

**Progress Report for October 1, 2015 - September 30, 2016 under the  
Cooperative Agreements Between The United States Environmental  
Protection Agency and North Carolina Department of Environmental Quality  
in Cooperation with the Commonwealth of Virginia**



**ALBEMARLE-PAMLICO  
NATIONAL ESTUARY PARTNERSHIP**

*U.S. EPA Cooperative Agreements CE 00D20614 & CE 95451210*

**October 2016**

*year Progress Report*

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## **CONTENTS & CONTACTS**

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### **Contents in this Document:**

This report contains descriptions and progress on work associated with Cooperative Agreements *CE-95451210* and *CE-0D20614*.

Note that Cooperative Agreement *CE-95451210* expired on September 30, 2016 and all required non-federal match funds under this agreement were met prior September 30, 2014.

Financial reporting will be for each agreement will be reported in the individual Federal Financial Reporting Form (SF-425).



## **Purpose:**

The purpose of this cooperative agreement is to provide support to the North Carolina Department of Environmental Quality (NCDEQ) from the US Environmental Protection Agency (EPA) for continuing implementation of the unique management strategies and actions recommended in the Albemarle-Pamlico National Estuary Partnership's (APNEP) 2012-2022 Comprehensive Conservation and Management Plan (CCMP) and support for the APNEP mission to identify, restore and protect the significant resources of the region.

## **Period of Performance:**

The period of performance under the current Cooperative Agreement CE- CE-0D20614 is from October 1, 2014 through September 30, 2020.

The period of performance under the current Cooperative Agreement CE-95451210 is from October 1, 2009 through September 30, 2016.

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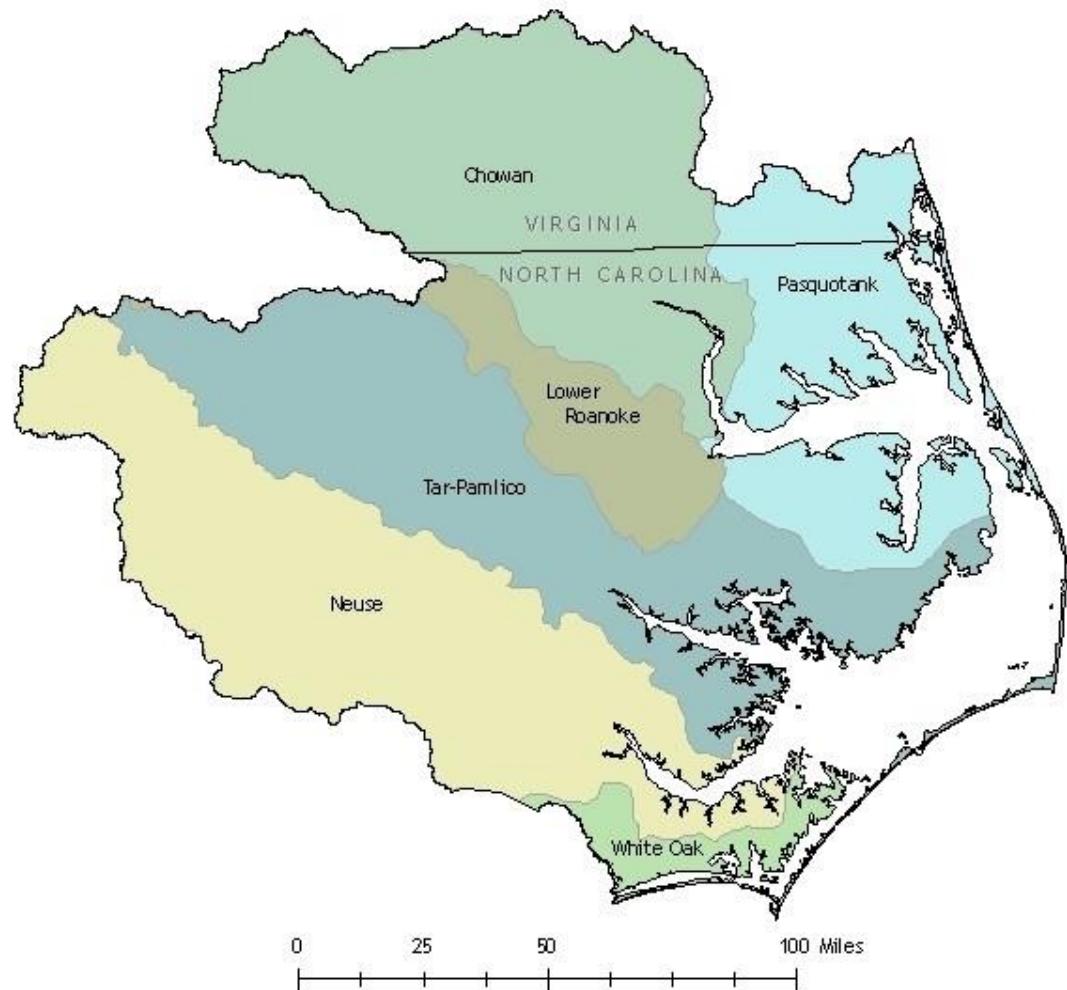
## **INTRODUCTION**

The Albemarle and Pamlico Sounds comprise the nation's largest lagoonal estuarine system. The system is composed of eight sounds and five major river basins draining over 30,000 square miles of watershed in North Carolina and Virginia. The sounds, rivers, creeks, wetlands and terrestrial areas provide habitat for an abundance of animal and plant species. People depend on the system for residential and resort development, food, recreation, mining, forestry, agriculture, business, and industry.

The Albemarle-Pamlico National Estuary Partnership (APNEP) is a component of the U.S. Environmental Protection Agency's (EPA) National Estuary Program (NEP). It was one of the



first programs established under amendments to the Clean Water Act in 1987. The initial Comprehensive Conservation and Management Plan (CCMP) was ratified by the Governor of North Carolina and approved by the EPA in November 1994. The APNEP Policy Board approved a revised CCMP and submitted to the EPA in March 2012. The 2012-2022 CCMP advances an ecosystem-based management (EBM) paradigm and is intended as a practical, costeffective and equitable approach to managing the valuable resources within the AlbemarlePamlico region.



## Our Ecosystem-Based Management Approach

*Ecosystem-based management* (EBM) is based on the tenet that managing natural resources from a systems perspective increases the likelihood of success by forging more effective connections among humans, nature, science, and management actions. Before 2012, APNEP worked with limited resources to integrate and implement EBM concepts and tools within the program and with its local, state, and federal partners, albeit in a piecemeal fashion. Given the relative complexity and increased resources required up front to implement EBM in full, APNEP staff began actively working toward a paradigm change in 2008 with the APNEP Policy Board, advisory committees, and partners.

This activity culminated in March 2012 with the adoption of a new CCMP based on EBM principles to replace the original 1994 CCMP. As implementation of this Work Plan begins, APNEP anticipates completing the development of its ecosystem indicators and monitoring strategy to support the new EBM-based CCMP. With a new CCMP established for a ten-year planning horizon, this work plan includes a proposal to support activities of the CCMP Implementation Workgroups for actions that support the desired ecosystem and management outcomes.

***Ecosystem-Based Management (EBM)*** is a management approach<sup>1</sup> that:

- Is concerned with the ecological integrity that sustains both human and natural resources systems.
- Integrates ecological, social, and economic goals and recognizes humans as key components of the ecosystem.
- Considers ecological, not just political, boundaries.
- Addresses systems and the complexity of natural processes and uses adaptive management to reduce risks related to decisions and actions.
- Engages multiple stakeholders in a collaborative process to define problems and find solutions providing mutual benefit.

<sup>1</sup> [http://www.ebmtools.org/about\\_ebm.html](http://www.ebmtools.org/about_ebm.html)

## **AUTHORITY**

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### **Federal Water Pollution Control Act**

Congress established the National Estuary Program (NEP) in 1987 to improve the quality of *Estuaries of National Significance*. The Federal Water Pollution Control Act (33 U.S.C. 1251 *et seq.*), Section 320 directs EPA to develop plans for attaining or maintaining water quality in an estuary. This includes: protection of public water supplies; the protection and propagation of a



balanced, indigenous population of shellfish, fish, and wildlife; allowance of recreational activities in and on water; and control of point and nonpoint sources of pollution to supplement existing controls of pollution. Each program establishes a Comprehensive Conservation and Management Plan (CCMP) to meet the goals of Section 320.

### **Comprehensive Conservation and Management Plan**

In 1987, Congress designated the Albemarle-Pamlico Estuarine System as *Estuary of National Significance* and thus began a comprehensive study effort, entitled the Albemarle-Pamlico Estuarine Study (APES). The result of this process was the APNEP CCMP. The initial CCMP was developed over a seven-year period by representatives from private and public sectors, including government, industry, business, environmental interest groups, and municipal officials. The plan is a guide for environmental stewardship of the Albemarle-Pamlico estuarine system. The CCMP reflects the input of people from the region that will be affected by the plan's recommendations. The CCMP seeks to balance the need for economic growth in region with the need to secure the environmental future of the region. Approved on March 14, 2012, the new CCMP replaces the original 1994 document.

### **North Carolina Governor's Executive Order #133**

On November 5, 2012, North Carolina Governor Beverly Eaves Perdue issued Executive Order #133: *Albemarle-Pamlico National Estuary Partnership*. This Executive Order was developed after more than two years of program review and ecosystem assessment and the development of a new CCMP. This Executive Order replaced Executive Order #122 (2007) and provided the operational advisory framework for the partnership office and support for the EBM approach. A copy of the current Executive Order is available from the APNEP office at 1601 MSC, Raleigh, NC 27699 and at [www.apnep.org](http://www.apnep.org). The current Executive Order is set to expire in November 5, 2016 pursuant to N.C. Gen. Stat. § 147-16.2, unless earlier rescinded.

### **APNEP Office**

The APNEP Office coordinates and facilitates the implementation and advancement of the CCMP, the APNEP mission, and the activities of the Policy Board and Advisory Committees. The APNEP Office serves as a conduit for information between the Policy Board, Advisory Committees, state and federal agencies, local governments, tribes, academia, and the public. The main office is located within the Planning Section of the Division of Water Resources of the NC Department of Environmental Quality in Raleigh, North Carolina, with additional program personnel in Washington, North Carolina and Virginia Beach, Virginia.

### **Policy Board**

This Policy Board is the main advisory body for APNEP. It was established by Executive Order (#133) to advise, guide, evaluate and support the CCMP implementation process and advance the CCMP and its management actions, and to ensure the highest level of collaboration, coordination and cooperation among



state and federal agencies, local governments, the public and various interest groups. The Policy Board consults with the advisory committees and the APNEP Office for recommendations pertaining to implementation of CCMP actions at the regional and local levels and the coordination and development of research and monitoring priorities. A major duty of the Policy Board is to evaluate the relevance of the CCMP and to make recommendations to address emerging issues that may affect the significant natural resources of the Albemarle-Pamlico estuarine system. The Policy Board, in cooperation with the APNEP Office, develops an annual report, budget and work plan.

### **Science and Technical Advisory Committee**

A Science and Technical Advisory Committee (STAC) was established to provide independent advice to the Policy Board and the Implementation Committee on scientific and technical issues, including ecosystem assessment and monitoring in support of CCMP implementation. The revised STAC held its first meeting during November 2012 in Manteo, North Carolina.

### **Implementation Committee**

An **Implementation Committee** is currently being established to work with the Policy Board to execute the actions necessary to implement the CCMP. The Implementation Committee will be comprised of representatives from the action teams (formerly known as implementation workgroups), each of which will advance a discrete set of related CCMP actions. Members of the Implementation Committee will serve as liaisons to agencies, organizations, and other workgroups regarding CCMP implementation. Information on the Implementation Committee and each of the action teams may be found on the APNEP website: <http://www.apnep.org/web/apnep/implementation-committee>. Currently the committee consisting of leadership of the Science and Technical Advisory Committee and Policy Board accomplishes the role of the implementation committee.

### **Action Teams**

APNEP has established and is currently establishing a number of Action Teams focused on implementing the objectives and actions in the CCMP. Action Teams are responsible for developing the outputs associated with each action deemed necessary to achieve desired ecosystem outcomes. Action Team membership is open to any interested party. Details on the Actions Teams may be found through the Implementation Committee website:

<http://portal.ncdenr.org/web/apnep/implementation-committee>

## **2016-16 PROJECTS & ACTIVITIES**

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The following provides an update on APNEP activities and projects.

**Program Administration & Indirect Costs** (ongoing) For more detail see Administration and Financial section.



|                                |   |
|--------------------------------|---|
| CCMP Component:                | All   |
| CCMP Actions:                  | All   |
| CCMP Outcome:                  | All   |
| Intended Programmatic Output:  | Program administration, partnership building, CCMP implementation |
| Intended Programmatic Outcome: | CCMP implementation   |
| Status:                        | Ongoing   |
| Estimated Cost:                | \$48,0000   |

### **Management Conference Support (ongoing)**

The key element of CCMP implementation is active citizen participation through the Policy Board and each of the two Advisory Committees under Executive Order #133, as well as the implementation Action Teams. Funds were be used to support meetings, speakers, and materials as needed.

|                                |  |
|--------------------------------|--|
| CCMP Component:                | All  |
| CCMP Actions:                  | All  |
| CCMP Outcome:                  | All  |
| Intended Programmatic Output:  | Partnership building, outreach, prioritizing CCMP implementation |
| Intended Programmatic Outcome: | Public involvement   |
| Status:                        | Ongoing  |
| Estimated Cost:                | \$ 500   |
| Estimated Leverage:            | \$ 1000  |

### **Implementation Action Team: Contaminants /Nutrients (ongoing)**

The former Contaminant Management Workgroup was split into two groups. The Nutrient Action Team is currently working towards recommendation for appropriate nutrient standards for North Carolina's estuaries. This work will advance according to North Carolina's Nutrient Criteria Development Plan using the Albemarle Sound as a pilot study area. The Contaminants Action Team is working to develop risk assessments for metals and emerging contaminants.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Identify, Protect, Restore, Monitor    |
| CCMP Actions:                  | A2.4, A2.5, C1.1, C1.2                 |
| CCMP Outcomes:                 | 1a, 1b, 3b, 3c, 1d                     |
| Intended Programmatic Output:  | Reports and recommendations            |
| Intended Programmatic Outcome: | Risk assessments, increased monitoring |
| Status:                        | Ongoing                                |
| Estimated Cost:                | Staff time                             |
| Estimated Leverage:            | \$8000                                 |

### **Implementation Action Team: Oysters (ongoing)**

The N.C. Coastal Federation facilitates the Oyster Action Team, which has been active partner with APNEP and others in oyster restoration efforts since the late 1990's. Members



participating with this Action Team are pursuing initiatives aligned with both the 2016 North Carolina Oyster Blueprint and the CCMP. APNEP is providing staff support for the development of a website, databases, and environmental indicators to support oyster restoration in the Albemarle-Pamlico region.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Restore, Monitor                                     |
| CCMP Actions:                  | C5.1, C5.2, C5.3                                     |
| CCMP Outcomes:                 | 2b   |
| Intended Programmatic Output:  | Reports, recommendations, and restoration activities |
| Intended Programmatic Outcome: | Risk assessments, increased monitoring               |
| Status:                        | Ongoing  |
| Estimated Cost:                | Staff time   |
| Estimated Leverage:            | \$12,000   |

#### **Implementation Action Team: Flows (ongoing)**

The Flows Action Team is focused on ecological flows issues in A-P region. This work entails identifying appropriate ecological flow requirements for the sounds and coastal rivers and working with regulatory partners to ensure in-stream flows are maintained.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Identify, Protect, Engage              |
| CCMP Actions:                  | A3.3, D3.2                             |
| CCMP Outcomes:                 | 2a, 2b, 3a, 2b                         |
| Intended Programmatic Output:  | Reports and recommendations            |
| Intended Programmatic Outcome: | Risk assessments, increased monitoring |
| Status:                        | Ongoing                                |
| Estimated Cost:                | Staff time                             |
| Estimated Leverage:            | \$2,000                                |

#### **Implementation Action Team: Education and Engagement (ongoing)**

APNEP facilitates an Education and Engagement Action Team to support its partners in their estuarine and watershed-themed education and outreach programming. The workgroup provides an avenue for exploring education partnerships among APNEP partners and as a forum to share best practices.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Engage                                 |
| CCMP Actions:                  | D1.1, D2.2, D2.3                       |
| CCMP Outcomes:                 | 1a, 1b, 1d, 1e, 2a, 1c, 2b, 2c, 3b     |
| Intended Programmatic Output:  | Reports and recommendations            |
| Intended Programmatic Outcome: | Risk assessments, increased monitoring |
| Status:                        | Ongoing                                |
| Estimated Cost:                | Staff time                             |
| Estimated Leverage:            | \$1,800                                |



**Implementation Action Team: Submerged Aquatic Vegetation** (ongoing) Since preliminary discussions among its agency partners began in 2001, APNEP has supported a collaborative partnership that aims to promote the conservation of SAV along the entire coast of North Carolina and southeastern Virginia. This partnership has been meeting regularly since 2004 and was formalized through a Memorandum of Agreement in late 2006.

|                                |                           |
|--------------------------------|---------------------------|
| CCMP Components:               | Protect, Restore, Monitor |
| CCMP Actions:                  | B2.2, C3.3                |
| CCMP Outcomes:                 | 2a, 2b, 3d                |
| Intended Programmatic Output:  | To be determined          |
| Intended Programmatic Outcome: | To be determined          |
| Status:                        | Ongoing                   |
| Estimated Cost:                | Staff Time                |
| Estimated Leverage:            | \$8,000                   |

#### **Watershed Field Coordinator - Virginia (Ongoing)**

The APNEP Watershed Field Coordinator for Virginia provides coordination and support to APNEP, NCDEQ and the Virginia Department of Environmental Quality enhances CCMP implementation in the Roanoke, Chowan and Pasquotank river basins. APNEP supported one-half of this position for at least 20 hours per week. 2014 was the final year of direct funding support from APNEP. Virginia Department of Environmental Quality will continue to partner with APNEP without funding from APNEP.

|                       |  |
|-----------------------|--|
| CCMP Component:       | All  |
| CCMP Actions:         | All  |
| CCMP Outcome:         | All  |
| Programmatic Output:  | Program administration, reports, leverage, presentations |
| Programmatic Outcome: | CCMP implementation and program support                  |
| Status:               | In progress (no longer funded by APNEP)                  |
| Estimated Cost:       | Staff Time for coordination efforts                      |
| Estimated Leverage:   | \$ 24,000  |

#### **2016 Teacher Institute**

APNEP partnered with the UNC Institute for the Environment and others to offer a four-day teacher training institute at the Trinity Center in Salter Path, NC. Public school teachers from across the state will be provided with curriculum training in earth and environmental sciences with hands-on activities, local site visits, and specific content to support inquiry, experiential, and research-based instruction on estuarine and water resources.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Engage  |
| CCMP Actions:                  | D 2.1, 2.2, 2.3   |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3b  |
| Intended Programmatic Output:  | 25 teachers trained in environmental education, water quality, and watersheds |
| Intended Programmatic Outcome: | Increased environmental education activities in North Carolina schools        |
| Status:                        | Ongoing APNEP program (session complete)                                      |



|                     |           |
|---------------------|-----------|
| Cost:               | \$ 24,000 |
| Estimated Leverage: | \$ 11,000 |

### **Shad in the Classroom 2016**

Continuation of the collaborative project continues to provide students with an understanding of the science process, an inspiration for careers in science, and a desire to protect our waterways through hands-on experience raising American shad from egg to releasable fry. This is a collaboration led by the North Carolina Museum of Natural Sciences.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Engage, Restore   |
| CCMP Actions:                  | D 2.1, 2.2, 2.3   |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3b                                      |
| Intended Programmatic Output:  | Increased community involvement in water quality and habitat protection |
| Intended Programmatic Outcome: | Educational program, restoration activities                             |
| Status:                        | Ongoing APNEP program (session complete)                                |
| Estimated Cost:                | \$ 22,000   |
| Estimated Leverage:            | \$ 14,000   |

### **NC Division of Water Resources Project WET Facilitator Workshop - 2016**

APNEP supported the Project WET Facilitator Training Workshop that provides educators with background information and quality environmental education activities focused on water quality, invasive species, and water resources. By hosting their own subsequent Project WET workshops, these trained facilitators then pass skills on to other educators who will teach students in their area. More information on the North Carolina Division of Water Resource's Project Wet program is available at

[http://www.ncwater.org/education\\_and\\_technical\\_assistance/Project\\_WET/](http://www.ncwater.org/education_and_technical_assistance/Project_WET/)

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Engage                                    |
| CCMP Actions:                  | D1.1, D2.2, D2.3                          |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3b        |
| Intended Programmatic Output:  | Environmental education training          |
| Intended Programmatic Outcome: | Increase public awareness and involvement |
| Status:                        | Complete                                  |
| Estimated Cost:                | \$ 2,000                                  |
| Estimated Leverage:            | \$ 5,568                                  |

### **Scientific Research and Education Network**

The Scientific Research and Education Network (SciREN) connect educators with research scientists to provide learners with relevant learning experiences. APNEP reached more than 500 teachers to demonstrate newly developed lesson plans, offer enrichment materials for their classrooms, and highlight other opportunities for teachers including a lesson plan database and other training opportunities.

|                                |                               |
|--------------------------------|-------------------------------|
| CCMP Components:               | Engage                        |
| CCMP Actions:                  | D2.2                          |
| CCMP Outcomes:                 | 1c, 1e, 2a, 2b, 2c, 3b        |
| Intended Programmatic Output:  | Report and recommendations    |
| Intended Programmatic Outcome: | Engaged educational community |



|                     |                  |
|---------------------|------------------|
| Status:             | Complete         |
| Estimated Cost:     | \$0              |
| Estimated Leverage: | To be determined |

### **NC Division of Marine Fisheries Recreational Water Quality Monitoring**

APNEP is providing bridge funding to the N.C. Division of Marine Fisheries' Recreational Water Quality Monitoring Program for the continuation of water quality monitoring near recreational areas. The program tests bacterial concentrations in coastal recreational waters to protect public health. The program is responsible for notifying the public when bacteriological standards for safe bodily contact have been exceeded. The program also has an educational component that accompanies the testing. Their educational campaign informs the public how bacteria enter coastal waters and actions that can help prevent it.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Monitor, Engage                                     |
| CCMP Actions:                  | D2.3, E1.1, E2.1, E2.2                              |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3a, 3b, 3c, 3d      |
| Intended Programmatic Output:  | Monitoring data                                     |
| Intended Programmatic Outcome: | CCMP Implementation, integrated monitoring strategy |
| Status:                        | In progress (time extended)                         |
| Estimated Cost:                | \$ 10,074   |
| Estimated Leverage:            | \$ 283,000  |

### **Tar River Land Conservancy, Inc. Tree Planting**

APNEP purchased hardwoods that were planted on property purchased by the Tar River Land Conservancy. Among other benefits, hardwoods stabilize stream flow, temporarily store floodwaters, help protect against the effects of drought, and purify water.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Protect, Restore, Engage                                      |
| CCMP Actions:                  | B1.3, C1.3, C2.3, D1.1, D2.1                                  |
| CCMP Outcomes:                 | 1a, 1b, 1d, 1e, 2a, 2b, 3b, 3d                                |
| Intended Programmatic Output:  | Tree planting   |
| Intended Programmatic Outcome: | Habitat restoration, increased awareness, habitat enhancement |
| Status:                        | Complete  |
| Estimated Cost:                | \$2,294   |
| Estimated Leverage:            | \$2000  |

### **Hyde County Resilience Planning**

APNEP provided support for an effort led by N.C. Sea Grant, Georgia Sea Grant, and Stetson University in Hyde County, NC to develop a community resilience and adaptation plan. Hyde County has sought the team's expertise on topics including coastal flooding and storm resilience.

|                  |  |
|------------------|--|
| CCMP Components: | Identify, Engage                               |
| CCMP Actions:    | A2.2, A2.3, D1.2, D3.1, D3.3                   |
| CCMP Outcomes:   | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3a, 3b, 3c, 3d |



|                                |                             |
|--------------------------------|-----------------------------|
| Intended Programmatic Output:  | Report and recommendations  |
| Intended Programmatic Outcome: | Higher community resilience |
| Status:                        | Ongoing                     |
| Estimated Cost:                | Staff support time          |
| Estimated Leverage:            | \$35,000                    |

#### **Atlantic Coastal Fish Habitat Partnership (ACFHP) (ongoing)**

APNEP is member of ACFHP, a coast-wide partnership of fish habitat resource managers, scientists, and communications professionals from 32 different states, federal, tribal and nongovernmental agencies who have established a commitment to work together for the benefit of aquatic resources. The mission of ACFHP is to accelerate the conservation, protection, restoration, and enhancement of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes through partnerships between federal, tribal, state, local, and other entities.

|                                |                                |
|--------------------------------|--------------------------------|
| CCMP Components:               | Restore                        |
| CCMP Actions:                  | C4.1, C4.2, C4.3, C4.4         |
| CCMP Outcomes:                 | 2a, 2b                         |
| Intended Programmatic Output:  | Habitat restoration            |
| Intended Programmatic Outcome: | Improved partner coordination, |
| Status:                        | Ongoing                        |
| Estimated Cost:                | \$0                            |
| Estimated Leverage:            | To be determined               |

#### **Effects of Environment on Blue Crab Size: Fisheries Science Place Based Learning and a Reciprocal Transplant Growth Study**

APNEP is planning to support further ecological research led by Duke University aimed at understanding blue crab migration patterns in and around Lake Mattamuskeet. This research informs decisions by managers at Mattamuskeet National Wildlife Refuge as they manage the flow of water in and around the lake. The research effort also engages students from the nearby Mattamuskeet School to capture, measure, sex, and weigh crabs. A teacher workshop will also be held, leveraging prior APNEP-supported efforts to develop blue crab lesson plans.

|                                |                                    |
|--------------------------------|------------------------------------|
| CCMP Components:               | Identify, Engage                   |
| CCMP Actions:                  | D2.1, D2.2                         |
| CCMP Outcomes:                 | 1c, 1e, 2a, 2b, 2c, 3b             |
| Intended Programmatic Output:  | Report and recommendations         |
| Intended Programmatic Outcome: | Increased awareness and engagement |
| Status:                        | In-Progress                        |
| Estimated Cost:                | \$4,000                            |
| Estimated Leverage:            | \$4,000                            |

#### **NC Coastal Habitat Protection Plan Implementation Support (ongoing)**

The NC Coastal Habitat Protection Plan (CHPP), adopted by Coastal Resources, Environmental Management and Marine Fisheries Commissions, has seen routine development since its implementation began in 2004. While differences in scope, geography and mission exist, implementation of CCMP and the CHPP are complimentary. Jimmy Johnson, APNEP Coastal Habitats Coordinator ensures that both plans are implemented in a



coordinated and integrated fashion. A new CHPP implementation plan and updated scientific support documents were produced in 2015-16.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Identify, Protect, Restore  |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 2a, 2b, 2c, 3b, 3c, 3d  |
| Intended Programmatic Output:  | CHPP annual report  |
| Intended Programmatic Outcome: | Coordinated regulation across NC state agencies to improve estuarine habitats |
| Status:                        | In Progress   |
| Cost:                          | Staff Time  |
| Estimated Leverage:            | \$18,000  |

#### **Chowan Healthy Waters Initiative (ongoing)**

APNEP is continuing to partner with Virginia Commonwealth University and VA Department of Conservation and Recreation, as well as other state agencies on both sides of the border to implement actions to protect high quality waters. Identification of these pristine waters is a necessary first step in the ultimate preservation of these valuable areas by land trusts and other organizations. 2016 saw limited activity on this project.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Identify, Protect, Engage  |
| CCMP Actions:                  | A1.1, B1.3, D1.2   |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3a, 3b, 3c, 3d   |
| Intended Programmatic Output:  | New partnerships and activities in VA and NC focused on protecting high quality waters |
| Intended Programmatic Outcome: | Maintain good water quality  |
| Status:                        | Ongoing  |
| Estimated Cost:                | Staff Time   |
| Estimated Leverage:            | To be determined   |

#### **Albemarle-Chowan Watershed Roundtable (ongoing)**

Watershed roundtables consist of stakeholders who have a vested interest in their communities and are concerned about local water quality. The Albemarle-Chowan Watershed Roundtable engages stakeholders in the Virginia portions of the Chowan and Pasquotank river basins to collaborate on issues concerning water quality, habitat, and other natural resources within these watersheds. The roundtable supported a regional water quality celebration, continued support for the Chowan River basin booklet, and river shoreline restoration project in Southampton County, VA. The Roundtable's area of geographic interest is the Virginia portion of A-P region.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Engage , Restore                           |
| CCMP Actions:                  | D1.2, C1.3                                 |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 2a, 2b, 2c, 3a, 3b, 3c, 3d |
| Intended Programmatic Output:  | To be determined                           |
| Intended Programmatic Outcome: | To be determined                           |
| Status:                        | In progress/ongoing                        |
| Estimated Cost:                | Staff Time                                 |
| Estimated Leverage:            | \$10,000                                   |



### **Saltwater Connections (ongoing)**

Saltwater Connections is a regional initiative aimed at sustaining livelihoods, cultural heritage, and natural resources along the coast, from Hatteras Island to Ocracoke and Carteret County. The Saltwater Connections Resource Team's approach to growing sustainable communities is modeled after Handmade in America's Small Town Revitalization Program, an asset-based economic development project in western North Carolina. The goal for this community vitalization process is to leverage assets, whether cultural, architectural or human, in order to build a complete community vitalization plan. More information is available at [www.saltwaterconnections.org](http://www.saltwaterconnections.org)

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Engage   |
| CCMP Actions:                  | D1.5   |
| CCMP Outcomes:                 | 1e   |
| Intended Programmatic Output:  | Trail maps, community engagement opportunities |
| Intended Programmatic Outcome: | Increased awareness and engagement             |
| Status:                        | In progress                                    |
| Estimated Cost:                | Staff Time                                     |
| Estimated Leverage:            | To be determined                               |

### **North Carolina Catch (ongoing)**

North Carolina Catch supports the work of the four local seafood promotion initiatives have emerged support local seafood efforts and guide consumers to local fish and shellfish sources. The groups help educate consumers on the culinary and nutritional rewards of choosing local seafood, as well as the economic, cultural, and ecological. North Carolina Catch is a nonprofit umbrella organization that ties the work of the local groups together to foster collaboration, to strengthen communication, and to enhance a statewide and national presence. APNEP provide financial support to NC Catch Summits in 2016. Mr. Johnson currently serves as President of the N.C. Catch Board of Directors. More information is available at <http://www.nccatch.org/>

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Engage  |
| CCMP Actions:                  | D2.3  |
| CCMP Outcomes:                 | 1a, 1b, 1d  |
| Intended Programmatic Output:  | Marketing materials   |
| Intended Programmatic Outcome: | Informed seafood consumers who understand connections between local seafood and habitats. |
| Status:                        | In progress   |
| Estimated Cost:                | \$ 500, Staff Time  |
| Estimated Leverage:            | \$ 2,000  |

### **North Carolina Watershed Stewardship Network (ongoing)**

The Watershed Stewardship Network (WSN) is a working group that includes representatives from state and local government, academic institutions, non-profit organizations, and private industry. The mission of the WSN is to empower more effective watershed stewardship because water is critical to economic, environmental, and community health. APNEP partnered with the North Carolina Coastal Federation to support a workshop provided by the WSN. The purpose of the group is to identify, include, link, and serve watershed stakeholders in North



Carolina. Additional information is available at  
<http://www.ces.ncsu.edu/depts/agecon/WECO//NCWatershedStewardshipNetwork.htm>

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Engage  |
| CCMP Actions:                  | D1.1, D1.2, D2.2, D2.3, D3.1                            |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3a, 3b, 3c, 3d          |
| Intended Programmatic Output:  | Workshops, online tools, environmental programs         |
| Intended Programmatic Outcome: | Improved environmental stewardship and watershed health |
| Status:                        | In progress   |
| Estimated Cost:                | \$500, Staff Time                                       |
| Estimated Leverage:            | To be determined  |

**Southeast Natural Resource Leadership Group Pilot Project Development** The Southeast Natural Resource Leadership Group (SENRLG) is comprised of the regional principals of federal natural resource agencies across the Southeast that have undertaken the development of a Landscape Conservation and Restoration Pilot Project (LCRPP) to support climate change adaptation efforts in conservation and restoration in the Southeast that would illustrate how the agencies could coordinate and leverage federal agency mandates and resources to enhance natural resource management. Climate change risks were selected as the point of focus for targeting program resources on the landscape and the focus is the North Carolina coastal area of the Albemarle-Pamlico estuary. The final SENRLG report was released late in 2012. APNEP will work with SENRLG to provide guidance and assistance for a project that supports implementation of the CCMP if initiated by SENRLG. No activity occurred thus far this year. More information is available at

<http://www.epa.gov/region04/topics/envmanagement/senrlg/index.htm> The initial project report is available at  
[http://portal.ncdenr.org/c/document\\_library/get\\_file?uuid=dd0f0bf5-2725-4ecc-8985746ee7b1dd29&groupId=61563](http://portal.ncdenr.org/c/document_library/get_file?uuid=dd0f0bf5-2725-4ecc-8985746ee7b1dd29&groupId=61563)

|                                |  |
|--------------------------------|--|
| CCMP Components:               | To be determined                             |
| CCMP Actions:                  | To be determined                             |
| CCMP Outcomes:                 | To be determined                             |
| Intended Programmatic Output:  | To be determined                             |
| Intended Programmatic Outcome: | To be determined                             |
| Status:                        | No action thus far in 2016-16 (Federal lead) |
| Estimated Cost:                | Staff Time                                   |
| Estimated Leverage:            | To be determined                             |

### **North Carolina Clean Water Management Trust Fund Project**

APNEP worked with the North Carolina Clean Water Management Trust Fund (CWMTF) to implement a project to provide water quality improvement projects in one or more of the APNEP river basins. Projects were used as part of the 1:1 non-federal match for the 2016-16 Section 320 grant. From January 2013 until November 2016, the APNEP director served half time as deputy director of the CWMTF and the Coastal Habitats Coordinator also assisted in



review applications to CWMTF for projects within the APNEP program area. Additional information is available at <http://www.cwmtf.net/>

|                                |                   |
|--------------------------------|-------------------|
| CCMP Components:               | Protect, Restore  |
| CCMP Actions:                  | To be determined  |
| CCMP Outcomes:                 | To be determined  |
| Intended Programmatic Output:  | To be determined  |
| Intended Programmatic Outcome: | To be determined  |
| Status:                        | Ongoing           |
| Estimated Cost:                | Staff Time        |
| Status:                        | Pending           |
| Estimated Cost:                | Non-federal match |
| Estimated Leverage:            | \$ 510,376        |

### **Wetlands Monitoring**

APNEP has supported a N.C. State University effort to sustain North Carolina's wetland monitoring program after its discontinuation by the State of North Carolina. APNEP provided an initial support letter for this funded grant and has committed to supporting the effort through the promotion of wetland partnerships, service on the project's technical working group, and assistance with monitoring efforts in the APNEP region.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Monitor  |
| CCMP Actions:                  | A1.1, E1.1                                       |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3a, 3b, 3c, 3d   |
| Intended Programmatic Output:  | Data, report, maps                               |
| Intended Programmatic Outcome: | Greater understanding of environmental condition |
| Status:                        | Ongoing  |
| Estimated Cost:                | Staff Time                                       |
| Estimated Leverage:            | \$568,951 over three years                       |

### **Tracking Research in Support of Ecosystem-Based Management**

APNEP has participated on the Regional Coordinating Committee for the Defense/Coastal Estuarine Research Program (DCERP) since the committee's inception in 2007. The DCERP was designed to conduct mission-relevant and basic and applied research in support of an ecosystem-based approach. The Department of Defense's Strategic Environmental Research and Development Program (SERDP) launched DCERP at Camp Lejeune, North Carolina, because of it being an ideal research platform with a location that integrates coastal barrier island, estuarine, marsh, and terrestrial ecosystems. These common ecosystems within the APNEP region make probable that insights gained from this ten-year program should provide many useful applications for the APNEP region as well.

|                               |  |
|-------------------------------|--|
| CCMP Components:              | Identify, Monitor                                |
| CCMP Actions:                 | A2.2, 2.3; E2.1, 2.2                             |
| CCMP Outcomes:                |  |
| Intended Programmatic Output: | Staff knowledge and research partner development |



|                                |   |
|--------------------------------|---|
| Intended Programmatic Outcome: | Technical transfer of DCERP protocols for monitoring, modeling, and decision support frameworks |
| Status:                        | Ongoing   |
| Estimated Cost:                | Staff Time  |
| Estimated Leverage:            | TBD   |

### **Sea Wolf at CMAST Communication Project**

This project was awarded as a grant from the Education and Outreach Action Team in response to an RFP in the spring of 2016 and has continued until Fall 2016. The Sea Wolf at CMAST program provide marine science and STEM opportunities for area high school students through educational programs, presentations, and experiential learning.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Engage   |
| CCMP Actions:                  | D1.1, 2.2, 2.3   |
| CCMP Outcomes:                 | 1a, 1b, 1c, 1d, 1e, 2a, 2b, 2c, 3b,  |
| Intended Programmatic Output:  | Educational program  |
| Intended Programmatic Outcome: | Knowledge transfer, public outreach & involvement, increased environmental awareness |
| Status:                        | In Progress  |
| Estimated Cost:                | \$ 730.67  |
| Estimated Leverage:            | \$ 4,700   |

### **Seeds of Inspiration: An educational partnership between the N.C. Coastal Federation and Mano al Hermano 2016**

This project was awarded as a grant from the Education and Outreach Action Team in response to an education and engagement RFP in the spring of 2015 and awarded again in 2016. This eight-week summer program used age- and content- appropriate books to support reading comprehension skills while learning about the coast's natural resources and the many wonders of the estuaries. The program ended with an interactive and engaging field trip experience at Jockey's Ridge State Park to further the student's understanding of the concepts they read about through experiential learning at a living shoreline restoration site.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Restore, Engage  |
| CCMP Actions:                  | C1.3; D1.1, 1.5, 2.1, 2.3  |
| CCMP Outcomes:                 | 2a, 2b, 3d; 1a, 1b, 1d, 1e   |
| Intended Programmatic Output:  | Educational program  |
| Intended Programmatic Outcome: | Knowledge transfer, public outreach & involvement, increased environmental awareness |
| Status:                        | Complete   |
| Estimated Cost:                | \$ 3,550   |
| Estimated Leverage:            | \$ 2,530   |



### **Secrets of the Swamp and River Days**

This project was awarded as a grant from the Education and Outreach Action Team in response to an RFP in the spring of 2015 and awarded again in 2016. The NC Museum of Natural Sciences provided a two-day, one night field-based workshop for educators in the swamps of the Roanoke River basin. The workshop was held on the two days prior to the Environmental Educators of North Carolina (EENC) conference, held in Columbia, NC in September 2016. This field experience will provide an in-depth exploration of eastern North Carolina ecosystems and habitats that can be built upon during the conference.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Engage, Restore   |
| CCMP Actions:                  | D 2.1, 2.2,   |
| CCMP Outcomes:                 | 1e,   |
| Intended Programmatic Output:  | Educational program   |
| Intended Programmatic Outcome: | Increased community involvement in water quality and habitat protection efforts |
| Estimated Cost:                | \$ 3,000  |
| Estimated Leverage:            | \$ 3,000  |

### **North Carolina State University Ecosystem Assessment Support**

APNEP contracted support from the Center for Geospatial Analytics, North Carolina State University to synthesize, analyze, and summarize relevant ecosystem information to provide a comprehensive data report for the ecosystem indicators being evaluated by the Program Scientist.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Monitor   |
| CCMP Actions:                  |   |
| CCMP Outcomes:                 | 2a  |
| Intended Programmatic Output:  | Assessment of candidate ecological indicators                           |
| Intended Programmatic Outcome: | Identify knowledge gaps associated with candidate ecological indicators |
| Status:                        | Complete  |
| Estimated Cost:                | \$ 9,200  |
| Estimated Leverage:            | \$ 1,000  |

### **East Carolina University Ecosystem Assessment Support**

APNEP contracted support from the ECU Department of Geography, Planning and Environment to synthesize, analyze, and summarize relevant ecosystem information to provide a comprehensive data report for the ecosystem indicators being evaluated by the Program Scientist.

|                                |   |
|--------------------------------|---|
| CCMP Components:               | Monitor   |
| CCMP Actions:                  |   |
| CCMP Outcomes:                 | 2a  |
| Intended Programmatic Output:  | Assessment of candidate ecological indicators                           |
| Intended Programmatic Outcome: | Identify knowledge gaps associated with candidate ecological indicators |
| Status:                        | Complete  |



|                     |          |
|---------------------|----------|
| Estimated Cost:     | \$ 9,998 |
| Estimated Leverage: | \$ 1,000 |

### **Coastal Discovery Camp**

A project in partnership with the North Carolina Coastal Federation, this camp will focus on coastal ecology and water quality. It will engage students in outdoor education and experiential learning during their summer enrichment programs. Students will explore biology at Cape Lookout National Seashore, coastal restoration projects at North River Wetland Preserve and oyster ecology at the Carolina Mariculture Company. They will also complete a service project to collect marine debris from local shorelines.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Engage, Monitor  |
| CCMP Actions:                  | D 1.1, 1.5, 2.1, 2.3   |
| CCMP Outcomes:                 | 1a, 1b, 1d, 1e, 2a   |
| Intended Programmatic Output:  | Educational program  |
| Intended Programmatic Outcome: | Knowledge transfer, public outreach & involvement, increased environmental awareness |
| Status:                        | Complete   |
| Estimated Cost:                | \$1,668  |
| Estimated Leverage:            | \$1,492  |

### **Seeds of Inspiration: An educational partnership between the N.C. Coastal Federation and Mano al Hermano 2016**

An eight-week summer program using age- and content- appropriate books to support reading comprehension skills while learning about the coast's natural resources and the many wonders of our estuaries. The program ended with an interactive field trip experience at Jockey's Ridge State Park living shoreline restoration site.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Restore, Engage  |
| CCMP Actions:                  | C1.3; D1.1, 1.5, 2.1, 2.3  |
| CCMP Outcomes:                 | 2a, 2b, 3d; 1a, 1b, 1d, 1e   |
| Intended Programmatic Output:  | Educational program  |
| Intended Programmatic Outcome: | Knowledge transfer, public outreach & involvement, increased environmental awareness |
| Status:                        | Complete   |
| Estimated Cost:                | \$ 3,550   |
| Estimated Leverage:            | \$ 3,629   |

### **2016 APNEP/Sea Grant Fellowship**

APNEP and the North Carolina Sea Grant (NCSG) College Program are jointly supporting the 2016 Graduate Fellowship in Estuarine Research. The fellowship provides funding for graduate students based in North Carolina and Virginia with an opportunity to conduct applied research within the North Carolina portion of the APNEP management boundary. Fellows must conduct research that addresses focus areas identified in NCSG Strategic Plan and management actions identified in CCMP.



|                                |   |
|--------------------------------|---|
| CCMP Components:               | Identify  |
| CCMP Actions:                  | To be determined  |
| CCMP Outcomes:                 | To be determined  |
| Intended Programmatic Output:  | Report, maps, data                                      |
| Intended Programmatic Outcome: | Increased capacity to address CCMP implantation actions |
| Status:                        | In Progress   |
| Estimated Cost:                | \$2,500   |
| Estimated Leverage:            | \$5,000   |

### **Town of Edenton Wetland Renovation and Environmental Education**

APNEP partnered with the Town of Edenton to renovate a constructed wetland in Edenton to educate the public about the importance of wetlands for treating stormwater and protecting water quality. The blue-green algal bloom on the Chowan River and western Albemarle Sound in 2015 --the first major bloom in about 25 years--generated wide-spread public concern and questions about water quality. The proposed project will renovate educational signage and clean up the constructed wetland, which will help educate the public about the importance of wetlands for treating stormwater and protecting water quality. This partnership also addresses several management actions identified in CCMP.

|                                |  |
|--------------------------------|--|
| CCMP Components:               | Restore, Engage  |
| CCMP Actions:                  | B1.1 C2.3, C3.2, D1.1, D2.1, and D2.3  |
| CCMP Outcomes:                 | 2a, 2b, 3d; 1a, 1b, 1d, 1e   |
| Intended Programmatic Output:  | Educational Program  |
| Intended Programmatic Outcome: | Knowledge transfer, public outreach & involvement, increased environmental awareness |
| Status:                        | In Progress  |
| Estimated Cost:                | \$2,500  |
| Estimated Leverage:            | \$5,000  |



## ADMINISTRATION AND FINANCIAL

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### APNEP ADMINISTRATION

APNEP staff is responsible for the coordination, planning and successful completion of APNEP functions, including Management Conference, and Action Team meetings, APNEP forums and other APNEP-sponsored/partner events. In addition, staff monitors, and often becomes involved in, activities of state resource management agencies that relate to CCMP implementation, APNEP mission, and the Albemarle-Pamlico watershed or estuary. Staff also attends meetings, conferences and workshops in order to stay apprised of technological advancements that may prove beneficial in the APNEP region and the partnership. Although the Policy Board and Advisory Committees are instrumental in identifying local environmental issues and prioritizing management actions within each basin, most management actions are implemented by various state agencies on a local, basin-wide, regional or statewide basis and require staff involvement and interactions.

#### Indirect Costs

Under the 2016-17 *Negotiated Indirect Cost Agreement* between NCDEQ and the US EPA, the Division of Water Resources indirect rate is 8.7% of all salaries supported by this federal grant. Estimated indirect costs will be \$29,061 based on the indirect rate for grant-supported salaries. *For the purposes of this budget the rates was applied to all positions funded under the Section 320 / NEP grant regardless of the position being currently created or occupied.*

#### Administrative Costs

Overall administration costs during 2016-17 are estimated at approximately \$428,815 and include salaries, benefits, longevity pay, equipment, supplies, office and office and storage space rent, IT services and phone, and training and development.

#### Personnel\*

Presently, the APNEP staff consists of the APNEP office in Raleigh, with the Director, Program Scientist, Policy and Engagement Manager, Ecosystem Analyst, and Project Coordinator. The APNEP office in Washington, NC houses the Coastal Habitats Coordinator. The Virginia Department of Environmental Quality also provides personnel to support CCMP implementation, however this position is not covered under program administration as it occurs at no cost to the program.

#### APNEP Director

The Director administers and coordinates program activities and CCMP implementation, involving interaction with numerous federal and state resource management agencies, universities, interest groups, and the general public. This position manages the post-CCMP grants and associated contracts, provides staff support to the APNEP Policy Board and Advisory Committees, and represents APNEP at local, state, regional and national meetings. Dr. Bill Crowell has been the Director since June 2002.

As of January 1, 2013 the Director position was changed to include duties associated with administration of the NC Clean Water Management Trust Fund (CWMTF). This action was



reversed as a result of the 2016 Appropriations Act (*SL 2016-241*) passed by the NC General Assembly in September 2016. This action also led to the relocation of APNEP to within the DEQ Division of Water Resources.

### **Program Scientist**

The Program Scientist assists the Director with CCMP administration. This position helps design and implement a comprehensive monitoring strategy and reporting process, guides the Scientific and Technical Advisory Committee (STAC), and reviews project proposals and reports for merit. This position provides staff support to the Policy Board and Advisory Committees. Dr. Dean Carpenter has served in this role since November 2003.

### **Program Manager**

The Project Manager assists the Director to administer the 320 Grant and coordinate and manage contracting and associated activities within NCDEQ. The position also guides and tracks CCMP implementation, involving interaction with numerous federal and state resource management agencies, universities, interest groups, and the general public, and provides staff support to the Policy Board and Advisory Committees. **This position is currently in the NCDEQ hiring process.**

### **Policy and Engagement Manager**

The Policy and Engagement Manager leads public/community relations and knowledge concerning issues relating to the Albemarle-Pamlico region; facilitates CCMP implementation; develops and guides educational and outreach programs; promotes dialogue between local government officials and private citizens; and serves as a liaison for various APNEP workgroups and committees. Ms. Stacey Feken has served in this role since March 2016.

### **Program Associate**

The Program Associate supports APNEP education and public outreach activities. The position implements educational and outreach programs; promotes dialogue between local government officials and private citizens; and provides liaison responsibility for the Citizens' Monitoring Network. This position will also provide valuable staff support to the Policy Board and other advisory committees. The Policy Board created the position on September 26, 2014. This position is currently being filled by a temporary position.

### **Ecosystems Analyst**

The Ecosystem Analyst coordinates with members of the staff and contributing scientists and managers to analyze and report upon metrics of environmental health within the Albemarle-Pamlico Estuarine System. Responsibilities include: working with partner agencies and researchers to analyze and report upon indicators of watershed and estuarine health, including identification of monitoring gaps, facilitating and supporting APNEP committees and working groups, and maintaining a current geospatial database and online geospatial products. This position also manages the program's GIS functions. This position also provides valuable staff support to the Policy Board and other advisory committees. The



Policy Board created the position on September 26, 2014. Dr. Coley Hughes has served in this role since April 2016.

**Coastal Habitats Coordinator (Match)**

This position provides an essential function as an APNEP liaison to local governments and state agencies. The Coastal Habitats Coordinator (NC) provides coordination and support to local governments and state agencies to enhance CCMP implementation. This position also provides staff support to the Policy Board and Advisory Committees. Jimmy Johnson has served in this role since January 2006. This position also provides support for CWMTF project applications and awardees in the APNEP region. *This position is funded by NCDEQ and provides a portion of the non-federal match for the 320 grant.*

*\*All positions are administrated in compliance with NC Office of State Personnel rules and policies.*

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**TABLE of GRANTS and CONTRACTS**

APNEP established and managed many grants and contracts during time period between October 1, 2016 and September 20, 2016. Descriptions of these items are discussed in the 2016-16 Projects and Activities section of this report. The following table represents only the projects that directly involved grant funds from *CE-95451210* or *CE-0D20614*



## GRANTS TO LOCAL ENTITIES

Active or completed: April 29, 2016 to October 31, 2016

*See narrative for comprehensive list of partnerships and activities*

| Project Title   | Funded Amount | Project Leader  | Purpose   | Deliverables   | Completion Date | Status      |
|---|---------------|---|---|--|-----------------|-------------|
| Shad in the Classroom 2016  | \$22,000      | Friends of the NC Museum of Natural Sciences                              | Students will raise American Shad in the classroom from egg to releasable fry   | Teacher workshop, Shad Release, Podcasts & Film                                      | June 2016       | Complete    |
| NC Division of Water Resources Project WET Facilitator Workshop   | \$2,000       | NC DWR  | Workshop to train environmental educators.  | Education and Outreach materials, training   | June 2016       | Complete    |
| Effects of Environment on Blue Crab Size: Fisheries Science Place Based Learning and a Reciprocal Transplant Growth Study | \$4,000       | Duke University Marine Lab  | Outreach and workshops will provide enrichment and place-based education for Mattamuskeet schools' students.  | Knowledge transfer, Public outreach & involvement, increased environmental awareness | July 2016       | In Progress |
| Sea Wolf at CMAST Communication Project   | \$730.67      | North Carolina State University Center for Marine Sciences and Technology | The Sea Wolf at CMAST program provide marine science and STEM opportunities for area high school students through educational programs, presentations, and experiential learning. | Knowledge transfer, Public outreach & involvement, increased environmental awareness | July 2016       | In Progress |
| Graduate Fellowship in Estuarine Research   | \$2,500       | North Carolina Sea Grant  | Funding a graduate student fellowship to conduct applied research within the North Carolina portion of the APNEP management boundary.   | Knowledge transfer, improved restoration and management techniques, report           | August 2016     | In Progress |
| Tar River Land Conservancy, Inc. Tree Planting  | 2,294         | Tar River Land Conservancy, Inc.  | Tar River Land Conservancy reforested 12 acres of hayfields on the 40-acre Twelve Hawks Tract located along Fishing Creek in Griffins Township, Nash County, NC.                  | Habitat restoration, increased awareness, habitat enhancement                        | August 2016     | Complete    |

|  |          |  |   |  |            |             |
|--|----------|--|---|--|------------|-------------|
| Teacher Institute on Watersheds 2016   | \$22,000 | UNC Institute for the Environment            | Develop and Implement a Teacher Institute for up to 25 teachers   | Week long Institute, Report  | Sept. 2016 | Complete    |
| Secrets of the Swamp and River Days  | \$3,000  | Friends of the NC Museum of Natural Sciences | A two day, field-based workshop for educators in the swamps of the Roanoke River basin.   | Teacher workshop, knowledge transfer, education & outreach materials                 | Sept. 2016 | Complete    |
| Seeds of Inspiration: An educational partnership between the N.C. Coastal Federation and Mano al Hermano | \$3,550  | NCCF   | This program engages underserved populations in environmental education and restoration work by partnering with a local group called Mano al Hermano. | Knowledge transfer, public outreach & involvement, increased environmental awareness | Sept. 2016 | Complete    |
| Coastal Discovery Camps  | \$1,668  | NCCF   | North Carolina Coastal Federation will engage students in outdoor, experiential learning during summer enrichment programs (Coastal Discovery Camps). | Education and Outreach materials, training   | Sept. 2016 | Complete    |
| NC DMF Recreational Water Quality Monitoring   | \$10,074 | NC DMF                                       | Bridge funding for bacteria contamination testing in coastal recreational waters.   | Monitoring data, report  | Sept. 2016 | In progress |
| East Carolina University Ecosystem Assessment  | \$9,998  | ECU  | Report to provide a management level synthesis of 24 key environmental indicators   | Assessment, report   | Sept. 2016 | Complete    |
| North Carolina State University Ecosystem Assessment   | \$9,200  | NSCU   | Report to provide a management level synthesis of 24 key environmental indicators   | Assessment, report   | Sept. 2016 | Complete    |



|  |         |                 |  |  |               |             |
|--|---------|-----------------|--|--|---------------|-------------|
| North Carolina Watershed Stewardship Network Workshop          | \$500   | NCCF            | Watershed Planning Workshop  | Education and Outreach materials, training   | Sept. 2016    | In Progress |
| Town of Edenton Wetland Renovation and Environmental Education | \$2,000 | Town of Edenton | Project to renovate a constructed wetland in Edenton will help educate the public about the importance of wetlands for treating stormwater and protecting water quality. | Knowledge transfer, Public outreach & involvement, increased environmental awareness | December 2016 | In Progress |



## NON-FEDERAL COST SHARE (Match)

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### Summary of Match Requirements

NCDENR provided \$600,000 for the required 1:1 non-federal match for 2015-2016. This match was provided through:

- 1) In-kind services provided by staff support for the Coastal Habitats Coordinator from the NC DENR.
- 2) State funds allocated to cover costs associated with projects to improve water quality through funding of the NC Clean Water Management Trust Fund (CWMTF) for one or more projects in the APNEP program boundary.

### Summary of Non-federal State Match

|   |            |
|---|------------|
| In-kind Position (salaries and benefits)      | \$ 89,925  |
| Clean Water Management Trust Fund Project(s): | \$ 510,376 |
| TOTAL:  | \$ 600,000 |

### In-kind Position Non-federal Match

The North Carolina Department of Environment and Natural Resources (NCDENR) [now known as the Department of Environmental Quality] provided \$88,401 as part of the required 1:1 non-federal match for 2015-2016. The match was provided through in-kind services provided by staff of NCDENR.

The match position is responsible for program administration, support, community involvement and guiding implementation of the APNEP CCMP and the NC CHPP.

| <u>POSITION</u>      | <u>#</u> | <u>SALARY</u> | <u>EFFORT</u>                | <u>Match</u> |
|----------------------|----------|---------------|------------------------------|--------------|
| Field Representative | 1        | 68,816        | 1.0                          | 68,816       |
|                      |          |               | Benefits* 1.0                | 21,109       |
|                      |          |               | Total In-Kind Service Match: | \$ 89,625    |

*\* Benefits are based on Social Security (7.65 %) & Retirement (15.21 %) of position's annual salary, plus Medical Insurance Plan rate of \$5,378 per year.*

### In-kind Project/Services Non-federal Match

The North Carolina Clean Water Management Trust Fund provided \$510,376 as part of the 1:1 non-federal match for 2015-2016. The expenditure of non-federal funds was provided through water quality improvement projects in one or more of the APNEP river basins.

### Clean Water Management Trust Fund

CWMTF was created in 1996, in part in a response to a 1994 CCMP action. CWMTF provides grants to local governments, state agencies, and conservation non-profits to help finance projects that specifically address water pollution problems. CWMTF funds projects that enhance or restore degraded waters, protect unpolluted waters, and/or contribute toward a network of riparian buffers and greenways for environmental, educational, and recreational benefits.



Additional information on match funds can be found in the Year End Federal Financial Report submitted by NC DEQ.

## TRAVEL

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APNEP and EPA consider personal, face-to-face contact with peers and colleagues essential for information sharing and technology transfer. As part of the federal grant requirements to attend EPA-NEP meetings, APNEP was required to allocate minimum of \$10,000 as travel funds for program activities, enhancement, education, and outreach support. These funds are to be used for activities such as:

- 1) Presentations at or participation in national or regional NEP and EPA meetings
- 2) Presentations at or participation in workshops or conferences
- 3) Travel to other NEPs or communities to provide peer-to-peer technical assistance
- 4) Travel to other NEPs or watersheds for assistance
- 5) Travel by NEP staff or stakeholders from other NEPs or watershed programs to provide NEP with assistance
- 6) Travel to national or international conferences to share information on the NEP

Travelers may include management conference members, citizens, and members of environmental or public interest organizations, business or industry representatives, academicians, scientists or technical experts. As a requirement of this grant agreement, members of the APNEP core staff are required to attend all meetings called on behalf of the NEPs. These funds are used to pay for travel of Federal employees.

### Travel 2016-16

APNEP staff attended a number of meetings and conferences using the allotted travel funds and specific project funds or administration costs. Below is a summary of these activities that have occurred or are currently planned for the year:

| Personnel                      | Dates               | Purpose   | Location       | Estimated Cost |
|--------------------------------|---------------------|---|----------------|----------------|
| APNEP Staff/ Board/ Volunteers | 10/1/14 to 9/ 30/15 | Normal Program Activities/ projects/ workshops/ NCCA monitoring | APNEP area     | 7350*          |
| Crowell                        | 3/2014              | Spring EPA / NEP Meeting  | Washington, DC | 1300           |
| Crowell                        | 2/ 2016             | NC Planning Conference  | Raleigh, SC    | 150            |
| Hughes                         | 2/ 2016             | NOAA Social Coast Forum   | Charleston, SC | 1200           |
|                                |                     |   | Total*         | \$ 10,000      |

\*Estimate up to September 30, 2016

All travel is allocated into three categories: In-State, Out-of-State, and EPA Required. All travel; including non-staff must be consistent with published NCDEQ travel policies (2010) and regulations (<http://www.enr.state.nc.us/ooc/pdf/trav.pdf>). Due to the dynamic nature of the NEP, all travel cannot be scheduled a year ahead: therefore, only an estimate can be provided based on established NCDEQ rates (below). Some travel is associated with specific projects, and travel costs are included in budgeted amounts. Rates are listed in the table below.

### 2016-16\* NC DEQ TRAVEL RATES



| Item             | In-State | Out of State | Overnight Trip   | Day Trip  |
|------------------|----------|--------------|--|---|
| <b>Breakfast</b> | \$ 8.30  | \$ 8.30      | Leave Office before 6:00 AM                                | Leave Office before 6:00 AM; Extend workday by 2 hours                          |
| <b>Lunch</b>     | \$ 10.90 | \$ 10.90     | Leave Office by 12:00 Noon; Overnight return after 2:00 PM | Never claimed on day trip   |
| <b>Dinner</b>    | \$ 18.70 | \$ 21.30     |  | Depart office before 5:00 PM; Return after 8:00 PM; Workday extended by 3 hours |
| <b>Hotel</b>     | \$ 67.30 | \$ 79.50     |  | Never claimed on day trip   |

\* current rates

#### **In State:**

In-State travel is primarily for program staff to conduct routine business associated with APNEP daily operations, staff training or topical meetings germane to the program. It may also cover nonstaff for NEP business (i.e., board and committee members, guest speakers, and experts). Rates are listed below.

#### **EPA/NEP-associated Out-of-State:**

The NEPs hold two national meetings each year (these may be in same fiscal year or not). Each program is strongly encouraged to participate in the meetings. The spring meeting is held in the Washington, DC area and the fall meeting location rotates among the different NEP locations. The level of staff participation will vary depending on the agenda for a particular meeting. Generally one or two staff members attend. Travel may also cover non-staff (e.g., Policy Board or Advisory Committee members).

#### **Other Out-of-State:**

Out-of-state travel is primarily for program staff to conduct business associated with the NEP, and to attend training or topical meetings germane to the program. It may also cover non-staff (e.g., board and committee members, guest speakers, experts) for NEP related activities.

