Comprehensive Conservation Management Plan

Protecting what we value most about living in coastal Alabama

Annual Work Plan
Year Three
Fiscal Year 2015-2016

Respect The Connect™

Mobile Bay National Estuary Program
www.mobilebaynep.com
prepared June, 2015

TABLE OF CONTENTS

Preface ____ *4*

Introduction ____ *5*

Part One: 2015-2016 WorkPlan Executive Summary ____ *6*

Major Goals and Focus ____ 6

Budget Overview: 2015-2016 ____ *11*

Project Details: Estuary Status and Trends ____ *13*

EST: 1. Coastal monitoring program/ REAL-TIME MONITORING ____ **14**

EST: 2. Watershed Sediment Studies ____ **16**

Project Details: Ecosystem Restoration ____ *18*

ERP: 1. D'Olive Watershed: Stabilization of actively eroding areas ____ **19**

ERP: 2. Eight mile Creek watershed: Water Quality restoration ____ **21**

ERP: 3. Fowl River Watershed: Planning and Restoration ____ **23**

ERP: 4. Three MIle Creek Watershed: Restoration ____ **26**

TOULMINS SPRING BRANCH FLOOD MODELING/COMMUNITY ADAPTATION ____ **28**

ERP: 5. Bon Secour Watershed: Planning ____ **31**

ERP: 5. Dog River Watershed: Planning ____ **33**

ERP: 6. Lower Chasaw watershed: Planning ____ **36**

Project Details: Technical Assistance/ Capacity Building ____ *38*

TAC: 1. Volunteer Ecosystem monitoring Program w/AWW ____ **39**

TAC: 2. Coastal Clean Water Partnership- Non-Point Source Pollution Program ____ **41**

TAC: 3. Dauphin Island History to Future -Complete ____ **43**

TAC: 4. Estuary Corps ____ **44**

TAC: 5. Coastal marine planning ____ **46**

Project Detail: Education and Public involvement ____ *48*

EPI: 1. Management conference support ____ **49**

EPI: 2. Semi Annual Newsletter ____ **51**

EPI: 3. Educational/Informative Signage ____ **52**

EPI: 4. Video Production ____ **53**

EPI: 5. Special Events ____ **56**

EPI: 6. Community Awareness Campaigns 57

EPI: 6.a Community Outreach Promotional Materials 59

EPI: 8.Oyster Gardening 60

Project Detail: Program implementation 61

Staffing plan 64

Travel 65

PARTNERS *66*

The Management Conference 66

Federal Partners 67

State Resources 69

Local Resources 70

In-Kind Contributions 71

Geographic Distribution 71

Part Two: Ongoing Projects *73*

MBNEP Accomplishments 2014 73

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 watershed, developing Comprehensive Conservation and Management Plans (CCMPs) that list and describe actions to address those problems, and identify partners, including lead entities, to implement the actions. Locally, the Mobile Bay National Estuary Program (MBNEP), in existence for the 18 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.

Program Staff:

Tiffany England, Grants Administrator
Tom Herder, Watershed Protection Coordinator
Kelley Barfoot, Community Outreach Coordinator
Rick Frederick, Community Relations Manager
Christian Miller, Water Quality Specialist
Amy Newbold, Deputy Director
Roberta Arena Swann, Director

PART ONE: 2015-2016 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

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. Prepare white paper on available options for organizational management of historical, ongoing, and future estuarine data.
   1.1.2. Compile habitat, soil and SAV mapping data; watershed characterization data; and other data sets to establish a GIS based habitat restoration plan which can be continuously improved through future data entry.

2. **Establish process for measuring change in estuarine conditions.**
   2.1. Build a biological Condition Gradient Framework for coastal Alabama.
   2.1.1. Build draft framework based on parameters being collected in D'Olive watershed, land development index, and other factors effecting system health.

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. Compile available data to establish a baseline condition for D'Olive watershed.
   3.1.2. Adopt and implement ecosystem monitoring protocol in D'Olive watershed.

Ecosystem Restoration

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 fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**
   1.1. Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.
   1.1.1. Conduct sediment studies for Fish River, West Fowl River, and other to be determined

1.1.2. Initiate watershed plans in three watersheds (Fish River, West Fowl River, Wolf Bay)
1.1.3. Complete watershed management plans in three watersheds (Bayou La Batre, Bon Secour, Fish River)
1.1.4. Facilitate implementation of four watershed plans (D'Olive, Three Mile, Eight Mile, Fowl River)

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.*
2.1.1. Build 5,700 feet of living shoreline on Marsh Island (ADCNR activity)
2.1.2. Build 8,448 feet of living shoreline along Skunk Bayou (NOAA activity)
2.2. Install living shorelines along privately owned property
2.2.1. Build a 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
2.5. Restore 2500 acres of nearshore and intertidal marshes and flats

3. **Restore/Expand human connections**
3.1. Create new 10 new access points
3.1.1. Prepare comprehensive recreation plan for coastal area
3.2. Protect/conserve 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. Support the design and construction of 700 linear feet of trail in Three Mile Creek Watershed

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 6 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 12 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. Finalize and implement Clean Water Future Campaign strategy with focus on business sector

2. **Increase business support for protecting the estuary/coast**

2.1. *Promote business "team" participation in **four** service opportunities to support the CCWF campaign.*

2.1.1. Develop strategy for engaging business sector in watershed planning and implementation

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 5-7 minute video to educate business sector about ways to improve management of stormwater runoff

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

3.5. 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 an online visualization tool to assist waterfront community with better coordination of uses.

Government Networks Committee

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. Include educational and training programming in Government Networks Committee quarterly meetings to include best practices from coastal communities, assessment of needs for locally elected officials, other

1.2. Develop platform of necessary regulatory changes needed to manage and maintain coastal environmental resources

1.2.1. Prepare technical report of necessary changes needed to strengthen local governance of coastal resources

1.3. Create and Implement enabling legislation

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.

2.1.1. Engage members in participation in the Create a Clean Water Future Service Day

2.2. Educate elected officials about existing ordinances and effectiveness for reducing non-point source pollution.

2.3. Establish watershed consortiums across geopolitical boundaries in priority watersheds to better coordinate stormwater management

2.3.1. Create a watershed consortium for Three Mile Creek Watershed, D'Olive Watershed

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

Community Action 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. Conduct presentations at 6-8 community groups on topics of concern/activities of the CCMP
   - 1.2. Host 15 workshops to build community capacity and educate citizens and property owners on how to protect and restore what people value most
     - 1.2.1.
   - 1.3. Participate in 15 festivals to celebrate cultural/natural connections to the coast.
     - 1.3.1. Support Birdfest, Blessing of the Fleet, Wolf Bay Water Watch Kids Fishing Tournament, and other festivals celebrating aspects of coastal heritage/culture
   - 1.4. Create and support programs that expose more people to local waterways
     - 1.4.1. Install signage throughout Mobile and Baldwin County, with a focus on locations in close proximity to waterways
     - 1.4.2. Support Coastal Clean Up

Support three other programs focused on exposing more people to local waterways

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. Facilitate the creation of a D'Olive Watershed Citizens Group to assist with watershed plan implementation
     - 2.1.2. Support 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, and other place-based grassroots organizations in their efforts to engage citizens in / implement watershed plans.
   - 2.2. Engage grassroots groups in collecting data to monitor trends related to implementation of watershed plans
     - 2.2.1. Train 50 citizens to undertake volunteer water quality monitoring/mentor students who are conducting monitoring.
     - 2.2.2. Prepare Technical Report to highlight past and present efforts of volunteer monitoring in the coastal area.
   - 2.3. Educate on programs and volunteer opportunities available
     - 2.3.1. Develop a mechanism for compiling programs and volunteer opportunities for communication to the public

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 and local NGO community through the establishment of a "Create a Clean Water Future" day of service

3.2. Impelment at least three programs to increase community stewardship through place-based grassroots groups

3.2.1. Host presentation by Wolf Bay Watershed Watch on their Waterwise Habitats program

3.3. Support programs developed to reduce amount of trash in coastal waterways

3.3.1. See 3) a-i

3.3.2. Support 4 community clean-ups

4. **Build capacity of grassroots groups**

4.1. Support/Promote three workshops addressing organizational development

4.1.1. Host 1 volunteer recruitment workshop

4.2. Support needed changes to federal, state, and local regulations to improve management of our coastal resources

4.2.1. Conduct one letter writing campaign to promote protection of coastal resources as part of the State of Alabama Water Resources Plan

Finance Committee

For 2015-2016, the Finance Committee will focus on developing an organizational growth plan for Mobile Bay National Estuary Program, including financing strategy for engaging member government investment in Mobile Bay National Estuary Program.

BUDGET OVERVIEW: 2015-2016

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 2015-2016 MBNEP EPA Budget below delineates anticipated expenditures for the next year. Note: This budget is based on receipt of $600,000 from US EPA for the 2015-2016 program year and $234,088 in State and Local funds.

Mobile Bay National Estuary Program
CCMP Work Plan 2015-2016
Budget

EPA Annual Appropriation		**512,000.00**	**558,000.00**	**600,000.00**		
Cat	Activity	Year One 2013-2014 (Revised)	Year Two 2014-2015	Year Three 2015-2016	Reprogrammed Funds	Total EPA Budgets
EST	Fowl River Sediment Study	17,500.00			(16,400.00)	1,100.00
EST	Coastal Monitoring- SAC Technical Assista	10,000.00		10,000.00		20,000.00
EST	Coastal Monitoring- SAC Coordination	20,000.00	16,250.00		16,400.00	52,650.00
EST Total		**47,500.00**	**16,250.00**	**10,000.00**	**-**	**73,750.00**
ERP	D'Olive Watershed Implementation Reser	1,544.00				1,544.00
ERP	Eight Mile Creek Septic Tank Program		15,000.00			15,000.00
ERP	TMC- Toulmins Spring Stormwater Study	43,000.00	3,855.00	10,000.00		56,855.00
ERP	MLK Leadership and Resiliency Academy		20,000.00			20,000.00
ERP	Bon Secour Watershed Plan	21,435.00	18,565.00		(40,000.00)	-
ERP	Lower Chasaw Planning		33,848.00			33,848.00
ERP Total		**65,979.00**	**91,268.00**	**10,000.00**	**(40,000.00)**	**127,247.00**
TAC	Volunteer Ecosystem Monitoring (AWW)	5,000.00		10,000.00	40,000.00	55,000.00
TAC	Estuary Corps Environmental Experts Vide	9,000.00				9,000.00
TAC	CWP Facilitator	10,000.00	12,500.00	12,500.00		35,000.00
TAC Total		**24,000.00**	**12,500.00**	**22,500.00**	**40,000.00**	**99,000.00**
EPI	Management Conference Support		3,000.00			3,000.00
EPI	Newsletter		8,000.00	8,000.00		16,000.00
EPI	Video Production Reserve	14,000.00	5,000.00	20,000.00		39,000.00
EPI	Special Events	14,435.00	8,000.00	8,000.00		30,435.00
EPI	Promotional SWAG	5,000.00	3,210.00			8,210.00
EPI	Public Awareness Campaigns & Signage		40,330.00	29,793.91		70,123.91
EPI	Oyster Gardening/ Oyster Trail Sponsorhi	1,000.00		2,000.00		3,000.00
EPI	DISL Education Salary Support	45,000.00	45,000.00	45,000.00		135,000.00
EPI Total		**79,435.00**	**112,540.00**	**112,793.91**	**-**	**304,768.91**
MPA	Salaries and Operations	479,245.00	470,030.00	570,000.00		1,519,275.00
MPA	Indirect Charges	104,423.00	102,388.00	108,794.09		315,605.09
MPA Total		**583,668.00**	**572,418.00**	**678,794.09**	**-**	**1,834,880.09**
Grand Total		**800,582.00**	**804,976.00**	**834,088.00**	**-**	**2,439,646.00**

Detail within each of the expense categories follows.

Project Details: Estuary Status and Trends

Cat	Activity	Year One 2013-2014 (Revised)	Year Two 2014-2015	Year Three 2015-2016	Reprogrammed Funds	Total EPA Budgets
EST	Fowl River Sediment Study	17,500.00			(16,400.00)	1,100.00
EST	Coastal Monitoring- SAC Technical Assistance	10,000.00		10,000.00		20,000.00
EST	Coastal Monitoring- SAC Coordination	20,000.00	16,250.00		16,400.00	52,650.00
EST Total		**47,500.00**	**16,250.00**	**10,000.00**	**-**	**73,750.00**

What does biological integrity look like in the Mobile Bay estuary? 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 the biological condition of the Mobile Bay estuary. It will be imperative that this monitoring program be one that coincides with citizens' value and data is communicated to the public so that progress in improving/protecting biological conditions has widespread community support.

As part of building a robust monitoring program, the Science Advisory Committee 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 that citizens value most; and developing decision support tools to facilitate citizen to access these data sets.

In the next five years, the Science Advisory Committee 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 US 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: 1. COASTAL MONITORING PROGRAM/ REAL-TIME MONITORING

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
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)	$ 32,650 (Revised)
Year 3 (2015-2016)	$ 10,000
Other Funding	$ 0
Total Funding Available	$ 72,650
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. In assessing how a BCG framework could be used to measure status and trends of the Mobile Bay estuarine system, the SAC is modifying it by looking at the relationship between the amount of stressor impacts and changes to different ecosystem services.

In the course of the last program year the SAC has made progress with the BCG Framework and has developed a plan to test the developed 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. This year the members of 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 will allow ready integration of data into a broader, estuary-wide context. This framework was applied to D'Olive watershed and a plan that allowed both tracking of restoration improvements and a pilot of the established BCG framework.

Throughout the next several program years monitoring will occur in D'Olive 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 academics 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 to large scale restorations.

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. Water quality data is collected over the long term in Mobile Bay and along the Alabama coastline including: 1) data from single, multi-sensor probes used to measure standard meteorological measurements plus dissolved oxygen, salinity, water temperature, pH, turbidity, and fluorescence transmitted to an internet web site every 15 minutes; and 2) information management, processing, and delivery via cellular modem which is made available through online real-time communication through www.mymobilebaynep.com. Staff support for this program has been integrated into the SAC Coordinator responsibilities.

Objectives for 2015-2016 year:
Understand the baseline condition of the Mobile Bay and the relationship to anthropogenic stressors

1) **Increase data related to how the estuarine ecosystem responds to anthropogenic stressors**
    a) *Maintain/improve existing level of coastal monitoring.*
        i) Prepare white paper on available options for organizational management of historical, ongoing, and future estuarine data.

ii) Compile habitat, soil and SAV mapping data; watershed characterization data; and other data sets to establish a GIS based habitat restoration plan which can be continuously improved through future data entry.

2) Establish process for measuring change in estuarine conditions.

a) Build a biological Condition Gradient Framework for coastal Alabama.

i) Build draft framework based on parameters being collected in D'Olive watershed, land development index, and other factors effecting system health.

3) Improve understanding of relationship between biological condition and provision of ecosystem services resulting from improvements in resources.

a) Manage system for multiple services

i) Compile available data to establish a baseline condition for D'Olive watershed.

ii) Adopt and implement ecosystem monitoring protocol in D'Olive watershed.

EST: 2. 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)	$ 1,100
Year 2 (2014-2015)	$ 0
Year 3 (2015-2016)	$ 0
Other Funding	$ 150,000 NFWF GEBF
Total Available	$ 151,100
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. With watershed management planning underway for Fowl River and anticipated for Dog River and Bon Secour River watersheds, sediment analyses for Dog River and Bon Secour River are complete, and analyses for the Fowl River watershed is near complete.

Objectives for 2015-2016 year:

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 fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**
    a) *Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.*
        i) Conduct sediment studies for Fish River, West Fowl River, and other to be determined

PROJECT DETAILS: ECOSYSTEM RESTORATION

Cat	Activity	Year One 2013-2014 (Revised)	Year Two 2014-2015	Year Three 2015-2016	Reprogrammed Funds	Total EPA Budgets
ERP	D'Olive Watershed Implementation Reserve	1,544.00				1,544.00
ERP	Eight Mile Creek Septic Tank Program		15,000.00			15,000.00
ERP	TMC- Toulmins Spring Stormwater Study	43,000.00	3,855.00	10,000.00		56,855.00
ERP	MLK Leadership and Resiliency Academy		20,000.00			20,000.00
ERP	Bon Secour Watershed Plan	21,435.00	18,565.00		(40,000.00)	-
ERP	Lower Chasaw Planning		33,848.00			33,848.00
ERP Total		**65,979.00**	**91,268.00**	**10,000.00**	**(40,000.00)**	**127,247.00**

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 services will contribute to community health and well-being, protection against sea level rise, economic sustainability, recreation, and community quality of life.

Over the next five years, 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. To ensure that 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 plans at the 12-digit Hydrologic Unit Code scale. All watershed plans will be based on US 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 expressed a desire to direct funding from the NFWF Gulf Environmental Benefits Fund to develop of WMPs for all of the State's tidally-influenced watersheds. The MBNEP has recruited assistance from Project Implementation Committee 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 Project Implementation Committee 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. In addition to watershed planning and implementation, during the coming year, MBNEP will seek out opportunities to support 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.

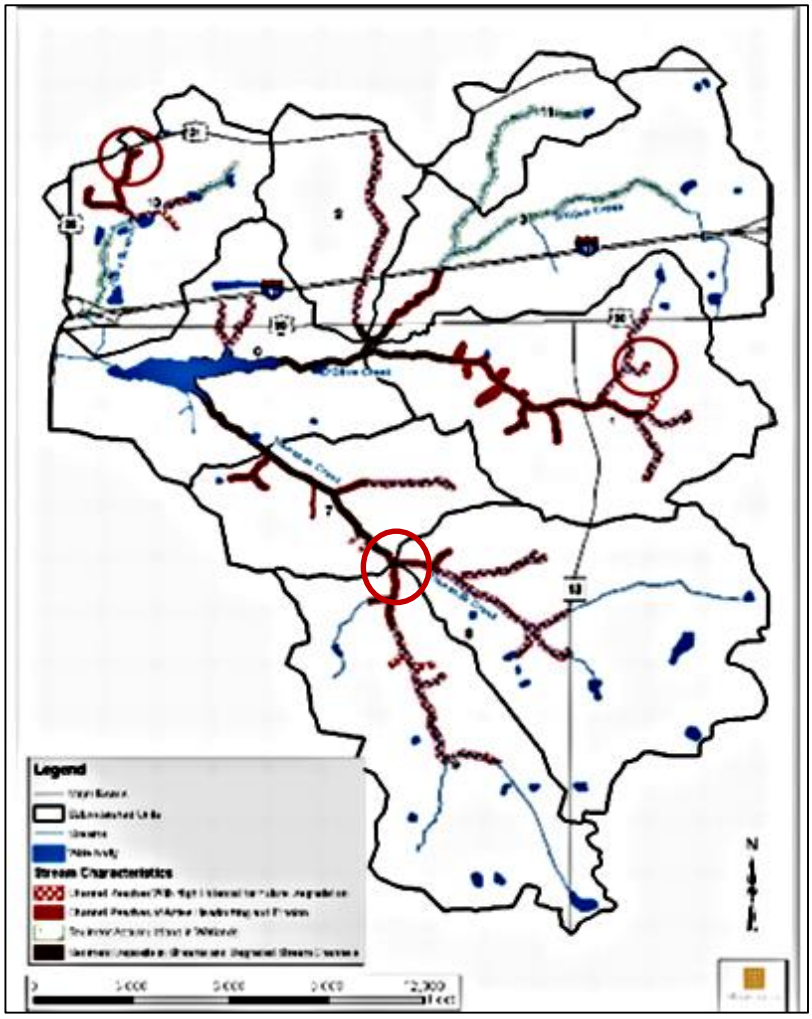
ERP: 1. D'OLIVE WATERSHED: STABILIZATION OF ACTIVELY ERODING AREAS

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
Other Funding	$ 6,781,000
Total	$ 6,781,454
Match/Leverage	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 restoration of the unnamed, head-cut tributary to Joe's Branch and downstream wetlands (funded by a Clean Water Act Section 319 Grant) completed, activities are underway through 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 Joes Branch, D'Olive Creek, and Tiawasee Creek in are in various stages of engineering, design and construction.

With restoration of Joe's Branch Tributary JB in progress, geotechnical analysis and surveying are underway to develop plans to address erosion/sedimentation problems along three other stream reaches (JA, J4-1, and J4-2) and to create and restore two stormwater management ponds (one planned and one existing, respectively).

Plans will be completed, and construction is forecast to begin in October, 2015, for the restoration of the severely degraded D'Olive Creek tributary designated D4-D6 between I-10 and U.S. Hwy 90. Plans are being developed for restoration of other identified problem reaches in the D'Olive Creek sub-watershed, including DAE in a residential area south of Hwy 90 and DA3 on the west side of Hwy 13.



Planning is in progress and construction is forecast to begin in October, 2015, for the restoration of Tiawasee Creek in an area owned by the City of Daphne in a project managed by the City and funded in part through the GEBF and in part by Coastal Impact Assistance program funds secured by the City.

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.

Objectives for 2015-2016 year:

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 fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**
   a) Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.

i) Facilitate implementation of D'Olive watershed recommendations to stabilize 13 different stream segments and install stormwater management Best Management Practices; substantially complete restorations of D'Olive Creek Tributary D4-D6 and Tiawasee Creek Tributary TC2-1 and TC-1.

ERP: 2. 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)	$ 0
Other Funding	$ 0
Total	$ 15,000
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 will 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.

During the last program year, approximately 40-square miles were 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.

Objectives for 2015-2016:

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**

fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.

a) Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.

i) Facilitate implementation of the Eight Mile Creek Watershed Management Plan by coordinating the establishment of a septic pump out/repair program.

ERP: 3. FOWL RIVER WATERSHED: PLANNING AND 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
Other Funding	$ 2,050,000 NFWF
Total	$ 2,050,000
Match/Leverage/Other funds	$ 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 nearing completion and the Shoreline Stabilization/Habitat Creation Project along the Mon Louis Island properties of six adjacent owners' complete and functioning, focus continues on restoring the

erosion-impacted property adjacent to the mouth of East Fowl River on the northern end of the island. The owner of this undeveloped property, which exceeds 1,000 feet in length, was an early proponent of MBNEP shoreline restoration activities. MBNEP, however, felt that it was important initially to restore a contiguous stretch of private properties and implement at a scale available to property owners. The owner has, through the course of this initial project, expressed a willingness to contribute resources to the stabilization of the shoreline along this parcel, the southern land mass at the mouth of the river.

This parcel is largely covered by tidal wetlands, restored in 2005 by Barry A. Vittor and Associates with funding from the Alabama Coastal Foundation. They excavated a monoculture of invasive *Phragmites australis* to restore hydrology to favor a more diverse assemblage of installed native marsh plants. The Bay-fronting shoreline, which lies between the river mouth and the island's northern-most, developed and armored private parcel, has continued to recede at a rate that far exceeds more southern areas of the island. In fact, with less than 120 feet of low uplands separating Mobile Bay from the relatively-deep water harbor that provides access to Fowl River for commercial and recreational fishing interests, a breach at this site during a tropical weather event would not be unlikely.

An initial engineering plan included a continuous rock breakwater placed at the historical location of the 1996 shoreline and using hydraulically dredged, beneficially-used dredge material to create four additional acres of wetlands. However, with material in the Fowl River navigation channel unsuitable and facing significant permitting obstacles to borrowing suitable nearshore material, transportation/delivery costs of material from Corps beneficial use disposal sites were cost prohibitive. Facing this constraint, the Corps made an initial determination that material in the nearshore, already-authorized Corps disposal site for material dredged from the Fowl River navigation channel was potentially suitable. With State funding available to dredge the channel, a workable plan was developed. Suitable material for marsh creation could be hydraulically dredged from the disposal area to fill and create the four-acre wetland. With equipment already mobilized, the Fowl River navigation channel could subsequently be dredged with material hydraulically replaced in the approved nearshore borrow site to avoid environmental impacts. Implementation of this plan to stabilize the shoreline could reduce the threat of a breach across Old Shipyard Road during a tropical

weather event and protect critical ecosystem services delivered by over twelve acres of productive brackish marsh habitat as well as residential properties to the south.

Application for Corps and ADEM permits is underway, and construction is targeted for later in 2015.

Objective for 2015-2016 year:

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 fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**
   a) Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.
      i) Complete watershed management plans in three watersheds (Bayou La Batre, Bon Secour, Fowl River)
2) **Improve ecosystem function and resilience through protection, restoration and conservation of beaches, bays, backwaters, and rivers.**
   a) Install living shorelines along privately owned property
      i) Build a living shoreline along 1,400 feet of privately owned property on the northern tip of Mon Louis Island.

ERP: 4. 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	Watershed Management Plan initial implementation (project TBD)
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)	$ 3,855
Year 3 (2015-2016)	$ 10,000
Other Funding	$ 20,000 Climate Ready Estuaries; $ 41,500 Hudson River Foundation/NY Community Trust
Total	$ 76,855
Match/Leverage	MAWSS, Mobile County, City of Mobile , Waterkeeper Alliance, , US Army Corps of Engineers, US Fish and Wildlife Service, US EPA

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.

MBNEP hosted a U. S. State Department Community Solutions fellow from Bangladesh, Maharam Dakua, who collaborated with Auburn University to conduct community outreach and windshield surveys in the low-lying, environmental justice Toulmin Springs Branch community

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 FLOOD MODELING/COMMUNITY ADAPTATION

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 transduces 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 will develop 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. They will develop floodplain maps generated for various return period storm events including 10, 50, and 100-year. They will also determine flood generated areas 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 will be calibrated and validated for water quality (nutrient concentrations) and to evaluate LID options.

Guided by Auburn recommendations The Nature Conservancy will implement 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.

Objectives 2015-2016 year:
Evidence reveals that moving beyond "business-as-usual" development and disaster risk reduction approaches towards those practices that are more transformative has been accomplished by pursuing a bottom-up, participatory, flexible, empowerment paradigm that engages strong institutional processes and the incorporation of local climate knowledge in planning and decision-making. Our objective with the Toulmins Springs Branch community is to employ the gamut of potential mechanisms for beginning this conversation.

To ensure that scientifically based decision support tools are available for educating the effected community and for future infrastructure planning, we will employ modeling to create a flooding index using land use/land cover scenarios and compare indices to identify sensitive areas and guide BMP implementation.

Objective for 2015-2016:

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 fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**

a) Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.

i) Facilitate implementation of Three Mile Creek watershed plan by planning and seeking funding for invasive species management and Twelve Mile Creek restoration; build partnerships to restore ponds at USA; engage Toulmins Spring Branch stakeholders in climate adaptation planning.

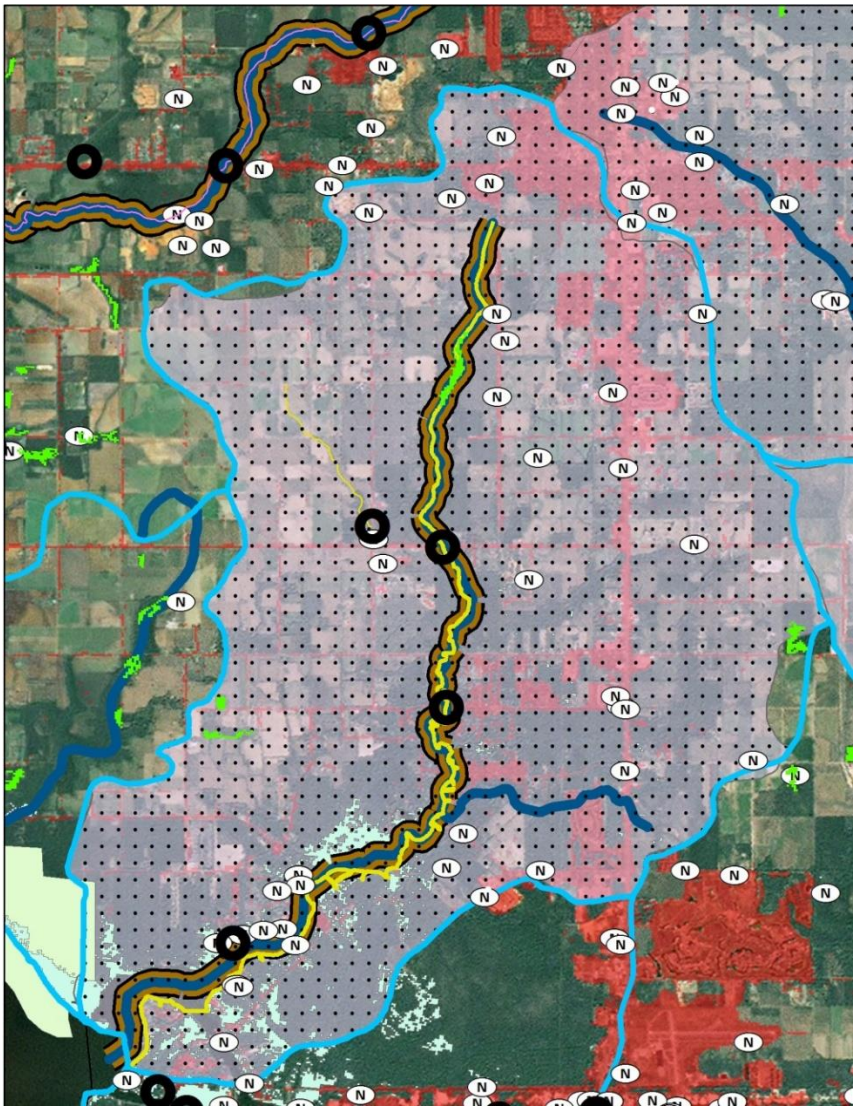
ERP: 5. BON SECOUR WATERSHED: PLANNING

Project Number	ERP 1405
Title	Watershed Management Plan- Bon Secour
Values Supported	
Purpose	To promote the wise stewardship of the Bon Secour watershed and foster improved oyster productivity in Bon Secour bay
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
Other Funding	$ 250,000 NFWF
Total	$ 250,000
Match/Leverage	
Lead/Partners	MBNEP/ADCNR/City of Foley

The Bon Secour River drains part of southwestern Baldwin County and flows southwestward into Bon Secour Bay in the southeastern corner of Mobile Bay. Land use in the watershed is varied and characterized urban, residential, and rural. Headwaters are dominated by urban and residential land use that includes the southern part of the City of Foley. The central part of the watershed is rural and dominated by agriculture, although with recent development, residential is becoming the dominant land use. Upstream and central parts of the watershed have flashy stream flow with numerous intermittent streams that transport storm water flow during frequent rainfall events. The downstream portion is characterized as tidal with uplands dominated by residential development. Near Bon Secour Bay, the watershed is dominated by industrial and commercial land use, primarily associated with the commercial fishing industry.

Stakeholders are concerned that increasing development and continuing erosion and sedimentation will jeopardize future water and habitat quality currently enjoyed. The Geological Survey of Alabama has completed a sediment analyses for this watershed to identify sources of sediment and to establish baseline data and sedimentation rating curves that could be used to evaluate future changes in erosion and sediment transport. The monitoring project assessed suspended and bed sediment transport rates at selected sites in tributaries to the Bon Secour River. Monitoring is based on precipitation and resulting stream and river discharge, including basic field acquired physical and water quality parameters as well as

sediment. 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 data may also be used to assist municipal and state erosion and sedimentation inspection programs.



Due to the percentage of impervious cover and the presence of 303(d) listed water bodies (the Bon Secour River is listed for mercury and Bon Secour Bay is listed for pathogens), this 33.5-acre watershed was identified by the Habitats Tools as a priority watershed for restoration. The criteria were developed by The Nature Conservancy, the NOAA Coastal Services Center, and Coastal Habitats Coordinating Team comprising, local resource management personnel. It was ranked in the top five by MBNEP's Project Implementation Committee among priority watersheds for restoration. At present, the MBNEP has contracted with the City of Foley to manage the planning process, anticipated to begin in June, 2015.

Objectives 2015-2016:

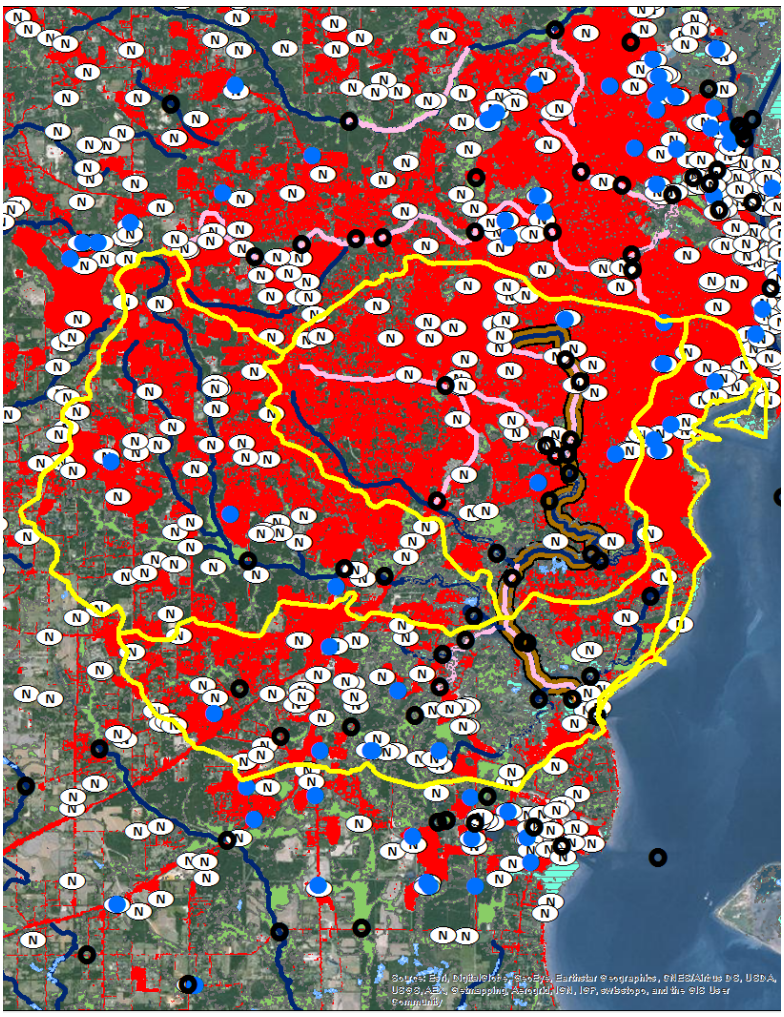
1) **Improve trends in Water Quality in priority watersheds with impairments (either 303(d)-listed or those with approved TMDLs) or other intertidal watersheds that discharge into priority fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**
   a) *Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.*
      i) Complete watershed management plans in three watersheds (Bayou La Batre, Bon Secour, Fish River)

ERP: 5. DOG RIVER WATERSHED: PLANNING

Project Number	ERP 1405
Title	Watershed Management Plan- Bon Secour
Values Supported	
Purpose	To promote the wise stewardship of the greater Dog River Watershed and foster improved management of non-point source pollution and sedimentation.
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
Year 2 (2014-2015)	$ 0
Year 3 (2015-2016)	$ 0
Other Funding	$ 275,000 (NFWF)
Total	$ 275,000
Match/Leverage	
Lead/Partners	MBNEP/City of Mobile

With Goodwyn, Mills, & Cawood contracted by the City of Mobile to develop a *Map for Mobile – a Comprehensive Plan for the City of Mobile*, an opportunity was recognized to pursue watershed management planning for this 87-sq mi, highly urban (57.4%) watershed consisting of three 12-digit HUCs: Upper Dog River (031602050202), Halls Mill Creek (0313602050203), and Lower Dog River (031602050204). Due to proximity, a fourth watershed, Garrows Bend, was added to this planning effort. Much overlap exists in the scopes of development of each of these types of plan, including:

- Community engagement
- Characterization of conditions
- Characterization of access and connectivity
- Characterization of open spaces and natural resources
- Description of parks and recreation facilities
- Assessments of flooding potential
- Determination of historic and cultural resources
- Demographic profiles
- Existing regulatory framework
- Identification of funding/financing options
- Land use recommendations
- Monitoring and evaluation



The economy of having one planning firm undertake both efforts with reduction of redundancy, along with a recently completed sediment loading analysis by the GSA, moved Dog River to the "front of the line" of priority, tidally-influenced watersheds slated for management planning. A previous Dog River WMP was developed in 2000, but it is considered obsolete. Halls Mill Creek, a Dog River tributary, is listed on the Alabama 303(d) list for siltation, and the River has four approved TMDLs: two for pathogens and two for organic enrichment/DO. With the majority of Mobile's land area falling within Dog River drainage, trash is a pervasive problem that has drawn wide attention in the press and in social media. After every significant rainfall, the River is inundated by litter and floatables delivered by its tributaries from City streets and parking lots.

In 2014, the City entered a consent decree with ADEM for stormwater management, which included a $135,000 fine and agreements to purchase one or more litter boats; to purchase, install, and maintain a large litter trap on Esclava Creek (a tributary); and to follow its new 2014 Storm Water Management Plan.

GSA analysis revealed that sediment transport conditions in the Dog River watershed area are segregated by particular stream segments based on instream conditions that are influenced by the topography and soils of the watershed, impervious surfaces, construction activities, and associated erosion prevention and runoff detention efforts. Stream flow characteristics for tributaries of Dog River vary widely due to the wide range of land forms, channel types and flow regimes influenced by urbanization, channel modifications, and floodplain structures designed to control runoff. Generally, streams that are farther away from downtown Mobile have received fewer modifications to floodplains and channels and have fewer impervious surfaces. Stream flow velocities are highest for those streams with extensive channelization and are not directly related to stream gradient. Halls Mill Creek upstream from monitoring site 5 has the highest gradient (64 feet per mile (ft/mi) but has the lowest flow velocity (0.60 feet per second due to a relatively natural anastomosing channel with meanders, numerous fallen trees, and root wads that slow the flow velocity and prevent scour and erosion. Two tributary sites with particularly small drainage areas – Spencer Branch and Spring Creek – exhibited the highest normalized sediment

loads, suggesting that loads were due to activities in the watershed that promote erosion and sedimentation.

With a history of wetlands conversion to impervious surface and with additional development projected for remaining wetland areas within the watershed, opportunities for conservation and protection are limited in this challenging urban watershed.

Objectives 2015-2016:

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 fishery nursery areas by restoring conditions, including hydrology, from headwaters to intertidal zone.**
   a) *Restore conditions, including hydrology, from headwaters to intertidal zone in at least five watersheds.*
      i) Complete watershed management plan for the Dog River Watershed, including Garrows Bend, with recommended actions to provide opportunities for improve ecosystem function and protection while expanding community engagement and ownership.

ERP: 6. LOWER CHASAW WATERSHED: PLANNING

Project Number	ERP 1406
Title	Watershed Management Plan- Bon Secour
Values Supported	
Purpose	To promote the wise stewardship of the Lower Chasaw watershed and foster improved ecosystem function and community access
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
Year 2 (2014-2015)	$ 35,898
Year 3 (2015-2016)	$ 0
Other Funding	$ 40,000 (Reprogrammed to TMC)
Total	$ 35,898
Match/Leverage	
Lead/Partners	City of Prichard, Hudson River Foundation, MBNEP, ADEM

In 2014, MBNEP planned on issuing a Request for Qualifications for a professional consultant/engineering firm to generate a Comprehensive Watershed Management Plan for the Lower Chasaw Creek Watershed. This project, funded by MBNEP, was planned to be undertaken to create capacity for the City of Prichard, AL to protect and restore its natural resources and to spur establishment of an ecotourism industry. Natural resources in Prichard, a highly-disadvantaged, predominantly African-American community include parcels of undeveloped woodland and marshland, especially in northern portions of the City that include Chickasabogue and Africatown parks. Prichard's creeks and estuarine environments, surrounded by designated floodways and floodplains, make these areas particularly amenable for passive parks, trails, and other recreational uses.

The goals of this project are to link sustainable economic growth and community resilience to environmental protection and to expand opportunities for establishing new revenue sources for a community struggling with a limited tax base. These goals will be met by achieving the following objectives:

- Initiate a watershed planning effort to build ownership and capacity for protecting and appropriately using community natural resources in part to mitigate impacts of climate change,

- Develop vision and a “road map” for transforming community waterways and green spaces into parks and trails that accommodate the impacts of climate change and generate additional sources of community revenue.
- Build capacity within the City of Prichard to ensure planning and implementation of plans
- Promote the connection between environmental quality, climate change, and community economic value through the development of a comprehensive outreach and education campaign focused on increasing awareness about the impacts of climate change on the Prichard community and how environmental protection can help mitigate those impacts.

Objective for 2015-2016:
At present, this project has been delayed.

PROJECT DETAILS: TECHNICAL ASSISTANCE/ CAPACITY BUILDING

EPA Annual Appropriation		512,000.00	558,000.00	600,000.00		
Cat	Activity	Year One 2013-2014 (Revised)	Year Two 2014-2015	Year Three 2015-2016	Reprogrammed Funds	Total EPA Budgets
TAC	Volunteer Ecosystem Monitoring (AWW)	5,000.00		10,000.00	40,000.00	55,000.00
TAC	Estuary Corps Environmental Experts Vide	9,000.00				9,000.00
TAC	CWP Facilitator	10,000.00	12,500.00	12,500.00		35,000.00
TAC Total		**24,000.00**	**12,500.00**	**22,500.00**	**40,000.00**	**99,000.00**

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 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 organization. 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: 1. 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
Year 3 (2015-2016)	$ 25,000
Other Funding	$ 0
Total	$ 70,000
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 **50 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.

In addition to the water monitor training workshops, MBNEP will work to increase the capacity of AWW in coastal Alabama. Efforts will focus on several issues that have been determined to be priorities for the coast:

- Researching the possibilities for citizen friendly testing methods for enterococcus bacteria in brackish/salt water
- Adopting a refractometer method for testing salinity
- Increased number of coastal training opportunities with a particular focus on youth programing (through 4H and other avenues)

Objectives 2015-2016:

1) **Improve community ability to participate in ecosystem-based management actions**
   a) Engage grassroots groups in collecting data to monitor trends related to implementation of watershed plans
      i) Train 50 citizens to undertake volunteer water quality monitoring/mentor students who are conducting monitoring.
      ii) Prepare Technical Report to highlight past and present efforts of volunteer monitoring in the coastal area.

TAC: 2. COASTAL CLEAN WATER PARTNERSHIP- NON-POINT SOURCE POLLUTION PROGRAM

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
Other Funding	$ 52,826 (BC/MC WCD-ACWP)
Total	$ 87,826
Match/Leverage	Auburn University, Mississippi Alabama Sea Grant Consortium
Lead/Partners	BCWSD/ MBNEP, A CWP, 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.

Objectives 2015-2016:

1) Establish long-term capability of local governments to manage and maintain coastal environmental resources

a) *Improve elected officials' understanding of issues that impact environmental health and comprehensive land use and water resources management.*

i) Include educational and training programming in Government Networks Committee quarterly meetings to include best practices from coastal communities, assessment of needs for locally elected officials, other

b) Develop platform of necessary regulatory changes needed to manage and maintain coastal environmental resources

i) Prepare technical report of necessary changes needed to strengthen local governance of coastal resources

TAC: 3. 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
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 2015-2016:
Complete.

TAC: 4. 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)	$ 9,000 (reprogrammed $1,000 to Oyster Gardening)
Year 2 (2014-2015)	$ 0
Year 3 (2015-2016)	$ 0
Other Funding	$ 0
Total	$ 9,000
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.

Objectives 2015-2016:
Program being re-evaluated. Possibility of combining with Volunteer ecosystem monitoring.

TAC: 5. 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
Other Funding	$ 291,000 ADCNR
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.

Objectives for 2015-2016:

1) **Conserve and improve working waterfronts and preserve fishing communities**

a) Develop planning tools to balance conservation, restoration and multiple uses of estuary

i) Work with Auburn University and Working Waterfronts Coalition to develop an online visualization tool to engage in dialogue about how to efficiently balance conservation, restoration and multi-uses of our fishery resources.

PROJECT DETAIL: EDUCATION AND PUBLIC INVOLVEMENT

EPA Annual Appropriation		512,000.00	558,000.00	600,000.00		
Cat	Activity	Year One 2013-2014 (Revised)	Year Two 2014-2015	Year Three 2015-2016	Reprogrammed Funds	Total EPA Budgets
EPI	Management Conference Support		3,000.00			3,000.00
EPI	Newsletter		8,000.00	8,000.00		16,000.00
EPI	Video Production Reserve	14,000.00	5,000.00	20,000.00		39,000.00
EPI	Special Events	14,435.00	8,000.00	8,000.00		30,435.00
EPI	Promotional SWAG	5,000.00	3,210.00			8,210.00
EPI	Public Awareness Campaigns & Signage		40,330.00	29,793.91		70,123.91
EPI	Oyster Gardening/Oyster Trail Sponsorhi	1,000.00		2,000.00		3,000.00
EPI	DISL Education Salary Support	45,000.00	45,000.00	45,000.00		135,000.00
EPI Total		**79,435.00**	**112,540.00**	**112,793.91**	**-**	**304,768.91**

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: 1. 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
Other Funding	$ 0
Total Funds	$ 3,000
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 for 2014-2015. 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.

Objectives for 2015-2016 year:

1) **Improve Business community understanding of how coastal natural resources and estuaries contribute to economic, cultural, and community wellbeing** .
   a) Conduct 15 tours highlighting three most stressed habitats
      i) Host a minimum of 6 tours of the estuary focused on educating the private sector about the value of our coastal resources;
   *b) Deliver **a series of** presentations to private sector establishments on Create a Clean Water Future campaign and estuary values*
      i) Conduct 12 presentations on issues related to the CCMP
   c) *Develop and implement the Create a Clean Water Future (CCWF) messaging and marketing campaign to be an identifiable brand to foster private sector stewardship*
      i) Finalize and implement Clean Water Future Campaign strategy with focus on business sector

EPI: 2. 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
Other Funds	$ 22,000 (ADCNR)
Total	$ 44,000
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.

Objectives for 2015-2016 year:
Increase awareness of coastal resources that support what people value about living in coastal Alabama through the production of two newsletters highlighting values, projects and issues.

EPI: 3. 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)	$ 7,794
Other Funding	$ 0
Total	$
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.

Objectives 2015-2016:

1) **Increase awareness of coastal resources that support what people value about living in coastal Alabama.**
   a) Create and support programs that expose more people to local waterways

i) Install signage throughout Mobile and Baldwin County, with a focus on locations in close proximity to waterways- Targets: D'Olive, Fowl River, Three Mile, Eight Mile, Bayou La Batre, Fish, Tensaw Apalachee or other priority watersheds

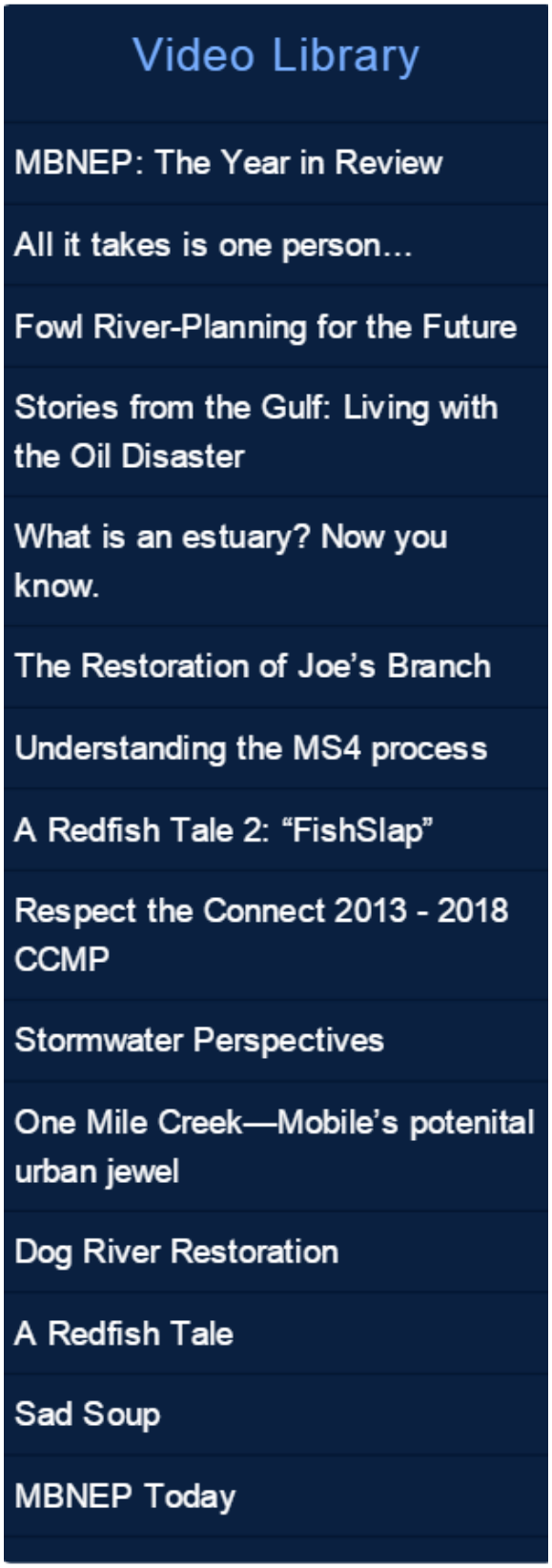
EPI: 4. VIDEO PRODUCTION

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
Other Funding	$
Total	$ 39,000
Match/Leverage	
Lead/Partners	MBNEP

In response to increasing concern about the health of Gulf coast watersheds due to excessive anthropogenic nutrient loading, MBNEP has partnered with the Dauphin Island Sea Lab, the Gulf of Mexico Program, Hamline University and a local producer to develop two interactive, touring videos and three interactive, touring kiosks. The videos, with English and Spanish translation, will educate children and adults about the impacts of excess nutrients on Gulf coastal waters and stimulate behavior changes. It will clarify the concepts of "watersheds" and "estuaries" and describe the various sources of nutrients, their impacts on estuaries, and actions that people can take to reduce nutrient input and impacts. When finished, the videos and kiosks can be used together to reinforce key messages, or alone, providing educational value even if alone.

With the first installment, "*A Redfish Tale*," complete, MBNEP produced a second video, "Fish Slap," that highlights both positive and negative human behaviors and their effects on our environmental resources. The leading characters of the first video, animated redfish named Jimbo and Thibodaux, return in the second video to provide the continuing perspective of "a fish out of water" to emphasize the sense of urgency. The three interactive kiosks that complement the videos travel throughout the Gulf to educate the general public about watersheds and practices that can negatively impact our environment.

As a complement to the Red Fish Tale series, the videos listed have been produced to raise awareness, document restoration activities, and most notably, promote the wise stewardship of the water quality and living resources of coastal Alabama.



Objectives for 2015-2016:

1) **Increase business support for protecting the estuary/coast**
   a) Promote improved stormwater management by the private sector.
      i) Produce 5-7 minute video to educate business sector about ways to improve management of stormwater runoff

1) Increase awareness of coastal resources that support what people value about living in coastal Alabama
    a) Develop short videos to inform citizens about at least two issues, including but not limited to: the watersheds of coastal Alabama, the concepts of watershed management, and others
        i) The NEP will create a 5-7 minute video for CAC members to use as a tool for explaining the watershed planning process and the importance of community involvement.

EPI: 5. 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- Distribution of outreach materials 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
Other Funding	
Total	$ 30,435
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

Objectives for 2015-2016:

1) **Increase awareness of coastal resources that support what people value about living in coastal Alabama.**
   a) Participate in 15 festivals to celebrate cultural/natural connections to the coast.
      i) Support Birdfest, Blessing of the Fleet, Wolf Bay Water Watch Kids Fishing Tournament, and other festivals celebrating aspects of coastal heritage/culture

EPI: 6. COMMUNITY AWARENESS CAMPAIGNS

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)	$ 0
Other Funding	
Total	$ 20,000
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.

In addition to the above, 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.

Objectives for 2015-2016 year:

1) **Increase citizen actions to mitigate impacts of humans on the environment**
    a) *Support one social marketing campaign to increase participation in conservation activities*
        i) Continue implementation of the **Create a Clean Water Future Campaign** within grassroots and local NGO community through the establishment of a "Create a Clean Water Future" day of service

EPI: 6.A 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
Other Funding	
Total	$ 8,210
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 and ecosystem stressors over which we have control, such as excess nutrients, stormwater, and nonpoint source pollution.

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 2015-2016 year:
Communications Plan for Program/Initiatives

EPI: 8.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
Other Funding	$ 0
Total	$ 3,000
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.

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

PROJECT DETAIL: PROGRAM IMPLEMENTATION

Cat	Activity	Year One 2013-2014 (Revised)	Year Two 2014-2015	Year Three 2015-2016
MPA	Salaries and Operations	479,245.00	470,030.00	570,000.00
MPA	Indirect Charges	104,423.00	102,388.00	108,794.09
MPA Total		**583,668.00**	**572,418.00**	**678,794.09**

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.

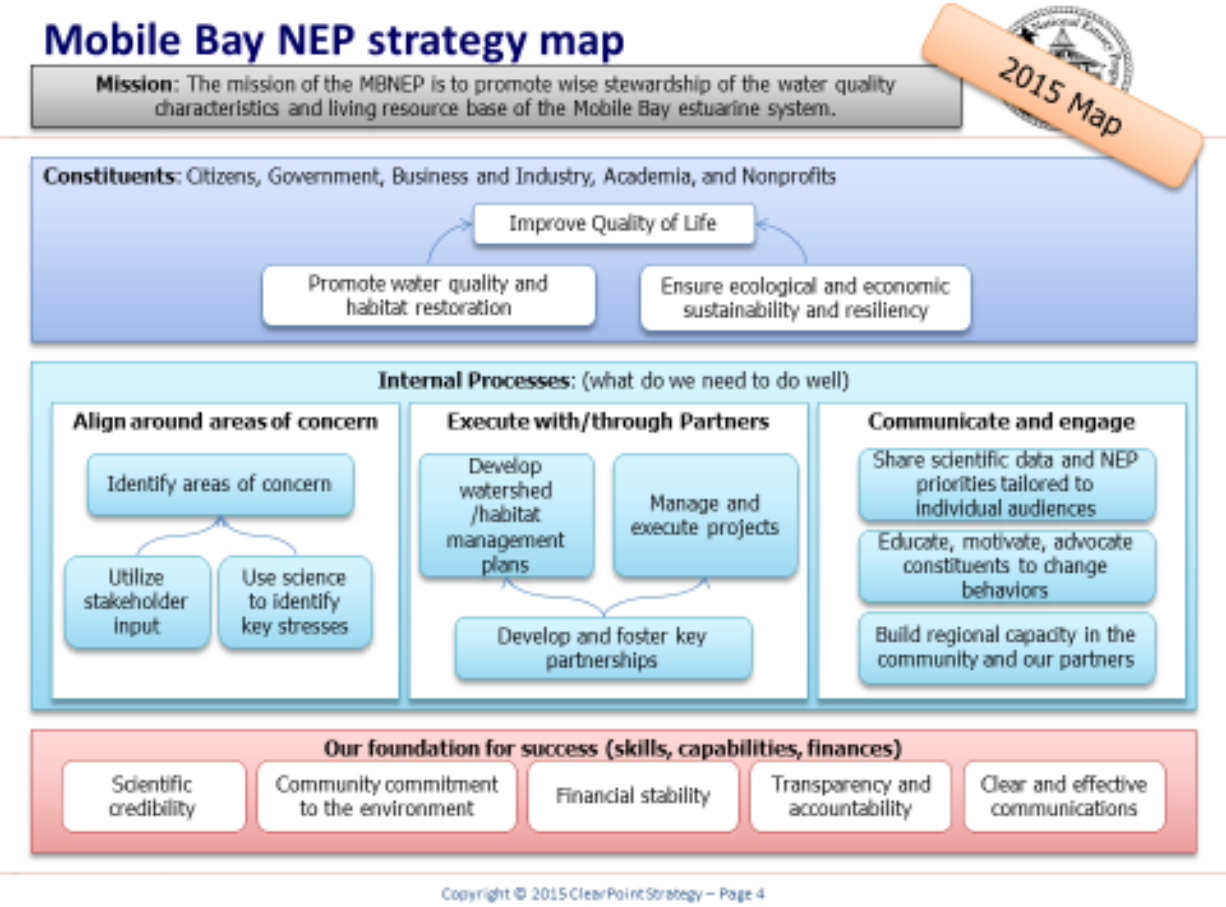
Purpose: The MBNEP brings together an engaged and diverse community committed to integrating environmental health with community and economy to develop consensus on what our ecosystem priorities are, how to achieve them, and how to facilitate/promote their implementation.

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.



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	Main Activities
Program Director	Roberta Arena Swann	General Oversight, Acceptance, and Implementation of Program	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 throughout the community; Oversees program activities.
Deputy Director	Amy Newbold	Conducts activities to identify, design and develop projects that further the implementation of the CCMP	Oversees development of programs supporting implementation of the CCMP; handles project design, development and implementation; assists with financial resource development and management; oversees CCMP indicator program; prepares EPA plans and reports; and other activities as deemed necessary
Watershed Protection Coordinator	Tom Herder	Conducts restoration projects and educational activities	Oversight of all Restoration-related Projects including Project Design, Implementation, Coordination and Monitoring; Develop, initiate and coordinate baseline data collection; Facilitate the transfer of technical information; Prepare public outreach efforts for the general public on watershed issues; other
Grants and Business Manager	Tiffany England	Overall business and office management	Maintains budget, project files, financial record keeping, grant reporting; coordinates logistics and promotional materials for educational outreach and special events
Community Outreach Coordinator	Kelley Barfoot	Coordinates Public Outreach and Education Programs	Manages distribution of public information including press, website, social media, outreach materials; prepares program activity reports for grantors/public; other
Community Relations Manager	Rick Frederick	Develops private sector investment in CCMP strategies/ priorities	Cultivates relationships with a focus on the business community; builds and supports the Business Resources Committee through recruitment of key individuals able to guide development of marketing and incentive programs to change corporate behaviors negatively impacting coastal resources; enlists local business community participation in watershed management planning and implementation; and communicates the value of MBNEP through special events and media.
Coastal Basin Clean Water Partnership Facilitator	Christian Miller	Non-Point Source Pollution Specialist	Works with communities to develop watershed management plans and implement initiatives of the Alabama Clean Marina Program and the Alabama Clean Water Partnership

TRAVEL

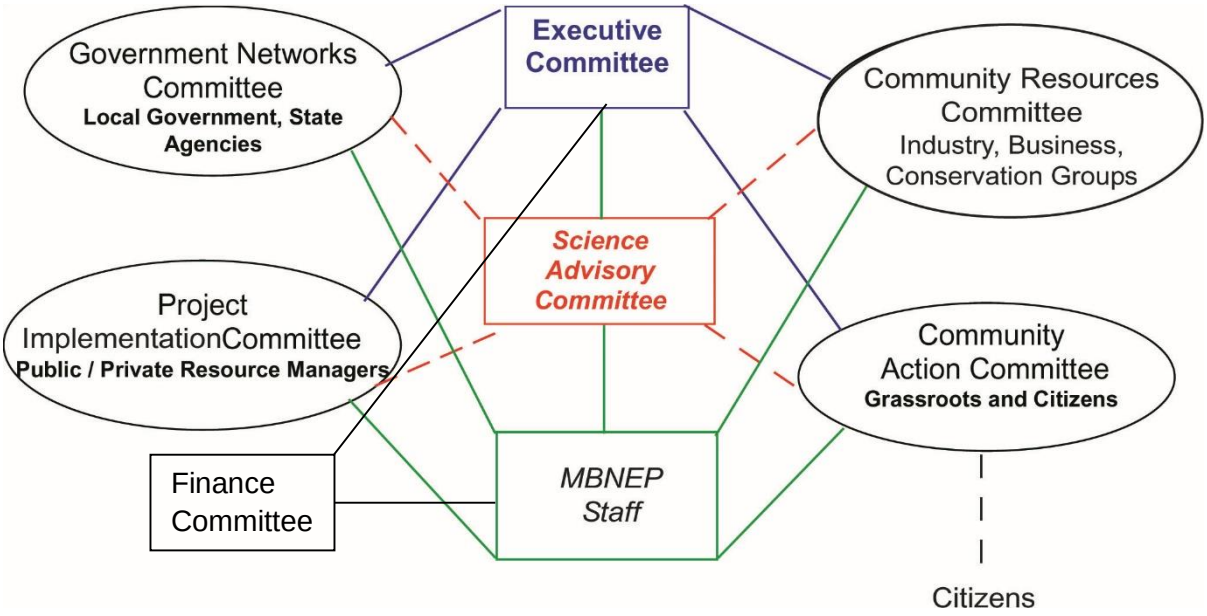
The administration amount includes $15,000 for travel related to outreach and technology and information transfer. Program staff will participate in regional, state, and national conferences and meetings relevant to estuarine management. Attendance at Association of National Estuary Programs workshops 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 four main committees: Community Action Committee, Community Resources Committee, Government Networks Committee, and Project Implementation Committee.



- **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.

- **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 1.6 million in federal dollars with more than 7 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)

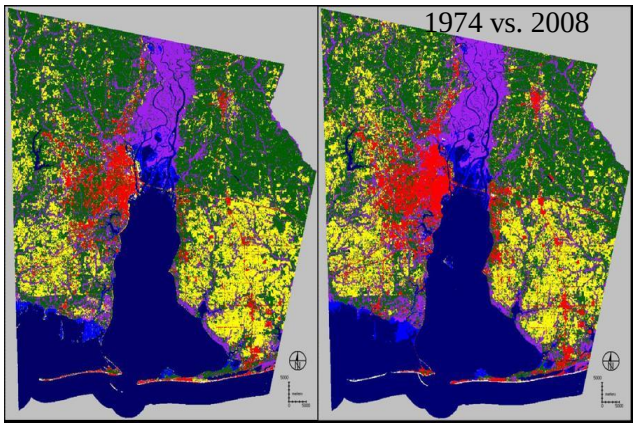
The Mississippi Alabama Sea Grant Consortium is dedicated to activities that foster the conservation and sustainable development of coastal and marine resources in Mississippi and Alabama. Sea Grant is NOAA's primary university-based program in support of coastal resource use and conservation. The MASGC 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 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

AL 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	Funding Amount
2008-2009	$89,000.
2009-2010	$81,709.
2010-2011	$79,258.
2011-2012	$79,258.
2012-2013	$75,588.
2013-2014	$76,088.
2014-2015	$76,088.

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:

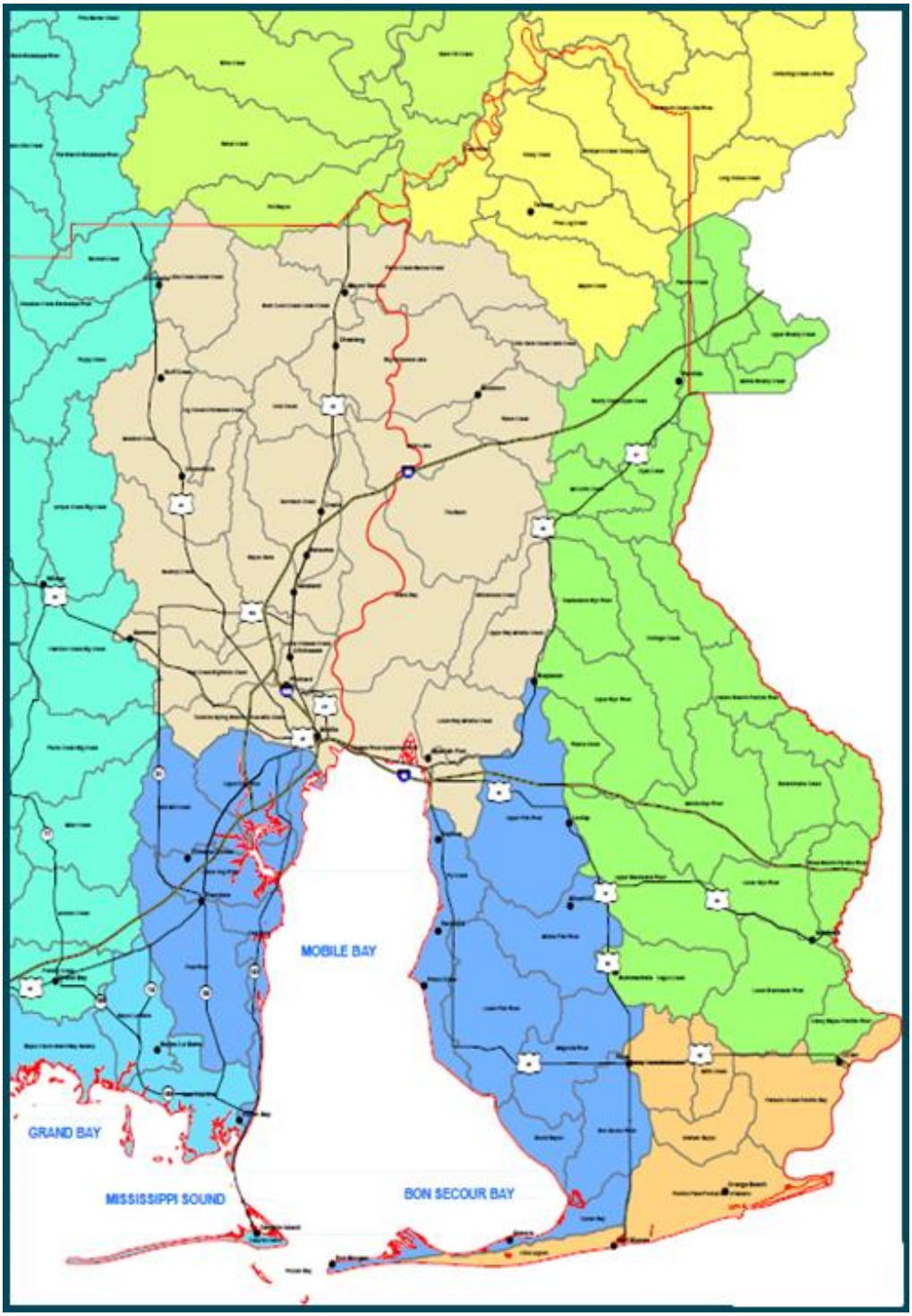
Local	***2015-2016***
Baldwin County	15,000
Mobile County	20,000
City of Mobile	15,000
City of Daphne	10,000
City of Spanish Fort	5,000
City of Fairhope	5,000
Other Cities	

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.


MOBILE BAY
GRAND BAY
MISSISSIPPI SOUND
BON SECOUR BAY

PART TWO: ONGOING PROJECTS

MBNEP ACCOMPLISHMENTS 2014

The mission of the Mobile Bay National Estuary Program is to promote wise stewardship of the water quality and living resources of the Alabama's estuarine systems. Funded 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.

DURING THE 2012-2013 PROGRAM YEAR, MBNEP demonstrated its ability to collaborate with numerous partners. Thirteen grants from eight different organizations were active including two grants from the U. S. EPA Gulf of Mexico Program, six grants from Alabama Department of Conservation and Natural Resources, one grant from Alabama Department of Transportation, and two grants from U.S. Fish and Wildlife Service. Match funding for the MBNEP annual U.S. EPA award was received from the State of Alabama, the Alabama Department of Conservation and Natural Resources and several Mobile and Baldwin County municipalities, totaling $205,396. In total, the MBNEP managed over $2,200,000 to conduct 36 projects affecting the water quality and living resources of Mobile Bay. In addition, MBNEP was awarded two grants under the National Fish and Wildlife Foundation Gulf Environmental Benefit Fund: $6.7 million to undertake restoration in the D'Olive Watershed and $2.05 million to create marsh, stabilize the shoreline of the tip of Mon Louis Island, and prepare a watershed management plan for the Fowl River Watershed.

1. RESPECT THE CONNECT: A FIVE YEAR PLAN FOR PROTECTING COASTAL VALUES

After two years of compiling input from over 1,000 citizens and 30 different scientists, MBNEP published a Draft five-year plan that addresses community values and captures consensus among stakeholders about the estuary's most critical management needs. The plan is based on protecting the six things that citizens value most about coastal quality of life: Access (to water and open spaces), Beaches and Shorelines, Fish, Heritage/Culture, Resiliency, and Water Quality. This draft plan will be accompanied by five year strategies for measuring status and trends, undertaking ecosystem restoration, building community capacity, and increasing citizen stewardship to improve the status of freshwater wetlands, streams and rivers, and intertidal marshes and flats of coastal watersheds (the habitats identified by the Science Advisory Committee as most stressed).

2. MEASURING STATUS AND TRENDS

Mobile Bay Real-Time Monitoring

With funding (8th year) from the Gulf of Mexico Program discontinued in 2015, MBNEP supported the effort through its EPA grant to support water monitoring sites at Meaher Park, Dauphin Island, Weeks Bay, and Mobile (Middle) Bay continue to provide real-time data that can be viewed at www.mymobilebay.com. That website also contains 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 particularly pertinent to shipping interests. Data is also available from Weeks Bay and Grand Bay through the NOAA National Weather Service Hydrometeorological Automated Data System. The My Mobile Bay website will ultimately be connected to a larger network of stations as part of the Gulf Coast Ocean Observing System with research reports, maps, and other information available to the public.

Biological Condition Gradient Development for the Mobile Bay Estuary

The MBNEP Science Advisory Committee, with assistance from Barry Vittor and Associates, is undertaking identification of both indicators of biological condition and representative indices of

anthropogenic stress to construct a biological condition gradient framework for the Mobile Bay Estuary. Renee Collini was hired as SAC Coordinator to champion ecosystem monitoring efforts and to oversee development of a pilot monitoring protocol for the D'Olive Watershed to "test" processes for measuring change in estuarine condition. The SAC has developed frameworks for wetlands BCGs, using assessments such as wetland rapid assessment procedure (WRAP) and hydrogeomorphic models (HGM) to assess biological condition with a metric that quantifies the relative proportions of habitat in good, fair, or poor condition as a function of landscape development intensity. A BCG for streams will assess condition based upon relative proportions of habitat in good, fair, and poor condition based upon benthic indices of biological integrity (with Mississippi DEQ Benthic Index of Stream Quality and Florida DEP Stream Condition Index both thought to provide adequate utility until a coastal Alabama IBI is developed and calibrated) as a function of land disturbance intensity. The SAC will use ongoing restorations of streams currently impaired by sedimentation draining into D'Olive Bay to assess improvements to biological condition related to restoration**.**

3. ECOSYSTEM RESTORATION AND PROTECTION

D'Olive Creek Watershed Restoration

With restoration of the unnamed, head-cut tributary to Joe's Branch and downstream wetlands (funded by a Clean Water Act Section 319 Grant) substantially completed, the project moves into further phases of restoration. With $6.85M secured through a grant from the National Fish and Wildlife Foundation – AL Gulf Environmental Benefit Fund 2013, continued restoration of substantially degraded tributaries in the D'Olive and Tiawasee Creek and Joe's Branch Watershed will be undertaken to "stop the bleeding" and mitigate impairments resulting from stormwater runoff. Upstream retention measures have been implemented by the City of Spanish Fort, restoration of the 1,700-foot Joe's Branch tributary JB is nearing completion, planning is nearing completion for the severely degraded D4-D6 tributary to D'Olive Creek near I-10 and underway on Tiawasee Creek Tributary TC-1-TC2-1, and construction is planned to begin in October, 2015, on restorations of both that D'Olive Tributary D4-D6 and the Tiawasee Creek Tributary TC-1-TC2-1 being jointly funded through the NFWF GEBF and CIAP and overseen by the City of Daphne. Planning for remaining problem areas and stormwater management facilities in the Joe's Branch subwatershed is in process.

Restoration of Three Mile Creek Watershed, Mobile, AL

With publication of the Three Mile Creek Watershed Management Plan by Dewberry in September, 2014, the focus on the restoration of this historic water body moves towards project implementation. This WMP, which conforms to the EPA's nine key elements and includes adaptation planning for climate readiness, includes watershed description, watershed conditions, data gaps and new data (including climate change modeling and projections), watershed management goals and objectives, management measures and cost estimates, financing alternatives, and partnership opportunities. Recommended implementation measures include non-structural and structural best management practices (BMPs).

Recommended *non-structural* BMPs include:

- Field studies to identify non-stormwater pollutant sources.
- Mapping of creek and tributary bathymetry to inform sedimentation analyses.
- Researching potential partnership funding for BMP implementation by private land owners.
- Control and eradication of non-native nuisance species along with street and land management practices (trash collection).
- Field observations to locate and address pollutant sources such as illicit wastewater connections or sediment discharges from construction sites.
- Placement of watershed awareness signage and educational signs and placards.
- Additional environmental education and public outreach.
- Additional field monitoring and laboratory analyses of

Recommended *structura*l BMPs (including green infrastructure (GI) solutions) include:

- Installation of gross pollutant removal structures (GPRSs) on pipe outfalls and/or LID/GI practices upstream.
- Installation of GPRSs on channel outfalls and/or low impact development (LID)/GI practices upstream.
- Installation of GI retrofits on developed public access (below Langan Park).
- Removal of sediments to increase normal water depth/volume at USA wet ponds and Langan Park ponds.
- Addition of trash capture at Langan Park pond inflow points.
- Streambank restoration upstream of and within USACE-modified segment.
- Riparian buffer restoration upstream of and within USACE-modified segment
- Removal of bottom sediments at selected locations.

In August, 2014, MBNEP assisted the City of Mobile in the preparation and submission of an Outdoor Legacy Partnership Program grant proposal in application for $386,000 from the National Park Service for the installation of the initial leg of a 10-foot wide, one-mile-long, previously-paved bike/walking trail with LED lights and an adjacent circuit/fitness course to run approximately one mile from Martin Luther King Jr. Avenue to Tricentennial Park. The City won the award in April, 2015.

The Mobile County Health Department received a $218,650 award from the Sybil Smith Charitable Trust to install a canoe/kayak launch at Tricentennial Park and to extend the bike/walking trail farther west of the Park.

Local Ecosystem Restoration Partnership

In 2011, MBNEP solicited proposals from Baldwin and Mobile counties and coastal municipalities for projects related to stormwater management; wetlands restoration, protection, enhancement, or creation; and sediment management. Six projects received awards ranging from $15K to $82.5K, and two projects that were extended were completed in 2014:

- **The City of Orange Beach** was awarded $27,500 to address stormwater management and wetland restoration by altering the contour of the east Highway 161 right-of-way to create a serpentine wetland system with diverse native vegetation that will greatly improve the receiving waters of Cotton Bayou. Additionally, interpretive signage was installed along a pedestrian and biking trail that runs through the project area.
- **The City of Foley** was awarded $82,500 to address/reverse impacts of urban development on Wolf Creek by restoring the stream and floodplain to natural condition. This project will provide more and improved habitat for increased species diversity, implement urban watershed management practices, and serve as an example of holistic watershed restoration. The grant period has been extended to allow establishment of vegetation.

Living Shorelines – A Guide for Alabama Property Owners

Under contract with ADCNR, MBNEP completed *Living Shorelines – A Guide for Alabama Property Owners* to promote and encourage sustainable, habitat-friendly alternatives to shoreline armoring. This manual describes living shorelines and explains their benefit to fisheries resources, provides descriptions of available living shorelines measures, describes ways to navigate the regulatory framework, provides potential cost estimates, and recommends various native planting strategies. The 30-page document is highlighted by photographs of successful living shorelines projects along the Alabama, Mississippi, and Florida panhandle coasts.

3. EDUCATION, OUTREACH AND CAPACITY BUILDING

Climate Ready Estuaries: Three Mile Creek Watershed-Toulmins Springs Branch Flood Modeling/Community Adaptation

In year one of a two-year project to develop a hydrologic/hydraulic model for Toulmins Springs Branch to help Mobile County and city planners related to stormwater related capital improvements, Bangladeshi Community Solutions fellow Maharam Dakua performed community outreach and assisted Auburn hydrologists with installation and monitoring of flow meters in various tributaries to TSB. Flow data were used towards development of a 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. MBNEP partnered with the MLK Jr. Ave Redevelopment Corporation to conduct a Community Resiliency Leadership Academy, a 10 week course to build community capacity within environmental justice community to recognize watershed plan, disproportionate climate related impacts and need for adaptation planning, and value of protecting wetlands to mitigate flooding.

Coastal Alabama Clean Water Partnership

As host to the Coastal Basin Clean Water Partnership Facilitator, one of eight throughout the State, 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, including how rain barrels contribute to water quality protection, replenish groundwater sources, and reduce the use of potable water. During the past program year:

- Facilitated four Coastal Basin Steering Committee meetings, attended by 83 individuals.
- Three workshops were held in Mobile and Baldwin Counties in Alabama and Jackson County, MS with a total of approximately 50 barrels constructed.
- Rain barrels were donated to support several area projects.
    - Two rain barrels were donated to each Craighead Elementary School. The barrels are used to teach students about water conservation.
    - Four rain barrels were donated to local community gardens.
- Participated on the planning committee for the Mobile County Water Festival, Mobile County Forestry Field Day, and Clear Water Alabama.
    - 450 4th grade students attended in the 6th annual Mobile County Water Festival and participated in hands-on exercises teaching concepts in watersheds, water quality, water conservation and land management.
    - Approximately 75 landowners attended Mobile Forestry Field Day and learned about best management practices for forestry and agricultural uses that protect water quality and habitat.
    - Approximately 100 professionals attended the two-day Clear Water Alabama workshop and learned about best management practices for construction sites that protect water quality.

Alabama Water Watch

To increase participation in Alabama Water Watch training and monitoring activities to improve community ability to participate in ecosystem-based management actions by engaging grassroots groups in collecting water quality and biological data supporting watershed planning and implementation, 2014 accomplishments included:

- MBNEP conducted one workshop to train or recertify four AWW trainers.
- MBNEP conducted two workshops to train volunteer water quality monitors with 37 trainees.

Estuary Corps

Estuary Corps was established by MBNEP, who joined forces with the Alabama Coastal Foundation, and DISL's Discovery Hall to engage youth in activities that explore and improve the Mobile Bay estuary system. The purpose of Estuary Corps is to promote the wise stewardship of the water quality and living

resources of Alabama's estuaries through education, volunteer experience, and career path guidance. In its second year, the program operates at Phillips Preparatory School, Spanish Fort Middle School, and the Boys and Girls Club of Cody Road. Students from all three programs engaged in water monitoring activities under the supervision of Alabama Water Watch using AWW kits and protocols, constructed rain barrels, conducted recycling collections on their campuses, and participated in the Take Pride in Toulminville Community Cleanup. Tree and native plant plantings were also undertaken. A May, 2014, graduation ceremony included a day trip to the Estuarium at the Dauphin Island Sea Lab, a sampling excursion on the R/V Alabama Discovery, and a picnic lunch.

Alabama Current Connection
The Alabama Current Connection is a joint newsletter published by the Alabama Department of Conservation and Natural Resources, State Lands Division – Coastal Section and the MBNEP to highlight current projects, Management Conference activities, and other issues of interest to local residents. Two newsletters were published for distribution as hard copies as well as in electronic (PDF) format.

Educational Kiosks
The same Gulf of Mexico Program grant that funded production of two educational videos also funded the creation of three educational kiosks developed by Hamline University in St. Paul, MN. The three kiosks include presentations in English and Spanish targeted to a middle school audience. Their goal is to impart knowledge about critical issues of the Gulf of Mexico while raising public awareness about basic watershed concepts and motivating behavior change related to activities that impact the environment. The kiosks, currently located at 1) the Weeks Bay National Estuarine Research Reserve in Fairhope, AL, 2) the Barataria-Terrebonne National Estuary Program, and 3) the Museum of Science in Corpus Christi, TX, are available to educational venues in the five Gulf States.

Annual Meeting and Video
On Wednesday, December 17, 2014, MBNEP hosted an Annual Management Conference Breakfast at the Battlehouse Hotel attended by over 100 Management Conference partners. Cartoonist and Comedian J. D. Crowe provided a keynote presentation, and MBNEP displayed a video produced by Richardson Media, MBNEP: A Year in Review which featured CCMP implementation efforts from the previous year (http://www.mobilebaynep.com/videos/the_year_in_review).

IMPLEMENTATION PROGRESS

Attached:

Existing Grant: Budget vs. Actual/Narrative Status
Contracts with Local Entities (2013-2014)