

# Albemarle - Pamlico

National Estuary Partnership



## Bipartisan Infrastructure Law Cooperative Agreement Grant Work Plan Proposal for 2022-2024

**US EPA  
Cooperative Agreement # pending**

*Approved by the  
APNEP Leadership Council  
for Review  
on 6 October 2022*  
**Budget Adjustment on 2 November 2022**

[www.apnep.org](http://www.apnep.org)

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**Note: This document reflects an addition to the budget by \$19,600 as communicated to APNEP Staff on 2 November 2022.**

# Executive Summary

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## Purpose

This document provides a Work Plan and Budget Proposal for *2021 Infrastructure Investment and Jobs Act* (P.L. 117-58)/ Bipartisan Infrastructure Law (BIL) grant funds from the U.S. Environmental Protection Agency (EPA) to support implementation of the Comprehensive Conservation and Management Plan (CCMP) for the Albemarle-Pamlico National Estuary Partnership (APNEP).

This 2022-2024 Work Plan and associated budget proposal is for the timeframe of October 1, 2022 through September 30, 2024. This Work Plan serves as the narrative for the associated grant application represent a funding request of \$1,819,600 for the funding cycle. APNEP anticipates requesting additional funds under BIL in June 2023 per guidance from the EPA as detailed by a July 26, 2022, NEP BIL Funding Implementation Memorandum from EPA Assistant Administrator, Radhika Fox. The work plan and associated budget was approved by the Leadership Council on October 6, 2022.

## Cooperative Agreement (# TBA)

Actions described within this work plan will occur under a new EPA/North Carolina-Department of Environmental Quality (NC-DEQ) Cooperative Agreement (# TBD) to support implementation of the management strategies recommended in APNEP's CCMP under the direction of the Leadership Council, as well as to support APNEP's mission of identifying, protecting, and restoring the significant resources of the Albemarle-Pamlico estuarine system. The period of performance under this Cooperative Agreement is expected to run from October 1, 2022, through September 30, 2027(29).

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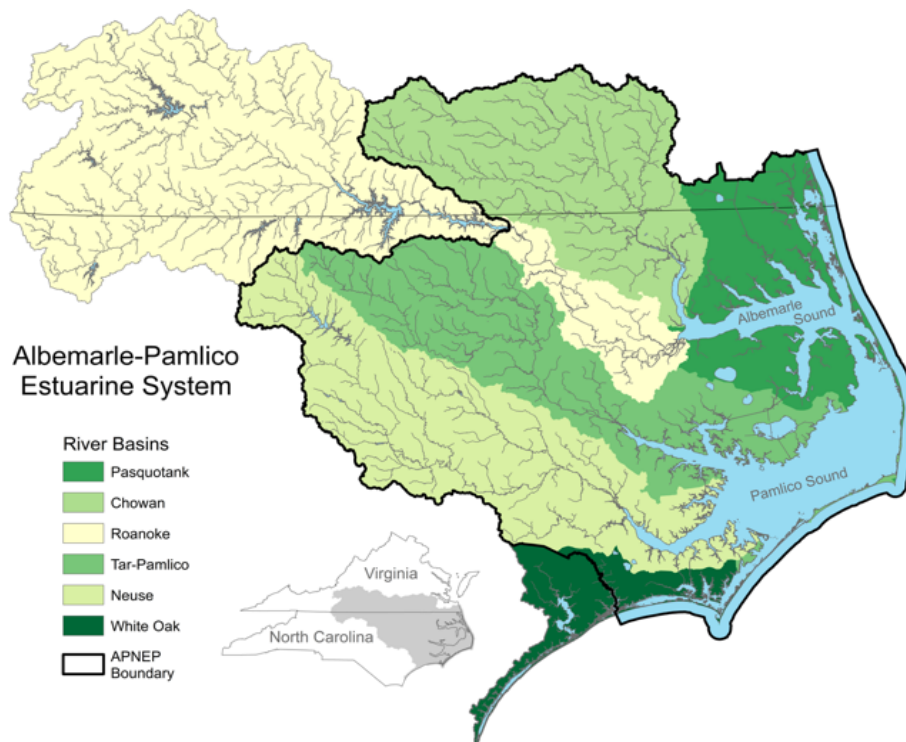
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# Albemarle-Pamlico National Estuary Partnership

The Albemarle-Pamlico National Estuary Partnership (APNEP) is a component of the U.S. Environmental Protection Agency's (EPA) National Estuary Program. It was one of the first programs established under amendments to the Clean Water Act in 1987. APNEP's mission is to identify, protect, and restore the significant resources of the Albemarle-Pamlico estuarine system. The Partnership is a cooperative effort currently hosted by the North Carolina Department of Environmental Quality (NC-DEQ) under a cooperative agreement with the EPA and works closely with the Commonwealth of Virginia. The Partnership also works closely with both EPA Regions III and IV.

APNEP's initial Comprehensive Conservation and Management Plan (CCMP) was ratified by the Governor of North Carolina and approved by the EPA in November 1994. A revised [CCMP](#) was created in 2012 through a stakeholder-driven process with an ecosystem-based management approach. The Partnership Office is advised by a Management Conference as currently authorized under [North Carolina Governor's Executive Order #250 \(2022\)](#).

The Albemarle and Pamlico Sounds comprise the nation's largest semi-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.



# Diversity, Equity, and Inclusion Statement

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*Affirmed September 1, 2020*

The Mission of the Albemarle-Pamlico National Estuary Partnership (APNEP) is to identify, protect, and restore the significant natural resources of the Albemarle-Pamlico estuarine system. As such, the Partnership is committed to addressing environmental inequities by continually reevaluating our partnerships, protection and restoration efforts, and engagement processes through the lens of increasing diversity, equity, and inclusion throughout the Albemarle-Pamlico estuarine system.

Our partnerships with governmental, academic, community, and nonprofit organizations are the foundation of how we work; through our funding processes, representation within citizen advisory groups, strategic planning efforts, and long-term ecosystem priorities, we can foster a Partnership that is inclusive of the diverse perspectives within the region and which works to identify, protect, and restore the region's significant natural resources in ways that increase equity among its communities. By facilitating communication and collaboration among different organizations throughout the region, APNEP seeks to leverage its resources and those of its partners to accomplish more together than any individual organization could alone. This can only be accomplished with a diverse array of perspectives and voices.

Increasing diversity, equity, and inclusion through our work is integral to our ecosystem-based management perspective, which views human communities as a vital component of the overall ecosystem. We are committed to approach this work in a way that is inclusive of diverse connections to the environment, inclusive of perspectives that may otherwise be unheard, and increases equity through ecosystem protection and restoration efforts. We are also dedicated to broad inclusion in our educational and engagement efforts.

## **Specifically, we commit to:**

1. Engage communities and stakeholders that are representative of the broader populations within our programmatic boundaries to implement the 2012-2022 Comprehensive Conservation and Management Plan (CCMP) and the Partnership's Mission.
2. Incorporate diversity, equity, and broad community inclusion as an ecosystem outcome(s) with associated objectives and actions into the 2022-2032 revision of the CCMP.
3. Work to engage diverse communities and populations in the organization's decisions and diversify the perspectives represented within all of Partnership's management and citizen advisory groups.
4. Conduct an internal organizational diversity, equity, and inclusion self-assessment and provide externally facilitated trainings for management and citizen advisory groups and staff as warranted.
5. Report annually on actions taken to enact these commitments in our Annual Work Plan.

## Partnership Priorities 2023-2028

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The Partnership anticipates publishing an updated CCMP prior to January 2023. The revised CCMP will serve as an update to the current [CCMP](#) and targeted for the calendar years 2023 through 2028 and is based primarily on direction from the Leadership Council and the STAC leadership determined during the Strategic Planning meeting held in January 2020 and subsequent guidance in May 2020 and September 2022. APNEP will focus themes for the next five years are:

- Water Quality,
- Submerged Aquatic Vegetation,
- Coastal Wetlands,
- Oyster Habitats, and
- Community Resilience.

The updated CCMP will remain consistent with APNEP's ecosystem-based management approach. Actions not prioritized in the update will be opportunity driven. There will be additional CCMP-associated documents developed in 2022-23: monitoring plan expansion, financial strategy, and an updated engagement strategy to support the revised CCMP.

## Infrastructure Investment and Jobs Act of 2021

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Funds supporting this workplan are to be provided under a cooperative agreement / grant from the EPA under the Infrastructure Investment and Jobs Act, which was passed by Congress in November 2021. This Act, also known as the Bipartisan Infrastructure Law (BIL), is designed to be a significant investment in the nation's infrastructure and resilience.

The BIL references EPA's underlying authority under CWA §320 to fund the implementation of the National Estuary Programs (NEPs) CCMPs. As with annual appropriations distributed to NEPs to implement CWA §320, the funds distributed under the BIL must be directed to implement a management conference and approved CCMP and workplan. The BIL funding is available to the NEPs until fully expended and will be distributed over five years.

In signing the final bill into law ([Executive Order 14052](#) - Implementation of the Infrastructure Investment and Jobs Act), the President identified six priorities that should be implemented by all federal agencies. As such, EPA expects NEPs to prioritize projects within their CCMPs that are consistent with these six priorities:

- Invest public dollars efficiently, avoid waste, and focus on measurable outcomes for the American people;
- Increase the competitiveness of the United States economy, including through implementing the Act's Made-in-America requirements and bolstering United States manufacturing and supply chains;
- Improve job opportunities for millions of Americans by focusing on high labor standards for these jobs, including prevailing wages and the free and fair chance to join a union;
- Invest public dollars equitably, including through the [Justice40 Initiative](#), which is a government-wide effort toward a goal that 40 percent of the overall benefits from Federal investments in climate and clean energy flow to disadvantaged communities;

- Build resilient infrastructure that can withstand the impacts of climate change and help combat the climate crisis; and
- Coordinate effectively with State, local, Tribal, and territorial governments in implementing these critical investments.

### **Nation Estuary Program BIL Priorities**

A core emphasis of the NEP BIL funding is the acceleration of environmental and community restoration goals within the CCMPs. The substantial increase in NEP funding appropriated in the BIL is expected to significantly enhance NEP capacities to do this work, as well as enable the NEPs to develop and strengthen partnerships necessary to make the most effective use of these new funds.

Environmental justice (EJ) and addressing climate change are key EPA priorities reflected in the Agency's [FY 2022–2026 EPA Strategic Plan](#), which provides the framework for EPA to integrate EJ considerations into its programs, plans, and actions, and to ensure equitable and fair access to the benefits from environmental programs for all individuals.

The Strategic Plan's first two goals are to:

- “Tackle the Climate Crisis” by reducing emissions that cause climate change and accelerating resilience and adaptation to climate change impacts; and
- “Take Decisive Action to Advance Environmental Justice and Civil Rights” by promoting EJ and protecting civil rights at the federal, state, and local levels.

EPA embedded these goals in its programs, policies, and activities, including the implementation of the NEP BIL funds. NEP projects funded through BIL should seek to:

- **Accelerate and more extensively implement CCMPs:** The significant and multi-year expansion of funds through the BIL provides an opportunity for NEPs to execute long-term projects within the communities they serve, leverage additional resources, and work with their management conferences and other key stakeholders to advance a wide range of projects identified in CCMPs.
- **Ensure that benefits reach disadvantaged communities<sup>1</sup>:** In identifying priority actions, management conferences should prioritize projects with benefits that flow to historically disadvantaged communities. Specifically, the NEP BIL funds are covered under the Justice40 Initiative, and the EPA has a target of ensuring that at least 40% of the benefits from the BIL flow to disadvantaged communities nationwide. Each estuary program will be required to develop an equity strategy that will outline the approach it will take to contribute to the nationwide NEP Justice40 target.
- **Build the adaptive capacity of ecosystems and communities:** NEPs have long been at the forefront of efforts to address climate change impacts in their watersheds, working with

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<sup>1</sup> Executive Order [14008](#): Executive Order on Tackling the Climate Crisis at Home and Abroad uses the phrase “disadvantaged communities,” and this term has been used in existing Federal and state programs to prioritize funding for environmental justice. Some community members and advocates prefer alternative terminology, and specifically the use of “overburdened and underserved communities.” Until subsequent guidance can address the question of the most appropriate terminology, the EPA BIL guidance memorandum relies on the language used in Executive Order 14008.

federal, state, and local partners, often using green infrastructure and nature-based solutions. NEPs should use BIL resources to continue to expand on their climate change adaptation, hazard mitigation, and resilience activities, where appropriate, including protection and restoration of key habitats that increase resiliency and carbon sequestration. In identifying priority actions, NEPs should select projects that advance the climate resilience of ecosystems and communities and deliver climate emissions mitigation co-benefits. Moving forward, NEPs' reporting on BIL funding will include metrics addressing climate benefits. Where possible and aligned with the priorities identified in their CCMPs, NEPs should engage and educate the public and private sectors on key climate-related vulnerabilities and solutions and provide technical and financial assistance to accelerate progress in response to a changing climate. NEPs should elevate climate efforts through BIL implementation including, but not limited to:

- Assessment and planning projects that involve climate change vulnerability assessments, community resilience and adaptation plans, or hazard mitigation plans;
  - Restoration, water infrastructure, green infrastructure, stormwater management, and nonpoint source projects that prioritize innovative climate adaptation, hazard mitigation, and resilience solutions;
  - Projects focused on climate-related research, including those that measure, monitor, and increase carbon sequestration;
  - Projects focused on climate-related outreach and education.
- **Leverage additional resources:** As NEPs select BIL projects, EPA expects programs to collaborate with other federal agencies and new partners and identify opportunities to leverage other EPA and federal agencies' funds (including other BIL funds), as well as state, local, and nongovernmental organization funds as available and appropriate.

NEPs are particularly encouraged to explore significant new funding streams in the BIL including an additional \$11.7 billion for EPA's Clean Water State Revolving Funds (CWSRFs), over \$2 billion in new and existing water programs at the Department of Interior, and over \$30 billion in resiliency funding across multiple federal agencies.

Although BIL funds cannot serve as non-federal cost-share, NEP BIL funds can be combined with other funding sources, and during distinct phases of projects already identified in workplans that implement approved CCMPs.

### **NEP BIL Authority and Eligible Uses**

The BIL references EPA's underlying authority under CWA §320 to fund the implementation of the NEP CCMPs. As with annual appropriations distributed to NEPs to implement CWA §320, the funds distributed under the BIL must implement the management conference and EPA-approved CCMP and workplan.

As described in CWA §320, NEPs should have a CCMP that:

- (A) *recommends priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution to restore and maintain the chemical, physical, and biological integrity of the estuary, including restoration and maintenance of water quality, a balanced indigenous population of shellfish, fish and wildlife, and recreational activities in the estuary, and assure that the designated uses of the estuary are protected;*
- (B) *addresses the effects of recurring extreme weather events on the estuary, including the identification and assessment of vulnerabilities in the estuary and the development and implementation of adaptation strategies; and*



*(C) increases public education and awareness of the ecological health and water quality conditions of the estuary.*

Since each NEP characterizes and reflects the priority needs in its own estuary and surrounding watershed in its CCMP, eligible actions and activities will vary across programs. The EPA states that BIL funds can support CCMP implementation activities that include, but are not limited to:

- Protecting and restoring critical habitats, including wetlands, and addressing challenging issues that threaten the ecological and economic well-being of NEP watersheds and communities;
- Supporting water quality protection and restoration, including Total Maximum Daily Load plan implementation;
- Monitoring and addressing toxics, pathogen loads and contamination;
- Implementing stormwater management practices that reduce non-point source pollution impacts;
- Promoting the adoption of green and nature-based infrastructure approaches;
- Preventing the spread of aquatic invasive species and/or managing their impacts;
- Developing and implementing nutrient reduction strategies;
- Measuring, monitoring, and increasing carbon sequestration;
- Conducting climate vulnerability assessments, developing, and implementing climate change adaptation strategies and using adaptation tools to promote coastal resilience; and
- Developing and implementing strategies to increase opportunities for disadvantaged communities to access, enjoy, and benefit from surface waters and waterways, participate in ecosystem restoration, and engage in capacity-building or educational activities.

NEPs may also use funds to support other activities identified in their CCMP, including projects that build organizational or financial capacity. NEP Regional Coordinators can answer specific questions on eligible uses

## **Annual BIL Workplan and Long-Term Plan Requirements**

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Due to the long-term nature of BIL funding, each NEP is required to develop a BIL Long-Term Plan to submit no later than June 1, 2023 and submit an Annual BIL Workplan by June 1 of each year starting in 2023. The EPA expects FY 2023 – FY 2026 funds to be available early in each fiscal year, so earlier workplan submissions are encouraged.

**Annual BIL Workplans:** A detailed, management conference approved annual BIL workplan must be submitted by June 1 of each year, except for FY 2022. Regions and NEPs may want to consider a single incremental agreement combining at least FY 2022 and FY 2023 BIL funds to reduce the grant management workload and to capture efficiencies regarding the non-federal match waiver for these funding years. NEPs must provide a complete SF 424 application, including required forms and certifications, a management conference approved Workplan, and beginning in June 2023, an updated BIL Long-Term Plan through Grants.gov. Annual BIL Workplans can be submitted in the same format as annual appropriations workplans per the NEP funding guidance and must contain the following workplan elements:

- CCMP Goals and BIL-supported tasks or activities related to each;
- Discussion of how projects reflect BIL priorities and implement their CCMP, particularly with respect to how the proposed work may benefit disadvantaged communities, provide climate adaptation or mitigation co-benefits, and support CCMP goals;

- Budget and personnel per SF 424 categories;
- New and ongoing project information, including the following for each project:
  - Project or activity name: indicate whether it is a “New” project or distinct phase of an “Ongoing” project;
  - Objective(s): describe in one or more sentences;
  - Description, describe the project briefly in one or more sentences (including location if known);
  - Leads, partners, and their role(s) (if available) – making note of coordination with Urban Waters Federal Partnership (UWFP) locations (where applicable), particularly on reaching disadvantaged communities;
  - Anticipated output(s) or deliverable(s);
  - Estimated milestones, where appropriate;
  - Anticipated long-term outcome(s); (including benefits to disadvantaged communities); and
  - Estimated project budget.

**BIL Long-Term Plan:** NEPs must develop a long-term plan that describes the key activities each NEP will pursue with BIL funds through all years of BIL funding (FY 2022 – FY 2026). The BIL long-term plan may have less detail than the annual workplans, and may be amended, modified, or revised at any time. Changes may be submitted each year along with the annual BIL workplan. The initial BIL long-term plan will be due no later than June 1, 2023.

The certainty of BIL funding for five years allows NEPs to develop a plan that organizes and communicates each program’s long-term expectations for using BIL funds. Importantly, NEP BIL funds are available until expended. As “no-year” funds, NEPs could leverage BIL funds to undertake initiatives that have long lead times or require multiple years of support, such as long-term environmental management projects or organizational capacity-building.

EPA encourages efficient spending of these funds. To ensure consistency with timelines for other complex construction or restoration projects, and with existing grants policy, EPA recommends a project/budget period of multiple years for each award, with the option for no-cost extensions. Since BIL projects are not expected to be completed within a year of funding, the requested long-term plan should include:

- Proposed types of projects and/or short project descriptions;
- Estimated timelines for projects for program activities;
- Potential additional sources of funding;
- Program capacity building needs to deliver BIL supported activities;
- Opportunities for potential coordination with other key stakeholder groups, including current or future Urban Waters Federal Partnership locations, where applicable; and
- Equity strategy.

### **Equity Strategy**

Each NEP’s long-term plan must include a strategy detailing how the NEP will contribute to the national program-wide goal of ensuring that at least 40% of the benefits and investments from BIL funding flow to disadvantaged communities. This equity strategy should be submitted as part of each NEP’s BIL long-term plan no later than June 1, 2023. The strategy will be reviewed prior to awarding FY 2024 – FY 2026 BIL funds and approved by EPA’s Assistant Administrator for Water.

The purpose of the equity strategy is to ensure that each NEP is reviewing potential projects and utilization of BIL funds through the lens of equitable and fair access to the benefits from environmental programs for all individuals. The equity strategy should outline how BIL funds will be utilized to increase investments in disadvantaged communities and the benefits that flow to them. The strategy should include:

- **Definition of disadvantaged communities.** For most NEPs, the definition of “Disadvantaged Communities” is described in the following section “Defining Disadvantaged Communities.” If an NEP needs to use a different definition of disadvantaged communities, (e.g., a partner state agency already has an established definition, or the definition and screening tool do not reflect any disadvantaged communities in the study area), NEPs should work with EPA to develop an approved alternative prior to finalizing the equity strategy.
- **Baseline.** The baseline is a number that reflects the recent (pre-BIL) percentage of NEP funds flowing to projects that benefit disadvantaged communities.
- **Analysis of disadvantaged communities** that may benefit from NEP projects to identify where additional investments can be made that benefit such communities while implementing CCMPs.
- **Numeric target** for activities supporting disadvantaged communities that contribute to achieving a target at or above 40% of benefits to such communities for the national program over the lifespan of total NEP BIL funds;
- **Key activities.** An outline of the path to achieve the new goal may include projects, locations of activity, milestones, training and outreach needs, capacity building, and interim goals.
- **Tracking benefits.** Further guidance will be provided in consultation with [EPA’s Office of Environmental Justice](#) (OEJ) for tracking benefits to disadvantaged communities. This may include:
  - Expanded adaptive capacity of disadvantaged communities to be resilient to climate change;
  - Improved wildlife habitat, addressed water quality challenges or prevented or reduced nonpoint source pollution affecting disadvantaged communities;
  - Increased disadvantaged communities’ access to recreation; and
  - Expanded education and/or deepened engagement or representation of disadvantaged communities (for example expanding management or other committees to include greater representation from disadvantaged communities).

### **Defining Disadvantaged Communities**

Each NEPs should use a combination of the demographic indicators below to determine where disadvantaged communities that benefit from their programs, projects, and activities may be located. The pending update to EPA’s [EJScreen](#) tool will include a new five-factor Supplemental Demographic Index that combines these factors:

- Percent low-income;
- Percent linguistically isolated;
- Percent less than high school education;
- Percent unemployed; and
- Low life expectancy.

The EPA Guidance Memorandum suggest these demographic indicators can be used to highlight areas where vulnerable populations may be disproportionately impacted. Maps generated in

EJScreen highlight census block groups above the 80th, 90th, and 95th percentiles when compared to the nation, calculated as the average of these demographic indicators. If the Supplemental Demographic Index percentile in a census block group exceeds 80%, it will be identified as a disadvantaged community for the purposes of establishing baselines in each NEP's equity strategy, and for tracking Justice40 investments and benefits.

APNEP, like other NEPs, have already articulated local environmental priorities within their CCMPs, and the connection between CCMP priorities and these demographically defined disadvantaged communities demonstrates the intersection of NEP environmental and demographic priorities. NEP projects can also benefit disadvantaged communities outside of NEP study areas, and those project investments and benefits should be included toward the Justice40 target when there is information to indicate this connection.

Consistent with OMB's [Interim Implementation Guidance for the Justice40 Initiative](#), the EPA's BIL funding memorandum offers flexibility to NEPs in selecting projects consistent with the intent to deliver benefits to disadvantaged communities. NEPs may consider appropriate data, indices, and screening tools to determine the best uses of BIL funding to support their CCMPs and their communities in need.

Additionally, the EPA funding memorandum notes that if an NEP needs to use a different definition of disadvantaged communities (e.g., a partner state agency already has an established definition or the screening tools listed above do not reflect any disadvantaged communities in the NEP study area) to target their work, EPA will support NEPs in developing an approved alternative. However, for consistency, all NEPs should calculate a baseline using the methodology outlined above.

EPA has stated that it will provide workshops and other technical assistance to support NEPs in mapping the disadvantaged communities that benefit from their projects. Additional EPA assistance will be available to NEPs to produce these maps and calculate their baseline for the purposes of the equity strategies.

APNEP will work with its Management Conference, and partners to develop the long-term plan and the required equity strategy. The equity strategy will outline how BIL funds / projects will be utilized to increase investments in disadvantaged communities and the benefits that flow to them. As such, APNEP will work with its Management Conference to define "disadvantaged communities" with the intend to be consistent where practicable with partners existing definitions and other related efforts to be consistent with the Justice40 Initiative.

For example, the North Carolina Department of Commerce annually ranks the state's 100 counties based on economic well-being and assigns each a Tier designation. This Tier system is incorporated into various state programs to encourage economic activity in the less prosperous areas of the state. County Tiers are calculated using four factors:

1. Average unemployment rate
2. Median household income
3. Percentage growth in population
4. Adjusted property tax base per capita

The DEQ Division of Water Infrastructure provides another example as it uses criteria developed by the State Water Infrastructure Authority and Local Government Commission to assess and review local government units, and to utilize the assessment and review process to identify distressed wastewaters system.

## Proposed Budget for Federal Grant for 2022-2024

For the timeframe of October 1, 2022 to September 30, 2024, NC-DEQ anticipates receiving a new Cooperative Agreement with the EPA to encompass annual BIL grant award of up to \$1,819,600 to support activities geared towards implementing the Partnership’s CCMP and its mission under the “Infrastructure Investment and Jobs Act of 2021” (IIJA) or “BIL” - the Bipartisan Infrastructure Law, (P.L. 117-58).

The proposed uses for this funding are highlighted below. Detailed information about each funding category is described within narrative of this work plan.

Activity	2022-2024 Budget Proposal
CCMP Financial Plan	\$ 80,000
Estuarine Spatial Planning Assessment	\$ 100,000
Water Quality Projects	\$ 404,900
SAV Projects	\$ 404,900
Coastal Wetlands Projects	\$ 202,450
Oysters Habitat Projects	\$ 202,450
Community Resilience Projects	\$ 404,900
Program Administration (2yrs)*	\$ 10,000
Travel / Meeting Support (2yrs)*	\$ 10,000
<b>Total Grant Funds</b>	<b>\$ 1,819,600</b>

\* Supplies & equipment, other costs. Does not include personnel and fringe benefits.

# Proposed Activities & Projects

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The following narrative provides an overview of APNEP’s proposed projects and activities for the timeframe of October 1, 2022 to September 30, 2024 to support activities implementing the Partnership’s CCMP Addendum and its mission with funds from the “Infrastructure Investment and Jobs Act of 2021” (IIJA) or “BIL” - the Bipartisan Infrastructure Law, (P.L. 117-58).

Our work is closely aligned with the Clean Water Act Core Programs, which are:

1. Establishing water quality standards
2. Identifying polluted waters and developing plans to restore them (total maximum daily loads)  
Permitting discharges of pollutants from point sources (National Pollutant Discharge
3. Elimination System permits)
4. Addressing diffuse, nonpoint sources of pollution
5. Protecting wetlands
6. Protecting coastal waters through the National Estuary Program
7. Protecting Large Aquatic Ecosystems.

## CCMP Implementation Financial Plan

**Objectives:** A financial strategy to support CCMP implementation.

**Description:** An updated APNEP CCMP needs several components including the Addendum, a Monitoring Plan, a Communication Strategy, and a Finance Plan. While the current CCMP was adopted by the Leadership Council in 2012 and serves as a long-term framework for action in the sounds and their watersheds, the Addendum will provide priorities for the next five years. The Addendum, Monitoring Plan, and Communication Strategy will each be developed by staff and the Management Conference. Development of a Financial Plan will be guided by external expertise such as a member of the [Environmental Finance Center Network](#).

A Financial Plan is inherently a component of a strategic planning document. It will assist APNEP and its partners in effectively implementing the CCMP Addendum during the next five years and beyond by focusing on funding to implement CCMP objectives and actions, as well as guiding long-term financial stability for the Partnership.

The Financial Plan is not intended to document funding commitments or quantitatively track costs. Neither is it intended to be an exhaustive list of all activities and their full cost of implementation throughout the watershed by all entities and partners. It is recognized and accepted that every action will not have currently identified funding nor precise estimates of funding needs.

This Financial Plan will consist of a narrative document and a subsequent Financial Plan table. The summary narrative would provide a summary of estimated costs and several larger funding opportunities within the APNEP program area. A response-to-comments table will also be produced to capture feedback and input from the Management Conference and other interested stakeholders, followed by staff responses.

**Lead / Partners:** Management Conference, NC DEQ, VA DEQ, others  
**Outputs/Deliverables:** Summary Report - Finance Plan, Recommendations.  
**Estimated milestones:** TBD  
**Outcomes:** Funding opportunities for CCMP implementation  
**Anticipated long-term outcomes:** Strategic approach to CCMP implementation  
**Estimated Cost:** \$ 80,000  
**Estimated Leverage:** \$ TBD  
**CCMP Actions:** Supporting all in general  
**CCMP Outcomes:** Supporting all in general  
**CWA Core Programs Addressed:** Protecting coastal waters through the National Estuary Program  
**EPA Elements:** Healthy Communities, Living Resources, Habitats, Water Quality

## Estuarine Spatial Planning Assessment

**Objectives:** Improved understanding of water use and projections for climate change related impacts on the regional ecosystem.

**Description:** A comprehensive spatial plan for the Albemarle-Pamlico estuarine system (APES) does not exist, despite the region's increasing challenges arising from competing multiple uses of estuarine space, declining water quality and vulnerable coastal habitats, and significant threats associated with adverse climate change impacts. Estuarine spatial planning directly aligns with the ecosystem-based management principles endorsed by APNEP's CCMP. Specifically, an estuarine spatial planning framework requires government support, effective stakeholder engagement, clear goals and objectives, rigorous monitoring and routine assessments, and adaptive management, thereby providing a coordinated and policy-oriented approach to ecosystem-based management that advances the region's ability to meet current and future demands for ecosystem services from system.

Spatial planning can be a useful proactive approach to informing estuarine conservation and management actions that support sustainable economic growth, protection of species, habitats, and water quality, and climate resilience. Problems resulting from competing and expanding uses of estuarine space are rapidly increasing and include user conflicts, environmental degradation, and regulatory inefficiencies. Like established land-use planning practices, techniques for estuarine spatial planning seek to identify and define all existing and emerging human activities that are compatible or incompatible, assess the individual and collective impacts of those activities on ecological integrity, and determine the optimal spatial and temporal uses of areas to maximize net gains in achieving economic, environmental, and social objectives. Additionally, integrating available geographic information system (GIS) data on climate change scenarios, including sea-level rise vulnerability assessments, expands the utility of estuarine spatial planning to support coastal resilience decision making.

**Lead / Partners:** Management Conference, NC DEQ, VA DEQ, others  
**Outputs/Deliverables:** Summary Report – Use assessment, maps, data, Recommendations.

**Estimated milestones:** TBD

**Outcomes:** Base use map and data to improve management of estuarine resources

**Anticipated long-term outcomes:** Informed management of estuarine resources

**Estimated Cost:** \$ 100,000

**Estimated Leverage:** \$ TBD

**CCMP Actions:** A1.1, A2.2, B2.2., C1.1, C1.2, C1.3, C2.1, C2.2, C2,3, C3.3., C5.1, D1.3, D3.1, D3.3

**CCMP Outcomes:** 1e, 2a, 3b

**CWA Core Programs Addressed:** Identifying polluted waters and developing plans to restore them; Permitting discharges of pollutants from point sources; Addressing diffuse, nonpoint sources of pollution; Protecting wetlands; Protecting coastal waters through the National Estuary Program

**EPA Elements:** Healthy Communities, Living Resources, Habitats, Water Quality

## Undesignated CCMP Implementation Projects: Water Quality, SAV, Coastal Wetlands, Oyster Habitats, and Community Resilience

**Objectives:** Targeted CCMP Implementation Projects: Water Quality, SAV, Coastal Wetlands and Oyster Habitats, and Community Resilience.

**Partners:** To be determined by project or activity

**Outputs/Deliverables:** Partnership building, CCMP implementation

**Outcomes:** CCMP implementation

**FY2022-24 Cost:** Per each focus area as follows:  
Water Quality \$400,000, SAV \$400,000, Coastal Wetlands \$200,000, Oyster Habitats \$200,000, and Community Resilience \$400,000

**Estimated Leverage:** \$ 200,000 per each focus area

**CCMP Actions:** TBD

**CCMP Outcomes:** TBD

**CWA Core Programs Addressed:** Healthy Communities, Living Resources, Habitats, Direct Assistance, Trainings, Water Quality

**EPA Element(s):** Establishing water quality standards; Identifying polluted waters and developing plans to restore; Addressing diffuse, nonpoint sources of pollution; Protecting wetlands; Protecting coastal waters through the National Estuary Program

**Description:** APNEP staff and Leadership Council will work with the Advisory Committees, associated Teams and partners to identify projects that need guidance, leadership, financial support, or administrative support from APNEP for CCMP implementation. Approved projects and



activities may either be directly contracted or subject to request for proposals as appropriate for the task and under the guidance of the Leadership Council. The Citizen Advisory and Science and Technical Advisory Committees or specific ad-hoc groups will evaluate requests and provide recommendations to the APNEP office regarding administering the funding for priority projects and activities as established by the Leadership Council.

APNEP will work with its management conference and partners to develop the long-term strategy to insure effective and efficient implementation. The long-term strategy will build upon efforts by the Leadership Council, STAC, Action Teams, and Monitoring and Assessment Teams, and partners in implementing plans including, but not limited to, the Coastal Habitat Protection Plan, Currituck Sound Coalition Marsh Conservation Plan, Oyster Blueprint, NC Natural and Working Lands Action Plan, or fulfill ecosystem objectives under the NC Climate Risk and Resilience Plan.

The following list provides examples of potential projects / topics that are presently consistent with APNEP's CCMP and its developing update.

### **Submerged Aquatic Vegetation (SAV)**

#### **Assessment of SAV Protection Policies (RFQ)**

SAV in the Albemarle-Pamlico Estuarine System is afforded protection primarily through its federal designation as *Essential Fish Habitat* by the Magnuson-Stevens Fishery Conservation and Management Act. In North Carolina, adherence to federal regulations regarding SAV is managed through various state and regional (multi-state) policies, some of which are not specific to SAV conservation initiatives but in some way include management considerations for SAV. These policies may not necessarily align or be sufficient to maximize success in achieving shared SAV conservation goals and objectives. A comprehensive review of these policies, including common and competing policy interests, policy development and implementation practices, and resulting policy outcomes may help to identify regulatory inefficiencies and opportunities for improved coordination and collaboration among APNEP partners working to protect SAV.

#### **High-Salinity SAV Monitoring/Mapping**

For nearly two decades, APNEP has led a regional effort to design and implement long-term and comprehensive monitoring of SAV in the APES in support of addressing critical data needs for ecosystem assessment. Through a multi-disciplinary and highly collaborative approach, APNEP brings together numerous experts and diverse organizations with a shared goal of understanding changes in the status and condition of the region's SAV. This monitoring is critical to developing effective conservation and management strategies for SAV protection, including informed decision making and greater public awareness and engagement.

#### **Low-Salinity SAV Monitoring Protocols Development**

There long has been a recognition that SAV monitoring protocols developed for low-salinity waterscapes within the Albemarle-Pamlico Estuarine System will differ from those developed for high-salinity waterscapes. The primary reason for the difference is water clarity which inhibits the use of aerial imagery as key input for Tier 1 (remote sensing) and

Tier 2 (boat-based) efforts. While APNEP funding devoted to protocols testing has been directed to high-salinity Tier 2, there is a parallel need to advance low-salinity Tier 1 and 2 protocols development as well.

### **Analysis of Low-Salinity SAV Sentinel Site Data**

Despite members of APNEP's SAV Team, funded by a CRFL grant, conducting in 2012 an evaluation of remote sensing technologies (side-scan sonar and underwater cameras) to support SAV Tier-2 protocols in low-clarity waters, during the mid-2010s there were limited near-term prospects for funding being allocated to support comprehensive surveys of low-salinity SAV. In response, Team members took a Tier-3 "sentinel-site" approach and began establishing a limited network of non-probability survey sites: beginning in 2015 with ten sites in Albemarle Sound, followed in 2016 with six sites in Pamlico River Estuary, and in 2017 ten sites in Neuse River Estuary. Unlike SAV Tier-2 survey protocols where site-visitation times are often under 30 minutes, site-visitation times at sentinel sites are significantly more intensive (six-plus hours). Since 2015, all sites have been surveyed at least twice, and some sites in Albemarle Sound have been surveyed five-plus times. APNEP's SAV Team seeks to compile and analyze this survey data, which in turn will support the development of an initial assessment of low-salinity metric(s) to complement APNEP's 2021 high-salinity SAV extent metric report.

## **Water Quality**

### **NC Nutrient Criteria Development Plan**

APNEP will continue to work with the NC Division of Water Resources on developing water revised quality standards in the Albemarle Sounds and Chowan River for implementation of the NC Nutrient Criteria Development Plan. APNEP will continue to fund water quality monitoring to assist with further development of a water quality standards in the Sound.

**Stormwater Projects** (Potential RFP)- APNEP will develop an RFP and application review process to implement stormwater retrofits, BMPs, and LID projects on public property in the region.

**WRIT Projects:** APNEP will work through the NC interagency Water Resources Interagency Improvement Team (WRIT) to identify targeted needs and projects within the APNEP region that support CCMP implementation. (Potential RFP)

**Chowan Healthy Waters Program:** APNEP will continue to coordinate with Virginia Natural Heritage Healthy Waters Program Staff to identify opportunities to implement recommendations from the *Stream Ecological Health Assessment for the Chowan River Basin, Virginia and North Carolina*, which includes the *Watershed-based Ecological Healthy Conservation Plan for the Raccoon Creek, Nottoway River, Chowan Basin*. Implementation of this plan can also help meet recommendations from APNEP MOU with Virginia, NCDEQ Chowan River Basin Plan, and the Tribal Coastal Resilience Connections project.

## Coastal Wetlands

### **Coastal Wetlands Mapping**

To address another gap in coastal habitat areal extent metrics APNEP will work with partners such as NC Wetlands Plan staff (NC-DWR), PEW, NC Division of Coastal Management, and Coastal Habitat Protection Plan (CHPP) team members to develop a needs assessment of mapping wetlands in the region. Working with APNEP's Wetland Resources Monitoring and Assessment Team, a pilot mapping deliverable has been developed by applying a multi-platform approach through incorporation of databases such as NOAA's C-CAP wetland classes and APNEP's SAV infrared imagery. Like SAV, this mapping product will be valuable when developing an APNEP status and trends metric report.

### **Facilitate the Expansion of Living Shorelines (RFP)**

APNEP working with the Living Shorelines Action Team will develop an RFP and application review process to support the design and installation of living shorelines on public property in the region.

**Currituck Sound Coalition Marsh Conservation Plan:** Working closely with Audubon NC and other partners, APNEP recognizes the unique attributes of the freshwater marshes found in the Currituck Sound system. Not only is the sound among the most important places for birds in the world, but these wetlands also support human communities by filtering water, providing buffers against flooding and erosion, all while supporting a historically vibrant recreational economy. APNEP will provide funding for partners to implement actions recommended in the CSC Marsh Conservation Plan, which also furthers implementation of APNEP's MOU with Virginia. (Potential RFP)

**Ecological Flows Project Phase III** (Continuation of existing efforts). APNEP will work with the Ecological Flows team to identify needs and develop a scope for Phase III. A pilot project is currently being conducted under contract as described in the 320 workplan, which will contain preliminary recommendations to meet the relevant CCMP actions and needs for further project phases. Establishment of ecological flows protects aquatic ecosystems and coastal habitats including wetlands and SAV.

**Natural and Working Lands Action Plan:** APNEP participated in the development of the [NC Natural and Working Lands Action Plan](#), which is included as an appendix to the [NC Climate Risk and Resilience Plan](#). APNEP continues to participate in the NWL Coastal Habitats and Pocosin Restoration implementation workgroups which consist of diverse agency, university, and non-governmental stakeholders. APNEP's involvement in these efforts have led to identification of regional gaps and needs and integrating resilience activities with existing programs and initiatives, including working closely with N.C. Division of Marine Fisheries to develop actions that complement the goals and objectives of both APNEP's CCMP and N.C. Coastal Habitat Protection Plan. APNEP will work closely with the NC Natural Heritage Program staff who oversee plan implementation and committee chairs to identify opportunities to fund implementation of the [recommended actions](#) from the NWL Action Plan. Example projects include:

**Migration Corridors** – APNEP will work closely with its partners to help facilitate the migration of coastal habitats through protection of migration corridors.

**Pocosin Restoration** – At the request of NC Division of Parks and Recreation and approval from the Leadership Council in 2018, APNEP has partnered with NC Division of Parks and Recreation, NC Soil and Water Conservation, US Fish and Wildlife Service, the Albemarle Commission, and Washington and Tyrell Counties on a hydrologic study of the northern Albemarle-Pamlico peninsula including the headwaters of the Scuppernong River, Lake Phelps, and the surrounding land including Pocosin Lakes National Wildlife Refuge. One area APNEP may be able to help is in addressing the concerns of the farmers that to try these new approaches means taking productive land out of production. There may be some opportunities to assist with some conservation easement payments.

## Oyster Habitats

### Oyster Habitat Mapping

To aid and support the management of wild oysters, it is necessary to have up-to-date maps of oyster shell bottom and oyster reefs. While NC Division of Marine Fisheries (DMF) has been able to map all estuarine shell bottom in depths less than 12 feet, mapping the intertidal oyster habitat continues to be a challenge, given the short window of time between tides and the shallow waters that need to be navigated. APNEP could provide support to DMF's shellfish mapping program pilot study "Remote Sensing Estuarine Bottom Habitat Mapping". This pilot study will use remote sensing technology, Unmanned Aerial Systems (UAS), and focus on the natural intertidal oyster populations along the NC coast.

**Provide Direct Support for the Restoration of Wild Oyster Habitat:** Oyster restoration continues to be a priority with the General Assembly, DEQ and the NC Coastal Federation. The APNEP will continue to provide leadership serving on the Oyster Steering Committee as well as the Living Shorelines Steering Committee. As opportunities arise, APNEP can help facilitate in securing cultch and oyster shell for larval settlement in intertidal and subtidal oyster reefs. These recommendations mirror the CHPP and the NCCF's Oyster Blueprint.

## Community Resilience

**Overview:** APNEP continues to participate in activities stemming from implementation of the [NC Climate Risk and Resilience Plan](#) including the Natural and Working Lands Stakeholder Team, Coastal Habitats and Pocosin Wetlands Subcommittees, Statewide Resilience Clearinghouse Steering Committee, Coastal Resilience Community of Practice, and the Regions Innovating for Strong Economies & Environment (RISE) program (all described in more detail below). APNEP's involvement in these efforts have led to identification of regional gaps and needs and integrating resilience activities with existing programs and initiatives, including working closely with N.C. Division of Marine Fisheries staff to develop

actions that complement the goals and objectives of both APNEP's CCMP and N.C. Coastal Habitat Protection Plan, developing tools for local governments to incentivize the use of natural infrastructure to build resilience to storm driven flooding, and incorporating resilience as an overarching theme for our MOU with Virginia. In addition, the Tribal Coastal Resilience Project stemmed from APNEP participation on various workgroups and committees and identifying gaps in participation in resilience planning from underserved and under-represented communities. Staff continue to explore options to assist with implementation of the actions recommended in the Risk and Resiliency Plan and are integrating recommendations into updates to the APNEP Comprehensive Conservation and Management Plan (CCMP) in 2022.

**Regional Needs Assessment:** APNEP staff believe a regional needs assessment could be utilized to better inform use of the BIL funding to build both ecosystem and community resilience and help with implementation of the equity strategy that will be developed as part of this workplan. (Potential RFQ). A needs assessment could be utilized to inform development of the long-term BIL workplan and flesh out more specific projects to expand upon the example projects identified under the Community Resilience category. Other ongoing efforts can be utilized to inform this effort, including:

**Natural and Nature-Based Features Project:** APNEP has partnered with Wetlands Watch to conduct a needs assessment for a project designed to incentivize the use of natural infrastructure by local governments and communities to build resilience to storm driven flooding. Wetlands Watch is assessing locality needs, building a template tool comparison database based on a project developed for Virginia, and developing outreach materials that identify the co-benefits of different coastal habitat types by highlighting their ability to generate credits for local governments in water quality and hazard mitigation (FEMA CRS) programs. The outreach materials will promote the use of natural infrastructure to build community and ecosystem resilience. Discussions will be held with CHPP staff and the Living Shorelines Action Team to tailor the templates for NC use. Funds will be needed to develop the actual toolbox and outreach materials further, if deemed useful by partners.

**NC Statewide Resilience Clearinghouse** – APNEP participates as a member of the Steering Committee for this project, which was developed to address actions from both the NWL Action Plan and RARP and is geared towards providing resources for local governments and communities as one of the target audiences. Staff from NCDEQ DMF and NCORR are leading development of this all-encompassing resilience resource guide for North Carolina with multiple components to help bring organizations/stakeholders together to coordinate parallel efforts to decrease redundancies. APNEP will work with the committee to identify opportunities to assist with implementing the Clearinghouse to benefit communities in the APNEP region.

**Regional Resilience Planning Support:** APNEP will work with NCORR, the NC Rural Center, and Regional Councils of Government to assist with implementation of projects

identified during the RISE program. Regions Innovating for Strong Economies & Environment (RISE) aims to support resilience primarily in the storm-impacted regions of North Carolina including the majority of the APNEP region. Vulnerability assessments were conducted for each of the coastal COGs participating in the program and project portfolios are currently being developed and will be available by the end of 2022. APNEP participates in several regional teams and has been utilizing the opportunity to better understand regional and community resilience needs. Staff have identified project needs that complement both CCMP and CHPP implementation and can assist communities with building resilience including development of regional water quality sampling programs, regional and county-wide stormwater/watershed plans, inflow and infiltration projects that protect estuarine water quality and coastal habitats, assisting communities with impacts from sea level rise to stormwater and wastewater infrastructure, agricultural best management practices, estuarine shoreline erosion, and dealing with harmful algal blooms. (Potential RFP)

**Targeted Climate Vulnerability Assessments (potential RFQ)** – to build upon the region wide needs assessment and work being conducted through the RISE program described above, APNEP will work with partners to support targeted climate vulnerability assessments in the watershed. These assessments would present an analysis of the likelihood and severity of climate change effects on the targeted resource or community asset (i.e., wetlands, wastewater systems, oysters, SAV), as well as recommendations for adaptation plans to best prepare for such effects.

**Support Coastal Counties with Building Resilient Water Quality Infrastructure:**

A needs assessment will be developed to identify specific projects. APNEP will partner with NCORR and DCM to help address needs identified during the RISE and RCPP programs and ensure efforts are not duplicated. APNEP will also partner with NCDEQ staff and partners administering ARPA funding to identify needs and ensure efforts are not duplicated. Potential projects include the following.}

- Development of Flood-proofing Wastewater Infrastructure Strategies of Coastal Counties
- Conduct targeted vulnerability analyses – Wastewater, Stormwater, etc.
- Identify opportunities to incorporate natural and nature-based infrastructure into coastal community planning.

**MOU Implementation Support** (Continuation of existing effort): APNEP will work through agency designees to identify projects that support implementation of APNEP’s interagency MOU with Virginia. The designees agreed upon climate resilience as an overarching theme, with an initial focus on working in the Chowan River Basin, in the 2021 report. There is currently no funding dedicated to support MOU implementation from any of the agencies involved. Seed funding for projects could foster broader support of the MOU and a positive opportunity for agencies to demonstrate commitment to implementation.

**Tribal Coastal Resilience Connections** (Continuation of existing effort)

APNEP will continue to work with tribal communities to develop strategies for incorporating resilience into tribal planning and community engagement processes. The second phase of

the project was initiated in 2022 and will require additional funds to develop the Tribal Resilience Toolbox envisioned, which includes the development of climate adaptation frameworks and geospatial mapping platforms to collect water stories and present climate threats and vulnerabilities identified by Tribal communities in this region. APNEP will work with the Tribal Resilience Program Director to identify opportunities to implement protection and restoration projects that build community and ecosystem resilience.

#### **Water Level Monitoring Stations** (continuation – expansion)

In partnership with the NC Division of Emergency Management (NCDEM), APNEP supported placement of additional NC Flood Inundation Mapping and Alert Network (FIMAN) remote monitoring stations in several coastal communities. Data from gauges located within the Albemarle-Pamlico watershed contribute to knowledge that can be used to address future water management actions as well as increase real-time knowledge of water levels and flow conditions in the Albemarle-Pamlico region. APNEP will work with DEM to identify locations near # disadvantaged communities to install stations to assist storm preparation and community resilience.

## **Administration and Program Implementation**

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### **Programmatic Administration**

APNEP staff is responsible for the coordination, planning, and successful completion of partnership functions, including Management Conference and Action Team meetings, APNEP forums, and other APNEP-sponsored/partner events. In addition, staff monitor and often become involved in activities of federal and state resource management agencies that relate to CCMP implementation, the APNEP mission. Additional interactions occur with local and regional governments as appropriate. Staff also attend meetings, conferences, and workshops to stay apprised of technological advancements that may prove beneficial in the APNEP region and the partnership. Although the Leadership Council and Advisory Committees are instrumental in identifying local environmental issues and prioritizing management actions within each basin, most management actions are implemented by various federal, state, and local agencies on a local, basin-wide, regional, or statewide basis and require staff involvement and interactions.

#### **Host Entity**

NC-DEQ currently serves as the host entity for the APNEP Office and the Partnership. The Office was moved back to NC-DEQ's Office of the Secretary in March 2018. The Department is responsible for assisting with administrative and fiscal management of the APNEP-EPA cooperative agreement, which provides federal funds for APNEP. The Department's efficiency of operation and support of the Management Conference plays a key role in the success of APNEP, including assisting in the administration of the cooperative agreement and other funding sources.

#### **Administrative Costs**

Overall administration costs are estimated at approximately \$10,000 for the two-year period to cover expenses associated with equipment, supplies to support activities and projects described in

this work plan. At present, APNEP intends to assign current staff to implement and track projects under this work plan as all activities are associated with CCMP implementation. Cost would cover supplies and materials, data fees, publishing, and other general business associated expenses. Additionally, APNEP maintains a boat to support SAV and other water-based work. Operational costs and maintenance will be included under administration costs. Temporary employees, fellows, and interns that may be added for specific project or activity support will be paid under the budgeted amount for the project.

### **Indirect Costs**

Currently, no indirect costs are expected (see Administrative Costs). However, if staff is added in the future under approval of the Leadership Council and upon EPA through a grant revision, an indirect rate will be charged under a currently authorized *Negotiated Indirect Cost Agreement* between NC-DEQ and EPA.

### **Personnel\***

Presently, a majority of APNEP staff are housed at the APNEP office in Raleigh within the NC-DEQ Headquarters. This site houses the Director, Program Manager, Program Scientist, Policy and Engagement Manager, and Quantitative Ecologist. The APNEP field office in Washington, NC houses the Coastal Habitats Coordinator. The Virginia Department of Environmental Quality has historically provided some support for CCMP implementation; however, a position is not assigned at present. Staff from the Virginia Department of Cultural Resources have been providing support for MOU implementation the past several years. These positions are not covered under program administration but support CCMP implementation and occur at no additional cost to the program.

#### **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 public. This position manages the post-CCMP grants and associated contracts, provides staff support to the APNEP Leadership Council and Advisory Committees, and represents APNEP at local, state, regional and national meetings. Dr. Bill Crowell has been the Director since June 2002.

#### **Program Manager**

The Program Manager assists in the administration of the 320 Grant and coordinates and manages APNEP contracting and associated activities within NCDEQ. The position also assists in the development and maintenance of broad support for the APNEP mission and CCMP implementation; develops tracking mechanisms for performance measures and CCMP implementation efforts; and provides staff support to the Leadership Council and Advisory Committees. Heather Jennings has been the Program Manager since June 2018.

#### **Watershed Project Manager**

The Watershed Project Manager will assist in the administration of the BIL Grant funds and coordinate and management of contracting and associated activities within NCDEQ. The position also assists in the development and maintenance of broad support for the APNEP mission and CCMP implementation; conducts GPRA reporting; and provides staff support to the Leadership



Council and Advisory Committees. Additionally, the position also works towards implementation of the CHPP with the APNEP Coastal Habitats Coordinator. The position is currently vacant. Ms. Stacey Feken will begin serving in this role since in October 2022.

### **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 Leadership Council and Advisory Committees. Dr. Dean Carpenter has served in this role since November 2003.

### **Policy and Engagement Manager**

The Policy and Engagement Manager assists the Director and Management Conference with engagement, educational and outreach activities. The position oversees communication strategies, pursues new partnership and funding opportunities, and works with program staff to engage in new CCMP implementation actions. It also provides staff support for the Management Conference and serves as a liaison on various external working groups. Stacey Feken has served in this role since March 2016, though will move to Watershed Project Manager position in October 2022.

### **Quantitative Ecologist**

The Quantitative Ecologist coordinates with staff and contributing scientists and managers to assess the environmental health of 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 Action Teams and Monitoring & Assessment Teams, and managing SAV fieldwork and the program's GIS functions. Dr. Tim Ellis has served in this role since March 2017.

### **Coastal Habitats Coordinator**

This position serves as an APNEP liaison to local governments and state agencies. The Coastal Habitats Coordinator provides coordination and support to local governments and state agencies to enhance CCMP implementation. The position also directs coordinated implementation of the NC Coastal Habitat Protection Plan (CHPP), working closely with the Coastal Resource Commission, the Marine Fisheries Commission, and the Environmental Management Commission. Jimmy Johnson has served in this role since January 2006.

### **Program Associate**

The Program Associate supports APNEP education and public outreach activities as well as APNEP field work activities. This position will also provide valuable staff support to the Leadership Council and other advisory committees. This position is currently vacant.

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

## TRAVEL

APNEP proposes a budget of \$10,000 for the two-year period to support travel associated with the implementation of this work plan. Funds will cover the cost of travel by staff and/or stakeholders from other NEPs or watershed organizations who collaborate with the NEP on issues of common interest. Stakeholders may include members of the public and of environmental and public interest organizations, business or industry representatives, academics, scientists, and technical experts.

- The funds may be used to cover costs associated with attending conferences, meetings, workshops, or events that advance CCMP implementation and BIL objectives. The funds may also be used to cover the cost of renting facilities for Management Conference activities and as necessary for CCMP implementation and BIL objectives.
- When using EPA funds for travel, APNEP should use the least expensive means of travel whenever possible.
- EPA funds will not be used to cover the travel costs of Federal employees.

APNEP, the Management Conference, and EPA consider personal, face-to-face contact essential for information sharing and technology transfer. APNEP intends to use budgeted travel funds to support:

- 1) Management Conference, Action Team, Monitoring and Assessment Team (MAT), and Ad-Hoc committee meetings,
- 2) Participation in watershed stakeholder meetings, workshops, and conferences relevant to CCMP implementation
- 3) Participation in national or regional NEP and EPA meetings
- 4) Participation in international, nation, regional, and local workshops, or conferences
- 5) Travel to other NEPs or communities to provide peer-to-peer technical assistance
- 6) Travel to other NEPs or watersheds for assistance
- 7) Travel by NEP staff or stakeholders from other NEPs or watershed programs to provide NEP with assistance

Travelers may include Management Conference members, Action Team members and MAT members, citizens, and members of environmental or public interest organizations, business or industry representatives, academics, scientists, or technical experts as determined appropriate by the APNEP Director.

As a requirement of this grant agreement, a member of APNEP's core staff is required to participate in all meetings called on behalf of the NEPs by EPA.

### Food

While most travel funds are associated with staff, Management Conference members, and Action Team participants, travel funds and funds associated with specific workplan projects, APNEP funds awarded as grants or contracts may be used for light refreshments and/or meals served at meetings, conferences, training workshops and outreach activities (events), consistent with 41 CFR 301-74.7 and NC-DEQ travel policies, and as approved by the APNEP Director.

## 2022-24 Projected Travel

All travel is allocated into three categories: In-State, Out-of-State, and EPA Required. All travel, including non-staff travel, must be consistent with published NC-DEQ travel policies (2018) and regulations. Due to the dynamic nature of the Partnership, all travel cannot be scheduled a year ahead: therefore, only an estimate can be provided based on established NC-DEQ rates (below). Some travel is associated with specific projects, and travel costs are included in budgeted amounts. Rates are listed in the table below.

### NC-DEQ TRAVEL RATES\*

Item	In-State	Out of State	Overnight Trip	Day Trip
<b>Breakfast</b>	\$ 8.60	\$ 8.60	Depart Office before 6:00 AM	Depart before 6:00 AM; Extend workday by 2 hours
<b>Lunch</b>	\$ 11.30	\$ 11.30	Depart Office by 12:00 Noon; Overnight return after 2:00 PM	NA
<b>Dinner</b>	\$ 19.50	\$ 22.20		Depart before 5:00 PM; Return after 8:00 PM; Workday extended by 3 hours
<b>Hotel</b>	\$ 75.10	\$ 88.70		NA

*1 January 2021 rates, Albemarle-Pamlico coastal area often exceeds posted hotel rates*

### In State:

In-state travel is primarily for APNEP staff to conduct routine business associated with daily operations, field work, staff training or topical meetings germane to the Partnership. It may also cover non-staff for APNEP business (i.e., council and committee members, guest speakers, and experts). Funds are also used to cover meetings as allowed under the NC-DEQ travel guidance. Rates are listed above.

### Out-of-State:

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

### 2022-23 Projected Travel (320 Funds)

Personnel	Date	Purpose	Location	Estimated Cost
APNEP Staff, Management Conference, and Volunteers	10/2022 – 9/2024	Program activities/ Work Plan Implementation	Albemarle-Pamlico region	\$10,000
				\$10,000

## LEVERAGED FUNDS

APNEP actively seeks alternative and supportive funding sources for activities and projects to support CCMP goals. In addition, APNEP pursues additional avenues for collaborating with partners to assist in targeting program funds towards CCMP and basin-wide goals. Where possible, APNEP works to cost-share projects to increase the effectiveness or the magnitude of projects, even though in several cases APNEP has not been the primary catalyst for a project or activity.

APNEP has been successful in its ability to promote the needs, as well as the successes, associated with natural resource management, protection, and enhancement efforts in the Albemarle-Pamlico region.

For the BIL Funds, APNEP will continue to seek additional avenues for collaborating with various partners to assist in targeting funds to support CCMP implementation actions and the Partnership mission. Where possible, APNEP will actively seek additional sources of funding for APNEP activities and projects to support CCMP goals. We will work to maintain our goal of a minimum of 4:1 leverage ratio with these funds.

## Partnership Entities

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### Host

The main APNEP office is located within the NC-DEQ Office of Secretary in Raleigh, NC, with additional personnel in Washington. In the past, the Virginia Department of Environmental Quality provided support through a position to working with APNEP, but the position has either been vacant, or staff directed to focus on other priorities (namely Chesapeake Bay) for several years. However, staff from the Virginia Department of Conservation and Recreation Natural Heritage Program have been functionally serving in this role and assisting with implementation support for the VA-NC Memorandum of Understanding.

## Management Conference

### Leadership Council

The Leadership Council is the main advisory body for APNEP and the Management Conference. It was established by a NC Governor's Executive Order to advise, guide, evaluate and support the CCMP implementation process, 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 Leadership Council 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 Leadership Council is to maintain 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 Leadership Council, in cooperation with the APNEP Office, develops an annual report, budget and work plan.

## **Science and Technical Advisory Committee (STAC)**

The STAC was established in 2004 to provide independent advice to the Leadership Council and the Citizen Advisory Committee on scientific and technical issues, including ecosystem assessment and monitoring, in support of CCMP implementation.

## **Citizen Advisory Committee**

The Citizen Advisory Committee is currently being formed. It shall work with the Leadership Council on CCMP implementation and meaningful community engagement activities. Committee members shall serve as liaisons to citizens, agencies, tribes, and relevant parties regarding environmental and natural resource management relevant to CCMP implementation. The Committee shall work to engage diverse communities and populations in its decisions and represent diverse perspectives within the Management Conference.

## **Action Teams**

APNEP has established several Action Teams focused on implementing CCMP objectives and actions. 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. For 2022-2023, the active Action Teams receiving staff facilitation priority will be those who most closely align with the focus areas as directed by the Leadership Council.

## **Monitoring and Assessment Teams**

Two of the four phases of APNEP's adaptive management cycle, "Monitoring" and "Assessment", help ensure that stakeholders have regular, reliable decision support as to whether CCMP outcomes and actions are being achieved. To leverage program capacity and promote partner collaboration when implementing these two crucial phases, APNEP established in 2008-2009 six resource MATs whose missions each addressed a major sub-system of the Albemarle-Pamlico regional ecosystem.

## **Other Partnerships**

In general, APNEP is considered a boundary organization, or an organization that facilitates collaboration and information flow between diverse research disciplines and between the research and public policy community. As such, APNEP engages its partnering organizations and the public to improve awareness and understanding of environmental issues facing the Albemarle-Pamlico region. The various methods of APNEP engagement are discussed in greater detail in the [APNEP Engagement Strategy](#).

Much of this coordination occurs through relationships built via our partner network, independent of whether partners are participating on an APNEP team. APNEP is tracking issues of interest to the Partnership and providing support where feasible, such as Chowan algal blooms, offshore oil drilling, impacts to communities due to flooding and sea level rise, and fisheries issues. Engagement associated with these issues has led to letters of support for partners applying for grants, formal

comments through the Leadership Council, technical advice and support to agency management, funding and logistical assistance, and hosting workshops to convene technical experts.

APNEP staff also regularly participate in external workgroups and committees to expand our reach, facilitate regional collaboration, and reciprocate volunteer involvement. Where possible, APNEP seeks to prioritize projects that align with the complimentary missions of these external workgroups. Staff also actively seek opportunities to integrate external workgroup projects with APNEP Action Team projects.

# Appendix A: CCMP Goals & Outcomes

## **Goal 1: A region where human communities are sustained by a functioning ecosystem**

### **Ecosystem Outcomes:**

- a. Waters are safe for personal contact.
- b. Designated surface and ground water supplies are safe for human consumption.
- c. Surface hydrologic regimes sustain regulated human uses.
- d. Fish and game are safe for human consumption.
- e. Opportunities for recreation and access to public lands and waters are protected and enhanced.

## **Goal 2: A region where aquatic, wetland, and upland habitats support viable populations of native species**

### **Ecosystem Outcomes:**

- a. The biodiversity, function, and populations of species in aquatic, wetland, and upland communities are protected, restored, or enhanced.
- b. The extent and quality of upland, freshwater, estuarine, and near-shore marine habitats fully support biodiversity and ecosystem function.
- c. Non-native invasive species do not significantly impair native species' viability or function, nor impair habitat quality, quantity, and the processes that form and maintain habitats.

## **Goal 3: A region where water quantity and quality maintain ecological integrity**

### **Ecosystem Outcomes:**

- a. Appropriate hydrologic regimes support ecological integrity.
- b. Nutrients and pathogens do not harm species that depend on the waters.
- c. Toxics in waters and sediments do not harm species that depend on the waters.
- d. Sediments do not harm species that depend on the waters.

# Appendix B: CCMP Actions

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## IDENTIFY

- A1.1 Facilitate the mapping of significant ecological, bathymetric, geologic, demographic, and cultural features.
- A1.2 Facilitate the refinement and use of online conservation planning tools.
- A2.1 Facilitate the development of protocols and conduct rapid assessments to determine presence and potential threat of invasive species.
- A2.2 Create and improve projections of land use and climate change related impacts on the regional ecosystem.
- A2.3 Support research on adapting to impacts associated with climate change and sea level rise.
- A2.4 Facilitate risk assessments of targeted personal care and pharmaceutical products in the aquatic system.
- A3.1 Assess the effectiveness of policies and regulations to minimize wetland loss.
- A3.2 Assess the effectiveness of policies and regulations regarding riparian buffers.
- A3.3 Develop and refine ecological flow requirements for each major river.

## PROTECT

- B1.1 Minimize the introduction of toxics from targeted sources.
- B1.2 Minimize the introduction of pathogens from targeted sources.
- B1.3 Facilitate the protection of natural riparian buffers to reduce runoff.
- B1.4 Facilitate the development of state and local policies that support the use of low impact development.
- B1.5 Facilitate the use of best management practices on agricultural and silvicultural lands.
- B2.1 Facilitate the development and implementation of an integrated freshwater habitat protection strategy.
- B2.2 Develop and implement a submerged aquatic vegetation (SAV) protection strategy.
- B2.3 Facilitate the development of incentives for protection and management of targeted natural communities and habitats.
- B2.4 Facilitate the development of policies to minimize dredge and fill activities in naturalized areas and sensitive habitats.
- B2.5 Facilitate protection of designated anadromous fish spawning areas and inland primary nursery areas from marina impacts.
- B2.6 Minimize and rapidly respond to the introduction of invasive species through the development and implementation of integrated prevention and control strategies.
- B3.1 Assist local governments in the development of incentives for protecting natural shorelines.
- B3.2 Develop and distribute educational materials encouraging landowners to protect natural shorelines.
- B3.3 Facilitate the development of requirements for living shoreline stabilization projects that optimally protect estuarine aquatic and shoreline habitats while minimizing regulatory requirements.



## RESTORE

- C1.1 Establish contaminant management strategies for waters not meeting water quality standards.
- C1.2 Facilitate the implementation of existing contaminant management strategies.
- C1.3 Facilitate the restoration of riparian and estuarine shorelines.
- C1.4 Reduce unregulated discharge from wastewater treatment systems.
- C1.5 Facilitate voluntary retrofitting of existing development and infrastructure to reduce runoff.
- C2.1 Facilitate the development and implementation of coordinated landscape-scale hydrological restoration strategies.
- C2.2 Facilitate the development of incentives to replace hardened estuarine shorelines with living shorelines.
- C2.3 Facilitate the hydrologic restoration of floodplains and streams.
- C3.1 Develop and refine integrated invasive species eradication and control strategies.
- C3.2 Develop and implement a coordinated wetland restoration strategy.
- C3.3 Develop and implement a submerged aquatic vegetation restoration strategy.
- C4.1 Install fish ladders and eel-ways on existing dams and other permanent barriers.
- C4.2 Facilitate the removal of dams, culverts, and other in-stream barriers.
- C4.3 Restore degraded anadromous fish spawning habitats.
- C4.4 Facilitate research to improve fish passage.
- C5.1 Construct new oyster habitats.
- C5.2 Reduce the adverse impacts of harvests to existing oyster habitat.
- C5.3 Facilitate research to improve oyster restoration technologies and methods.

## ENGAGE

- D1.1 Communicate the importance of stewardship and offer opportunities for volunteerism to further APNEP's mission.
- D1.2 Facilitate efforts to improve collaborations to protect and restore ecosystem processes.
- D1.3 Coordinate outreach and engagement efforts regarding the impacts of invasive species.
- D1.4 Coordinate outreach efforts regarding the proper application of fertilizers to reduce nutrient runoff.
- D1.5 Increase opportunities for public access to waterways, public lands, and trails.
- D2.1 Provide and promote opportunities for outdoor experiences that connect individuals with the Albemarle-Pamlico ecosystem.
- D2.2 Provide environmental education training opportunities for educators in the region.
- D2.3 Increase public understanding of the relationship between ecosystem health and human health advisories relating to water, fish, and game.
- D3.1 Develop and implement a strategy to improve decision-makers' understanding of the costs and benefits of environmental protection, restoration, planning, and monitoring.
- D3.2 Facilitate the development and implementation of basin-wide water management plans to ensure no less than minimum in-stream flows are maintained.
- D3.3 Provide assistance to state, regional, and local governments to incorporate climate change and sea level rise considerations into their planning processes.

## MONITOR

- E1.1 Facilitate the development and implementation of an integrated monitoring network through the guidance of regional monitoring and assessment teams.
- E1.2 Assess the value of information for measuring ecosystem and CCMP implementation outcomes.
- E1.3 Facilitate the expansion of volunteer monitoring into a core element of the integrated monitoring network.
- E2.1 Facilitate the design and content acquisition of a regional database based on partners' data and information needs.
- E2.2 Develop and maintain an online resource that clearly conveys regional information in support of ecosystem-based management.