The National Estuary Program: At the Forefront of Climate Change Adaptation, Hazard Mitigation, and Resilience

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Photos: (Upper-left) Center for the Inland Bays – An innovative living shoreline at the Delaware Botanic Gardens at Pepper Creek used branches and logs found in nearby woodlands to stabilize the shoreline; (Upper-right) Tillamook Estuaries Partnership – Sitka Sedge Bayside. Credit: Tamara Enz, Habitat Assessment & Monitoring Coordinator; (Bottom-left) Galveston Bay Estuary Program – Trinity Bay Discovery Center Living Shoreline Construction (Bottom-right) – Galveston Bay Estuary Program – Trinity Bay Discovery Center Living Shoreline Complete.

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Introduction – The National Estuary Program's Critical Role in Addressing Impacts of the Climate Crisis

Climate change is the defining issue of our time, with impacts global in scope and unprecedented in scale. Climate change impacts, such as sea level rise, flooding, and coastal acidification, are critical concerns for coastal communities. These impacts are deeply intertwined with environmental justice (EJ) and equity, as disadvantaged communities are disproportionately affected and frequently less resilient, having fewer resources to address them.

In addition to traditional regulatory actions, non-regulatory approaches are needed to address these critical challenges at all levels of government (federal, state, local, and tribal) while also producing results for communities most impacted by environmental harms and risks. Partnerships – built around engaging, convening, collaborating with, providing technical and financial assistance to, and educating the public and private sectors – are vital to EPA's goal of accelerating progress in response to a changing climate.

The National Estuary Program (NEP) exemplifies the benefits of partnerships for addressing impacts of the climate crisis. Section 320 of the Clean Water Act established the NEP as a non-regulatory program that employs a unique management approach to improve the waters and habitats of 28 estuaries of national significance.

The NEP Management Conference is a Unique and Proven Governance Model for Delivering Clean Water Act Programs and Supporting Local Priorities

The NEP's unique governance structure centers on the Management Conference, which includes representation from state and local government and provides a platform for collaborative decision making in each location. The Management Conferences are the cornerstones in a nationwide network of over 1,600 public and private sector partners – including over 100 state agencies representing 16 sectors of state government and three commonwealth agencies across 20 states and one territory. The NEPs also engage directly with the public to identify problems and solutions. Each NEP involves community members and other key partners to develop Comprehensive Conservation and Management Plans (CCMPs), which contain actions to apply Clean Water Act program authorities in a way that fully supports local priorities.

Photo: Sitka Sedge Bayside Sunset. Tillamook Estuaries Partnership – Sitka Sedge Project. Credit: Tamara Enz, Habitat Assessment & Monitoring Coordinator

The NEPs Cross Jurisdictional Boundaries to Address the Impacts of the Climate Crisis and other Environmental Challenges

The NEPs work across jurisdictional boundaries to address environmental issues. The map on the following page shows the locations of the 28 NEPs. Although the map shows each location as a dot, each NEP's geographic area is significant and includes the entire watershed. Together, the 28 NEPs cover approximately 122,350 square miles or nearly double the size of Wisconsin. The NEPs work broadly across the watershed and address the connection between upstream sources of pollution and downstream impacts.

National Estuary Program Locations

The NEP Partnership Approach Fosters Innovation and Informs Policy and Regulatory Approaches

In establishing the NEPs, Congress recognized that non-regulatory approaches and innovation were needed to solve complex environmental challenges. By bringing stakeholders together and providing the flexibility to test, validate, and share new tools and approaches, the NEPs support the development of more effective policies and regulations. The NEPs also may review and provide input on regulations and policy proposals – drawing on their scientific expertise, monitoring capabilities, and their power to convene and engage with stakeholders and represent diverse viewpoints in policymaking discussions. For example, the Long Island Sound Study worked with New York and Connecticut to adopt bi-state TMDLs and develop a nitrogen-trading program, resulting in a 42-million-pound nitrogen reduction. In another example, based on data from the Sarasota Bay Estuary Program's (SBEP) water quality monitoring database, in 2010 the Florida Department of Environmental Protection (FDEP) de-listed all

Sarasota Bay segments (which previously were listed as impaired for nutrients) and in 2011 the FDEP incorporated the SBEP's Numeric Nutrient Criteria (NNC) into a state rule. EPA adopted those NNC for Sarasota Bay in 2012. The Tampa Bay and Coastal and Heartland NEPs took a similar approach.

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Through their broad and connected networks, the NEPs implement the directives of Clean Water Act section 320, while at the same time delivering economic, social, restoration, and community resilience benefits. The NEPs achieve these results through their support for sound science-based decisions, convening power, leveraging partner resources, and disseminating innovative tools and best practices. This white paper demonstrates how the NEPs are an essential delivery mechanism for climate adaptation, hazard mitigation, protection and restoration of wetlands, and resilience solutions.

Accomplishments – Successful NEP Adaptation, Hazard Mitigation, and Resilience Projects

The NEPs have been at the forefront of efforts to address climate change impacts in their watersheds for many years, working in partnership with federal, state, and local partners. This white paper focuses on more than 145 NEP projects active in the past four years, between Fiscal Years 2017 and 2020 (October 1, 2016 – September 30, 2020). The project counts in this white paper provide a minimum estimate of the NEPs' activities, as there may be other relevant projects that were not reported.

The NEPs implement a wide-ranging portfolio of climate adaptation, hazard mitigation, and resiliency projects. This paper organizes them into six categories: 1) Assessment and Planning, 2) Restoration, 3) Water Infrastructure/Green Infrastructure/Stormwater/Nonpoint Sources, 4) Monitoring and Research, 5) Outreach, and 6) EJ/Equity. NEP actions produce multiple benefits, and many projects address more than one of the listed categories.

Through their connected networks, the NEPs' work on climate change adaptation, hazard mitigation, and resilience is widely publicized, shared, and serves as a model for others, extending NEP impacts well beyond their watersheds. The NEPs share lessons learned on climate vulnerabilities and actions implemented with federal, state, and local partners through multiple venues. For example, the NEPs' work on climate change is widely publicized through science conferences (e.g., the annual Restore America's Estuaries Conference and biennial Coastal & Estuarine Federation Conference). In addition, the Association of National Estuary Programs (ANEP) is continually educating the 28 NEPs and Congress on innovative climate change activities as well as other environmental issues to promote the benefit of these approaches and to encourage their implementation in other watersheds. Technology transfer also occurs through the annual meetings hosted by ANEP and EPA, where NEPs share projects, successes, and challenges.

The following sections highlight examples of key accomplishments where the NEPs are conducting innovative work and/or implementing projects with a particularly strong connection to climate change, which can serve as a model and provide best practices for other watersheds. The summary table at the end of this white paper and the companion Matrix of Climate Change Adaptation, Hazard Mitigation, and Resilience Projects provide counts and descriptions of additional NEP projects in these categories.
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1. Assessment and Planning

With support from EPA's Climate Ready Estuaries (CRE) Program, nearly all NEPs have conducted vulnerability assessments for their study areas and applied the results to their CCMPs to ensure the long-term viability of projects. This approach leads to broader results where state agencies conduct climate vulnerability assessments and planning to inform their Hazard Mitigation Plans.

The NEPs apply an integral and highly replicable approach for identifying risks associated with climate change and managing the risks to reduce their impacts. In the past four years, 26 of the 28 NEPs have implemented more than 80 assessment and planning projects, including climate change vulnerability assessments, community resilience and adaptation plans, and hazard mitigation plans.

The Being Prepared for Climate Change workbook developed by the CRE Program provides guidance for conducting risk-based climate change vulnerability assessments and developing adaptation action plans. EPA has funded NEPs to conduct climate vulnerability assessments to identify, analyze, prioritize, and evaluate potential responses to reduce their climate change risks as part of their CCMPs, with input and validation from local stakeholders. As of September 2020, 20 NEPs have completed vulnerability assessments and the remaining eight NEPs have vulnerability assessments pending. This approach can be replicated in other watersheds.

San Juan Bay Estuary Program: A Model for Hazard Mitigation Planning

Puerto Rico serves as an example of how NEPs can be leaders in resiliency by partnering with stakeholders to incorporate local plans into state/territory-level processes. The San Juan Bay NEP is working with local partners to use the CCMP as a model to develop watershed-based hazard mitigation plans for the eight municipalities within the NEP's study area. These plans will conform with the territory's Hazard Mitigation Plan and will enable municipalities to work with the Federal Emergency Management Agency (FEMA) to ensure projects are eligible for FEMA funding.

The NEPs are demonstrating effective approaches to climate disaster planning and delivering solutions that others can emulate. For example, as discussed in the call-out box to the right, the San Juan Bay Estuary Program's approach to hazard mitigation planning provides a model for other NEPs and for partners in other watersheds.

2. Restoration

The NEPs and their partners are developing and implementing innovative restoration projects through the lens of climate change. These include living shorelines and other restoration projects that deliver ecological and community resilience benefits.

The NEPs are promoting and achieving habitat restoration, including living shoreline wetland buffers and other activities, to deliver ecological benefits as well as crucial community resilience benefits. Over the past four years, 25 of the 28 NEPs have conducted nearly 60 restoration projects to prioritize, implement, monitor, and scale innovative restoration solutions related to climate adaptation, hazard mitigation, and resilience.

For example, the Peconic Estuary Partnership (PEP) is using available climate change resiliency and habitat quality assessment tools like the Climate-Based Critical Lands Protection Strategy Criteria and Ranking Tool to help decision makers not only decide which lands to acquire, but also evaluate which adaptation strategy is appropriate. This tool was the basis to prioritize wetland restoration projects in Peconic's Habitat Restoration Plan. In 2019, PEP worked with local partners to complete the estuary's first living shoreline project on Peconic Land Trust's Widow's Hole Preserve. It will be monitored to assess efficacy in providing storm resilience and coastal habitat, and the changes in shoreline elevation over time.

Photo: Maryland Coastal Bays – Assateague Post-Restoration Aerial

NEP-backed restoration projects are yielding community resilience benefits. For example, the Galveston Bay Estuary Program implemented the Kemah Living Shoreline project to reduce wave energy impacting the shoreline, halt the erosion of the shoreline, and promote deposition of suspended sediments landward of the structure. The construction of the 905-foot rip-rap breakwater protects the adjacent shoreline from erosion and provides for the restoration of 2.8 acres of intertidal wetland. Anecdotal observations of the breakwaters during three tropical systems and multiple cool fronts have shown positive effects of the increased elevation.

Protecting Vulnerable Coastal and Estuarine Habitat across the Nation

Habitat restoration is a mainstay of NEP activities and an effective strategy to protect vulnerable coastal resources. Given their mandate under the Clean Water Act (Section 320), the NEPs' habitat protection and restoration efforts provide many benefits such as improving water quality and bolstering resiliency.

Since 2006, the NEPs restored or protected over 414,000 acres (equivalent to the combined area of Zion and Rocky Mountain National Parks). This includes 392,800 acres of coastal and estuarine habitat.

The NEPs' strong cross-jurisdictional stakeholder networks make them an effective conduit for disseminating effective restoration tools and best practices, magnifying the impact of the NEPs beyond the 28 estuaries to other parts of the country.

3. Water Infrastructure/Green infrastructure/Stormwater/Nonpoint Sources

Through state-of-the-art science to identify and plan for climate risk, and the effective leveraging of non-federal investment, the NEPs can play a crucial role advancing water infrastructure priorities.

Investing in the nation's infrastructure is a critical need, and nowhere is this more evident than for water and stormwater infrastructure. Eighteen NEPs have implemented over 30 climate adaptation, hazard mitigation, or resilience projects related to water infrastructure, green infrastructure, stormwater management, and nonpoint source projects in the last four years.

Through these projects, the NEPs develop and demonstrate cutting-edge approaches to assess and plan risks related to water and stormwater infrastructure. For example, the Tampa Bay Estuary Program (TBEP) is implementing a wastewater treatment plant, sanitary sewer overflows (SSOs), and sea level rise risk assessment to quantify the environmental conditions causing SSOs. Mapping historical precipitation records with records of SSO date and volume, the TBEP will develop a statistical model to assess future risk of large SSOs. The model will be applied to accepted projected sea level values using a Monte Carlo methodology, yielding the future probability of overflow events in coming years. Information like this is essential to plan for and manage climate risk.

The projects also illustrate the power of the NEPs to connect key partners and leverage significant financial resources to achieve shared resilience goals. For example, starting in 2016, the Puget Sound NEP worked with The Nature Conservancy to support the acceleration of integrated floodplain management in the basin, supporting both flood resilience and improved habitat corridors and water quality for salmon and other resources. The state now funds the Floodplains by Design program at $20 million per biennium. These continuing efforts to build and coordinate regional and local integrated floodplain management programs have resulted in the reconnection of thousands of acres of floodplain and the restoration of hundreds of miles of riverine processes. This is one of many examples of the NEPs' effectiveness in leveraging non-federal resources to address national climate priorities.

Leveraging Resources to Address Critical Needs

On average, the NEPs raise $22 for every $1 provided by EPA. Over the 2006-2019 period, the NEPs leveraged $6.3 billion from $290 million in EPA grants. This additional funding came from a variety of federal, state, local, and private sources.

The NEPs use leveraged resources to upgrade wastewater and stormwater infrastructure; protect and restore important habitat; support critical land acquisitions; conduct outreach and education; and implement other priority actions contained in their CCMPs.

Source: EPA, www.epa.gov/nep/financing-strategies-used-national-estuary-program

4. Monitoring and Research

The NEPs are conducting important monitoring and research and providing valuable data to inform key monitoring and decision-making processes.

Building on their scientific expertise and high level of credibility, the NEPs conduct ground-breaking monitoring and research to support decision-makers in taking sound, science-based actions to build resilience to climate change. The NEPs have conducted nearly 40 climate-related monitoring and research projects over the past four years (some of these activities have been completed and others are ongoing). Coastal acidification is a major focus within this category: 19 NEPs have identified coastal acidification as an emerging threat to the resources in their CCMPs.

The NEPs have demonstrated their leadership on this issue by expanding the use of autonomous pCO_2 and pH sensors deployed in estuarine and nearshore environments. Twelve NEPs are at various stages in their deployments, collecting measurements, analyzing data, reporting, performing outreach, and identifying opportunities for collaboration. The NEPs are integrating their preliminary results into action plans in several ways, including their CCMPs, State of the Bay reports, and other opportunities for stakeholders to work together to access and use the data to inform future monitoring efforts and other NEP activities.

Coastal Acidification Monitoring in Tampa Bay

The Tampa Bay Estuary Program has partnered with the U.S. Geological Survey for development and deployment of two ocean carbon systems for monitoring coastal acidification parameters within the Tampa Bay estuary and approximately 60 miles offshore to examine diurnal and seasonal fluctuations in coastal acidification parameters within and near the Bay, and to compare Gulf of Mexico and Tampa Bay Estuary trends for assessment of the potential mitigation role of seagrass in Tampa Bay. These ocean carbon systems will support ongoing local experiments within the bay on the effects of seagrass beds on seawater carbon chemistry as well as blue carbon research activities. This project addresses specific CCMP actions.

Beyond their work on coastal acidification, the NEPs are undertaking many other important monitoring and research efforts. These efforts include but are not limited to: measuring the success of natural and nature-based features; critical coastal habitat assessment and coastal wetland assessments; diagnostic monitoring of illicit water discharges; eelgrass restoration monitoring; blue carbon habitat projects; and wetlands storm surge and coastal forest research. These efforts can inform crucial planning and policy decisions in communities across the nation.

5. Outreach

The NEPs play a key role in engaging with all types of stakeholders to communicate information and ensure all voices are represented in planning and decision-making processes.

The NEPs facilitate effective two-way communication with communities about climate issues that affect those communities, serving as a trusted source of information as well as listening to and giving voice to local stakeholders. Stakeholder collaborative outreach, education/training, and engagement are integral to nearly all NEP work. Twenty-two NEPs have implemented nearly 40 projects in the last four years that focus on climate-related outreach.

Designing for Impact: Promoting Low Impact Development (LID) Implementation

The Houston Galveston Area Council partnered with the City of Mont Belvieu and the City of Pearland in this pilot project to make their municipal codes more "LID-friendly." The Council presented the City of Pearland with a tailored report outlining impediments to LID implementation in their code, proposing code and ordinance revisions, and prioritizing LID techniques appropriate for their jurisdiction. The Council concluded the project by hosting a community LID workshop.

One notable example is the Albemarle-Pamlico NEP (APNEP) project with the North Carolina Commission of Indian Affairs to work with tribal communities in the region to develop a strategy for incorporating resilience into tribal planning and community engagement processes. The project will also involve an analysis of tribal engagement in climate and resilience planning efforts around the U.S. as well as assistance from the Virginia Coastal Policy Center coordinating with state agencies and tribal communities in Virginia. Approaches like this can be replicated in other areas of the country to advance state and tribal climate or resilience building efforts.

Other significant outreach activities conducted by the NEPs have included: working with municipalities to assess CSO vulnerability to sea level rise and engage the public; participating in a Resilience Coalition to enhance county, city, and stakeholder understanding of changing risks and best practices and policies for increasing resilience; producing educational materials about local climate change impacts and solutions; developing tools that allow local planners in coastal counties to determine suitable areas to implement natural infrastructure; and training municipal staff and resource managers to account for sea level rise in order to update land acquisition priorities.

Photo: Tampa Bay Estuary Program – Tampa Bay Regional Resilience Coalition

6. Environmental Justice and Equity

NEPs demonstrate leadership on climate-related EJ and equity issues; and opportunities abound for scaling-up efforts in this key area.

The Administration's Executive Orders on EJ/equity and climate change put a renewed focus on these issues and how they intersect. In response to our country's "converging economic, health, and climate crises that have exposed and exacerbated inequities," the *Executive Order on Advancing Racial Equity and Support for Underserved Communities through the Federal Government* calls for "a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality." Additionally, the Administration's *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* states that the Federal Government "must advance environmental justice" and "bolster resilience to the impacts of climate change." The NEPs have demonstrated their ability to work effectively with underserved communities to bolster resilience to the impacts of climate change, and they are poised to build on and expand these efforts.

Collaboration to Increase Social Resilience in Midcoast Maine

The Casco Bay Estuary Partnership is providing leadership and staff support for a regional effort to build a socially diverse network of climate change and resilience practitioners, while improving coordination to address barriers to climate adaptation. A central goal of the project is to reduce the threat of climate change, storm events, and coastal flooding to the region's most vulnerable populations. A planned scenario-based exercise will bring together conservation, social services, emergency management, and municipal government representatives to identify common concerns and overlapping goals.

Across the country, nine NEPs have initiated 14 climate adaptation, hazard mitigation, or resilience projects related to EJ and equity in the past four years. For example, SJBEP has launched a platform offering long-term community resilience support to reduce stressors that the most disadvantaged watershed communities face. The SJBEP has now transformed five community centers into resilience

hubs; each is equipped with solar power, water quality assessment equipment, first aid equipment, electrical appliances and kitchen equipment to provide food for the community, emergency backpacks, defibrillators, and cots.

In another example of the NEPs' advancement of EJ and equity goals, the Mobile Bay National Estuary Program (MBNEP) has supported several activities to address climate vulnerabilities in the low-lying, minority, traditionally underserved Toulmins Spring Branch (TSB) community. An Auburn University team assessed hydrology, calibrated a stormwater management model, and conducted water quality sampling in the TSB Subwatershed. The MBNEP-funded Prichard Drainage Study recommended low impact development measures to improve stormwater management and reduce flooding. The MBNEP initiated a Rain Barrel Installation Program in the TSB community to concentrate installation of barrels in target neighborhoods to reduce runoff and educate residents about sources and mitigation of stormwater runoff.

The NEPs' strong track record of delivering environmental, economic, and resilience benefits in the areas described above – restoration, water infrastructure/living shorelines, monitoring, and outreach – makes them uniquely well-positioned to work with communities to address EJ/equity and climate issues in a holistic, meaningful way. One example of this is Transforming Urban Water, a collaborative initiative led by the San Francisco Estuary Partnership that advances innovative nature-based solutions for the San Francisco Bay shoreline in conjunction with wastewater treatment facilities that provide multiple benefits including habitat, water quality improvements, and sea level rise adaptation. Launched in Spring of 2019, the initiative: 1) engages community partners in ongoing and potential nature-based solutions projects; 2) supports capacity building and resource sharing on design, permitting, construction, planning, and public engagement; 3) advances research and monitoring; and 4) supports an integrated approach that brings diverse perspectives to the table through the lens of equity and resilience. This approach can provide a model for other NEPs and watersheds.

Building on Success – Emerging Opportunities for NEPs to Advance the Climate and Equity Agenda

The NEPs are an essential element in EPA's toolbox, providing non-regulatory approaches built around engaging, convening, partnering with, providing technical and financial assistance to, and educating the public and private sectors.

The NEPs are delivering results on climate change adaptation, hazard mitigation, and resilience in their communities. Building on their unique structure and accomplishments to date, NEPs are well-positioned with their existing partnerships to make advances in multiple critical areas such as furthering equity and climate change adaptation and hazard mitigation planning, and building resilient water and stormwater infrastructure.

EJ, diversity, equity, and inclusion are growing focus areas for the NEPs, as disadvantaged communities face disproportionate barriers to climate adaptation and are often more vulnerable to climate change impacts such as more severe and frequent storms, increased flooding, and negative effects on subsistence fisheries. EPA currently co-chairs an NEP Diversity, Equity, and Inclusion workgroup to build on positive examples of EJ and equity efforts, share lessons across NEPs, and coordinate to expand activities in this important area. EPA's commitment to environmental justice and water equity provides a strong opportunity to build on the NEPs' EJ activities and successes of the past four years.

Climate change is impacting the frequency and severity of natural disasters. The NEPs can work with local communities to access FEMA funding through their local hazard mitigation plans, given a recent change in FEMA policy that allows funding to be accessed for pre-disaster planning. Building on their ongoing hazard mitigation planning efforts, the NEPs are able to work with communities to help them access critical resources for disaster preparedness.

Water and stormwater infrastructure face severe threats from climate change. The NEPs have demonstrated success in working with state and local governments to enhance the resilience of these critical infrastructure elements.

Overall, the NEPs are critical partners to states, local governments, and communities faced with EJ issues, in addressing the impacts of the climate crisis and have proven themselves as effective delivery mechanisms for adaptation, hazard mitigation, and resilience solutions. The NEP program looks forward to engaging with our partners, continuing to advance the Agency's ambitious agenda on climate, EJ and equity, hazard mitigation, and water-related infrastructure and other emerging priorities.

Number of NEP Adaptation, Hazard Mitigation, and Resilience Projects by Category*

NEP	Assessment and Planning	Restoration	Water Infrastructure, Stormwater, NPS	Monitoring and Research	Outreach	EJ and Equity
Albemarle-Pamlico National Estuary Program (APNEP)	5	1	1	0	4	1
Barataria-Terrebonne National Estuary Program (BTNEP)	0	2	3	0	2	0
Barnegat Bay Partnership (BBP)	4	0	0	2	1	1
Buzzards Bay National Estuary Program (BBNEP)	1	1	0	1	0	0
Casco Bay Estuary Partnership (CBEP)	6	4	2	4	3	1
Coastal & Heartland National Estuary Partnership (CHNEP)	2	2	1	0	1	0
Coastal Bend Bays & Estuary Program (CBBEP)	1	1	1	1	2	0
Delaware Center for the Inland Bays (DCIB)	3	2	3	1	2	0
Galveston Bay Estuary Program (GBEP)	1	2	2	0	1	0
Indian River Lagoon National Estuary Program (IRLNEP)	4	0	1	1	1	1
Long Island Sound Study (LISS)	0	2	1	1	1	0
Lower Columbia Estuary Partnership (LCEP)	3	3	0	0	1	0
Maryland Coastal Bays Program (MCBP)	4	3	2	1	0	0
Massachusetts Bays National Estuary Program (MBNEP)	1	1	0	3	1	0
Mobile Bay National Estuary Program (MBNEP)	2	2	1	1	1	1
Morro Bay National Estuary Program (MBNEP)	4	2	2	1	0	0
Narragansett Bay Estuary Program (NBEP)	3	4	0	0	0	0
New York – New Jersey Harbor & Estuary Program (HEP)	5	1	2	1	1	0
Partnership for the Delaware Estuary (PDE)	4	3	2	3	4	1
Peconic Estuary Partnership (PEP)	2	3	0	1	1	0
Piscataqua Region Estuaries Partnership (PREP)	2	2	0	1	3	0
Puget Sound Partnership (PSP)	3	2	1	1	0	1
San Francisco Estuary Partnership (SFEP)	4	4	3	2	1	3
San Juan Bay Estuary Program (SJBEP)	5	2	1	2	4	4
Santa Monica Bay National Estuary Program (SMBNEP)	2	3	0	3	0	0
Sarasota Bay Estuary Program (SBEP)	2	0	0	0	1	0
Tampa Bay Estuary Program (TBEP)	5	4	2	4	1	0
Tillamook Estuaries Partnership (TEP)	5	3	0	4	2	0
	83	**59**	**31**	**39**	**39**	**14**

*This table presents information on 149 NEP projects across six categories. Many of these projects address more than one category. The information was provided by EPA's NEP Regional Coordinators in 2020. Darker shading in the cells indicates a larger number of projects (white=0, dark red=6 projects).