed management plans.*
 - 2.1.1. **Engage local watershed groups** in watershed planning and plan implementation including but not limited to: Fowl River Area Community Association, Prichard Environmental Restoration Keepers, Dog River Clearwater Revival, The Peninsula of Mobile, Wolf Bay Watershed Watch, Little Lagoon Preservation Society, Mobile County Wildlife and Conservation Association, Mobile Bay Kayak Fishing Association, Fort Morgan Civic Association. Create outreach materials to assist with communications.
- 2.2. *Engage grassroots groups in collecting data to monitor trends related to implementation of watershed plans.*
 - 2.2.1. **Train 20 citizens to undertake volunteer water quality monitoring**/mentor students who are conducting monitoring in the following watersheds: Bon Secour, Oyster Bay, Skunk Bayou, West Fowl River, Bayou, Fish River.
 - 2.2.2. **Support development and promote the use of “Water Rangers”** online water monitoring data visualization program to capture volunteer water quality monitoring data.
- 2.3. *Educate on programs and volunteer opportunities available to improve coastal environment.*
 - 2.3.1. **Update website calendar** on a periodic basis.

3. Increase citizen actions to mitigate impacts of humans on the environment.

- 3.1. *Support one social marketing campaign to increase participation in conservation activities.*
 - 3.1.1. **Continue implementation of the Create a Clean Water Future Campaign** within grassroots community.
- 3.2. *Implement at least three programs to increase community stewardship through place-based grassroots groups.*
- 3.3. *Support programs developed to reduce amount of trash in coastal waterways.*
 - 3.3.1. **Support four community clean-ups.**

4. Build capacity of grassroots groups.

- 4.1. *Support/Promote three workshops addressing organizational development.*
 - 4.1.1. **Host one Organizational Development workshop** for grassroots groups.
- 4.2. *Support needed changes to federal, state, and local regulations to improve management of our coastal resources.*

EDUCATION AND PUBLIC INVOLVEMENT

Community Resources Committee

1. Increase awareness of coastal resources that support what people value about living in coastal Alabama.

- 1.1. *Give 50 presentations to community groups about the CCMP or issues impacting our coastal values.*

- 1.1.1. **Give presentations to 5 civic groups/community leaders** within environmental spheres of influence about the three most stressed habitats and why they are important to coastal ecosystem health.
 - 1.1.2. **Educate key stakeholders and raise community awareness** about the connectivity between upstream areas and the estuary/downstream.
 - 1.2. *Host 15 workshops annually to educate citizens and property owners on how to protect and restore what people value most.*
 - 1.2.1. **Host one LID workshop** for property owners.
 - 1.2.2. **Host one Living Shorelines Workshop** for property owners.
 - 1.3. *Participate in 15 festivals to celebrate cultural/natural connections to the coast.*
 - 1.3.1. **Support local events**, including but not limited to: Birdfest, Blessing of the Fleet, Creekfest, Wolf Bay Water Watch Kids Fishing Tournament, and other festivals celebrating coastal heritage/culture.
 - 1.4. *Create and support programs that expose more people to local waterways.*
 - 1.4.1. **Support Coastal Clean Up.**
- 2. Improve community ability to participate in ecosystem-based management actions**
- 2.1. *Educate on programs and volunteer opportunities available for protecting coastal assets.*
 - 2.1.1. **Distribute electronic newsletter** on a monthly basis to raise awareness about environmental programs and volunteer opportunities.
- 3. Increase citizen actions to mitigate impacts of humans on the environment.**
- 3.1. *Support one social marketing campaign to increase participation in conservation activities.*
 - 3.1.1. **Continue implementation of the Create a Clean Water Future Campaign** within local NGO community.
 - 3.2. *Support programs developed to reduce amount of trash in coastal waterways.*
 - 3.2.1. **Host four community clean-ups** in watersheds currently implementing watershed plans (Fowl River, Fish River, Three Mile Creek, Bayou La Batre).
- 4. Build capacity of grassroots groups.**
- 4.1. *Support needed changes to federal, state, and local regulations to improve management of our coastal resources.*
 - 4.1.1. **Initiate one letter writing campaign** to encourage locally elected officials to participate in watershed planning and implementation.
- 5. Advocate for environmental issues addressed in the CCMP.**
- 5.1. *Publicly support the development of Watershed Management Plans and their implementation in guiding coastal restoration and community resilience.*
 - 5.1.1. **Promote community input in watershed planning-** Wolf Bay, Mississippi Sound Complex, Fly Creek.
 - 5.1.2. **Develop a short video** to educate communities about the value of getting involved in watershed management planning and implementation.
 - 5.2. *Publicly support best management practices for installing living shorelines.*
 - 5.3. *Publicly support regulatory changes to provide local government with authority needed to protect natural resources.*
 - 5.4. *Publicly support the establishment of local controls and standards to protect streams and wetlands.*
 - 5.4.1. **Actively monitor watershed planning and provide comments** on completed plans (Mississippi Sound Complex, Wolf Bay).

BUDGET OVERVIEW: 2017-2018

Each year the MBNEP receives an allocation from EPA to support activities geared toward achieving the objectives of the CCMP. EPA requires that the funding provided as part of a “cooperative agreement” be matched with non-federal dollars in a 1:1 ratio, either in cash or in-kind valuation. This match may be in the form of cash investments, donated property valuation, or in-kind equipment, professional, or volunteer services (see Match section). The 2017-2018 MBNEP EPA Budget below delineates anticipated expenditures for the next year. Note: This budget is based on receipt of **\$700,000 from US EPA** for the 2016-2017 program year and **\$281,976 in state and local funds**.

Activity	Year One 2013-2014	Year Two 2014-2015	Year Three 2015-2016	Year Four 2016-2017	Year Five 2017-2018	2017-2018 Funds Available + Budget
Estuary Status and Trends	47,500.00	16,250.00	10,000.00	125,000.00	25,000	115,031
Coastal Monitoring- Coordinator	30,000.00	16,250.00	10,000.00	25,000.00	15,000	15,031
Watershed Sediment Studies	17,500.00					-
SAC Technical Assistance						-
EPA Data Integration/Updates				100,000.00		100,000
ADEM Monitoring Stations Operational Costs					10,000	10,000
Ecosystem Restoration and Protection	65,979.00	91,268.00	10,000.00	20,000.00	20,860	7,074
General Watershed Implementation Reserve					15,860	
D'Olive Watershed Implementation	1,544.00				2,500	3,449
Eight Mile Creek - Gum Tree Branch Drainage		15,000.00				-
Three Mile Creek- Toulmins Spring Drainage	-	33,848.00	-	-		-
Three Mile Creek- Toulmins Spring Stormwater Study	43,000.00	3,855.00	10,000.00	-		-
Three Mile Creek- Community Resiliency/Consv. Corps	-	20,000.00	-	20,000.00		-
Three Mile Creek reserve	-	-	-	-	2,500	3,625
12 Mile Survey & Monitoring	-	-	-	-		-
Bon Secour Watershed Plan	21,435.00	18,565.00	-	-		-
Technical Assistance and Capacity Building	24,000.00	12,500.00	22,500.00	17,500.00	-	21,484
Alabama Water Watch	5,000.00	-	10,000.00	-		4,467
Citizen Monitoring	-	-	-	-		13,217
HS Education and Monitoring	-	-	-	-		3,800
Estuary Corps Environmental Experts Video	9,000.00	-	-	-		-
CWP Facilitator	10,000.00	12,500.00	12,500.00	17,500.00		-
Education and Public Involvement	79,435.00	112,540.00	112,793.91	100,676.00	95,740	111,888
Management Conference Support/Partnerships	-	3,000.00	-	2,500.00	2,500	4,129
Newsletter	-	8,000.00	8,000.00	8,000.00	8,500	8,500
Interpretive Signage	-	-	-	5,000.00	9,500	10,531
Video Production Reserve	14,000.00	5,000.00	20,000.00	5,000.00	25,000	25,000
Special Events	14,435.00	8,000.00	8,000.00	5,000.00	7,500	7,500
Promotional SWAG	5,000.00	3,210.00	-	4,176.00	5,000	6,888
Public Awareness- Clean Water Future Campaign	-	40,330.00	29,793.91	10,000.00	36,740	48,341
Oyster Gardening/ Oyster Trail Sponsorship	1,000.00	-	2,000.00	1,000.00	1,000	1,000
DISL Education Salary Support	45,000.00	45,000.00	45,000.00	60,000.00		-
Management and Program Administration	583,668.00	572,418.00	678,794.09	731,000.00	765,377	765,376
Program Delivery/Operation	479,245.00	470,030.00	570,000.00	602,695.00	647,076	647,075
Indirect Charges	104,423.00	102,388.00	108,794.09	128,305.00	118,301	118,301
Grand Total EPA Budget	800,582.00	804,976.00	834,088.00	994,176.00	906,977	1,020,854

Project Details: Estuary Status and Trends

Activity	Year One 2013-2014	Year Two 2014-2015	Year Three 2015-2016	Year Four 2016-2017	Year Five 2017-2018	2017-2018 Funds Available + Budget
Estuary Status and Trends	47,500.00	16,250.00	10,000.00	125,000.00	25,000	115,031
Coastal Monitoring- Coordinator	30,000.00	16,250.00	10,000.00	25,000.00	15,000	15,031
Watershed Sediment Studies	17,500.00					-
SAC Technical Assistance						-
EPA Data Integration/Updates				100,000.00		100,000
ADEM Monitoring Stations Operational Costs					10,000	10,000

What does biological integrity look like in coastal Alabama? What monitoring and research is needed to track environmental conditions through time? How do we reduce stressors and communicate resultant biological changes? One of the charges of the Science Advisory Committee (SAC) is to integrate science into the development of an environmental monitoring program that informs about the status of our coastal area's biological condition. It will be imperative that this monitoring program be one coinciding with citizens' value and data is communicated to the public so progress in improving/protecting biological conditions has widespread community support.

As part of building a robust monitoring program, the SAC is charged with developing recommendations for what research is needed to better understand our estuarine system; identifying what baseline gaps exist and developing those (particularly in the most- and least-stressed habitats/watersheds); determining what other needs exist in relation to the six things citizens value most; and developing decision-support tools to facilitate citizen access these data sets.

Throughout the implementation of the Comprehensive Conservation and Management Plan for 2013-2018, the SAC will work with state and federal agencies to develop answers to the above questions. The SAC will participate with ADEM to build a Biological Condition Gradient framework for coastal Alabama with assistance from U.S. EPA Headquarters and Gulf Breeze Lab. State and local resource managers will pursue development of a long-term monitoring program. In addition, the SAC will pursue opportunities to establish baselines and other science necessary to support comprehensive watershed planning.

EST: COASTAL MONITORING PROGRAM

Project Number	EST1401
Title	Coastal Monitoring Program
Values Supported	
Purpose	Using ongoing research, and Healthy Watersheds/Biological Condition Gradient Frameworks- Increase understanding of how to monitor estuary health; identify biological indicators; and incorporate into a coastal biological monitoring program.
Outputs/Deliverables	Plan for establishing long-term ecological monitoring for Coastal Alabama for habitats that support what people value most including beaches, intertidal marshes and flats, streams, rivers, riparian buffers and fresh water wetlands; High Resolution Habitat Maps of Mobile and Baldwin Counties, including SAV mapping; A first edition Biological Condition Gradient Framework and implementation plan; Establishment of data repository
Outcomes	Increase knowledge about science, monitoring, habitat management, and restoration of the Mobile Bay estuarine environment; Increase community ownership and involvement in local environmental protection activities
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation, improve monitoring of wetland function and coverage
Year 1 (2013-2014)	\$ 30,000
Year 2 (2014-2015)	\$ 16,250 (Revised)
Year 3 (2015-2016)	\$ 10,000
Year 4 (2016-2017)	\$54,750 (Revised)
Year 5 (2017-2018)	\$15,000
Other Funding	\$ 0
Total Available	\$ \$126,000
Match/Leverage	US EPA, ADEM, Science Advisory Committee
Lead/Partners	ADEM/MBNEP SAC, US EPA

Biological integrity is commonly defined as "the ability to support and maintain a balanced, integrated, and adaptive community of organisms having a species composition, diversity and functional organization comparable to those of natural habitats within a region" (Karr and Dudley, 1981). It is equated with pristine conditions, or those conditions with minimal or no disturbance.

Mobile Bay provides a wealth of ecosystem services that benefit Alabama citizens, including water purification, nutrient cycling, carbon storage, and recreational opportunities. The provision of these valuable services depends in part on the ecological integrity of our coastal watersheds. The water quality and ecological health of Mobile Bay cannot be adequately protected through efforts focused solely on the edge of the Bay. Improving environmental conditions by managing anthropogenic stressors along the AL coast requires that they be viewed in a broader, systems context. The health of Mobile Bay depends upon the health of the upstream portions of its coastal watersheds.

Utilizing a Biological Condition Gradient (BCG) framework integrates the condition of watersheds that feed into Mobile Bay, capturing the upstream processes that influence the health of the estuary. Developing environmental goals with a BCG framework includes: 1) defining biological condition of a minimally disturbed area or what the natural condition in the area would be, 2) defining biological attributes that change based on the level of stress to that condition, 3) associating those changes with specific human impacts, and 4) identifying management practices for improving conditions and, therefore, biological integrity.

The SAC has made progress with the BCG Framework. The version of the BCG framework the MBNEP will be using is a habitat mosaic; three habitats were identified and prioritized in 2012 by the regional community as critical to the health of Mobile Bay. The SAC came to consensus on how to quantify the condition of the identified habitats. Additionally, a monitoring working group was formed to develop a basic framework for monitoring the condition of watersheds at the HUC12 scale adjacent to Mobile Bay to standardize data collection and management throughout the Bay. This framework allows ready integration of data into a broader, estuary-wide context. This framework is being applied to D'Olive watershed through both tracking of restoration improvements and other biological parameters of the established BCG framework.

Throughout the next several program years, monitoring will occur in the D'Olive Watershed and its receiving waters through local, state, and federal partnerships. These observations will improve understanding in the physical and biological processes occurring in the sub-estuaries of Mobile Bay and enhance future restoration efforts. The shifts in the BCG as stressors are reduced will be tracked, and partner academicians will analyze the results to assess the usefulness of the habitat mosaic BCG. Furthermore, the data collected on the D'Olive restoration will help pinpoint the most cost effective metrics to measure for shifts in function and services in other watersheds.

The comprehensive, Bay-wide, Real-Time Monitoring Program was begun in the FY 2003 Work Plan and was initially funded by the Coastal Impact Assistance Program and then the Gulf of Mexico Program. This monitoring is now being fully operated by the Dauphin Island Sea Lab.

2016 accomplishments: First full year of restoration monitoring in D'Olive Watershed; 3 Science Advisory Committee Meetings; grant award for Fowl River Marsh Health Study; coordination of State of Bay working group; establishment of Volunteer Water Quality Monitoring Manual and coastal program.

Objectives for 2017-2018 year:

1. Continue establishment of coastal data repository at DISL.
2. Conduct one metadata training with MBNEP contractors and others
3. Continue compilation of data on watersheds.
4. Initiate development of methodology for acquiring periodic updates to EPA datasets.
5. Continue to build draft Biological Condition framework in D'Olive Watershed
6. Use framework to begin development of a "STATE OF THE BAY" report

EST: WATERSHED SEDIMENT STUDIES

Project Number	EST1402
Title	Comprehensive Coastal Sediment Loading Analysis Initiative
Values Supported	
Purpose	Establish quantitative baselines of sediment transport in coastal watersheds to inform and measure progress in planning.
Outputs/Deliverables	Sediment Analysis Reports for Fowl River Watershed, and one watershed to be determined
Outcomes	Improve understanding of sources of sedimentation in tributaries of the Mobile Bay estuarine system
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation
Year 1 (2013-2014)	\$ 17,500
Year 2 (2014-2015)	\$ (16,400) (Revised)
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	
Other Funding	\$ 50,000 NFWF GEBF
Total Available	\$ 51,100
Match/Leverage	\$ 34,500 (GSA)
Lead/Partners	Geological Survey of Alabama/MBNEP

The Mobile Bay National Estuary Program has partnered with Geological Survey of Alabama to characterize land use, erosion, and sedimentation in coastal watersheds to identify sources of sediment and to establish baseline data and sedimentation rating curves useful in watershed planning. GSA utilizes modeling techniques to determine bed and suspended sediment loads and identifies point sources of sediment, including man-made and natural drainage ways. Monitoring is based on precipitation and resulting stream discharge and includes basic field acquired physical and water-quality parameters. These data will be used to determine impacts of land-use change and to focus resources in areas of greatest need for remedial action.

The protocol of performing sediment loading analyses to inform watershed management planning efforts has been adopted by the Mobile Bay NEP Project Implementation Committee and incorporated into the CCMP five-year Ecosystem Restoration and Protection Strategy. Sediment analyses for the Fowl River complex is

complete, Wolf Bay and West Fowl River are currently being analyzed, and analyses of Fly Creek, Deer River, and Apalachee-Tensaw are anticipated to begin during FY 2017-2018.

2016 Accomplishments: Sediment Study completed for Fish River

Objectives for 2017-2018 year:

1. Complete sediment studies for Weeks Bay complex, West Fowl River and Wolf Bay.
2. Initiate sediment studies for Fly Creek, Deer River, and Apalachee-Tensaw.

EST: DATA DEVELOPMENT- HABITAT/SAV MAPPING/SOIL SURVEY

Project Number	EST1403
Title	Comprehensive Habitat and SAV Mapping
Values Supported	
Purpose	Establish quantitative baselines in coastal watersheds to inform and measure progress in planning.
Outputs/Deliverables	Current habitat maps for both coastal counties; updated soil survey for Mobile County;
Outcomes	Improve understanding of habitat trends along coastal Alabama.
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation, improve wetland function.
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 630,000
Total Available	\$ 630,000
Match/Leverage	NFWF GEBF, ADCNR, MCSCD
Lead/Partners	ADCNR/Mobile County/MBNEP

With 2015 distribution of submerged aquatic vegetation (SAV) in coastal AL waters mapped by Barry A. Vittor and Associates and published in July, 2016, high resolution habitat mapping across the two coastal

counties, being undertaken by Radiance Technologies, Inc., has been extended and is expected to be completed in late 2017.

An updated soil survey for Mobile County is being undertaken by the Natural Resource Conservation Service and is expected to be completed in 2017.

The Nature Conservancy, with guidance from the MBNEP and its SAC and Project Implementation Committee (PIC), is developing a Watershed Comparison Tool coupling data from habitat and SAV maps, as well as digital information and recommendations from completed watershed plans and other sources to determine where restoration and conservation activities; focusing on streams/rivers and riparian buffers, freshwater wetlands, and intertidal marshes and flats (the three most stressed coastal habitats identified by the SAC); will have the greatest impact reduction of stressors to delivery of ecosystem services. A Habitat Restoration Plan will include an inventory of restoration and conservation opportunities to guide future Gulf Environmental Benefit Fund (GEBF) and other funding source requests.

2016 Accomplishments: SAV Mapping complete. Habitat Mapping imagery acquired; validation ongoing.

Objectives for 2017-2018 year:

1. Complete high resolution habitat mapping for Mobile and Baldwin counties.
2. Complete updated soil survey for Mobile County.

EST: DATA DEVELOPMENT- EPA DATA INTEGRATION/UPDATES

Project Number	EST1404
Title	EPA Data Integration/Updates
Values Supported	
Purpose	Establish quantitative baselines in coastal watersheds through cost benefit analyses and improved watershed planning tools
Outputs/Deliverables	Economic assessment tool to improve watershed planning/measure restoration value
Outcomes	Improve management of watersheds at local scale
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation, improve wetland function.
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 100,000
Year 5 (2017-2018)	\$ 0
Other Funding	
Total Available	\$ 100,000
Match/Leverage	
Lead/Partners	ADCNR/Mobile County/MBNEP

The purpose of bringing EPA datasets into the "TNC" Tool is to provide a platform for serving up-to-date EPA data for use in watershed planning, implementation, measurement of results and public education along coastal Alabama.

The goals are to enhance the TNC freshwater network by linking this tool to EPA datasets including but not limited to (STORET, ATTAINS, NPDES, etc) and develop a program to refresh EPA data on a regular basis so any watershed comparison would be conducted with most up-to-date information.

2016 Accomplishments: During 2016-2017, EPA took the lead in defining which EPA datasets are most appropriate for use in watershed comparison and created a beta tool for local testing in the following watersheds:

- HUC 8s (east and west of the Mobile bay estuary)
- Escatawpa 03170008
- Mississippi Coastal 03170009
- Perdido 03140106
- Perdido Bay 03140107

HUC 6's (the Mobile Bay watershed)
 Mobile Bay-Tombigbee 031602
 Alabama 031502
 Black Warrior-Tombigbee 031601
 Coosa-Tallapoosa 031501
 Middle Tennessee-Hiwassee 060200

A catalog of all available EPA datasets (all others defaulted to off) for other analysis uses was created for future assessments.

Objectives for 2017-2018:

Continue work with EPA to develop a methodology for acquiring periodic updates to EPA datasets included in the watersheds tool and initiate development of a cost benefit tool to better communicate value of restoration efforts.

EST: ADEM MONITORING STATIONS-D'OLIVE: OPERATIONAL COSTS

Project Number	EST1405
Title	ADEM Monitoring Stations Operational Costs
Values Supported	
Purpose	Generate data necessary to remove D'Olive watershed from the State of Alabama 303(d) List of Impaired waters
Outputs/Deliverables	Water Quality data measuring temperature and turbidity
Outcomes	Improve water quality management at local scale.
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation, improve wetland function.
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 10,000
Other Funding	
Total Available	\$ 10,000
Match/Leverage	
Lead/Partners	

D'Olive Creek, Tiawasee Creek, Joe's Branch, an unnamed tributary to D'Olive Creek, and an unnamed tributary to Tiawasee Creek were added to the Alabama Section 303(d) List in 2008. Based on a map of Tier 1 waters produced by ADEM (which includes 303(d) listed waters), the two unnamed tributaries appear to be those designated as DC and TC in this WMP (see Figure 2-2). The cause of the listing is given as "Siltation (habitat alteration)" due to "Land Development." The basis for addition to the list was cited as the Geological Survey of Alabama sediment loading rate study (Cook, 2007). The timeline for monitoring in D'Olive watershed follows:

- 2007 – GSA (Marlon Cook) monitors D'Olive Creek and tributaries
- 2008 – D'Olive Creek, Joes Branch, Tiawasee Creek, and two unnamed tributaries listed for siltation based on GSA data.
- 2010 – D'Olive Creek Watershed Management Plan Finalized
- 2010-2016 – GSA (Marlon) continues to monitor pre and post restoration water quality in the D'Olive Watershed.
- 2012 – GSA (Marlon) completed the Analysis of Sediment Loading rates for the D'Olive Creek Watershed Upstream from the Interstate 10 Crossing Baldwin County, Alabama report, which can be found here: http://www.mobilebaynep.com/images/uploads/library/DOLive_Creek_I-10_Assessment_GSA_Final_Report.pdf. In this study GSA measured discharge, total suspended solids, turbidity, and calculated estimated bed sediment and total sediment loads.
- 2014 – GS (Marlon) completed Phase II Post-Restoration Analysis of Discharge, Sediment Transport Rates, and Water Quality in Tributaries of Joes Branch in Spanish Fort, Baldwin County, AL, which can be found here: http://www.mobilebaynep.com/images/uploads/library/Joes_Branch_GSA_Post-Restoration_Assessment.pdf. This report presented post restoration water quality and sediment transport data and documentation of the effectiveness of the stream restoration.
- Report found a 98% reduction in sediment transport at site JB6 and a 90% sediment transport at site JB7. GSA stated that the pre-restoration sediment load at JB7 was the largest of about 55 streams assessed by GSA.
- Other analysis for metals, nutrients, and organic constituents were also included in this report.
- 2015 – MBNEP Subwatershed Restoration Monitoring Framework finalized:
- http://www.mobilebaynep.com/images/uploads/library/MBNEP_Mobile_Bay_Subwatershed_Restoration_Monitoring_Framework.pdf.
- 2015 – EPA loans MBNEP two YSI 6600 continuous monitors. MBNEP installs one downstream of Joe's Branch and the other downstream of the I-10 restoration project. Each sonde monitors discharge, emperature, pH, turbidity, specific conductance, and dissolved oxygen.
- Sept 2015 – EPA, MBNEP and ADEM met in Montgomery to discuss monitoring strategy and delisting for D'Olive Watershed. Provided ADEM with a copy of GSA Report.
- Jan 2016 – MBNEP electronically sent Joe's Branch data and corresponding WRAP/QSI analysis to ADEM.
- 2016 – MBNEP purchased 3 additional YSI X2 sondes and installed them at: Tiawasee (at Bayview), D'Olive Creek (at Bayview), and on D'Olive Creek (at Gator Alley) where D'Olive meets the Bay.

One of the ultimate goals of the extensive restoration work occurring throughout the D'Olive watershed is to remove these streams for the States list of impaired waterbodies, or the 303(d) List. In order to accomplish this goal, the Alabama Department of Environmental Management requires sufficient core indicator (based on impairments) sampling frequencies to meet data quantity and quality requirements as outlined in

Alabama's Listing and Assessment Methodology so impaired waterbody listing/delisting decisions can be made. In 2016, ADEM began collecting water quality data to test its methodology for using reference streams as indicators of "natural" sediment transport for stream de-listing purposes. ADEM is monitoring suspended sediment utilizing FTS automatic samplers installed in conjunction with a USGS gauging station at D'Olive Creek at Bayview (site of current YSI X2 sonde), and Tiawassee Creek at Bayview (site of current YSI X2).

This monitoring is in addition to ongoing monitoring being undertaken as part of the restoration program.

2017-2018 Objectives: Support water quality monitoring in support of ADEM delisting process for D'Olive watershed.

PROJECT DETAILS: ECOSYSTEM RESTORATION

Activity	Year One 2013-2014	Year Two 2014-2015	Year Three 2015-2016	Year Four 2016-2017	Year Five 2017-2018	2017-2018 Funds Available + Budget
Ecosystem Restoration and Protection	65,979.00	91,268.00	10,000.00	20,000.00	20,860	7,074
General Watershed Implementation Reserve					15,860	
D'Olive Watershed Implementation	1,544.00				2,500	3,449
Eight Mile Creek - Gum Tree Branch Drainage		15,000.00				-
Three Mile Creek- Toulmins Spring Drainage	-	33,848.00	-	-		-
Three Mile Creek- Toulmins Spring Stormwater Study	43,000.00	3,855.00	10,000.00	-		-
Three Mile Creek- Community Resiliency/Consv. Corps	-	20,000.00	-	20,000.00		-
Three Mile Creek reserve	-	-	-	-	2,500	3,625
12 Mile Survey & Monitoring	-	-	-	-		-
Bon Secour Watershed Plan	21,435.00	18,565.00	-	-		-

Ecosystem restoration refers to returning a damaged ecological system to a stable, healthy, and sustainable state. Although it is impossible to return an ecosystem to the exact same condition as prior to disturbance, restoration to improve ecosystem function and service delivery will contribute to community health and well-being, protection against sea level rise, economic sustainability, recreation, and community quality of life.

The conservation, restoration, and/or protection of coastal watersheds with a focus on freshwater wetlands; streams, rivers and associated riparian buffers; and intertidal marshes and flats is the focus of the CCMP for 2013-2018. To ensure all restoration efforts are based on science and are part of an overall management program, a precursor to restoration efforts will be the creation of comprehensive watershed management plans (WMPs) at the 12-digit Hydrologic Unit Code scale. All watershed plans will be based on U.S. EPA guidance, addressing the following key elements:

- Identification of causes of impairment.
- Estimation of pollutant load reductions expected from restoration/management measures.
- Description of non-point source reduction measures/critical areas where those measures will take place.
- Estimation of the amount of financial support needed to implement plan recommendations, including monitoring.
- Creation of an outreach and education plan to increase residents' understanding of restoration measures and to engage them in long-term implementation of the plan.
- Schedule for implementation, key implementation milestones, and implementation evaluation criteria.

The State of Alabama has prioritized funding from the NFWF Gulf Environmental Benefits Fund and federal RESTORE dollars to develop of WMPs for all of the State's tidally-influenced watersheds. MBNEP has recruited assistance from Project Implementation Committee (PIC) partner agencies and municipalities funded by the MBNEP to manage WMP development and assist in development and evaluation of Requests for Qualifications to select engineering/planning contractors.

In addition to watershed planning and restoration, the MBNEP PIC has identified priorities for increasing the amount of living shorelines throughout our two coastal counties and the number of public access points to facilitate connections to our coastal waters and open spaces. MBNEP supports federal and state efforts to create living shorelines (Marsh Island, Skunk Bayou) and will promote the development of a comprehensive recreation plan and trail and access improvements for our coastal area.

One aspect of watershed restoration is ensuring community resiliency. MBNEP works with the MLK Avenue Redevelopment Corporation to build community resiliency in the lower reaches of Three Mile Creek through support of MLK’s “Community Resiliency Leadership Academy”. In its first year, fifteen residents graduated from the first academy with one of its accomplishments being a request to the City of Mobile to adopt and support the Three Mile Creek Watershed Management Plan. In addition to adoption of the plan, this group identified a need for young adults to have job opportunities in close proximity to their surrounding neighborhood, potentially in an environmental sector. MBNEP is now partnering with MLK to establish a Conservation Corps. This group will provide labor support for invasive species management and community education.

ERP: GENERAL WATERSHED IMPLEMENTATION

Project Number	ERP1400
Title	General Watershed Implementation
Values Supported	
Purpose	To support watershed management plan initial implementation activities.
Outputs/Deliverables	Signage, outreach materials, other
Outcomes	Improved watershed management at local scale.
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation, improve wetland function.
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 15,860
Other Funding	
Total Available	\$ 15,860
Match/Leverage	
Lead/Partners	MBNEP

With intensive watershed management planning ongoing, MBNEP is committed to plan preparation and implementation. Typically, once the plan is published, outreach materials such as case statements, road

signage, special events, and other start-up costs are incurred as plans move from the page to implementation. This reserve has been established to assist with initial plan implementation costs.

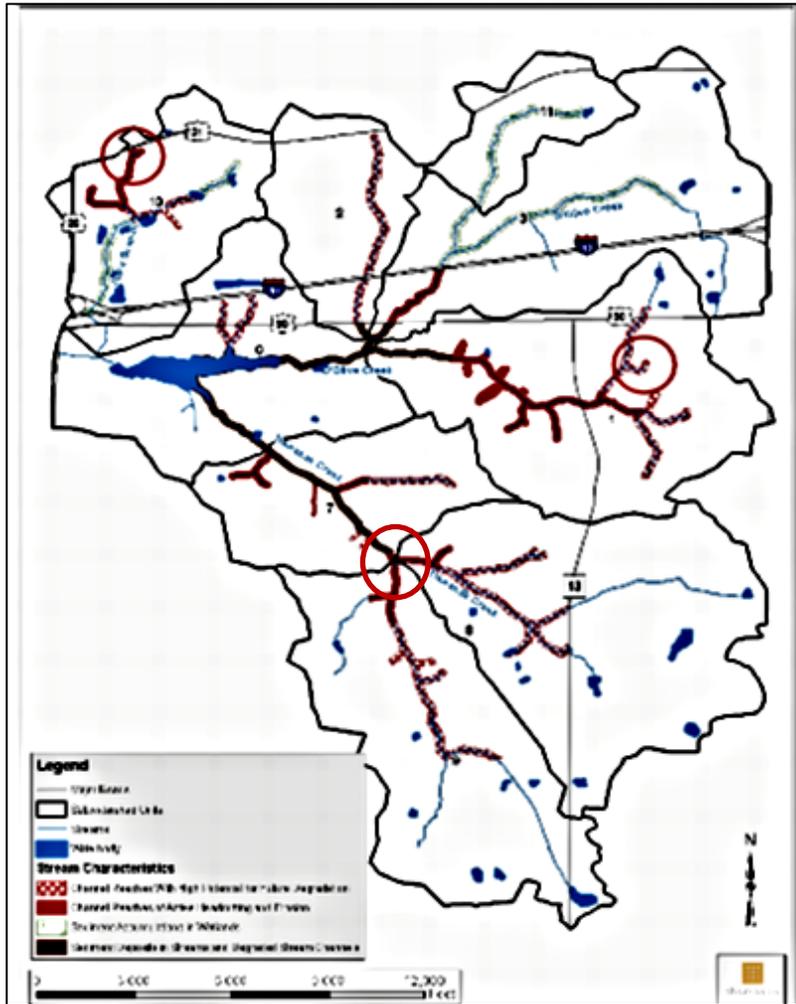
2017-2018 Objectives:

1. Support implementation of 2 watershed management plans

ERP: D’OLIVE WATERSHED: STABILIZATION OF ACTIVELY ERODING AREAS

Project Number	ERP1401
Title	Stabilization of Active Erosion- D'Olive Watershed
Values	
Purpose	Continue restoration of D'Olive Watershed with goal of removal from the State's 303(d) List and reduction in sedimentation being transported downstream to D'Olive Bay
Outputs/Deliverables	Stabilization/Restoration of degraded stream segments, riparian zones, and downstream wetlands in the D'Olive Watershed
Outcomes	Improved ecosystem function and protection; Improved community management of ecosystem restoration and protection activities.
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation, improve monitoring of wetland function and coverage
Year 1 (2013-2014)	\$ 1,544
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 5,000 (Revised)
Year 5 (2017-2018)	\$ 2,500
Other Funding	\$ 11,447,856 NFWF GEBF
Total	\$ 11,456,900
Match/Leverage	NFWF GEBF, Alabama Department of Transportation, Cities of Daphne, Spanish Fort, private property owners
Lead/Partners	NFWF; MBNEP/ Baldwin County, City of Spanish Fort, City of Daphne, Alabama Department of Transportation, Alabama Department of Conservation and Natural Resources, Geological Survey of Alabama, private property owners

With comprehensive restoration of Joe’s Branch Subwatershed components, including the unnamed, head-cut tributary to Joe’s Branch and downstream wetlands (funded by a Clean Water Act Section 319 Grant); Tributaries JB2, JA, J4-2, and J4-1 and stormwater management facilities J and JB; D’Olive Creek tributaries



D4-D6 and DA3; and Tiawasee Creek tributaries 1 and 2 substantially completed, activities are progressing under a National Fish and Wildlife Foundation (NFWF) Gulf Environmental Benefits Fund (GEBF) grant award to “stop the bleeding” within the D’Olive watershed as recommended in the watershed management plan published in 2010. Restoration of severely eroded areas of D’Olive Creek including tributaries DAE in a residential area south of Hwy 90, and DAF, DAF-1, and DAF-Melody Loop on the west side of CR 13, downstream of recently completed tributary DA3, are in various stages of engineering, design, and construction.

Greater D’Olive Creek restoration partners include the National Fish and Wildlife Foundation; the cities of Daphne and Spanish Fort, Baldwin County, the Geological Survey of Alabama, Alabama Department of

Environmental Management, Alabama Department of Conservation and Natural Resources, Auburn University/Alabama Cooperative Extension System, MBNEP, the Dauphin Island Sea Lab, and property owners.

2016 Accomplishments: 1,400 linear feet of stream restored in D’Olive Creek; Joes Branch subwatershed substantially complete; Tiawasee Creek complete.

Objectives for 2017-2018 year:

1. Achieve substantial completion of remainder of D’Olive Watershed stream restoration program, including DAE, DAF, DAF-1, and Melody Loop restorations.

ERP: EIGHT MILE CREEK WATERSHED: WATER QUALITY RESTORATION

Project Number	ERP1402
Title	Eight Mile Creek Pathogen Reduction Program
Values Supported	
Purpose	Advance the restoration of water quality through pathogen reduction activities based on results of an infrared mapping of the watershed with a goal of removal from State 303(D) list
Outputs/Deliverables	Reduction of pathogens to demonstrate significant improvement in Eight Mile Creek- Removal from 303 (D) list
Outcomes	Improved ecosystem function and protection; Improved community understanding of ecosystem restoration and protection activities.
Clean Water Act Relevance	Improve water quality monitoring, support TMDL implementation
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 15,000
Year 3 (2015-2016) revised	\$ 0
Year 4 (2016-2017)	\$ 10,000
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 0
Total	\$ 25,000
Match/Leverage	
Lead/Partners	MBNEP/City of Prichard, NRCS

The Eight Mile Creek Watershed is located in Mobile County, with a majority of its 37-square mile watershed located within the cities of Mobile, Prichard, and Chickasaw. The watershed contains five miles of impaired streams comprising components of the semi-braided, perennial Eight Mile Creek and larger Chickasaw Creek tributary system which flow into the Mobile River and eventually into Mobile Bay and the Gulf of Mexico.

In 1998, Eight Mile Creek and Gum Tree Branch were added to the State of Alabama’s 303(d) list of impaired waters due to high levels of pathogen pollution (fecal coliform) from urban runoff and/or storm sewers and septic system failure. The Eight Mile Creek Watershed is subject to the impacts generally associated with urbanization: sewage and pathogenic bacteria from aging and overloaded infrastructure, trash and litter carried into the creek by stormwater runoff, and loss of natural shoreline triggered by increases in impervious surface. The Eight-Mile Creek Watershed

has been identified by ADEM as one of the top-five Watersheds for septic systems in Mobile County, with 3,800 systems.



Color infrared photography has proven to be a successful method for identifying failing septic systems. This technique for locating failing septic tanks has been in use for decades and is described in detail by the EPA report “Evaluation of Color Infrared Aerial Surveys of Wastewater Soil Absorption Systems.” Gwinnett County, Georgia, performed such an investigation in 2006 and documented the study in the report titled, “Fecal Coliform TMDL Implementation – Analysis of Color Infrared Aerial Photographs to Detect Failing Septic Systems.” These studies indicate that the CIR process can identify failing septic tank sites with an accuracy of approximately 80%.

Primary project partners include: Mobile Bay National Estuary Program, The Alabama Clean Water Partnership, Mobile County Health Department, Mobile Area Water and Sewer System, Mobile County Soil and Water Conservation District/USDA NRCS, The Alabama Department of Environmental Management/Alabama Coastal Nonpoint Pollution Coastal Program, and the City of

Prichard.

Approximately 40-square miles have been photographed with a CIR camera to identify potential failing septic systems. The images have been ortho-rectified and geo-referenced within a GIS system and a subset of potential failing septic systems has been ground-truthed by local field experts. There is now a comprehensive GIS database of potential failing septic systems within the watershed which will enable community decision makers to better allocate limited resources in an effort to remediate compromised systems.

During 2016, a drainage improvement plan was prepared for Gum Tree Branch in partnership with Mobile County. Recommendations included ditch maintenance improvements and installation of Low Impact Development measures (primarily cisterns and rainbarrels).

2016 Accomplishments: No activity.

Objectives for 2017-2018:

1. Coordinate the establishment of a septic pump out/repair program.
2. Partner with Mobile County to implement Drainage Improvement Plan.

ERP: FOWL RIVER WATERSHED: RESTORATION

Project Number	ERP1403
Title	Mon Louis Island Shoreline Habitat Improvements/Watershed Plan
Values Supported	
Purpose	Stabilize Tip of Mon Louis Island from chronic, routine impacts including but not limited to boat wakes from ship channel and re-establish critical fisheries habitat and storm protection measure for Fowl River; Prepare Watershed Plan
Outputs/Deliverables	Stabilization of 1,400 ft. of shoreline; 1,400 feet of near shore habitat, create 4 acres of salt marsh
Outcomes	Improved ecosystem function and protection; Improved community understanding of ecosystem restoration and protection activities.
Clean Water Act Relevance	Improve monitoring of wetland function and coverage; Support water quality standards
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 3,679,741 NFWF & AEMA
Total	\$ 3,679,471
Match/Leverage	\$ 185,828 past EPA grant to support engineering and design
Lead/Partner	MBNEP/Private property owner

With Fowl River Watershed sediment analysis and watershed management plan complete and the restoration of the erosion-impacted northern tip of Mon Louis Island nearing completion, attention turns to monitoring the north end restoration and implementing WMP recommendations.

Marsh Health Study Engineering for Shoreline Stabilization of Four Spits. With restoration of four erosion-impacted, salt marsh-covered spits a priority recommendation, MBNEP has secured NFWF Gulf Environmental Benefit Fund grants to initiate a marsh health study to investigate why salt

marshes in the transitional zone between brackish and fresh water-dominated areas appear to be degrading from interior to exterior portions of the marsh. Funding has also been secured to develop engineering plans to stabilize shorelines surrounding these degraded land forms, which, if left unaddressed, risk succession into disappearing islands.

The SAC is currently involved in scope development for the marsh health study, which will include an assessment of marsh condition, investigation of stressors underlying observed degradation, and allocation of labor among SAC members willing to participate in the study.

The SAC anticipates preparing an RFQ for qualified coastal engineering and planning firms to develop engineering plans for stabilization of shorelines around the transitional zone spits. Whether or not the marsh health study and engineering design can be accomplished simultaneously is as yet unresolved.

2016 Accomplishments: Tip of Mon Louis Island stabilized- rock sill installed with 4 acres backfilled. Planting- Spring 2017.

Objective for 2017-2018 year:

1. Undertake a marsh health study to investigate observed patterns of degradation in the transitional zone of East Fowl River.
2. Develop engineering design for stabilization of four erosion-degraded spits in the transitional zone of East Fowl River.

ERP: THREE MILE CREEK WATERSHED: RESTORATION

Project Number	ERP 1404
Title	Three Mile Creek Restoration
Values Supported	
Purpose	Improve water quality and provide public access to watershed including a unique backwater environment within a highly urbanized, traditionally underserved area of the City of Mobile
Lead/Partner	MBNEP/US ARMY CORPS, USFWS, ADCNR, ADEM, MAWSS City of Mobile, Mobile County, Gulf Coast Asphalt, Inc.
Outputs/Deliverables	Drainage area delineation- Toulmins Spring Branch; Drainage Improvement plan- Toulmins Spring Branch; 10 Conservation Corps members; Baseline monitoring data-Twelve Mile Creek
Outcomes	Improved ecosystem function and protection; Improved community understanding of ecosystem restoration and protection activities.
Clean Water Act Relevance	Assist with TMDL implementation; Improve monitoring of wetland function and coverage
Year 1 (2013-2014)	\$ 43,000 (Revised)
Year 2 (2014-2015)	\$ 37,852
Year 3 (2015-2016)	\$ 10,000
Year 4 (2016-2017)	\$ 35,352
Year 5 (2017-2018)	\$ 2,500
Other Funding	\$ 81,500
Total	\$ 210,204
Match/Leverage	MAWSS, Mobile County, City of Mobile , Waterkeeper Alliance, , US Army Corps of Engineers, US Fish and Wildlife Service, US EPA-Climate Ready Estuaries; NY Hudson River Trust

In January, 2014 Dewberry, in partnership with Brown and Caldwell, Aerostar, and Placemaker, completed a watershed management plan for the Three Mile Creek Watershed, which runs over 14 miles from west of the University of South Alabama east to the Mobile River near the State Ports. This Creek and its surrounding watershed present an extraordinary opportunity to the City of Mobile to turn what is now a community liability into an amenity similar to “river walks” in other cities as well as providing a template for planning in larger urban watersheds in coastal Alabama. This watershed includes the constituencies of several city and county officials and is heavily urbanized; the majority of its 30-square mile area lies within the City of

Mobile; and it is home to several Mobile Housing Board housing developments. Over the time period 1974 to 2008, the portion of this watershed classified as “urban” increased from 49.5% to 70.2%, with significant development occurring in a portion of the watershed with an elevation at or near sea level, so potential impacts of climate change and sea level rise are of particular concern.

The Creek was first placed on the State’s 303(d) List of Impaired Water Bodies in 1996 for organic enrichment (OE) and low dissolved oxygen (DO) and added for pathogens in 2004. A Total Maximum Daily Load (TMDL) for OE/DO was then developed and approved in 2008. Municipal collection system failures and urban stormwater runoff were identified in the TMDL as the primary sources of impairment within the watershed.



A decade ago, urban development and decaying sewer infrastructure led to increased incidences of sanitary sewer overflows throughout the watershed. Since that time MAWSS has significantly improved the sanitary sewer lines and lift stations in the

watershed leading to its release from a Federal Consent Decree. The Creek is currently listed for pathogens downstream of Mobile Street, an unnamed (midtown) tributary is listed for nutrients, and Toulmin Springs Branch remains listed for nutrients and ammonia.

The cost of this comprehensive plan, \$250,000, was funded by the Alabama Department of Conservation and Natural Resources, the Alabama Department of Environmental Management and Gulf Asphalt, the US EPA, the Mobile Area Water and Sewer System, Mobile County, and MBNEP. It is intended to provide a roadmap for restoring the watershed and improving the Creek and its tributaries by addressing the following objectives:

- Improve water quality by reducing nonpoint source pollution (including stormwater runoff and associated trash, nutrients, pathogens, erosion, and sedimentation); reducing outgoing pollutant loads into Mobile Bay, and remediating and restoring past effects of waste disposal.
- Address sediment sources by restoring eroded stream banks and ensuring best management practice utilization at construction sites.
- Reduce the incidence and impacts of invasive species, including the Island Apple Snails and Chinese Tallow Trees.
- Recommend/prioritize restoration opportunities (within strategies for implementation),
- Provide opportunities for increased public access, recreation, and ecotourism,
- Ensure equitable distribution of environmental burdens and assets in this diversely populated watershed,

- Identify vulnerabilities in the watershed from increased sea level rise, storm surge, and precipitation events related to climate change.
- Identify opportunities to mitigate future impacts of development in the watershed, where feasible.

Toulmins Spring Branch – Engagement and Drainage Study

Within the Three Mile Creek watershed, one low-income, traditionally-underserved community located in the vicinity of Toulmins Springs Branch (TSB) faces a disproportionate burden of environmental impacts related to development, climate change, and sea level rise. This community was developed in a lowland area available to them because of its low commercial/economic value and vulnerability to flooding and pollutant loads concomitant with land use change. With the frequency and intensity of weather events predicted to increase, this community faces disproportionate effects of climate change, and any problems they are currently experiencing will only get worse.

Definition of community- a feeling of fellowship with others, as a result of sharing common attitudes, interests, and goals. MBNEP recognizes the need for community engagement to educate this susceptible population about the science underlying the vulnerabilities associated with where they live and impacts they face in the future, and about ways to adapt to changing conditions. In an effort to engage this community in a meaningful way, MBNEP joined forces with MLK Avenue Redevelopment Corporation to establish a Community Resiliency Leadership academy. The goal of this program was to teach potentially-affected community members about how to participate in decisions about proposed activities that will affect their environment and/or health and how a community’s contribution can influence local government management decisions. The Leadership academy provided the foundation for future adaptation planning in this neighborhood. The premise being- before you can build community resiliency, a “community” is necessary.

Floods are the leading cause of natural disaster losses in the United States, costing approximately \$50 billion in property damage in 1990s alone (NAP 2009). In addition to property damage, floods also kill about 140 people each year in the United States alone (USGS 2006). FEMA lists flooding as the most familiar and frequent natural disaster in Alabama. From 1998 to 2007, insured flood losses totaled more than \$730 million (FEMA fact sheet 2008). Residents living on Alabama’s coast are at a heightened flood risk during hurricane seasons due to much of the area’s low lying elevation. The underserved residents of the TSB community (100% African American) are not only susceptible to chronic flooding (elevation 0 ft. Lat/Lon. 30,717689, -88.066944), but according to a soon to be published watershed management plan for the Three Mile Creek watershed, this area will also experience impacts related to both sea level rise and increased storm surge.

In spring of 2014, Mobile County asked for MBNEP assistance to identify solutions to the chronic flooding in this area that was costing more and more money for infrastructure repairs. The assistance requested included identification of target areas for increased stormwater management and intensive education of the public and public works personnel related to low impact development practices that can aid in reducing stormwater runoff. Given current flooding rates coupled with predictions of increased flooding events related to sea level rise and storm surge, MBNEP has identified this community as a priority for intensive adaptation planning particularly as it relates to where environmental protection is needed, what parts of this community can be accommodated, future resiliency planning for critical infrastructure and identification of areas that may need to be vacated as waters rise.

Working with a Community Solutions fellow from Bangladesh, Maharam Dakua, who performed community outreach activities, Auburn University delineated the watershed boundary of TSB and extracted all of its drainages to resolve potential errors on the FEMA maps. They used topographic maps and ground survey to accurately define the watershed boundary and identify all drainages flowing into TSB.

At several TSB branches they installed pressure transducers set to record water levels at 15-min intervals with intentions of recording data from a number of rain events with greater than one-inch total rainfall. They also measured discharge. Paired discharge-water level data will be used to develop rating curves which will be utilized to convert the water level time series into flow time series. These data will be used to determine which parts of the TSB watershed generate more or less runoff per unit area and to calibrate and validate a model they are developing for the TSB watershed.

Auburn is near completion of a watershed model for the TSB watershed using the Storm Water Management Model (SWMM) developed by the EPA, a data intensive model that can be used to guide development of a range of low impact development controls. Floodplain maps have been generated for various return period storm events including 10, 50, and 100-year and flood generated areas have been mapped by “disconnecting” each subwatershed from the rest of the watershed to identify which contribute most to flooding and to guide mitigation efforts. The SWMM model has been calibrated and validated for water quality (nutrient concentrations) and to evaluate LID options.

The Nature Conservancy continues to seek funding for measures to develop a “stormwater park,” with recommended BMPs such as constructed wetlands, infiltration swales, or gross pollutant removal structures to enhance water quality and reduce flow.

Three Mile Creek Trail

In public outreach meetings related to development of a Comprehensive Watershed Management Plan for Three Mile Creek, a desire expressed commonly across the watershed was to establish a Greenway/Bicycle Trail to and connect communities from west of the University of South Alabama east to downtown Mobile and offer recreational and transportation opportunities. In 2014, the City of Mobile approached the MBNEP for assistance in developing a National Park Service Outdoor Recreation Legacy Program proposal to establish the first mile leg of the Greenway from Pecan Street in The Bottom to Lakeside/Tricentennial Park. In 2015, the City secured \$386,000 from this funder to design and construct this section of the Greenway with an exercise circuit course and energy-efficient LED lighting and contracted Dorsey and Dorsey to design it. With the design completed, construction is pending. Additionally, the Mobile County Health Department secured funding through a Sybil Smith Trust Grant to construct a kayak launch at Tricentennial Park and extend the Greenway west to Fillingim Street.

Coastal Alabama Conservation and Resiliency Corps

The new Coastal Alabama Conservation and Resiliency Corps, developed in partnership by the Mobile Bay National Estuary Program (MBNEP), Martin Luther King Jr. Avenue Redevelopment Corporation, and the Student Conservation Association (SCA) and funded through a grant from the National Fish and Wildlife Foundation Developing a New Generation of Conservationists, will be working through July to implement recommendations of the Three Mile Creek Watershed Management Plan. Corps recruiters targeted at-risk, urban men and women (18-25 years of age) from the lower TMC Watershed to provide intensive job and leadership training and employment and benefits in preparation for job opportunities in an emerging restoration economy. The Corps will provide a reliable work force to undertake smaller-scale restoration

projects, including invasive species control, drainage improvements, and restoration planting, while also providing credible and directed community outreach to encourage wise stewardship of environmental resources.

Two experienced SCA team leaders, Allie Brown from Alton, IL, and Randal Weamer from Phoenix, AZ, were hired to lead the seven men and three women recruited from our community through training and restoration project implementation. Enthusiastic Corps members were trained for two weeks in Florida, gaining a Red Card for use of prescribed fires and chain saw and wilderness first aid and CPR certifications. The Corps also received herbicide training from the Alabama Cooperative Extension Service and SCA canoe certification. A typical forty-hour work week will include four eight-hour days of on-the-ground project implementation and one day of leadership and skills training. Invasive species control in the lower TMC Watershed involves canoeing to remote areas of wooded wetlands, where snake-boot wearing Corps members use herbicide treatment to control Chinese tallow (popcorn) trees, Chinese privet, elephant ears/taro, and alligator weed. Drainage improvements, recommended in the *Prichard Drainage Study (Toulmins Spring Branch and Gum Tree Branch)* are being undertaken in cooperation with the City of Prichard. At the conclusion of the six-month engagement, Corps members will be qualified for AmeriCorps educational benefits. Three weeks into the program, Corps members are quickly gaining knowledge and skills to effectively improve water quality and habitat conditions.

2016 Accomplishments: Establishment of Pilot Conservation Corps with 10 corps members; continued outreach in Toulmins Spring Branch; Establishment of Interagency Steering Committee; Initiation of Private Sector partnership; partnership with University of South Alabama to create comprehensive stormwater management plan; began baseline monitoring in Twelve Mile Creek.

Objectives 2017-2018 year:

1. Partner with Mobile County to implement Drainage Plan
2. Facilitate Conservation Corps
3. Continue baseline Monitoring for Twelve Mile Creek
4. Support development of first leg of Three Mile Creek Trail

ERP: INTERTIDAL WATERSHEDS: PLANNING

Project Number	ERP 1405
Title	Watershed Management Plans
Values Supported	
Purpose	To promote the wise stewardship of the intertidal watersheds and foster improved fish and shellfish productivity in coastal estuaries
Outputs/Deliverables	Watershed Management Plan
Outcomes	Improved ecosystem function and protection; Improved community management of ecosystem restoration and protection activities; expanded community engagement and ownership
Clean Water Act Relevance	Support water quality standards; improve wetland function and coverage
Year 1 (2013-2014)	\$ 0 (Revised)
Year 2 (2014-2015)	\$ 0 (Revised)
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 2,227,000 NFWF GEBF
Total	\$ 2,227,000 * Fed RESTORE partial funding
Match/Leverage	
Lead/Partners	MBNEP/ADCNR/City of Foley/Other

Bayou La Batre	253,589.00
Bon Secour, Skunk, Oyster Bay	335,000.00
Dog River Complex	275,000.00
Weeks Bay (Fish, Magnolia Rivers)	484,230.00
West Fowl River	200,000.00
Wolf Bay *	125,000.00
Tensaw Apalachee *	127,181.00
Fowl River	250,000.00
Project Delivery	177,000.00
	2,227,000.00

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. Total land use breakdown: 13% urban, 32% agricultural land, 51% forested, 2% water/wetlands. This plan is **currently underway**.

The West Fowl River Watershed covers over 20,000 acres in southeastern Mobile County, flows southwesterly into Heron

Bay, Portersville Bay and Mississippi Sound. Although relatively undeveloped, portions of the watershed are within the urbanized area of the City of Bayou La Batre. Total land use breakdown: 6% urban, 2%

agricultural land, 19% forested, 1% water, 71% other uses. This plan has been **initiated**. With funding pending from RESTORE to develop a WMP for Dauphin Island, which, like Bayou LaBatre and West Fowl River, drains to Mississippi Sound, and with the U. S. Army Corps of Engineers undertaking a Barrier Island Study comprising much of the science necessary to develop a WMP, MBNEP decided to undertake WMPs for a Mississippi Sound complex that includes all three watersheds. The same economy of scale, proximity and geographic similarity, and efficiency that stimulated other complexes of HUC 12s to be included in development of a single WMP, drove that decision.

The Bon Secour River Watershed covers over 21,400 acres in southwest Baldwin County. The Bon Secour River originates in the City of Foley, and flows southwesterly into Bon Secour Bay, the Intracoastal Waterway and Oyster Bay. Total land use breakdown: 5% urban, 64% agricultural land, 22% pasture land, 6% forested, 2% water/wetlands. Due to similar stakeholder interests, this watershed was combined with Skunk Bayou and Oyster Bay, **was recently completed and is under implementation**.

The Dog River Watershed, comprising three HUC 12s – Upper and Lower Dog River and Halls Mill Creek – covers 55,000 acres in southwest Mobile County. The northern portion of the watershed includes part of downtown Mobile and is highly urbanized. Total land use breakdown: 37% suburban, 37% forested land, 16% urban, 5% wetlands/water and 5% other uses. Due to proximity, Garrows Bend was included as part of this planning. 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. Two TMDLs have been approved for Organic Enrichment/Dissolved Oxygen, two for Pathogens, and Halls Mill Creek 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 stormwater runoff, nutrient enrichment and elevated levels of fecal coliform bacteria. **This plan is nearing completion**.

The Weeks Bay Watershed encompasses approximately 130,000 acres (203 square miles) located in southwest Baldwin County. Weeks Bay is a shallow approximate 1700-acre sub-estuary of Mobile Bay. The watershed includes the Fish River and Magnolia River drainage basins, as well as some small coastal streams such as Weeks Branch that enter Weeks Bay directly. The watershed encompasses an area approximately 27 miles long and 12 miles wide. Portions of nine municipalities lie within the Weeks Bay Watershed – Fairhope, Daphne, Spanish Fort, Loxley, Silverhill, Robertsedale, Summerdale, Foley, and Magnolia Springs. The Fish River drainage basin begins near the town of Stapleton, and flows in a southerly direction. The eastern boundary of the Fish River basin is near U.S. Highway 59 and the western boundary is near U.S. Highway 31 (Stapleton to Spanish Fort), thence southward near Alabama Highway 104 (Spanish Fort to Fairhope), thence southward near U.S. Highway 98 to Mobile Bay. The Magnolia River drainage basin has its headwaters near Summerdale and flows in a southwestward direction to Weeks Bay. This plan is **currently underway and anticipated to be completed by August, 2017**.

The Wolf Bay Watershed drains over 44,000 acres in southwest Baldwin County. The northwestern portion of the watershed includes a rapidly urbanizing area of the City of Foley. Total land use breakdown: 23% forested land, 27% agricultural land, 27% urban/suburban, 16% wetlands/water and 7% other uses. **This plan will be initiated mid-summer, 2017**.

The Tensaw-Apalachee Watershed covers over 37,000 acres in Mobile and Baldwin Counties. Portions of the watershed drain the highly urbanized areas of downtown Mobile as well as Spanish Fort and Daphne along the eastern shore of Baldwin County. Land use breakdown: 21% urban, 3% agricultural land, 9% forested, 26% water/wetlands. MBNEP is under contract with Moffat & Nichol to assist with development of a scope for this plan. **The planning process is anticipated to begin sometime in 2017**.

The Fowl River Watershed (HUC 031602050206) encompasses 52,782 acres, drains much of southern Mobile County, and is a direct contributor to Mobile Bay. Its headwaters are located near the Mobile suburb

of Theodore, AL and it splits just south of Bellingrath Gardens into East Fowl River, which flows northeasterly into Mobile Bay, and West Fowl River, which flows south into Mississippi Sound. Land use in the Fowl River Watershed is varied and characterized as urban, residential, and rural. Twenty-one percent of the watershed area is classified as urban, 15% as crop or pasture land, and 63% as forested. Stakeholder concerns include loss of wetlands and shoreline erosion, largely related to recreational boat use. Increasing development and continuing erosion and sedimentation threaten water and habitat quality. **This plan is complete and implementation has begun.**

2016 Accomplishments: Bon Secour Complex Watershed Management complete; Dog River Complex Watershed Management Plan complete; Weeks Bay Complex watershed Management Plan complete

Objectives 2017-2018:

1. Complete 1 watershed management plan (Mississippi Sound)
2. Begin 3 watershed management plans (Wolf Bay, Tensaw Apalachee, Fly Creek)

PROJECT DETAILS: TECHNICAL ASSISTANCE/ CAPACITY BUILDING

Activity	Year One 2013-2014	Year Two 2014-2015	Year Three 2015-2016	Year Four 2016-2017	Year Five 2017-2018	2017-2018 Funds Available + Budget
Technical Assistance and Capacity Building	24,000.00	12,500.00	22,500.00	17,500.00	-	21,484
Alabama Water Watch	5,000.00	-	10,000.00	-	-	4,467
Citizen Monitoring	-	-	-	-	-	13,217
HS Education and Monitoring	-	-	-	-	-	3,800
Estuary Corps Environmental Experts Video	9,000.00	-	-	-	-	-
CWP Facilitator	10,000.00	12,500.00	12,500.00	17,500.00	-	-

Watershed-based, grassroots organizations are the cornerstone of community-based efforts to promote the wise stewardship of the water quality and living resources of Mobile Bay’s estuarine waters. The mission of MBNEP is to provide the necessary tools to support those efforts, accomplished through the delivery of technical assistance, the building of capacity through development of outreach and decision support materials for their use, provision of specialized training and education opportunities, and engagement of volunteers in hands-on learning experiences that cultivate stewardship while improving the quality of Alabama’s coastal resources. During the next fiscal year, MBNEP will support and help build capacity of these critical groups and other partners to successfully address our mission.

MBNEP will support a program that provides data while cultivating stewardship in volunteer monitors from grassroots organizations. Facilitation of the Coastal Alabama Clean Water Partnership will provide a neutral forum for bringing all stakeholders to the table to ensure that sources and impacts of non-point source pollution are addressed.

Outcomes from these activities will include increased knowledge about science, monitoring, habitat management, and restoration of the Mobile Bay estuarine environment and increased community ownership and involvement in local environmental protection activities.

TAC: VOLUNTEER ECOSYSTEM MONITORING PROGRAM W/AWW

Project Number	TAC1401
Title	Alabama Water Watch Coastal Program Support & Expansion
Values Supported	 
Purpose	To expand citizen stewardship of the estuary through voluntary water quality monitoring activities
Outputs/Deliverables	Train 50 Water Quality Monitoring volunteer monitors
Outcomes	Increase knowledge about science, monitoring, habitat management, and restoration of the Mobile Bay estuarine environment; Increase community ownership and involvement in local environmental protection activities
Clean Water Act Relevance	Improve water quality monitoring
Year 1 (2013-2014)	\$ 5,000
Year 2 (2014-2015)	\$ 40,000 (Committed to CAC Monitoring supplies, Monitoring education).
Year 3 (2015-2016)	\$ 5,625 (Revised)
Year 4 (2016-2017)	
Year 5 (2017-2018)	
Other Funding	\$ 0
Total	\$ 50,625
Past Year Funding	
Match/Leverage	AWW
Lead/Partners	AWW/MBNEP, CAC

Alabama Water Watch (AWW) is a citizen volunteer, water quality monitoring program covering all of the major river basins of the state. The mission of AWW is to improve both water quality and water policy through citizen monitoring and action. Established in 1992, AWW is a national model for citizen involvement in watershed stewardship, largely because of its three interrelated components: citizen monitoring groups, a university-based program, and a non-profit association.

AWW uses EPA-approved monitoring plans with a community-based approach to train citizens to monitor conditions and trends of their local waterbodies. With a “data-to-action” focus, AWW helps volunteers

collect, analyze, and understand their data to make positive impacts. The AWW vision is to have a citizen monitor on every waterbody in Alabama. The goal of AWW is to foster the development of statewide water quality monitoring by:

- Educating citizens about water issues in Alabama and the world.
- Training citizens to use standardized equipment and techniques to gather credible water information.
- Empowering citizens to use their data to protect and restore their local waters.

In the coming year, MBNEP will improve community ability to participate in ecosystem-based management actions by engaging grassroots groups in collecting water quality and biological data that supports watershed planning through expanded participation in Alabama Water Watch activities. The MBNEP Community Action Committee has identified a need for training opportunities to provide citizens with the knowledge and skills necessary for effectively participating in resource management decisions at the local, state, and federal levels. To assist the CAC in achieving this goal, MBNEP has secured funding and will release a Request for Proposals to coordinate citizen training activities focused in watersheds where comprehensive watershed management planning is or will be occurring over the next year. AWW workshops are envisioned as a likely component in this strategy.



AWW workshops will be held on the coast to train or recertify at least **20 volunteer water monitors**- Monitors will learn the principles of Alabama Water Watch and how to monitor and evaluate physical, chemical, and biological features of water. Workshops will be offered free of charge to coastal residents and qualify for continuing education units with Auburn University. Volunteer water monitor training will concentrate in the following areas:

- **Bacteriological monitoring:** Detect levels of E. coli and other coliform bacteria in water as indicators of contamination. Determine if water is safe for drinking, swimming, and aquatic life.
- **Water chemistry monitoring:** Test physical and chemical characteristics of water to determine pollution sources and long-term trends in water quality. Six parameters are measured and results can be compared with standards that define conditions for healthy waterbodies.

The CAC has identified a need for training opportunities to provide citizens with the knowledge and skills necessary for effectively participating in resource management decisions at the local, state, and federal levels. The CAC has identified training priorities as follows:

- Watershed Education;
- Stormwater runoff education, including how the MS4 permit works;
- Volunteer water quality monitoring;
- Volunteer biological monitoring;
- Volunteer shoreline monitoring; and
- Create a Clean Water Future Implementation.

2016 Accomplishments: Established Comprehensive Volunteer Water Quality Monitoring Program and manual; 14 community members trained to be volunteer water quality monitors.

Objectives 2017-2018:

1. Train 20 citizens to undertake volunteer water quality monitoring.
2. Support development of “Water Rangers” online data portal for volunteer data entry.

TAC: COASTAL CLEAN WATER PARTNERSHIP

Project Number	TAC1402
Title	Coastal Clean Water Partnership- NPS Pollution Program
Values Supported	 
Purpose	Assess, plan and implement projects to address non-point source pollution through the Clean Marina Program and community based watershed management plans to guide grassroots actions aimed at addressing waterways listed on the State's 303(d) Impaired Water Bodies List
Outputs/Deliverables	One completed Watershed Management Plan, NEMO video/education program; seed funding to support Clean Marina BMPs
Outcomes	Improved ecosystem function and protection; Improved community management of ecosystem restoration and protection activities; expanded community engagement and ownership
Clean Water Act Relevance	Support water quality standards; Improve water quality monitoring, Support TMDL implementation
Year 1 (2013-2014)	\$ 10,000
Year 2 (2014-2015)	\$ 12,500
Year 3 (2015-2016)	\$ 12,500
Year 4 (2016-2017)	\$ 45,506 (Revised)
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 61,826 (BC/MC WCD-ACWP)
Total	\$ 142,332
Match/Leverage	Auburn University, Mississippi Alabama Sea Grant Consortium
Lead/Partners	BCWSD/ MBNEP, ACWP, Auburn University

The Alabama Clean Water Partnership, a statewide 501(c)(3) non-profit organization, is a diverse and inclusive coalition of public-private interest groups and individuals working together to improve, protect and preserve water resources and aquatic ecosystems in Alabama. Through the ACWP, ten River Basin Facilitators and a Statewide Coordinator are tasked with implementing watershed efforts in order to achieve the following goals:

- Improved Communication to promote information sharing and nonpoint source education, broad awareness of resource availability, and networking with others facing the same challenges.

- Data and Information Sharing through the creation of a communications and technical assistance network so that a more complete account of each river’s water quality is available when making watershed decisions.
- Improved Coordination between community-based groups, municipalities, and industries to prevent the duplication of effort and to acquire, streamline and maximize resources.
- Opportunity for Collaboration in decision-making and the development of watershed management plans, as well as in the implementation of watershed projects and TMDLs (Total Maximum Daily Loads).

The Coastal Alabama Clean Water Partnership Facilitator is a shared position between the Partnership, the Mobile and Baldwin Counties’ Soil and Water Conservation Districts, the MBNEP, Auburn University and Mississippi Alabama Sea Grant. The facilitator is considered a non-point pollution specialist, coordinating watershed planning, conducting outreach on stormwater management and related issues, and coordinating the Clean Marina program for Mississippi and Alabama.

In the coming year, the Coastal Basin Facilitator will continue to seek out funding sources to help address stormwater problems that have prevented many interested marinas from being designated as clean marinas. In addition, the facilitator will participate in ongoing activities:

- Coastal Alabama Rain Barrel Program – The rain barrel program conducts workshops in coastal Alabama and Mississippi where residents build 55-gallon rain barrels and includes educational sessions explaining practical measures to protect water quality and conserve water resources.
- Improve elected officials' understanding of issues that impact environmental health and comprehensive land use and water resources management.
- Minimize impacts and amount of contaminated stormwater runoff entering coastal waterways by supporting community clean ups, storm drain marking, and participation in the Create a Clean Water Future campaign
- Continue to work with efforts through the MBNEP PIC and NRCS to identify and prioritize coastal watersheds for the development and implementation of WMPs for coastal 12-digit HUC watersheds.

2016 Accomplishments: 4 Rain barrel workshops; Installed 12 pet waste stations; installed two educational kiosks (Lu Lu’s, Five Rivers).

Objectives 2017-2018:

1. Support comprehensive watershed planning throughout coastal area.
2. Coordinate the Government Networks Committee
3. Create/facilitate 3 watershed management organizational structures (Fish, Fowl, Bon Secour Complex)
4. Coordinate creation and distribution of 5-7-minute video on LID

TAC: DAUPHIN ISLAND HISTORY TO FUTURE -COMPLETE

Project Number	TAC1403
Title	Dauphin Island History to Future Project
Values Supported	
Purpose	The purpose of this project is to provide Dauphin Island with a documentation of past community resiliency to inform future resiliency planning.
Outputs/Deliverables	18 ½ to 20 minute video/film of an intergenerational Oral History of Dauphin Island
Outcomes	Improved ecosystem function and protection; Improved community management of ecosystem restoration and protection activities; expanded community engagement, ownership, resilience
Clean Water Act Relevance	Support water quality standards; improve wetland function and coverage
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 12,500 (past EPA Grant)
Total	\$ 12,500
Match/Leverage	Town of Dauphin Island
Performing Organization(s)	MBNEP

With Heritage and Resiliency both determined to be among the things most valued by residents of coastal Alabama, MBNEP will undertake production of an oral history video to explore how resiliency “habits” or practices from “back in the day” compare to how we currently interact with each other and our environment. In partnership with Dr. Greg Waselkov, Professor of Anthropology at the University of South Alabama, the concept for this video production is for present-day Dauphin Island kids to interview older residents. Their questions will investigate differences in how the mid-twentieth century Dauphin Island community built, travelled, dealt with

natural features like dunes, marshes, and shorelines, fished, interacted with one another, prepared for and recovered from tropical weather events, etc.

Before the technological advances of the late twentieth century and the rush of human populations to the coasts, structures were built to withstand natural forces, “walkability” was more than a convenient option, dunes were valued for the protection they provided from waves and flooding, and smart concepts were employed not as innovative trends, but because they were worked and were passed between successive generations. This educational video will employ 21st Century technology to revisit the wisdom that preceded it, in hopes that current coastal residents can employ more of the values and practices that allowed previous generations to enjoy the coastal lifestyle and the challenges it presented.

Objectives 2017-2018:

Complete.

TAC: ESTUARY CORPS

Project Number	TAC1404
Title	Estuary Corps
Values Supported	
Purpose	To promote the wise stewardship of water quality and living resources of Alabama’s estuaries through education, volunteer experiences, and career path guidance
Outputs/Deliverables	Estuary Corps Video
Outcomes	Increase knowledge about science, monitoring, habitat management, and restoration of the Mobile Bay estuarine environment; Increase community ownership and involvement in local environmental protection activities
Clean Water Act Relevance	Improve water quality monitoring, Improve monitoring of wetland function and coverage
Year 1 (2013-2014)	\$ 7,875 (Revised)
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Other Funding	\$ 0
Total	\$ 7,875
Match/Leverage	
Lead/Partner	MBNEP/DISL

Engaging volunteers in activities that improve estuary conditions is vital to the long-term sustainability of our coastal environment. Building community knowledge and ownership through citizen involvement activities lays a foundation for ongoing care of the water quality and living resources associated with this estuarine system. A Mobile Bay Estuary Corps program was undertaken in two middle schools- Phillips

Preparatory School and Spanish Fort Middle School during the 2012-2013 year. MBNEP, Alabama Coastal Foundation (ACF) and Dauphin Island Sea Lab (DISL) partnered to create a Mobile Bay Estuary Corps “after school” program to introduce students to citizen involvement opportunities, volunteer experiences, and environmental issues of concern. A second year of the program added a third site, the Cody Road Boys and Girls Club.

The original vision for the Mobile Bay Estuary Corps was to “recruit volunteers willing to be on ‘retainer’ to carry out a range of activities for at least one year increments including but not limited to water quality, living resource, and other ecological monitoring, habitat restorations, and invasive species control. As an Estuary Corps member, education, community outreach and training opportunities will be developed to enrich the experience. Volunteers would typically be recent graduates of high school or college, but could also include people wanting time off from established careers and those looking for meaningful activities during retirement.” As MBNEP transitions to this new corps model, it is working with Alabama Coastal Foundation to provide outreach materials to its middle school program. A series of videos is being produced to highlight area environmental experts, why they do what they do and why it is important to protect our environment.

2016 Accomplishments: Three short videos published for use in inspiring Estuary Corps members.

Objectives 2017-2018:

Complete.

TAC: COASTAL MARINE PLANNING

Project Number	TAC1405
Title	Alabama Coastal Marine Planning
Values Supported	
Purpose	Achieve a balance among the many uses of the Mobile Bay to sustain a long-term comprehensive approach to environmental management
Outputs/Deliverables	Marine Spatial Planning Vision, Goals, and Objectives- Stakeholder engagement; visualization tool including development of new data
Outcomes	Increase knowledge about science, monitoring, habitat management, and restoration of the Mobile Bay estuarine environment; Increase community ownership and involvement in local environmental protection activities
Clean Water Act Relevance	
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 0
Year 5 (2017-2018)	\$ 0
Other Funding	\$ 460,606 ADCNR (*47,800 from 2012 ADCNR Funding)
Total	\$ 0
Match/Leverage	\$
Lead/Partners	Alabama State Port Authority/ADCNR, MBNEP, MASGC, others

MBNEP, with guidance from the Working Waterfronts Coalition and a resource manager based steering committee, has been working with the Geological Survey of Alabama to create a Coastal Marine Planning (CMP) GIS-based Decision Support Tool. This involves developing a new support tool or adapting an existing tool to the needs of CMP in coastal Alabama. GSA will update the Alabama Comprehensive GIS Inventory of Coastal Resources. This will include:

- GSA will meet with the MBNEP, ADCNR, the Alabama Working Waterfront Coalition, Auburn University, and other stakeholders to convey progress, review, prioritize CMSP data collected to date, and identify data gaps. This will include expanding stakeholder input to assist the steering committee in addressing goals and objectives of the CMSP as established in previous phases.

- GSA will finalize thematic data tabulated to date which was reflected in Phase III. This includes addressing data redundancy and metadata compliance. As funds permit in Phase IV, we will incorporate additional geospatial data into the data inventory and into ArcGIS projects.
- GSA will develop categorical ArcGIS projects with emphasis on legend, the display of an appropriate attribute field for each theme, and appropriate symbology. Each categorical ArcGIS project (.mxd) will be published into an ArcReader format for digital media dissemination and review.
- Deliverables will include quarterly progress reports to the MBNEP and development of categorical ArcReader projects on interactive compact disc (CD-ROM) or digital video disc (DVD) media to convey the geospatial thematic layers of this project. The digital media will be constructed with an autorun executable to display an intuitive interface for end users to access a download option for ArcReader, the current inventory of geospatial data, metadata, and the functionality to explore the data file structure. Ten versions of this beta release will be provided in support of project status and review.

Auburn University's School of Architecture, Planning, and Landscape Architecture will collaborate with GSA to develop this GIS support tool. Their scope of work includes:

- GIS data review and coordination with past efforts, including meetings with GSA and provision of additional CMSP-themed spatial GIS inventory layers to include additional social and cultural dimensions to the CMSP inventory, including commercial fishing, general historically and archeologically significant sites, working waterfronts, and shipwrecks.
- Stakeholder engagement, including meetings to discuss working waterfronts, commercial fishing, and Corps of Engineers.
- Development of a GIS viewer tool for public use for Mobile Bay, and Mobile and Baldwin county shorelines (10-foot contour) to federal waters.
- Assessment of tool functionality and testing the tool with stakeholders.

2016 Accomplishments: Archeological Resource Inventory completed for Mississippi Sound; data included in Marine Spatial Viewer completed and tested.

Objectives for 2017-2018:

1. Complete.

<http://www.arcgis.com/apps/Viewer/index.html?appid=28ee2b81558d4aeab563164137b1cec7>

PROJECT DETAIL: EDUCATION AND PUBLIC INVOLVEMENT

Activity	Year One 2013-2014	Year Two 2014-2015	Year Three 2015-2016	Year Four 2016-2017	Year Five 2017-2018	2017-2018 Funds Available + Budget
Education and Public Involvement	79,435.00	112,540.00	112,793.91	100,676.00	95,740	111,888
Management Conference Support/Partnerships	-	3,000.00	-	2,500.00	2,500	4,129
Newsletter	-	8,000.00	8,000.00	8,000.00	8,500	8,500
Interpretive Signage	-	-	-	5,000.00	9,500	10,531
Video Production Reserve	14,000.00	5,000.00	20,000.00	5,000.00	25,000	25,000
Special Events	14,435.00	8,000.00	8,000.00	5,000.00	7,500	7,500
Promotional SWAG	5,000.00	3,210.00	-	4,176.00	5,000	6,888
Public Awareness- Clean Water Future Campaign	-	40,330.00	29,793.91	10,000.00	36,740	48,341
Oyster Gardening/ Oyster Trail Sponsorship	1,000.00	-	2,000.00	1,000.00	1,000	1,000
DISL Education Salary Support	45,000.00	45,000.00	45,000.00	60,000.00		-

Watershed-based, grassroots organizations are the cornerstone of community-based efforts to promote the wise stewardship of the water quality and living resources of Mobile Bay’s estuarine waters. The mission of MBNEP is to provide the necessary tools to support those efforts, accomplished through the delivery of:

- Field Trips that highlight coastal issues, possibilities
- outreach and decision support materials,
- specialized training and education opportunities, and
- volunteer engagement in hands-on learning experiences

These activities cultivate stewardship while improving the quality of Alabama’s coastal resources. During the next fiscal year, MBNEP will support and help build capacity of these critical groups and other partners to successfully “*promote the wise stewardship of the water quality and living resources of coastal Alabama.*”

EPI: MANAGEMENT CONFERENCE SUPPORT

Project Number	EPI1401
Title	Management Conference Support
Values Supported	
Purpose	Sustain and expand stakeholder involvement in the implementation of the CCMP 2013-2018
Outputs/Deliverables	4 Field events; Quarterly meetings of Management Conference Committees;
Outcomes	Improved community management of ecosystem restoration and protection activities; expanded community engagement and ownership
Clean Water Act Relevance	Support water quality standards; Improve water quality monitoring, Support TMDL implementation, Improve monitoring of wetland function and coverage
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 3,000
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 2,500
Year 5 (2017-2018)	\$ 2,500
Other Funding	\$ 0
Total Funds	\$ 8,000
Match/Leverage	
Lead/Partners	MBNEP/All members of the management conference

Education and involvement of the business community is key for the MBNEP in reaching its goals and objectives in the CCMP. Efforts to engage and inform key stakeholders of past efforts and future projects of the MBNEP are accomplished in various ways:

- Incorporate the “Create A Clean Water Future” (CCWF) branding broadly in local business practices to have those businesses become identifiable with that brand.

- Host breakfast meetings and “Lunch and Learn” presentations for civic organizations, business leaders, municipalities, and local media outlets to share scientific data and identify areas of concern, and introduce specific projects and priorities tailored to the individual groups.
- Conduct tours of critical areas of interest or concern to educate the private sector on the value of our coastal resources and the economic impact on our community.
- Motivate constituents to adjust current behaviors and practices to help preserve working waterfronts and fishing communities. Share watershed management plans and strategies to help ensure community commitment to the environment.
- Encourage and facilitate employee involvement in service opportunities to support the CCWF campaign. Facilitate strong communication among business leaders and environmental partners.

Education, encouragement, and marketing campaigns are all part of the plan to build strong relationships and “buy-in” from local business leaders. These efforts will prove effective in providing the tools to support community-based efforts to promote wise stewardship of the water quality and living resources of the Mobile Bay and Delta.

2016 Accomplishments: All management conference committees met 3 times during the year.

Objectives for 2017-2018 year:

1. Host 6 tours
2. Conduct 12 presentations
3. Continue implementation of CLEAN WATER FUTURE campaign
4. Implement strategy for engaging business sector in watershed planning
5. Develop a strategy for local government participation in watershed planning
6. Continue preparation of technical report of necessary changes to strengthen governance of coastal resources
7. Create watershed consortiums for Fowl River, Fish River, Bon Secour Complex

EPI: SEMI ANNUAL NEWSLETTER

Project Number	EPI1302
Title	Semi Annual Newsletter
Values Supported	
Purpose	Publish semi-annual newsletter to highlight emerging issues, project progress and other issues of interest
Outputs/Deliverables	2 Newsletters
Outcomes	Increase public awareness of environmental issues; Increased knowledge of environmental issues and stressors; Increased knowledge of activities being undertaken to protect estuarine resources
Clean Water Act Relevance	
Year 1 (2013-2014)	\$ 6,000 (Included in Program Implementation/ Admin Budget)
Year 2 (2014-2015)	\$ 8,000
Year 3 (2015-2016)	\$ 8,000
Year 4 (2016-2017)	\$ 8,000
Year 5 (2017-2018)	\$ 8,500
Other Funds	\$ 38,000 (ADCNR)
Total	\$ 76,500
Match/Leverage	
Lead/Partners	MBNEP, ADCNR State Lands Division

Raising environmental awareness involves translating the technical language of a natural science or related field into terms and ideas that a non-scientist can readily understand. It also involves doing it in a way that is entertaining and interesting to the public. The *Alabama Current Connection* is a joint newsletter published by the ADCNR State Lands Division - Coastal Section and the MBNEP to highlight current projects, management conference activities, and other issues of interest to coastal residents.

2016 Accomplishments: 2 Newsletters produced and distributed.

Objectives for 2017-2018 year:

1. Produce two newsletter magazines.

EPI: EDUCATIONAL/INFORMATIVE SIGNAGE

Project Number	EPI1303
Title	Educational/Informative Signage
Values Supported	
Purpose	Educate community about watershed, ecosystem characteristics and project components
Outputs/Deliverables	Educational/Informative Signage at public locations adjacent to project sites
Outcomes	Increase public awareness of environmental issues
Clean Water Act Relevance	
Year 1 (2013-2014)	\$ 0 (Note: These signs are part of past year grant reprogram)
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016) revised	\$ 0
Year 4 (2016-2017)	\$ 5,000
Year 5 (2017-2018)	\$9,500
Other Funding	\$ 0
Total	\$ 14,500
Match/Leverage	
Lead/Partners	MBNEP

MBNEP will develop and install interpretive signs in public places adjacent to on the ground projects undertaken to educate the public about: 1) Where they are in the watershed; 2) What the ecosystem is like in that area; and 3) What the project entailed. These signs have already been installed at Helen Wood Park, Dog River Park, Brooks Park, Steele Creek Lodge, and Prichard's Jackson Reading Park. In addition, MBNEP will install roadway signage to create awareness within the community about the different watersheds within the coastal area. These signs will be installed in concert with watershed planning.

2016 Accomplishments: Road Signage installed in Fowl River and Eight Mile Creek Watersheds

Objectives 2017-2018:

1. Install watershed signage in Bayou La Batre, Dog River, Bon Secour watersheds

EPI: VIDEO PRODUCTION

Project Number	EPI1404
Title	Video Production
Values Supported	
Purpose	To educate children and adults about the estuary, its people, and its flora and fauna.
Outputs/Deliverables	Two educational videos
Outcomes	Increase public awareness of environmental issues; Increased knowledge of environmental issues and stressors
Clean Water Act Relevance	
Year 1 (2013-2014)	\$ 14,000
Year 2 (2014-2015)	\$ 5,000
Year 3 (2015-2016)	\$ 20,000
Year 4 (2016-2017)	\$ 15,000 (Revised)
Year 5 (2017-2018)	\$ 25,000
Other Funding	\$
Total	\$ 79,000
Match/Leverage	
Lead/Partners	MBNEP

In 2015, MBNEP produced two well-received videos. *Understanding Your Watershed* was created as a primer for elected officials and others to learn about watersheds, stormwater, and nonpoint source pollution and is widely used in outreach efforts. *The Path Towards Coastal Restoration* was prepared for the MBNEP's annual Management Conference breakfast and describes projects and initiatives that have represented MBNEP efforts over the preceding calendar year. These two videos have been added to MBNEP's growing library of educational videos. In the coming year, we will continue making short videos to educate resource managers about new technologies and to highlight different cultural aspects of coastal Alabama.

2016 Accomplishments: Dispatches from the Field; 2 D'Olive Restoration Videos

Objectives for 2017-2018:

1. Produce at least one 5-7-minute video on new stormwater management technologies

EPI: SPECIAL EVENTS

Project Number	EPI1405
Title	Special Events
Values Supported	
Purpose	To educate the public about the things that are valued most about living in coastal Alabama
Outputs/Deliverables	Sponsorship- Outreach materials for at least 5 community events
Outcomes	Increase public awareness of environmental issues; Increased knowledge of environmental issues and stressors
Clean Water Act Relevance	
Year 1 (2013-2014)	\$14,435
Year 2 (2014-2015)	\$ 8,000
Year 3 (2015-2016)	\$ 8,000
Year 4 (2016-2017)	\$ 5,000
Year 5 (2017-2018)	\$ 7,500
Other Funding	
Total	\$ 42,935
Lead/Partner	Community groups, Management Conference members

Preserving our coast's heritage and culture was identified by the community due to concerns that the bay and estuarine waters providing such pleasure to many as youth will not be there for their grandchildren to enjoy in the future. This subject takes into account the more than 10,000 years of history related to the estuary, as evidenced by ancient oyster shell mounds like those found on Dauphin Island, the deltaic remains of Indian cultures from long ago, sunken Civil War ships scattered across the estuary bottom, and the anglicized names of residents reflecting the French heritage of coastal Alabama.

Heritage and culture are not limited to fishing villages and working waterfronts, but include the concerns of grandparents who remember a clear Dog River unencumbered by shoreline trash; a navigable D'Olive Bay not choked by sediment; a flourishing Delta without dying trees or eroded marshes; and intact, sea oat-covered sand dunes. Preserving these treasures for their grandchildren and future generations could not be more important

2016 Accomplishments: Supported Birdfest, Wolf Bay Children's Fishing Tournament; Sustainability Summit

Objectives for 2017-2018:

1. Support a minimum of 5 community events

EPI: COMMUNITY AWARENESS CAMPAIGNS: CLEAN WATER FUTURE

Project Number	EPI1407
Title	Create a Clean Water Future Campaign
Values Supported	
Purpose	To educate the residents of Baldwin and Mobile Counties about ways to decrease harmful stormwater runoff
Performing Organization(s)	MBNEP
Outputs/Deliverables	Production of educational materials to be distributed at community meetings and events, a marketing campaign
Outcomes	Increase public awareness of environmental issues; Increased knowledge of environmental issues and stressors
Clean Water Act Relevance	
Year 1 (2013-2014)	\$ 0
Year 2 (2014-2015)	\$ 40,330 (Revised)
Year 3 (2015-20016)	\$ 29,794
Year 4 (2016-2017)	\$ 10,000
Year 5 (2017-2018)	\$ 36,740
Other Funding	
Total	\$ 95,124
Match/Leverage	This campaign is part of past year grant reprogram
Lead/Partners	MBNEP

Stormwater runoff, considered by the EPA to be the number one source of pollution to American waters, is the primary threat to water quality in coastal Alabama. Exacerbated by increased impervious surfaces associated with development, it causes flooding and carries fertilizer, pesticide, animal waste, residues from automobiles and road surfaces, organic debris, trash, and all of the residues of urban and suburban living, untreated, into creeks, streams, rivers, and ultimately the Bay and Gulf. The force generated by increased volumes and velocities of runoff degrades channels, erodes stream banks, and adds sediment loads that increase turbidity and decrease habitat quality. Baldwin and Mobile County water bodies listed on the State

303(d) list are overwhelmingly impaired by pollutants conveyed by stormwater. Local governments, already responsible for stormwater management, face increased Federal regulations with limited resources.

While the public demands better management, education is needed to promote individual, residential stormwater management; encourage changes in policy and regulations to address problems at their source; and encourage regional/watershed level management to reduce costs and increase benefits.

Spring boarding off of the failed local referendum in Baldwin County, MBNEP has joined in partnership with the many entities, including local municipalities, community groups, the Clean Water Partnership, Weeks Bay National Estuarine Research Reserve, ACF, and Mobile Baykeeper to build a comprehensive program for educating government officials, the development community, educators and students and the general public about the impacts of stormwater runoff and changes that need to be made at the individual and community levels to improve how it is managed by watershed. This group has formed the Coastal Alabama Stormwater Team (CAST) to leverage efforts at improving stormwater management throughout coastal Alabama

MBNEP has entered into a contract with Mobile Baykeeper to conduct a Stormwater Media Campaign in Mobile and Baldwin counties. Goals of the campaign are to provide residents with a clear understanding of stormwater, its impact, and the need for improved stormwater management. In addition, the campaign will encourage good stewardship of the watershed through positive personal and community (governmental) stormwater management. Objectives of the campaign include awareness of stormwater issues including the importance of clean water to the recreational and commercial uses of our waters (our way of life), awareness of economic degradation caused by poor stormwater management and its ensuing damage to the environment, and awareness of the cost of prevention versus the cost of restoration.

MBNEP will execute cultivation strategies that educate potential new partners about the issues, challenges and opportunities for environmental improvements and engage them in helping to develop solutions that can be undertaken by all sectors of the community. During the next fiscal year, MBNEP will also seek out opportunities within the community to engage place-based grassroots organizations in developing programs, including additional community-based clean ups, aimed at increasing these groups' knowledge about their watersheds and ecosystem functions and the stressors that can negatively impact the system's function and value.

In addition to the above, MBNEP will employ U.S. EPA Trash Free Waterways funding to construct, install and maintain four small-scale litter "traps" to address floating trash and by stormwater from impervious surfaces into coastal Alabama urban waters. A prototype small-stream litter collector, the "Litter Gitter," is a floating, wire litter trap tethered by inexpensive pool noodle booms developed by the founder/owner of Osprey Initiative, LLC (Osprey). It was initially installed to mitigate delivery of litter from urban surfaces into the Maple Street tributary to One Mile Creek in the lower Three Mile Creek Watershed. Two of these devices will be installed in the Three Mile Creek watershed and two will be installed in the Bon Secour watershed to address measures identified in the watershed plans for these two areas. Additional funding will be used to promote and build out the "Clean Water Future" website (<http://www.cleanwaterfuture.com/>) as part of our continued commitment to encourage trash prevention from different sector of the community.

2016 Accomplishments: Amphibious Assault on Maple St. Canal; addition of 4 Clean Water Future Billboards throughout Mobile and Baldwin counties.

Objectives for 2017-2018 year:

1. Installation of four Litter Gitters- Three Mile Creek and Bon Secour
2. Continue implementation of CLEAN WATER FUTURE campaign
3. Conduct four community clean-ups

EPI: COMMUNITY OUTREACH PROMOTIONAL MATERIALS

Project Number	EPI1406
Title	Community Outreach Promotional Materials
Values Supported	
Purpose	To promote messages related to protecting the Mobile Bay estuary
Outputs/Deliverables	Assorted items (SWAG) with estuary messages
Outcomes	Increase public awareness of environmental issues; Increased knowledge of environmental issues and stressors
Clean Water Act Relevance	
Year 1 (2013-2014)	\$ 5,000
Year 2 (2014-2015)	\$ 3,210
Year 3 (2015-2016)	\$ 0
Year 4 (2016-2017)	\$ 9,176 (Revised)
Year 5 (2017-2018)	\$ 5,000
Other Funding	
Total	\$ 22,386
Lead/Partner	MBNEP

MBNEP's purpose is to provide tools and support community-based efforts to promote wise stewardship of the water quality and living resource base of Mobile Bay, its tributaries, and the Mobile-Tensaw Delta. Public education is essential to raising environmental awareness and promoting behaviors that will lead to sustainability of the resources that draw people to the coast. Over the past several years, MBNEP has worked with the Gulf of Mexico Program, the Alabama Clean Water Partnership, and other partners to develop outreach material for use in raising awareness about the environmental issues. In the next fiscal year, MBNEP will continue development of materials for use in a multi-pronged community outreach program that includes an updated communication plan establishing goals, identifying target audiences, determining what information should be disseminated and how, implementing actions, and evaluating results.

Objectives for 2017-2018 year:

1. Purchase of promotional items to support outreach at local events

EPI: OYSTER GARDENING

Project Number	EPI
Title	Oyster Gardening
Values Supported	
Purpose	To teach citizens about oysters and their importance to bay water filtration and habitat creation and to restore relic oyster reefs in Mobile Bay
Outputs/Deliverables	Oysters ready for planting on public reefs
Outcomes	Increase in community understanding about the value of oysters in the ecosystem.
Clean Water Act Relevance	Improved ecosystem function and protection; Improved community understanding of ecosystem restoration and protection activities.
Year 1 (2013-2014)	\$ 1,000 (reprogrammed from Estuary Corps)
Year 2 (2014-2015)	\$ 0
Year 3 (2015-2016)	\$ 2,000
Year 4 (2016-2017)	\$ 1,000
Year 5 (2017-2018)	\$ 1,000
Other Funding	\$ 0
Total	\$ 5,000
Match/Leverage	
Lead/Partners	AUMERC, Volunteers

The Mobile Bay Oyster Gardening Program is a volunteer based project which focuses on education, restoration/enhancement, and research by bringing the reef to the people. Now in its eleventh year of operation, Oyster Gardeners have produced nearly 500,000 oysters for restoration and enhancement efforts within Mobile Bay. The Gardeners, Garden Adopters, corporate partners, and agency partners make the program successful, and there are opportunities for everyone to get involved. Program partners include The Gardeners & Adopters, The Mississippi-Alabama Sea Grant Consortium, The Alabama Cooperative Extension System, The Mobile Bay National Estuary Program, The Auburn University Marine Extension and Research Center, The Department of Fisheries and Allied Aquacultures -Auburn University, and The Alabama Department of Conservation and Natural Resources State Lands-Marine Resources Division of Alabama.

Objectives for 2016-2017 year:

1. Annual sponsorship of this program supports ongoing purchases of gardening supplies and outreach activities.

MPA: PROGRAM IMPLEMENTATION

Activity	Year One 2013-2014	Year Two 2014-2015	Year Three 2015-2016	Year Four 2016-2017	Year Five 2017-2018	2017-2018 Funds Available + Budget
Management and Program Administration	583,668.00	572,418.00	678,794.09	731,000.00	762,116	760,228
Program Delivery/Operation	479,245.00	470,030.00	570,000.00	602,695.00	647,076	645,188
Indirect Charges	104,423.00	102,388.00	108,794.09	128,305.00	115,040	115,040

The MBNEP Program Office works closely with all of the MBNEP Management Conference members on initiatives related to the CCMP. The Management Planning and Administration (MPA) budget provides resources for the Program Office to continue program planning, development, implementation, evaluation, and reporting. The staff provides organizational and logistical support for all of the Management Conference committee meetings and coordinates/communicates as necessary with appropriate groups, including user groups, State, local, and Federal agencies, and professional groups relevant to CCMP development and implementation. Staff will provide overall coordination for implementation of the CCMP; prepare EPA-required documents; develop and administer grants/contracts; monitor projects including coordination of work plans, progress reports, and draft/final reports with project leads; coordinate project work plans and activities with other local, State and Federal agencies; and provide for overall program coordination. This amount includes all the necessary items for program administration including salaries, benefits, supplies, equipment, etc.

The Dauphin Island Sea Lab is the administrative sponsor of the MBNEP. The cost of this administrative support is captured in an indirect charge which is currently 15% of all expenditures related to the US EPA grant and any other external grants awarded to the MBNEP. On a case to case basis, DISL is willing to negotiate the indirect rate when necessary for grant application purposes. Otherwise, based on a 15% indirect charge, the MBNEP is able to capture the 28.2 % unrecovered costs as additional match for the program.

A hallmark of the National Estuary Program is the convening of a “Management Conference” to guide the **assessment of trends** in water quality, natural resources, and uses of estuary; **identification of causes** of environmental problems; **development of relationships** between pollutant loadings to the estuary and potential uses and quality of the estuary; **development of the CCMP** and other action plans for restoring and maintaining the chemical, physical, and biological integrity of the estuary; and **coordination of the collective implementation** of the CCMP. At its last two annual retreats, MBNEP’s Executive Committee (EC) has evaluated the functioning of the current Management Conference structure and assessed progress on implementation of the CCMP.

Vision: Alabama’s estuaries, where the rivers meet the sea, are healthy and support ecological function and human uses.

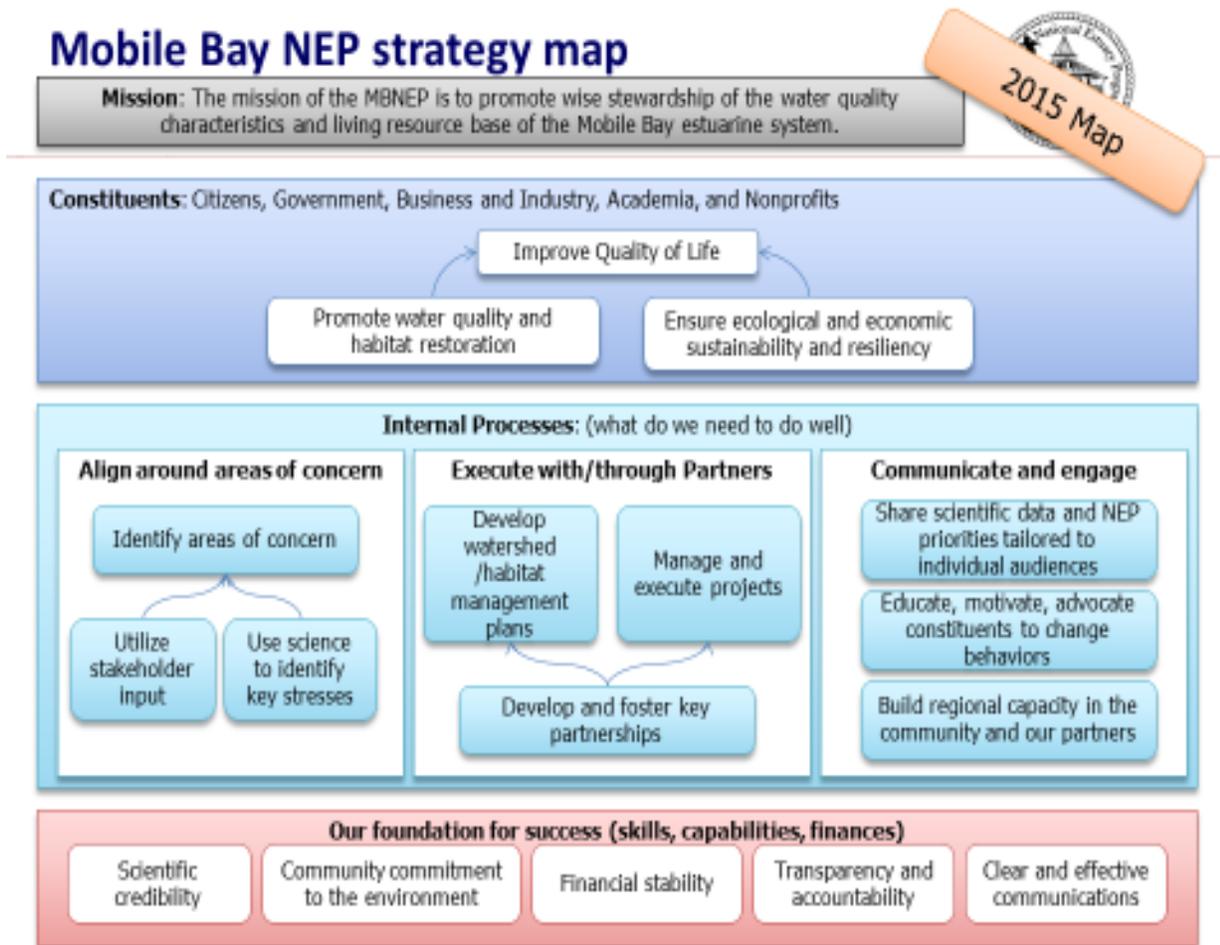
Purpose: The MBNEP brings together an engaged and diverse community committed to integrating environmental health with community and economy to develop consensus on what our ecosystem priorities are, how to achieve them, and how to facilitate/promote their implementation.

Mission: To provide necessary tools and to support community-based efforts to promote the wise stewardship of the water quality and living resources of the Mobile Bay estuary and the Mobile-Tensaw Delta

Goals:

- Water that is fishable, swimmable, and drinkable (“meeting or exceeding State’s designated uses)
- Conservation, restoration, and protection of critical habitats
- Community who understands and supports the value of our coastal resources
- Integration of environmental health with a balanced economy

During the 2012 Executive Committee Retreat, the purpose, goals and objectives were refined into a Balanced Scorecard, a [strategic planning and management system](#) that is used extensively in business and industry, government, and nonprofit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals.



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During the next fiscal year, MBNEP will continue to promote greater coordination and participation of Management Conference members in implementing the CCMP 2013-2018 through improving program transparency, communications, and community awareness. This will be done by development of a communications plan for promoting the new CCMP, coordination of special events to expand MBNEP partnerships, development of a public awareness campaign to highlight emerging environmental issues, and continuously improving and expanding our website to provide more interactivity and highlight management conference efforts.

Expected outcomes related to these activities include an increased understanding of activities undertaken by MBNEP and its partners to protect and conserve the water quality, living resources, habitats and human uses of the Mobile Bay estuary, increased recognition of the activities of the MBNEP, increased knowledge about the issues impacting the health of the Mobile Bay estuary, and improved financial planning and tracking.

STAFFING PLAN

Position	Employee	Responsibilities
Program Director	Roberta Arena Swann	Generates financial and political support for program; participates in regional and national initiatives associated with program; engages in project identification and design; builds collaborative teams for accomplishing objectives; liaison between program and local governments and other public agency leaders; spokesperson for estuary related activities and needs; Oversees program activities.
Restoration Program Manager	Paul Lammers	Oversight of all restoration-related projects including project design, implementation, coordination and monitoring; develop, initiate and coordinate baseline data collection;
Watershed Protection Coordinator	Tom Herder	Conducts technical writing, preparation of grant applications; development of watershed implementation program projects; leads Conservation Corps program; conducts educational program in schools and to community groups; facilitate the transfer of technical information; other
Grants and Business Manager	Tiffany England	Maintains budget, project files, financial record keeping, grant reporting; coordinates logistics and promotional materials for educational outreach and special events
Science & Monitoring Coordinator	Jason Kudulis	Coordinates activities of Science Advisory Committee in their development of a watershed monitoring framework to measure ecosystem health
Community Outreach Coordinator	Kelley Barfoot	Manages distribution of public information including press, website, social media, outreach materials; prepares program activity reports for grantors/public; other
Media Specialist	Ben Brenner	Produces video content; creates website presence and other marketing activities for the program.
Community Relations Manager	Rick Frederick	Cultivates relationships with a focus on the business community; builds and supports the Business Resources Committee through recruitment of key individuals; enlists local business community participation in watershed management planning and implementation; communicates the value of MBNEP through special events and media.
Clean Water Partnership Facilitator	Christian Miller	Works with communities to develop watershed management plans and implement initiatives of the Alabama Clean Marina Program and the Alabama Clean Water Partnership
Program Administrator	Bethany Dickey	Provides services associated with office manager as well as technical editing, social media strategies

TRAVEL

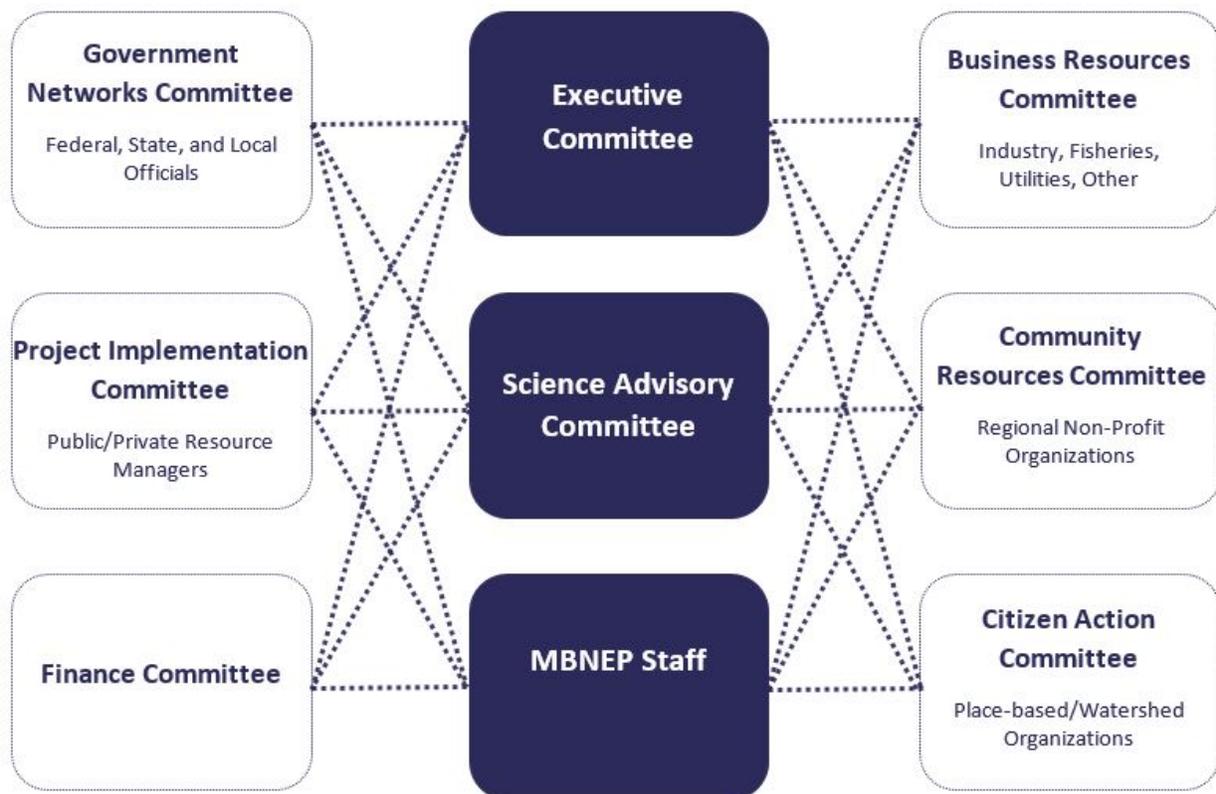
The administration amount includes \$15,000 for travel related to outreach and technology and information transfer. Program staff will participate in regional, state, and national conferences and meetings relevant to estuarine management. Attendance at Association of National Estuary Programs workshops and EPA workshops / meetings will be stressed.

Indirect Costs are charged at a rate of 15% on all cash expenditures (grant and matching funds) of the MBNEP by Dauphin Island Sea Lab. DISL allowable Indirect Cost negotiated rate with Federal Government is 43.2%. The un-recovered indirect of 28.2% is provided to the MBNEP by DISL/MESC as an in-kind matching contribution. Additional in-kind and support services not covered by indirect costs are also provided to the MBNEP by DISL on a case by case basis.

PARTNERS

THE MANAGEMENT CONFERENCE

MBNEP initiated a reorganization of the Management Conference in 2006. The structure was revised to better provide a mix of Policy Makers (both public and private), Implementers (both public and private), and Grassroots (community groups and citizens) to ensure expanding support for CCMP implementation and identification and engagement of emerging issues related to CCMP objectives. The ultimate goal is an increased ability to function as a community capacity builder and provide improved public services in the environmental area to our coastal communities. The Mobile Bay NEP Management Conference now consists of six main committees: Community Action e, Community Resources, Government Networks, Science Advisory, Business Resources and Project Implementation Committees.



- **The Community Action Committee** is composed of representatives of environmental grassroots organizations who work together to network, share information, develop issues, and provides cooperative training.
- **The Business Resources Committee** brings together a balance of interested community leaders from industry, business, environmental services, fishing, tourism and other professional fields to identify commonalities among sectors to resolve coastal issues that impact their interests and develop resources and funding.

- **The Government Networks Committee** is made up of State agency heads, regional government administrators, and local officials of the target area to more effectively communicate local needs.
- **The Project Implementation Committee** includes representatives of resource management agencies and organizations that undertake projects related to CCMP objectives and goals.
- **The Science Advisory Committee** includes experts from the various scientific disciplines who provide insights and a sound basis to be used by the other committees in their decision-making processes.
- **Community Resources Committee** is made up of regional and local non-profit organizations who are able to provide training, advocacy and educational opportunities to community members and grassroots groups.
- **The Finance Committee** includes community leaders that are committed to assisting non-Federal matching dollars to implement activities of the CCMP.
- **The Executive Committee** is made up of representatives from each of the four main committees, EPA, the Science Advisory Committee, the Finance Committee and three at-large members – develops policies on issues and funding, reviews/approves work plans and budgets, evaluates the performance of the Director, and sets financial goals.

A key principle of the Management Conference is to coordinate and cooperate with other ongoing resource management activities to avoid unnecessary duplication. In this regard, the program office plays a major role in coordinating estuary projects and outreach activities, thus providing a more far-reaching benefit than that of simply CCMP project management. During the next program year, MBNEP will continue to promote this management structure as a mechanism for garnering stakeholder ownership in implementing the CCMP.

FEDERAL PARTNERS

EPA ALLOCATION AND NON-FEDERAL MATCHING SHARE



Each year the MBNEP receives an allocation from EPA to support activities geared toward achieving the objectives of the CCMP. These funds require a one to one match. Our current program is being supported by 2.9 million in federal dollars with more than 16 million dollars in match.

GULF OF MEXICO PROGRAM (GOMP)



The Gulf of Mexico Program facilitates collaborative actions to protect, maintain, and restore the health and productivity of the Gulf of Mexico in ways consistent with the economic well-being of the Region. To date, MBNEP has received over \$800,000 in Gulf of Mexico Program (GOMP) grants to support a water management strategy for Eight Mile Creek, wetlands resource measurement baseline development, SAV gardening, Oyster gardening programs, the creation of a strategic assessment of priority habitats and two educational videos.

COASTAL IMPACT ASSISTANCE PROGRAM (CIAP)

In fiscal year 2001, the U.S. congress authorized the Coastal Impact Assistance Program (CIAP) to assist states and local communities in mitigating the impacts of Outer Continental Shelf oil and gas development and production. Alabama received a onetime grant of approximately \$21,000,000, of which MBNEP

received \$390,000 to fund an analysis of fish data, air deposition sample analysis, a study of Living Resources in the Delta, and Mobile Bay water monitoring.

In 2005, congress re-authorized funding for CIAP, which was established under section 384 of the Energy Policy Act (EPACT) of 2005 and authorizes the Secretary of the Interior to distribute \$250 million annually to six Outer Continental Shelf (OCS) oil and gas producing states in fiscal years 2007 - 2010. The EPACT of 2005 requires that all CIAP funds be used to directly conserve, restore, enhance or protect renewable natural resources. The Minerals Management Service (MMS) will act as the administration entity for this funding.

In Alabama, the CIAP eligible recipients are the State of Alabama (through the ADCNR), the Baldwin County Commission and the Mobile County Commission. In total, the State received \$51,103,214.08 for fiscal years 2007 and 2008. Of this funding amount, \$33,217,089.16 was available to the State of Alabama, \$7,894,094.64 will be available to the Baldwin County Commission and \$9,902,030.28 will be available to the Mobile County Commission. This funding will be utilized to implement projects outlined in the CIAP Plan.

In April, 2009 the State's plan was approved by MMS for the first round of CIAP funding (as described above) and activity began during the summer of 2009. County governments and the Alabama Department of Conservation and Natural Resources- Coastal Section are completing projects under this program at present and no additional funding is until 2017.

MISSISSIPPI ALABAMA SEA GRANT CONSORTIUM (MASGC)



The Mississippi Alabama Sea Grant Consortium is dedicated to activities that foster the conservation and sustainable development of coastal and marine resources in Mississippi and Alabama. Sea Grant is NOAA's primary university-based program in support of coastal resource use and conservation. The MASGC is an important partner to MBNEP in implementing many CCMP actions. MASGC provides technical expertise, program development assistance, and valuable research and is a leader of many initiatives related to CCMP objectives. At present, MBNEP partners with MASGC to co-fund a Coastal Resource specialist position.

NOAA RESTORATION GRANTS/ GULF OF MEXICO FOUNDATION (GOMF)



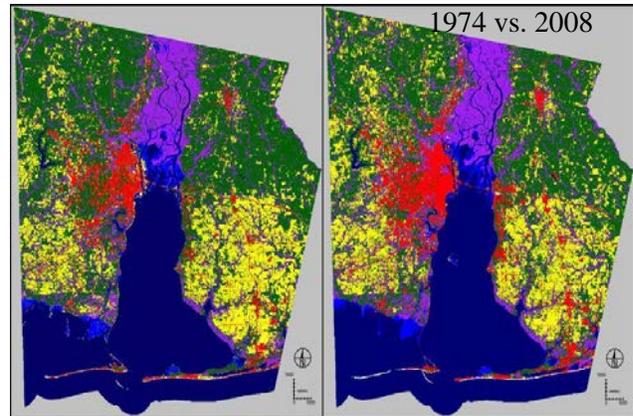
The NOAA Community-based Restoration Program administered by the Gulf of Mexico Foundation funds citizen-driven habitat restoration projects which benefit living marine resources and foster local stewardship throughout the Gulf of Mexico region.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)



The NASA Stennis Space Center Applied Science Coastal Program has used and is using local interest and coastal community science needs to guide development of a strategic plan. The overarching purpose of the Applied Sciences Program is to discover and demonstrate innovative applications of NASA

Earth science research and technology and to maximize the benefits to society of the nation's investments in the NASA Earth science research program. Mobile Bay was identified as a priority area and a NASA team led by Dr. Jean Ellis partnered with MBNEP to address a priority local need by mapping and assessing Land Use-Land Cover changes in Baldwin and Mobile Counties from 1974-2008, a period of rapid development and growth using Landsat and other imagery data. The project was completed in September 2008 and products included: change detection maps in static and in digital format for several specific time intervals, Land Use-Land Cover change geospatial statistics; and a final project report.



Under a separate NASA grant (\$400,000) MBNEP was a co-investigator on a second A-28 grant, (\$398,401) to continue this project by verifying analysis results with other datasets to develop a cohesive understanding of the permanency of habitat change over the time period with a focus on the coastal hydrologic units. This project is helping us assess coastal change due to development and its impact on water quality, habitat and living resource populations. These maps have been very useful in watershed planning. MBNEP is currently in discussion with NASA to update this product and explore other uses of its satellite imagery.

NORTHERN GULF INSTITUTE



The Northern Gulf Institute (NGI), a NOAA Cooperative Institute, develops, operates, and maintains an increasingly integrated research and transition program focused on filling priority gaps and reducing limitations in current Northern Gulf of Mexico awareness, understanding and decision support. Partnering with five academic institutions and NOAA, the institute is a collaboration led by Mississippi State University (MSU) that includes the University of Southern Mississippi (USM), Louisiana State University (LSU), Florida State University (FSU) and the Dauphin Island Sea Lab (DISL). The NGI was established in October of 2006. The five focus areas of the NGI are: Ecosystem-based Management, Geospatial Data/Information and Visualization in Environmental Science, Climate Change and Climate Variability Effects on Regional Ecosystems, Coastal Hazards and Resiliency.

U. S. ARMY CORPS OF ENGINEERS PARTICIPATION (USACE)



The US Army Corps of Engineers (USACE) actively participates in the implementation of many of the actions of the CCMP. USACE completed two Preliminary Restoration Plans (PRP) valued at approximately \$10,000 each: one for the restoration of an area on Isle of Herbes and a second for a habitat restoration along Dauphin Island Causeway. As part of the ongoing planning for Isle of Herbes, MBNEP completed a living resources characterization of the island to assist with the corps combined planning and development phase. USACE requested Section 204 funding to continue to implement the Isle of Herbes restoration but the project was stopped due to the presence of

submerged aquatic vegetation (SAV). A combined planning and design report, valued at over \$80,000 was completed for the DI Causeway Restoration. However, due to a lack of suitable material and cost prohibitive staging issues, the USACE abandoned the DI Causeway restoration. Although USACE chose no further action on the project, the work done by the USACE was used as part of a grant submitted by MASGC through a NOAA stimulus grant to fund a very similar project. Another project Helen Wood Park (along the Dauphin Island Parkway) to break wave energy, thus reducing erosion has been cancelled by USACE due to the presence of SAV in the area that was identified for marsh establishment. USACE participation in CCMP activities represents a crucial resource for moving projects forward.

STATE RESOURCES

ALABAMA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES STATE LANDS (ADCNR)



Because ADCNR has a long term interest in Alabama’s Coastal Resources and the statutory responsibility for the conservation, management, and protection of these resources through its State Lands Division, Marine Resources Division, Wildlife and Fresh Water Fisheries Division, State Parks Division and particularly through the Alabama Coastal Area

Management Program, it has entered into a memorandum of agreement to provide annual funding to MBNEP as part of its non-Federal match requirement, as an investment toward implementation of the CCMP. MBNEP has received over \$750,000 over the past nine per year and additional NOAA related grants, which are used to produce *Alabama Current Connection*. *Alabama Current Connection* is a joint newsletter published by the ADCNR State Lands Division Coastal Section and the MBNEP to highlight current projects, management conference activities, and other issues of interest to coastal residents.

STATE OF ALABAMA



MBNEP met with the head of ADECA on March 17, 2006 to request additional State funding support for the program. After much discussion and initial support by ADECA, MBNEP decided on pursuing other opportunities within State government for ongoing support. In 2007, MBNEP was added as a line item in the State budget through the auspices of the Dauphin Island Sea Lab for a designated amount of \$250,000 in 2007. This funding has been reduced each year as follows:

Funding Year	State Amount	ADCNR Amount
2013-2014	\$76,088	\$88,000
2014-2015	\$76,088	\$88,000
2015-2016	\$76,088	\$98,000
2016-2017	\$76,088	\$98,000
2017-2018	\$76,088	\$98,000
Total State Funding	\$304,352	\$372,000

LOCAL RESOURCES

The following local governmental entities provide continuing financial assistance to the MBNEP on an annual basis to support the implementation of the CCMP. Although these communities only allocate funding annually, MBNEP anticipates expanded support from these and other coastal communities in the future. MBNEP will reach out to Satsuma, Chickasaw, Bayou La Batre, Spanish Fort, Dauphin Island, Gulf Shores and Foley for additional investment. Past annual investment from municipalities includes:

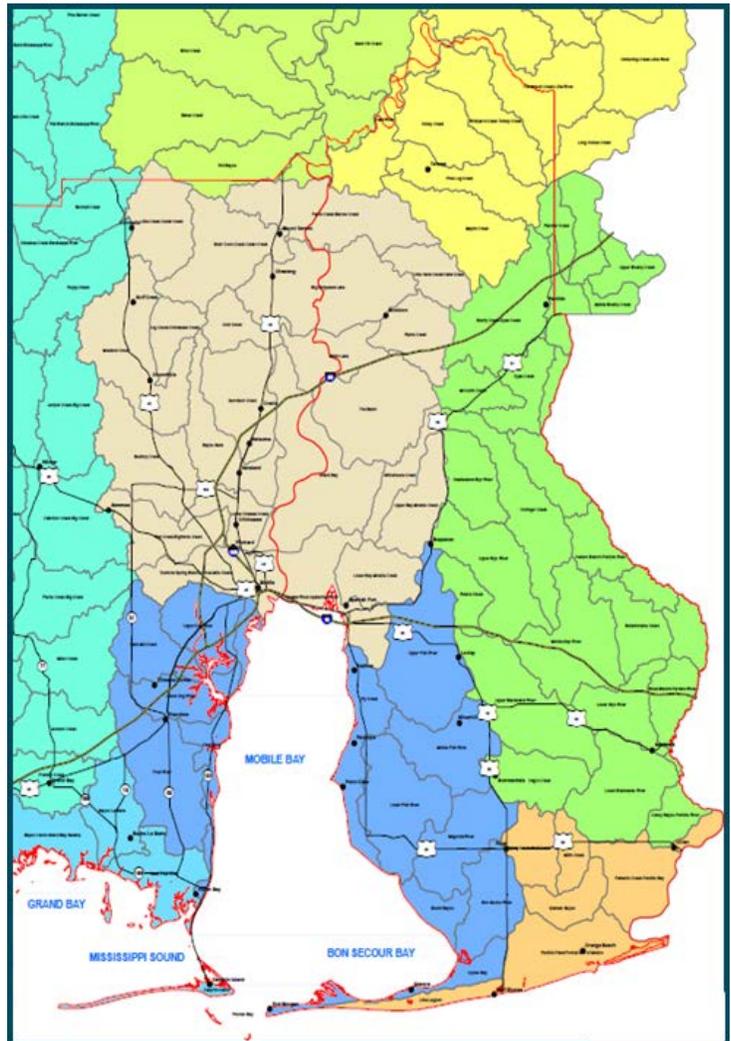
<i>Local</i>	<i>2017-2018</i>
Baldwin County	15,000
Mobile County	17,888
City of Mobile	20,000
City of Daphne	50,000
City of Spanish Fort	5,000
City of Fairhope	5,000
City of Foley	10,000
City of Gulf Shores	5,000

IN-KIND CONTRIBUTIONS

MBNEP depends on volunteer support and local contributions of other in-kind services to achieve program success. On a yearly basis, in-kind environmental contributions account for over half of the non-Federal share of match that MBNEP is required to raise as investment in implementing the CCMP. This in-kind support is generated from volunteer labor hours related to activities including but not limited to oyster gardening, crab monitoring, trap removals, and participation in area events. Other in-kind services include use of city owned machinery, the value of land donated for conservation purposes, and private donations to cover expenses incurred for events and activities carried out by local grassroots organizations and sponsored by MBNEP.

GEOGRAPHIC DISTRIBUTION

Although the actual watershed for Mobile Bay encompasses more than two thirds of the State of Alabama and portions of Georgia, Mississippi, and Tennessee, MBNEP's primary target area is limited to southern Alabama, including all of Mobile and Baldwin Counties, from the eastern edge of coastal Alabama to its western coastal border. In addition, it extends seaward to the three-mile State jurisdictional limit. MBNEP's target area also includes Mississippi Sound, up to the Mississippi/Alabama border. Major waterways include the Tombigbee, Tensaw, Apalachee, Blakeley, Escatawpa, Mobile, Alabama, Dog, Fowl, Fish, Magnolia, Bon Secour and Perdido Rivers; Chickasaw, Norton, Three Mile, and Eight Mile Creeks; and the Intercoastal Waterway, Wolf and Perdido Bays, and Little Lagoon.



PART TWO: ONGOING PROJECTS

Mobile Bay National Estuary Program Annual Report 2016-2017

The mission of the Mobile Bay National Estuary Program (MBNEP) is to promote wise stewardship of the water quality and living resources of Alabama's estuarine systems. Funding in part by the US EPA and administratively sponsored by the DISL, MBNEP is a non-regulatory program, bringing together citizens; local, state, and federal government agencies; businesses and industries; conservation and environmental organizations; and academic institutions to meet the environmental challenges that face the unique and imperiled resources that characterize our coastal estuaries. The MBNEP is part of the Sea Lab's Coastal Policy Program.

The past year has been transformative for the MBNEP and its Management Conference committees. Implementing three National Fish and Wildlife Foundation Gulf Environmental Benefit Fund (GEBF) grants, the MBNEP joined partners on both sides of the bay to continue laying the foundation for coastal restoration through watershed planning and implementation. These grants were added to ten current active grants including awards from the EPA, Alabama Department of Conservation and Natural Resources, Alabama Clean Water Partnership, the U.S. Fish and Wildlife Service, and the Alabama Department of Environmental Management. In addition, non-federal match funding was received from the State of Alabama, Alabama Department of Conservation and Natural Resources and several Mobile and Baldwin County municipalities. These diverse sources of funding grew the MBNEP budget to over \$11.5 million dollars in the past year to support projects affecting water quality and living resources of coastal Alabama, including significant activity in the D'Olive and Fowl River watersheds.

THE CCMP

In its fourth year, MBNEP continues implementation of a *Comprehensive Conservation and Management Plan for Protecting Alabama's estuaries and Coast 2013-2018* (CCMP). This road map to protection of Alabama's coastal resources was produced to support what people along the coast value most: Access to the water and open spaces (for recreation and vistas); Beaches and Shorelines (Protection, economy, beauty); Fish (Fish and wildlife habitats, abundance, livelihood); Heritage and Culture (Protecting the legacy); Environmental Health/Resiliency (Protecting); Water quality (drinking water quality and quantity, rivers, creeks, and bay- fishable, swimmable, drinkable). The CCMP is organized by five sections: Status and trends; Ecosystem restoration; Technical assistance and capacity building; community stewardship; and program implementation. What follows is an overview of accomplishments achieved by over 100 community leaders, academics, businesses, government entities, and grassroots and environmental groups in their efforts to implement the strategies of the CCMP:

STATUS AND TRENDS: ENVIRONMENTAL MONITORING FOR THE COAST

The Science Advisory Committee (SAC) focused their activities on assessing improved delivery of ecosystem services related to implementation measures recommended through coastal watershed management planning and on maintaining existing levels of coastal monitoring by evaluating funding and organizational capacity to manage historical, ongoing, and future coastal and estuarine data.

Real Time Monitoring - The MBNEP provided funding to DISL to support operation and maintenance of real-time monitoring sites at Meaher Park, Dauphin Island, Weeks Bay, and Middle Bay lighthouse. These monitoring stations provide real-time data that can be viewed at www.mymobilebay.com, a website also

containing links to the Mobile River, Fort Morgan, and the Farewell Buoy as part of the Physical Oceanographic Real-Time System of the National Ocean Service (with data more pertinent to shipping interests) as well as data from Weeks Bay and Grand Bay through the NOAA Weather Service Hydrometeorological Automated Data System. The Dauphin Island now supports this monitoring 100%.

Measuring Changes in Biological Condition - With a goal of measuring changes in ecosystem function resulting from watershed management and restoration activities, the SAC continued a multi-year focus on the development of a conceptual framework for measuring biological conditions. This framework includes tracking conditions of wetlands and intertidal marshes and flats using the relative proportion of acreage having “good,” “fair,” and “poor” biological condition within an assessment area, accounting for wetlands lost or gained. Condition will be assessed using landscape development indices (LDIs), wetland rapid assessment procedures (WRAP), and hydrogeomorphic models (HGMs). For coastal streams, condition will be assessed using macroinvertebrate indices of biological integrity (MIBI). While MIBIs have as yet not been calibrated for Alabama streams, Mississippi DEQ and Florida DEP have both developed indices which may be applicable in Alabama.

This framework is being tested in the D’Olive watershed where a significant amount of restoration is occurring in addition to passage and enforcement of enhanced sub-division regulations. Condition of freshwater wetlands and distribution of submerged aquatic vegetation (SAV) in D’Olive Bay are providing assays of downstream condition related to restoration of these upstream streams and wetlands.

Data Development - In late 2014, MBNEP received a grant from the second round of National Fish and Wildlife Foundation (NFWF) Gulf Environmental Benefit Fund (GEBF) to produce high-resolution maps of habitats in Alabama’s two coastal counties, map the distribution of submerged aquatic vegetation in Alabama’s coastal and estuarine waters, develop watershed management plans for priority intertidal watersheds, and develop a habitat restoration plan coupling data from maps with recommendations from WMPs to prioritize restoration and conservation activities. In 2015, Barry A. Vittor and Associates followed up on 2002 and 2008-2009 efforts and gathered aerial imagery to map the distribution of SAV in the Mobile-Tensaw Delta, Mobile Bay, Mississippi Sound, and Perdido Key area of southern Baldwin County with the July, 2016, publication of *Submerged Aquatic Vegetation Mapping in Mobile Bay and Adjacent Waters of Coastal Alabama in 2015*. Radiance Technologies was contracted to update the inventory of priority wetland and upland coastal habitats through high-resolution mapping. These priority habitats identified by the Coastal Habitats Coordinating Team consist of intertidal marshes and flats, freshwater wetlands, riparian buffers, pine savanna, longleaf pine, maritime forest, beaches and dunes. High resolution habitat mapping will provide important baseline data for a GIS support tool to enhance restoration and conservation planning through protection of critical ecosystem services, particularly water quality enhancement and fisheries production. Publication is expected in late 2017.

Habitat Restoration Plan/Watershed Comparison Tool - MBNEP is funding The Nature Conservancy to develop an online decision support mapping tool that will allow the user to utilize a wealth of information about water resources and watersheds, as well as robust analyses and modeling, to allow the MBNEP and the PIC to prioritize and monitor the implementation of the management recommendations and to determine where restoration efforts should be employed. This tool will be used to prepare a habitat restoration plan, coupling data from habitat and SAV maps, as well as digital information and recommendations from completed watershed plans, to determine where restoration and conservation activities will have the greatest impact on restoration. Each state or partner (including Alabama/MBNEP) determines what products would be most useful to guide TNC developers in generation of applications.

ECOSYSTEM RESTORATION AND PROTECTION AT A WATERSHED SCALE

D'Olive Creek Watershed Restoration – At the end of 2013, MBNEP was awarded a \$6.85M NFWF GEBF grant to continue restoration of substantially-degraded tributaries in the D'Olive and Tiawasee creek and Joe's Branch sub-watersheds to “stop the bleeding” and mitigate 303(d)-listed impairments (siltation) resulting from stormwater runoff. Engineering and design activities were put to the test after the “500-year” storm event in April of 2014 devastated local streambeds. MBNEP requested an amendment to NFWF, and in August \$11.4M was approved to complete proposed restoration projects.

Restoration project implementation continues. Although the initial restoration project of a tributary to Joe's Branch performed very well, targeted restoration areas experienced significantly more erosion. As a result, additional engineering was required for Joe's Branch, pushing back restoration to April 2015. JB Phase II was substantially completed in August, 2015, and GSA monitoring indicated a 90-99% downstream reduction in sediment loads. In 2016, three Joe's Branch tributaries – J4-1, J4-2, and JA – and an existing stormwater retention pond, JSMF, were restored and substantially completed, along with a new retention pond in an Alabama Power easement at Westminster Village, JBSMF. Restoration of Tiawasee Creek, managed by the City of Daphne and funded jointly through CIAP and the MBNEP NFWF GEBF grant was begun in January and completed in April, 2016. Contractors immediately mobilized to D'Olive Creek tributary D4-D6, downstream of I-10 on Malbis Plantation property, to begin restoration of the 2,000-foot reach, substantially completed in August. D'Olive Creek tributary DA3, east of County Road 13 on Malbis property, was begun in January and substantially completed in February, 2017. D'Olive tributary DAE, south of U. S. Highway 90, will go to construction in spring, 2017. Tributaries DAF, DAF-1, and DAF-Melody Loop are currently in design with construction expected to begin in 2017.

Mon Louis Island/Fowl River Watershed - At the end of 2013, MBNEP was awarded a \$2.05M grant from the GEBF to undertake a sediment loading analysis to identify areas of erosion concern, prepare a comprehensive management plan for Fowl River watershed and stabilize the tip of Mon Louis Island at the mouth of the river, creating up to seven acres of marsh. The sediment analysis was completed, and a final watershed management plan was delivered in April, 2016.

The proposed tip restoration strategy included dredging the Fowl River channel and beneficially using that material to support the project. As part of the initial design, an Alternatives Evaluation was prepared, comparing different designs, materials, and footprints for the restoration, with creation of a rock sill as the preferred alternative. Concurrently, an investigation of sediment quality was conducted at the mouth of the river and within the channel. Based on findings of poor quality, project development depended on finding a suitable and financially feasible sediment source. With \$800,000 available from a State Deepwater Horizon Impact Grant facilitated by Senator Bill Hightower, a plan was developed to borrow suitable material from the nearby Fowl River Open Water Disposal Area to create over four acres of marsh to restore the tip to its 1995 footprint, followed by DWHI Grant-funded dredging of the shallow Fowl River navigation channel to replace material borrowed from the FROWDA. An amendment to the NFWF GEBF grant to \$2.85M was sought and approved by NFWF, and a permit was received in March, 2016. Breakwater construction began in early July, 2016, and was completed in early September. permitting requirement submission was completed in late 2015. Sandy material was hydraulically pumped from the Fowl River Open Water Disposal Area behind the breakwater to an elevation of +3.5 NAVD88 to create suitable substrate for marsh creation over a one-week period. In mid-September, dredges moved to the Fowl River navigation channel where maintenance dredging of the neglected and shallow channel was undertaken with funding through a State Deepwater Horizon Impact Grant to refill the FROWDA borrow pit. Final grading, planting, and tidal creek creation will be undertaken in spring, 2017.

Three Mile Creek Watershed - Implementation of the Three Mile Creek Watershed Management Plan is underway. In August, 2014, MBNEP assisted the City of Mobile in preparation of an Outdoor Recreation Legacy Program Grant proposal for submission to the National Parks Service/U. S. Department of the Interior for the construction of the first leg of a bicycle trail/greenway extending from Martin Luther King Jr. Avenue to Tricentennial Park with LID lighting, impervious surface, and a circuit/fitness course. In August, 2015, the City won a \$386K award to implement this project, slated for construction in 2016.

Two MBNEP projects related to Three Mile Creek were approved for awards from the RESTORE Bucket 2 Funded Priority List in December, 2015: Stream restoration/stabilization in TMC tributary Twelve Mile Creek upstream of Langan Park to reduce delivery of sediment there and a TMC Invasive Species Control Plan for development and implementation. Both projects await distribution of RESTORE awards.

In March, 2016, MBNEP published a Prichard Drainage Study – Toulmins Spring Branch and Gum Tree Branch prepared by Neel-Schaffer. The study was funded by MBNEP for the Mobile County Commission and the City of Prichard to undertake preliminary planning and design of drainage improvements within the Gum Tree Branch sub-watershed of Eight Mile Creek and the Toulmins Spring Branch sub-watershed of TMC.

In August, 2016, MBNEP, the Martin Luther King Jr. Avenue Redevelopment Corporation, and the Student Conservation Association were awarded a grant for \$250K to establish a Coastal Alabama Conservation and Resiliency Corps. Ten urban, at-risk, young adults recruited from traditionally-underserved lower TMC Watershed neighborhoods, will be led by two experienced SCA team leaders in undertaking smaller-scaled conservation and restoration projects, including invasive species control, drainage improvements, and restoration planting, while also providing credible and directed community outreach to encourage wise stewardship of environmental resources in their neighborhoods. Corps members received three weeks of training in January-February, 2017 that included wilderness first aid and CPR, Red Cards for use of prescribed fires, canoe certifications, and herbicide training. Corps members will receive compensation for forty hours per week, including four days of project implementation and one day of training. At the conclusion of the six-month project, Corps members will be eligible for AmeriCorps educational financial assistance.

Coastal Watershed Management Planning - Watershed management plans funded in the first and second rounds of NFWF GEBFs are progressing. The Fowl River WMP, developed by Goodwyn Mills Cawood and managed by the Mobile County Soil and Water Conservation District, was released in draft for comment in December 2015. GMC was contracted by the City of Mobile to develop their comprehensive plan, so as a matter of economy and efficiency they were also contracted to develop the WMP for the Dog River Complex (that includes Upper and Lower Dog River, Halls Mill Creek, and Garrow's Bend), which is in progress. Dewberry is progressing through development of the WMP for Bayou Le Batre. Their scope may be amended to include Dauphin Island, West Fowl River, and Delchamps Bayou, due to geographical similarity and proximity, common drainage, and since the team developing the AL Barrier Island Restoration Study requested the MBNEP to partner to supplement their data with stakeholder engagement necessary to both efforts. The Bon Secour River Complex planning effort (BSR, Skunk Bayou, and Oyster Bay) is being managed by the City of Foley and developed by Volkert. The Fish River Complex (Upper, Middle, and Lower Fish River, Perrone Branch, and Magnolia River Watersheds) is being managed by the Baldwin County Soil and Water Conservation District and developed by Thompson Engineering. The Wolf Bay Complex (Graham Bayou, Sandy and Mifflin Creek, and Perdido Pass/Frontal Gulf of Mexico Watersheds) and Tensaw-Apalachee Complex (Tensaw-Apalachee, Grand Bay (AL), and The Basin Watersheds) will be the last of the NFWF-funded watersheds undertaken. In December, 2015, funding was approved from the RESTORE Bucket 2 Funded Priority List to develop WMPs for the remaining 19 tidally-influenced watersheds in coastal Alabama.

EDUCATION, OUTREACH, AND CAPACITY BUILDING

Alabama Current Connection is a joint semi-annual newsletter published by ADCNR, State Lands Division, Coastal Section and the MBNEP to highlight current projects, Management Conference activities and initiatives, and other issues of interest/concern to local residents. Two newsletters were published for distribution as hard copies as well as in electronic (PDF) format.

Clean Water Future Campaign - Create a Clean Water Future is a public service messaging and marketing campaign to help Alabamians learn more about stormwater runoff and its impacts; increase demand for stormwater management programs; and provide tools that empower Alabama residents to reduce polluted runoff in our waterways. Membership in *Create a Clean Water Future* provides municipalities, businesses, or other organizations with a unified mechanism for raising the issue of stormwater management throughout coastal Alabama. MBNEP is charging the Business Resource Committee to connect with lead implementers of the CCWF campaign. The BRC will recruit private sector entities to “jump start” the campaign as prescribed in a marketing plan developed in 2015.

Toulmins Spring Branch Community Adaptation – In 2015 with funding from the New York Community Trust, MBNEP joined forces with the MLK Avenue Redevelopment Corporation to establish a Community Resiliency Leadership Academy to teach potentially-affected residents of the MLK area and along TSB how to participate in decisions about proposed activities that will affect their environment and/or health and how a community’s contribution can influence local government management decisions. Leadership Academy members met weekly with training in leadership and team building; identification of resources, needs, and adoption of vision; group dynamics; and community organizing and education in environmental topics like climate change, watershed dynamics, and field work to gain an appreciation for local habitat assets and problems. Upon course completion, Academy members were recognized by the Mayor and City of Mobile Council. The program will be ongoing.

Concurrently, in coordination with a proposed project by The Nature Conservancy to develop best management practices in the headwaters of TSB, MBNEP conducted a TSB Community Resiliency Project to involve residents in planning for how their vulnerable community will adapt to climate change impacts. Project goals were to engage community members in understanding and adapting to the risks posed by an increased incidence of coastal storms and rising sea levels and to build local capacity for improving community resiliency while protecting natural resources and enhancing ecosystem services. Volunteers for the University of South Alabama Center for Academic Service Learning and Civic Engagement were trained to assist in neighborhood canvassing to encourage participation, and three community meetings were conducted with participants completing questionnaires and viewing presentations by MBNEP staff on watershed education and potential project implementation. Following the three community meetings, MBNEP held an Ideas Festival where residents participated in a mapping workshop to identify critical structure assets and locations of known flooding and stormwater related problems. MBNEP solicited feedback from participants through handheld voting devices regarding the resiliency of the community to flooding and potential impacts of sea level rise.

Video Productions - In 2015, MBNEP produced two well-received videos. *Understanding Your Watershed* was created as a primer for elected officials and others to learn about watersheds, stormwater, and nonpoint source pollution and is widely used in outreach efforts. *The Path Towards Coastal Restoration* was prepared for the MBNEP’s annual Management Conference breakfast and describes projects and initiatives that have represented MBNEP efforts over the preceding calendar year.

Alabama Water Watch - AWW is a citizen, volunteer water quality monitoring program covering all of the major river basins in Alabama. MBNEP partnered with AWW to expand volunteer monitoring within

Alabama's two coastal counties. During the past program year we have focused on increasing the volunteer monitoring capacity of local grassroots watershed groups. A workshop was held to highlight coastal water monitoring efforts, and two follow-up meetings with grassroots groups indicated a need for more training opportunities and assistance in maintaining test kits. AWW also worked to develop protocol for salinity testing via refractometer and bacterial *Enterococcus* assessment.

Coastal Alabama Clean Water Partnership - As host to the Coastal Basin CWP Facilitator, MBNEP supports activities to reduce the amount of non-point source pollution entering our waterways. The CACWP is part of the Alabama Rain Barrel Project, conducting workshops for citizens to "make and take" a 55-gallon rain barrel. Included in the workshop is an educational session teaching citizens how to protect water quality and conserve water resources. During the past program year, four rain barrel workshops were held in Mobile and Baldwin counties and 55 rain barrels were constructed. The CACWP also supports multiple outreach events that demonstrate best management practices for protecting coastal water quality and habitat. During the past program year these events included:

- Mobile County Forestry Field Day- over 75 landowners participated in BMP demonstrations including protecting wetlands, managing longleaf pine, farm pond management, and zero tillage farming.
- Mobile and Baldwin County Water Festivals- Over 1,000 4th grade students participated in a hands-on learning experience on topics including watershed protection, water quality, and the water cycle.

Coastal Marine Planning – MBNEP, in collaboration with the Working Waterfronts Coalition and a Steering Committee comprising area agency resource managers, is working with the Geological Survey of Alabama to create a Coastal Marine Planning (CMP) GIS-based Decision Support Tool. This involves developing a new support tool or adapting an existing one to the needs of CMP in coastal Alabama. GSA updated the Alabama Comprehensive GIS Inventory of Coastal resources by

- Interacting with partners to prioritize coastal marine spatial planning (CMSP) collected to date and identify data gaps, including expanding stakeholder input to assist the Steering Committee in addressing goals and objectives established in previous phases of the effort.
- Finalizing thematic data tabulated to date which was reflected in Phase III, including addressing data redundancy and metadata compliance.
- Completing a working inventory, updating the 2006 dataset, and drafted into an ArcGIS project (.MXD format) and into a published map file (.pmf format suitable for ArcReader) for DVD media

Developing of beta version of a categorical ArcReader interface for the Recreation categorical theme using Adobe Flex viewer built on the ArcGIS Server platform (located at <http://www.ogb.stae.al.us/apps/Recreation/>)

IMPLEMENTATION PROGRESS

Attached:

Existing Grant: Budget vs. Actual 12/31/2016

Contracts with Local Entities (2015-2016)