

Final Evaluation Findings

New Jersey Coastal Management Program

June 2007 to June 2016

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Summary of Findings

The Coastal Zone Management Act requires the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic evaluations of the performance of states and territories with federally approved coastal management programs. This evaluation examined the operation and management of the New Jersey Coastal Management Program administered by the New Jersey Department of Environmental Protection, the designated lead agency, for the period from June 2007 to June 2016. The evaluation focused on three target areas: program administration, resilient coastal communities and public access, and living shorelines and green infrastructure. The written evaluation findings are grouped under the following areas: program administration, public access, and resilient coastal communities and living shorelines and green infrastructure.

The findings in this evaluation document will be considered by NOAA in making future financial award decisions concerning the New Jersey Coastal Management Program. The evaluation came to these conclusions:

Program Administration

Accomplishment: The Office for Coastal Management commends the New Jersey Coastal Program for its work in helping the state recover from Superstorm Sandy and increasing New Jersey's resilience going forward.

Accomplishment: The New Jersey Coastal Program prepared the state for the potential development of wind energy in the coastal zone and offshore by incorporating the best available science into a Large Scale Wind Turbine Siting Map, amending its regulations including incorporating guidance for habitat evaluation, impact assessments, and monitoring, and incorporating those regulatory changes into the federally approved coastal program.

Public Access

Accomplishment: The New Jersey Coastal Program catalogued public access sites and developed a GIS mapping tool to provide the public with an easy-to-navigate website with information on amenities at each site.

Accomplishment: The Department of Environmental Protection and New Jersey Coastal Program worked with the state legislature and governor to clarify the state's authority to provide for public access to the coast and provided extensive technical support and financial assistance to local governments to support public access.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to develop a formal process, including working with coastal communities to maintain the accuracy of the public access information provided online.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to monitor and study the effectiveness of the revised public access rule, including the level of interest in developing municipal access plans and their implementation, to determine if additional changes or technical assistance is needed.

Resilient Coastal Communities and Living Shorelines and Green Infrastructure

Accomplishment: The coastal program has taken a leadership role in developing and pursuing a vision to improve the state's coastal resilience and ability to utilize living shorelines to improve coastal habitat and coastal resilience that complements the department's regulatory role.

Accomplishment: The New Jersey Coastal Program is a leader in convening partners to utilize limited resources effectively to improve coastal resilience and implement living shorelines to improve coastal habitat and coastal resilience.

Accomplishment: The New Jersey Coastal Program significantly increased its collaboration during the past five years, both within the agency and with outside partners, including the Jacques Cousteau National Estuarine Research Reserve, to better address coastal issues.

Accomplishment: The Office for Coastal Management commends the New Jersey Department of Environmental Protection and Coastal Program for its efforts to support and encourage living shorelines where they can provide habitat benefits.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to continue to take a leadership role in long-term planning and implementation for key coastal issues such as coastal resilience, living shorelines, and public access.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to continue to expand its collaboration with state agencies and others such as the Department of Community Affairs to further build coastal resilience.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to consider the creation of an external advisory committee to provide scientific advice on living shorelines.

Recommendation: The Office for Coastal Management encourages the New Jersey Department of Environmental Protection and Coastal Program to continue to support and encourage long-term monitoring of living shoreline projects.

This evaluation concludes that the New Jersey Coastal Management Program is successfully implementing and enforcing its federally approved coastal management program, adhering to the terms of the federal financial assistance awards, and addressing coastal management needs identified in section 303(2)(A) through (K) of the Coastal Zone Management Act.

Program Review Procedures

The National Oceanic and Atmospheric Administration (NOAA) evaluated the New Jersey Coastal Management Program in fiscal year 2016. The evaluation team consisted of Carrie Hall, evaluation team lead; Randall Schneider, team lead for the Mid-Atlantic region; and Steve Ridler, assistant manager, New York Coastal Program. The support of the New Jersey Coastal Management Program staff was crucial in conducting the evaluation, and this support is most gratefully acknowledged.

NOAA sent a notification of the scheduled evaluation to the Secretary of the New Jersey Department of Environmental Protection, published a notice of “Intent to Evaluate” in the *Federal Register* on April 27, 2016, and notified members of New Jersey’s congressional delegation. The coastal management program posted a notice of the public meeting and opportunity to comment in the *Asbury Park Press* on April 26, 2016.

The evaluation process included a review of relevant documents and a survey of stakeholders, which helped identify three target areas for the evaluation: program administration, resilient coastal communities and public access, and living shorelines and green infrastructure. A site visit was conducted and the evaluation team held meetings with staff members and group discussions with stakeholders and program staff members about the target areas. In addition, a public meeting was held on Thursday, June 9, at 5:00 p.m. Eastern time at the Jacques Cousteau National Estuarine Research Reserve Coastal Education Center, 130 Great Bay Boulevard, Tuckerton, New Jersey, to provide an opportunity for members of the public to express their opinions about the implementation of the program. Stakeholders and members of the public were also given the opportunity to provide written comments. No written comments were received. NOAA then developed draft evaluation findings, which were provided to the New Jersey Department of Environmental Protection for review, and the department’s comments were considered in drafting the final evaluation findings. The evaluation findings are grouped under program administration, public access, and resilient coastal communities and living shorelines and green infrastructure. This structure reflects that coastal resilience and living shorelines and green infrastructure were found to be closely linked topics.

Final evaluation findings for all coastal management programs highlight the program’s accomplishments in the target areas and include recommendations, which are of two types.

Necessary Actions address programmatic requirements of implementing regulations of the Coastal Zone Management Act and of the state coastal management program approved by NOAA. These must be carried out by the date specified. Failure to address necessary actions may result in a future finding of nonadherence and the invoking of interim sanctions, as specified in the Coastal Zone Management Act §312(c).

Recommendations are actions that the office believes would improve the program but which are not mandatory. The state is expected to have considered the recommendations by the time of the next evaluation or dates specified.

Evaluation Findings

Program Administration

Program Organization

The New Jersey Coastal Management Program was restructured during the evaluation period. In 2007, the Coastal Management Office was responsible for managing, as well as administering and planning and enhancement aspects of the coastal program, with eight staff members. In 2011, under a new governor, the Coastal Management Office was merged with the Office of Coastal and Land Use Planning within the Department of Environmental Protection. The NJCMP is a networked program comprised of many offices within the New Jersey Department of Environmental Protection, with the shared responsibility of managing New Jersey's coastal resources. The core offices of the department are the Office of Coastal and Land Use Planning, Division of Land Use Regulation, Office of Policy Implementation, and Bureau of Coastal and Land Use Enforcement. The coastal program manager position was elevated to the Assistant Commissioner of Land Use Management who oversees these core coastal program offices. The Office of Policy Implementation was newly created and is responsible for promulgating regulations under the Waterfront Development Law, Wetlands Act of 1970, Coastal Area Facility Review Act, and Freshwater Wetlands Protection Act, all of which are enforceable policies under the coastal program. This office includes one staff member who is dedicated full time to the coastal program enforceable policies, as well as serving as the state's federal consistency coordinator. As a result, over 50 staff members from the core offices are funded through Coastal Zone Management Act funds or their state salaries serve as match for the annual cooperative agreement. The coastal program manager has also instituted quarterly meetings of the core program offices' leadership that help ensure that coastal zone management rules and priorities are implemented and addressed through a coordinated approach.

Superstorm Sandy

In October 2012, Superstorm Sandy came ashore and severely impacted New Jersey. Over two million households in the state lost power in the storm, and over 346,000 homes were damaged or destroyed. The storm resulted in approximately \$30 billion in damages to buildings and infrastructure in New Jersey. After the storm, the state government, including the coastal program, focused a great amount of effort on storm recovery and coastal resilience. The coastal program's leadership role in helping communities improve their resilience and encouraging the use of living shorelines and green infrastructure, where appropriate, is discussed further in the findings, as is the program's development of easily accessible public access information, which is helping to bring back visitors to the coast. The Office for Coastal Management commends the New Jersey Coastal Program for its work in helping the state recover from Superstorm Sandy and increasing New Jersey's resilience going forward.

Regional Ocean Planning

The governors of New York, New Jersey, Delaware, Maryland, and Virginia created the Mid-Atlantic Regional Council on the Ocean (MARCO) in June 2009 to advance the states' shared coastal priorities of climate change adaptation, offshore renewable energy, marine habitats, and water quality. MARCO uses regional ocean planning as a means to advance priorities identified in the Governors' Agreement. The New Jersey Department of Environmental Protection is the state lead agency, and state coastal program staff members are responsible for the day-to-day coordination of the council's actions and program development. Staff members provide support to the MARCO Management Board and have served on various priority action subcommittees.

In 2010, a presidential executive order established the National Ocean Policy to guide the protection, maintenance, and restoration of America's oceans and coasts. The National Ocean Policy requires federal agencies to work in a more coordinated, goal-oriented framework with states, tribes, and stakeholders through the creation of regional planning bodies. The Mid-Atlantic Regional Planning Body was formally established in April 2013. The New Jersey Department of Environmental Protection is the state lead agency and coastal program staff members support the day-to-day coordination of the Regional Planning Body and program development. New Jersey's continued participation in MARCO and the Mid-Atlantic Regional Planning Body enables the state to more effectively collaborate and address issues of regional importance through a comprehensive approach to managing uses and resources.

For both organizations, the coastal program provides input on operating guidance, data collection, project selection, outreach planning, and other activities, and coordinates with other states, organizations, and federal agencies. For example, the coastal program worked with partners to conduct a series of participatory GIS workshops throughout the state that provided input on each of 23 ocean use categories to develop a set of data for ocean planning. The coastal program also contributed to the Mid-Atlantic Ocean Assessment, a "living" information resource launched in February 2016 that distills key information for decision makers, stakeholders, and the public, and serves as a gateway to more in-depth information sources.

Wind Energy

The department and coastal program have successfully worked to improve coastline maps and develop new regulations to ensure that new wind and solar development has minimal impacts on natural resources, while allowing for clean energy development. The department has evaluated the land in the coastal zone and prepared a Large Scale Wind Turbine Siting Map (2009), which identifies specific areas that are unacceptable because of operational impacts of turbines on birds and bats. Details on the methods and justification used to map these areas can be found in the *Large Scale Wind Turbine Siting Map Report* (2009). In addition, the map is available for download from the department's interactive mapping website.

Wind turbines may have different impacts depending on whether they are sited on land or in the water. To assess these impacts, the department developed the *Technical Manual for Evaluating Wildlife Impacts of Wind Turbines Requiring Coastal Permits* (2010). The guide covers habitat

evaluation, impact assessment, and the pre-and post-construction monitoring requirements specific to the location of the wind turbine, on land or in tidal waters. The results of the monitoring are used by the department to evaluate the impacts of wind turbines, the extent to which operations are causing direct mortality to birds and bats, and the effects of construction and operation on marine organisms.

In 2010, the department adopted regulatory changes to facilitate the review and construction of wind turbines and solar energy facilities in the coastal zone. The regulatory amendments add a new permit by rule and two new coastal general permits for the construction of wind turbines on land; add a new permit by rule for the construction of solar panels; describe the situations in which construction of a wind turbine or solar panel does not require a coastal permit; incorporate the Large Scale Wind Turbine Siting Map; and incorporate guidance for monitoring, habitat evaluation, and impact assessment requirements for birds, bats, and marine organisms. The regulations also allow the construction of a demonstration wind energy facility in the ocean waters of the state to assist in assessing the impacts of such a facility. The coastal program submitted a routine program change to the Office for Coastal Management to incorporate rule changes, Coastal Permit Program rules, the *Technical Manual for Evaluating Wildlife Impacts of Wind Turbines Requiring Coastal Permits*, and the Large Scale Wind Turbine Siting Map into the federally approved coastal program map, and the enforceable policies were incorporated into the federally approved coastal program in 2011. The Office for Coastal Management commends the coastal program for preparing the state for the potential development of wind energy in the coastal zone and offshore by incorporating the best available science into the Large Scale Wind Turbine Siting Map, amending its regulations, including incorporating guidance for habitat evaluation, impact assessments, and monitoring, and incorporating those regulatory changes into the federally approved coastal program.

Federal Consistency and Permitting

The coastal program had two necessary actions in its previous evaluation findings (2008) that have been addressed. The first necessary action required that the coastal program improve its permitting program to ensure that more projects were reviewed and to minimize the number of projects approved “de facto” because they were not reviewed within the required time frame.

Necessary Action: The Coastal Management Office and Division of Land Use Regulation must work together to develop a strategy for minimizing the number of permits that are issued due to the failure to render a decision within the required timeframe, and submit this strategy to the Office of Ocean and Coastal Resource Management (OCRM) for review within six months of receiving this findings document. In addition, the New Jersey Coastal Management Program must continue to report “de facto” permit issuance information to OCRM in their semi-annual performance reports.

In 2008, the department engaged in a process with stakeholders to identify opportunities for increasing efficiency of permit and consistency reviews. A final report recommended changes including the increased use of technology, such as filing more applications electronically. The

department has moved toward e-permitting and has amended its regulations to include additional general permits and permits by rule to streamline permitting. In 2013, the department adopted a continuous improvement management approach to its permit review and decision-making process. The department has increased its focus on customer service, which includes more emphasis on expeditious permit review and issuance. The 2008 evaluation findings cited that during the evaluation time period three percent of 1,740 permits were approved “de facto” when the program did not meet its mandatory review deadline. During the October 2014 to September 2015 time period no permits received “de facto” approval, although five did receive “de facto” approval in the October 2015 to March 2016 time period. Although much improved, the ability to review all permits within the 90-day time frame remains challenging. The Office of Coastal Management commends the Department of Environmental Protection for its progress and encourages the department in its efforts to ensure that all permits are reviewed within the mandatory time frame.

The coastal program successfully addressed a necessary action to address a gap in approved enforceable policies in the Meadowlands District.

Necessary Action: The Department of Environmental Protection and the New Jersey Meadowlands Commission must work with the Office of Ocean and Coastal Resource Management (OCRM) to develop a strategy to address the gap in approved enforceable policies in the Meadowlands District portion of the coastal program, and submit the strategy to OCRM within six months of receiving this findings document. Within a year of submitting the strategy, the Department of Environmental Protection must submit a draft of the proposed program changes to OCRM.

To address the necessary action, within eight months the coastal program submitted a draft overview of the proposed program changes to the Office for Coastal Management. The coastal program continued to work with the office, and in September 2009, the department submitted a routine program change for the Hackensack Meadowlands District. On October 1, 2009, the Office of Ocean and Coastal Resource Management concurred with the routine program change, and notice of the office’s findings were published in the November 16, 2009, *New Jersey Register*.

Findings

Accomplishment: The Office for Coastal Management commends the New Jersey Coastal Program for its work in helping the state recover from Superstorm Sandy and increasing New Jersey’s resilience going forward.

Accomplishment: The New Jersey Coastal Program prepared the state for the potential development of wind energy in the coastal zone and offshore by incorporating the best available science into a Large Scale Wind Turbine Siting Map, amending its regulations including incorporating guidance for habitat evaluation, impact assessments, and monitoring, and incorporating those regulatory changes into the federally approved coastal program.

Public Access

New Jersey's beaches provide coastal access to over seven million residents who live in coastal counties and support a multi-billion dollar tourism industry. The coastal program identified public access as a high priority in both its 2006-2010 and 2011-2015 §309 Assessment and Enhancement Strategies and as a medium priority in its 2016-2020 §309 Assessment and Enhancement Strategies. The coastal program, department, state legislature, and governor have strongly supported public access during the evaluation period. The department has developed and is implementing regulatory changes to support public access and has created a GIS-based tool to improve the availability of public access information.

Rule Revisions

The New Jersey Department of Environmental Protection adopted revisions to its public access rules in 2007 (NJAC 7:7E-8.11 and 8A). The 2007 rules required public access as a condition of almost all permits (including those for rehabilitation, reconstruction, and redevelopment). Access, in almost all cases, had to be provided by a public walkway, of a specified width, parallel to the waterfront, with perpendicular access afforded through the project site. In addition, the rules required that municipalities requesting shore protection monies or Green Acres funding provide an access plan requiring restrooms at one-half mile intervals and sufficient public parking.

In November 19, 2008, the New Jersey Appellate Division invalidated the rule, finding that the rule was not statutorily authorized and improperly preempted municipal authorities over municipal beaches. *Borough of Avalon v. New Jersey Dep't of Env'tl. Prot.*, 403 N.J. Super. 590, 959 A.2d 1215 (App. Div. 2008).

In response, the department worked to amend the rules through a process that included broad stakeholder input. The department then adopted regulatory amendments to the coastal rules (N.J.A.C. 7:7-16.9) in November 2012. The amended rules establish public access requirements for new development based upon the type of development, for example, residential versus marina development. The regulatory amendments also provide towns the ability to develop municipal public access plans to guide public access that is consistent with local planning objectives and state regulatory requirements. If a public access plan is approved by the department and the municipality incorporates the plan into its master plan, then coastal development permits are required to be consistent with a municipality's public access plan, then coastal development permits are required to be consistent with a municipality's public access plan. In addition, the rule allows municipalities that adopt a municipal public access plan to establish a municipal public access fund to receive monetary contributions in lieu of providing on-site access in those cases where it is deemed appropriate. The municipality will then use the contributions to enhance public access as outlined in its municipal public access plan.

In December 2015, the New Jersey appellate court invalidated the amended rules as again infringing on municipal control over municipally beaches. The ruling rejected arguments that the

new rule encouraged rather than mandated municipal participation, and was justified under the public trust doctrine. In response, the department quickly worked with the state legislature to pass a legislation (Bill S-3321) clarifying the department does have authority to issue regulations and require public access as a condition of (1) an approval issued pursuant to N.J.S.A. 12:5-3 (regulating waterfront development), or (2) a permit issued pursuant to the “Coastal Area Facility Review Act” pursuant to N.J.S.A. 13:19-10. The state legislature unanimously voted for the bill in January 2016 and the governor signed the bill into law.

Supporting the development of municipal public access plans has been a priority of the coastal program and was a strategy in the 2010-2015 309 Assessment and Strategies and an evaluation metric with a target of 115 draft plans completed by July 2017. In the first four years, only 11 draft plans were submitted for review and only two have been approved. The coastal program developed a Public Access Planning Program to assist communities. Coastal program staff members created a municipal public access plan template to help guide municipalities. In the fall of 2012, in anticipation of adoption of the regulatory amendments, the coastal program provided 50 municipalities with preliminary municipal public access plans, which consisted of the template filled in with basic municipal information. Staff members also offered planning assistance to all 231 eligible municipalities through emails, phone calls, letters, and meetings. Staff members assist interested municipalities as necessary, from in-person meetings to discuss the rule criteria, to GIS assistance in map development. The coastal program also built a public access website that provides information on the Public Trust Doctrine, rules and guidance, and planning tools; flow charts outlining the department’s process for review and approval of municipal public access plans; an overview of the public comment process; and plans that are under review or approved by the department.

Days before the rule amendments were adopted, Superstorm Sandy devastated New Jersey. After the storm, municipalities focused on storm recovery and most public access points were able to reopen by summer 2013. To incentivize the development of municipal public access plans and provide additional funding support for municipalities that were also busy recovering from the storm, the Municipal Public Access Planning Grant Program was established to provide funding to local governments to conduct municipal coastal vulnerability assessments, in addition to developing the plans. The first cycle of competitive grants in 2013 provided five communities with funding up to \$10,000 to develop a plan, and five communities up to \$15,000 to develop a plan that included a coastal hazards assessment that used existing coastal program tools (Getting to Resilience questionnaire and Coastal Community Vulnerability Assessment and Mapping Protocol). In 2014, the state held a second competition and increased the funding available to encourage communities to apply. Communities could receive up to \$15,000 to develop a plan and up to \$25,000 to develop a plan that included a coastal vulnerability assessment. The coastal vulnerability assessment reports build off information gained in the Getting to Resilience questionnaire and Coastal Community Vulnerability Assessment and Mapping Protocol. and the reports discuss these findings, what actions have already been taken, how these actions have or have not worked, what planning goals, strategies, and priority actions are most urgent, and what alternatives would address current and potential coastal hazards that impact the municipality. Twenty-eight proposals were received and 10 municipalities were funded, including the 6

municipalities that make up Long Beach Island, which developed a regional coastal vulnerability assessment report. In 2015, the coastal program provided funding for an additional nine municipalities—six to develop plans and two to develop plans that include a coastal vulnerability assessment.

EXAMPLE: LINDEN CITY

The Department of Environmental Protection approved the first municipal public access plan for Linden City in December 2014. Due to the city's location with respect to major transportation corridors and its history of heavy industrial use, the city provides public access in one location, the Hawk Rise Sanctuary Project, along the Rahway River. The Hawk Rise Sanctuary Project site offers parking, temporary restrooms, and nature trails with viewing stations, all of which are handicap accessible. In the future, the city would like to extend the existing nature walkway, add benches to the existing and future walkways, construct permanent restroom facilities, investigate the possibility of a kayak and canoe launching area, and provide mile post markers along the existing and future nature walkway. The city has established a Public Access Trust Fund through its municipal public access plan, and the fund will be used to implement these enhancements. The plan states that any development within the city's boundary that requires a coastal permit, and which also is required to provide public access as a condition of that permit, will contribute to the city's public access fund in lieu of providing on-site access. Money collected in the public access fund will then be used toward the proposed public access enhancements identified in the plan.

EXAMPLE: TOWN OF HARRISON

The Town of Harrison Municipal Public Access Plan was approved by the department in October 2015. The plan was funded through the coastal program's Municipal Public Access Grant Program. The Town of Harrison has been working for over a decade to transform its historically industrial waterfront, which is blocked off from the public, into a vibrant mixed-use transit-oriented waterfront and has a waterfront redevelopment plan. Currently, public access is provided through the completed section of the waterfront walkway that stretches from the town's northern boundary along the Passaic River to Harrison Avenue and from Warren Street to Bergen Street. As a requirement of the waterfront redevelopment plan and the municipal public access plan, redevelopers along the Passaic River are required to construct and maintain the waterfront walkway to the design standards for lighting, benches, and materials to ensure consistency as the walkway is expanded. In addition to the walkway, the town will be applying for Green Acres funding to acquire several properties for the creation of a public park along the waterfront and Cape May Street. The Passaic River waterfront improvements are being planned in coordination with a U.S. Army Corps of Engineers flood control project to incorporate a public waterfront walkway and waterfront park into the project as outlined in the waterfront redevelopment plan.

The Office for Coastal Management commends the Department of Environmental Protection and New Jersey Coastal Program for working with the state legislature and governor to clarify the state's authority to provide for public access to the coast and providing extensive technical support and financial assistance to local governments to support public access. The Office for Coastal Management encourages the coastal program to monitor and study the effectiveness of

the revised rule, including the level of interest in developing municipal access plans and their implementation, to determine if additional changes or technical assistance is needed.

Public Access GIS Map

Before Superstorm Sandy, the public access website contained a public access map that consisted of a static jpeg file that was based on data from 2005. This map was removed from the website in fall 2012 because of the devastation caused by Superstorm Sandy and the outdated data. The coastal program initiated a project to modernize and improve the public's access to information. Coastal program staff members developed an interactive GIS map and initiated a data collection effort along the coast to capture information on all public access sites. The first phase of the project is a cellphone app and website with 2,900 public access locations along the Atlantic Ocean and back bays in Monmouth, Ocean, Atlantic, and Cape May Counties released in June 2016. It was anticipated that the project would be expanded to cover the full state in the future. The interactive map includes information on each site, including parking, signage, handicap accessibility, and amenities offered. Stakeholders who the evaluation team met with raised concerns about its accuracy and long-term maintenance as changes occurred over time. The Office for Coastal Management commends the coastal program for cataloguing public access sites and developing a GIS mapping tool to provide the public with an easy-to-navigate website with coastal access information. The Office for Coastal Management encourages the coastal program to develop a formal process, including working with coastal communities to ensure and maintain the accuracy of the public access information.

Beach Restoration

After Superstorm Sandy, the state set a goal of constructing a statewide coastal protection system to safeguard lives and property in the face of future storms, which was federally funded with \$1.2 billion. This effort to create healthy beaches not only provides mitigation from natural disasters, but also enhances coastal recreation for beachgoers and fishermen.

As of 2015, the U.S. Army Corps of Engineers, in partnership with the department, had completed beach repair projects, returning approximate 45 miles of previously engineered and constructed beaches along the coast to their original construction design. The state has faced challenges in obtaining the necessary access easements from both public and private property owners to allow the projects to proceed. The statewide project requires 4,279 access easements, of which the state has obtained a majority. However, some private property owners refused to grant easements for the projects, citing potential negative impacts of newly created dunes on ocean views and associated property values and concern that the easements are in perpetuity. The state is moving ahead with the statewide project and has filed eminent domain actions to obtain the needed easements.

Findings for Public Access

Accomplishment: The New Jersey Coastal Program catalogued public access sites and developed a GIS mapping tool to provide the public with an easy-to-navigate website with information on amenities at each site.

Accomplishment: The Department of Environmental Protection and New Jersey Coastal Program worked with the state legislature and governor to clarify the state’s authority to provide for public access to the coast and provided extensive technical support and financial assistance to local governments to support public access.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to develop a formal process, including working with coastal communities to maintain the accuracy of the public access information provided online.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to monitor and study the effectiveness of the revised public access rule, including the level of interest in developing municipal access plans and their implementation, to determine if additional changes or technical assistance is needed.

Resilient Coastal Communities and Living Shorelines and Green Infrastructure

Overview

The state of New Jersey is densely populated with extensive development in flood hazard areas. The state is subject to a number of coastal hazards, including hurricanes, and flooding continues to be the most frequent, destructive and costly natural hazard in New Jersey. In 2012, Superstorm Sandy caused extensive damage along the New Jersey coastline. The department and coastal program have played a key role in assisting in the state’s recovery efforts and also building resilience for the future. The coastal program has taken a leadership role bringing together federal, state, academic, nonprofit, and community interests to build coastal resilience, including through the use of living shorelines and green infrastructure. This new role complements the coastal program’s and department’s regulatory role. The coastal program’s increased interagency and external partner collaboration has also expanded the coastal program’s impact. The coastal program has been successful in obtaining grant funding to support collaboration and to provide technical and financial assistance to local communities to improve their resilience. In addition, the department and coastal program have amended their rules to assist with recovery efforts, improve coastal resilience, and encourage the use of living shorelines under specific conditions.

Regulatory Amendments

The department adopted a number of amendments to coastal program regulations, during the evaluation period, to better address coastal issues. In January 2013, the department adopted on an emergency basis and concurrently proposed amendments to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13. The rules were adopted permanently in March 25, 2013. These changes include ensuring that construction conforms to the Federal Emergency Management Agency’s most current mapped flood elevations and require that the lowest floor of buildings be constructed at least one foot above flood elevations in areas subject to tidal flooding.

In April 2013, the department adopted on an emergency basis and concurrently proposed new rules in the Coastal Permit Program at N.J.A.C. 7:7 and Coastal Zone Management rules at N.J.A.C. 7:7E. These regulation changes were adopted on May 6, 2013. The regulatory amendments address (1) facilitation of the expeditious rebuilding of residential and commercial developments; (2) facilitation of renovation or reconstruction of existing marinas and construction of new marinas; (3) restoration of New Jersey's shellfish aquaculture industry; (4) maintenance of engineered beaches and dunes and establishment of living shorelines; and (5) facilitation of removal of sand and other materials, as well as the availability of dredged material disposal/placement areas.

To help restore the shellfish industry, the department amended the Coastal Permit Program Rules to streamline the permitting process, creating three new permits by rule and two new general permits for commercial aquaculture activities and the placement of shell within shellfish lease areas. The regulatory changes to the standards for beaches and dunes strengthened protections of state and federally listed species and require that native vegetation be used when maintaining or creating dunes. Changes were also made to facilitate the establishment of living shorelines under a general permit in certain circumstances and to add a new general water area rule specific to living shorelines.

New Jersey Resilient Coastal Communities Initiative

After Superstorm Sandy, most New Jersey communities struggled to manage the immediate recovery and rebuilding efforts and did not have the capacity to consider long-term resilience. To better provide assistance to local communities, Sustainable Jersey launched the Resiliency Network in early 2014. The program was designed to help communities access technical and financial resources. The coastal program obtained a \$425,000 Coastal Resilience Networks grant through NOAA to build on this effort and implement the New Jersey Resilient Coastal Communities Initiative. The funding was used to further strengthen the network and provide support to coastal communities. The initiative brought together staff members from state and federal agencies, academia, and nonprofits to provide planning and technical support to New Jersey's coastal communities in response to increasing coastal hazards. The partners work together to maximize their impact and provide coastal communities with services such as vulnerability assessments, planning recommendations, and mitigation strategies.

The funding was used to support two new staff positions (resilient community specialists) at the Jacques Cousteau National Estuarine Research Reserve. The resilient community specialists work directly with coastal communities to assist them with assessing their vulnerability and improving resilience. The specialists utilize two existing coastal program tools that they then enhanced: a municipal self-assessment tool, the Getting to Resilience questionnaire, and a mapping tool to increase communities' understanding of vulnerabilities. A coastal vulnerability assessment was also developed and utilized by the specialists to assist municipalities with evaluating the impact of flooding scenarios on community assets and critical services. Vulnerability mapping was provided to all 239 coastal communities. This process enables municipalities to make informed decisions when making capital planning and land-use development decisions.

The initiative also encompassed a pilot program that teamed resilience professionals with select towns impacted by Superstorm Sandy to assist them with building their resilience. Professionals were available to assist the towns for almost two years and were able to help towns secure additional funding for diverse projects such as living shoreline restoration and wastewater facilities repair.

Project partners wrote a report, *Recommendations for Building Resilient Coastal Communities in New Jersey* (2016), which identifies policy needs and solutions to the challenges of building resilient coastal communities. The report calls for the establishment of a community resilience planning program within the coastal program to continue and enhance the coastal program's role in coastal community resilience planning. It also calls for a coastal zone resilience plan that clearly identifies the coastal program's resilience goals and policies. In addition, it calls for enhancing and more effectively utilizing the department's partnerships with governmental and nongovernmental organizations engaged in resilience activities.

The coastal program's Coastal Vulnerability Index Map for New Jersey was recognized internationally at the 2014 Environmental Systems Research Institute (ESRI) International Conference in San Diego, California. The statewide coastal vulnerability index mapping was recognized as the "best data integration method" and received first place. The mapping was a composite of geospatial vulnerability indicators, including storm surge inundation (NOAA), mean higher high water surfaces (VDatum), flood-prone areas (Federal Emergency Management Agency and Natural Resources Conservation Service SSURGO database), geomorphology (New Jersey Geological Survey), slope erosion and soil drainage (Natural Resources Conservation Service SSURGO database), and LiDAR elevation models that together classify a range of hazard-prone areas susceptible to both chronic and episodic hazards.

The initial success of the coastal program and its partners' efforts has led to additional grants to support climate resilience efforts. The coastal program successfully developed a proposal that was funded by NOAA through a \$900,000 NOAA Coastal Resilience Networks grant. The project, Fostering Regional Adaptation through Municipal Economic Scenarios (NJ FRAMES), was initiated in March 2016. In partnership with the Jacques Cousteau National Estuarine Research Reserve, Rutgers University Climate Institute, and local governments, the coastal program will work with the 15 communities that make up the Two Rivers Council of Mayors in Monmouth County to perform a stakeholder-led scenario-planning process, deploy new and enhanced decision-making tools, and develop consistent state- and community-level policies and practices that support resilience and adaptation actions. The project continues to build on the Resilient Coastal Communities Initiative in which comprehensive regional planning was identified as a high-impact strategy to build coastal resilience. Stakeholders who the evaluation team met with emphasized the importance of thinking regionally to achieve economy of scale with limited funding.

The coastal program and partners' work was also key to the state obtaining a \$15 million award under the National Disaster Resilience Competition sponsored by the U.S. Department of Housing and Urban Development and the Rockefeller Foundation. The project will include the creation of the Regional Resiliency Planning Grants Program to help regions and communities that

experience significant flooding undergo a comprehensive planning process to identify and address vulnerabilities from increased flooding risk, and for work with university partners to develop a toolkit of best practices for communities to assess their flooding risks and develop resilience building codes and plans.

Building Ecological Solutions to Coastal Community Hazards

The coastal program partnered with a number of local governments and technical partners to obtain funding for a grant, “Building Ecological Solutions to Coastal Community Hazards,” from the Hurricane Sandy Coastal Resiliency Competitive Grant funded by the U.S. Department of the Interior and administered by the National Fish and Wildlife Foundation. Project partners include the National Fish and Wildlife Foundation, Sustainable Jersey, New Jersey Sea Grant Consortium, Stevens Institute of Technology, Barnegat Bay Partnership, Partnership for the Delaware Estuary, and the following communities: Atlantic City, Brigantine, Downe Township, Lower Township, Margate, Secaucus, Somers Point, Spring Lake, Upper Township, and Cape May County. The coastal program and project partners were working to develop a local government guide to ecologically based natural hazard mitigation strategies (*Building Ecological Solutions to Coastal Community Hazards*, which was published in 2017), provide outreach and education on the local application of the mitigation strategies, provide direct assistance to 48 of New Jersey’s 239 coastal municipalities, create pilot projects for replication by others, develop a coastal citizen monitoring program, develop school programs to engage youth in understanding coastal hazards and monitoring, and circulate the results locally, regionally, and nationally.

Living Shorelines, A New Option

The coastal program is working to encourage the use of living shorelines as an alternative to hard shoreline stabilizations, where appropriate. In order to encourage the consideration of living shorelines instead of defaulting to bulkheads, the coastal program brought together the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, and representatives from North Carolina and Maryland where living shorelines had already been piloted. The group came together to discuss living shorelines and went over the language of a draft permit to identify issues and opportunities for improvement. The coastal program also worked with partners and agency staff members to work through the benefits of living shorelines and alleviate fears that a project proponent could pursue a living shoreline project that did not provide coastal habitat benefits. The coastal program was able to use this work to inform an emergency rule amendment after Superstorm Sandy. The rules were revised to facilitate the establishment of living shorelines including the creation of a zero-cost general permit for habitat creation, restoration, enhancement, and living shoreline activities. The permit requires that the living shoreline plan be designed or sponsored by the department, U.S. Fish and Wildlife Service, National Resources Conservation Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, or NOAA’s Restoration Center, or implemented by a college or university for research purposes. In addition, to further remove obstacles and assist applicants with navigating the permitting process for this new technique, the department created a living shorelines coordinator position.

Although, the coastal program has made progress in encouraging living shorelines, where appropriate, there are still challenges. Private homeowners who are interested in a living shoreline need to receive sponsorship and are limited to 1 acre. In addition, if tideland bottoms are used, a tidelands license and fee is required. All tidelands are overseen by the Tidelands Resource Council, a board of twelve Governor-appointed volunteers, along with Department of Environmental Protection staff at the Bureau of Tidelands Management. The regulations and policies directing the work of the council do not specifically address living shoreline projects or consider their unique circumstances. Stakeholders that the evaluation team met with noted that an outside technical advisory committee could be a valuable resource for the department and provide the latest science on which to base regulatory decisions. In addition, stakeholders also stressed the importance of consistent long-term monitoring for living shoreline projects.

The Office for Coastal Management commends the coastal program for its leadership in building coastal resilience and its continuing efforts to encourage the use of living shorelines for habitat restoration and shoreline protection, where appropriate. The coastal program has successfully increased its collaboration with partners, including the Jacques Cousteau National Estuarine Research Reserve, leading to improved coastal management in the state. The Office for Coastal Management encourages the New Jersey Coastal Program to continue to take a leadership role in long-term planning and implementation for key coastal issues such as coastal resilience, living shorelines, and public access, and to continue to expand its collaboration with state agencies, including the Department of Community Affairs. The Office for Coastal Management encourages the New Jersey Department of Environmental Protection to consider the creation of an external advisory committee to provide scientific advice and to continue to support and encourage long-term monitoring of living shoreline projects.

New Jersey Resilient Coastlines Initiative

The New Jersey Resilient Coastlines Initiative created a network of conservation, academic, state and federal partners to support the restoration and enhancement of the state's coastal habitats so that natural and human communities are better able to adapt to a changing climate and associated coastal hazards. The initiative was funded through a \$450,000 NOAA Coastal Resilience Grant to The Nature Conservancy. The initiative's partnership-building and development of decision-support tools increased New Jersey's capacity to select and build effective living shoreline projects designed to improve coastal resilience. The coastal program was a partner along with Rutgers University and the Stevens Institute of Technology, American Littoral Society, Barnegat Bay Partnership, and Partnership for the Delaware Estuary.

The project partners created two new applications, the Restoration Explorer and Future Habitat. The Restoration Explorer was designed to assist communities with reducing nuisance flooding and erosion, increasing recreational opportunities, improving water quality, and maintaining the coastline's natural aesthetics. The app recommends potential living shoreline techniques according to past and current conditions of the coastline. The Future Habitat application helps coastal decision makers visualize how salt marshes will be affected by sea level rise by 2050. Users can enter scenarios of 1, 2, or 3 feet of sea level rise and see how conditions will change in the marshes, and whether the marshes will likely migrate inland or succumb to inundation. The

information in the Future Habitat application can help prioritize what areas of salt marsh could be further examined for restoration or enhancement. As part of these applications, municipalities can also view individualized “municipal summaries” to learn more about their coastlines, for example the percentage of coast experiencing high rates of erosion.

The partners found the Restoration Explorer tool very useful in engaging communities to think more about the role of salt marshes and the potential for nature-based solutions instead of defaulting to a bulkhead. Several community representatives told project partners that if they had not been approached regarding a living shoreline they would have moved forward with a bulkhead. The tools were used by partners to identify 11 priority coastal resilience projects across the state that include descriptions of associated partners, project goals, and appropriate techniques based on engineering criteria and local environmental conditions. Conceptual designs have been created for four projects. Project partners foresee using the tools to help inform more regional planning and identification of priority projects, including decision-making for the beneficial use of dredge materials for marsh restoration. Partners also created a Community Resource Guide aimed at community leaders, citizens, and contractors to provide guidance on key factors to consider when embarking on a living shoreline project. The tools and guide have increased New Jersey’s capacity to select and build effective natural shoreline projects designed to improve coastal resilience. In December 2016, *A Framework for Developing Monitoring Plans for Coastal Wetland Restoration and Living Shoreline Projects in New Jersey* was published.

The coastal program successfully partnered with Ocean County College and the New Jersey Sports and Exhibition Authority and received a \$1 million grant from the Environmental Protection Agency in 2015. The department utilized its share of the funding to collect information from select wetlands and develop a database tool to conduct an analysis of these data to determine the most useful measures and standards to apply to future restoration projects. Project partners also looked at opportunities to increase carbon sequestration in wetland mitigation and resilience designs, and to develop monitoring procedures to assess the conditions and progress of tidal marsh restoration sites.

The Office for Coastal Management commends the coastal program for its leadership and collaboration in working to improve the state’s ability to utilize living shorelines to improve coastal habitat and resilience.

Findings

Accomplishment: The coastal program has taken a leadership role in developing and pursuing a vision to improve the state’s coastal resilience and ability to utilize living shorelines to improve coastal habitat and coastal resilience that complements the department’s regulatory role.

Accomplishment: The New Jersey Coastal Program is a leader in convening partners to utilize limited resources effectively to improve coastal resilience and implement living shorelines to improve coastal habitat and coastal resilience.

Accomplishment: The New Jersey Coastal Program significantly increased its collaboration during the past five years, both within the agency and with outside partners, including the Jacques Cousteau National Estuarine Research Reserve, to better address coastal issues.

Accomplishment: The Office for Coastal Management commends the New Jersey Department of Environmental Protection and Coastal Program for its efforts to support and encourage living shorelines where they can provide habitat benefits.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to continue to take a leadership role in long-term planning and implementation for key coastal issues such as coastal resilience, living shorelines, and public access.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to continue to expand its collaboration with state agencies and others such as the Department of Community Affairs to further build coastal resilience.

Recommendation: The Office for Coastal Management encourages the New Jersey Coastal Program to consider the creation of an external advisory committee to provide scientific advice on living shorelines.

Recommendation: The Office for Coastal Management encourages the New Jersey Department of Environmental Protection and Coastal Program to continue to support and encourage long-term monitoring of living shoreline projects.

Evaluation Metrics

Beginning in 2012, state coastal management programs began tracking their success in addressing three evaluation metrics specific to their programs. The evaluation metrics include a five-year target and provide a quantitative reference for each program about how well it is meeting the goals and objectives it has identified as important to the program.

METRIC 1

Goal: Protect and increase opportunities for public access along the New Jersey coast.

Objective: To assist local coastal communities to develop comprehensive municipal public access plans (MPAP).

Strategy: Changes to New Jersey's Public Access Rule are expected to be formally adopted in November 2012. Under the new rule, under a voluntary program, a coastal community may create a local municipal public access plan that is tailored to the community's specific needs and objectives. To ensure that each local plan is consistent with the guidelines set forth in the rule and to ensure the plans collectively result in a coherent and comprehensive plan for public access to all areas subject to the Public Trust Doctrine, the New Jersey Coastal Management Program

will provide guidance and technical assistance to coastal communities to develop these voluntary plans. The first step in completing a MPAP is preparation of a preliminary MPAP template, either by the municipality or with the coastal program's assistance. The preliminary MPAP template is then expanded into a draft MPAP that includes all of the information required by the new rule governing public access. A plan is considered a formal and reviewable draft when it is submitted to the New Jersey Department of Environmental Protection with a completed MPAP Application form. The number of New Jersey municipalities eligible to participate in this program is 231.

Performance Measure: The number of local governments with tidal waterfront access in the coastal zone that have submitted a draft municipal public access plan.

Target: By 2017, 115 (50%) of 231 local governments with tidal waterfront access in the coastal zone will have submitted a draft municipal public access plan.

Cumulative Results: 11

First Year Results: 0

Second Year Results: 1

Third Year Results: 6

Fourth Year Results: 4

Discussion: The coastal program has made much slower progress than expected, and the regulations have been invalidated twice by New Jersey courts. Coastal communities have been focused on recovery after Superstorm Sandy and have had less capacity to focus on other governmental efforts. A recommendation has been included in the findings to evaluate the implementation of the new public access regulations including the level of interest in developing municipal access plans and their implementation, to determine if additional technical assistance or other changes are needed.

METRIC 2

Goal: Improve coordination and participation in the implementation of the New Jersey Coastal Management Program and improve New Jersey Department of Environmental Protection decision-making and program effectiveness through technical assistance, engagement, and transparency.

Objective 1: Revitalize and fill gaps in actions that move the New Jersey Coastal Management Program toward meeting the Coastal Zone Management Program goals, and stakeholders and partners have actively participated in the program enhancement.

Strategy: The coastal program provides a framework under which improvement in current state policies and programs can be made in support of a more sustainable coastal zone in line with federal and state priorities that balance the need for economic development with resource protection. As New Jersey evaluates the effectiveness of its current coastal program and identifies revised or updated strategies to improve the effectiveness of our program, a broader

set of actions will be identified and implemented to engage current and new stakeholders, improve their understanding of program management needs and approaches, and solicit their feedback on and participation in appropriate activities. A key part of the strategy is to prepare a simple work plan that identifies target audiences, available educational and outreach mechanisms, and resource needs to implement selected approaches. Educational and outreach efforts that will be counted toward this measure are educational activities and training events as defined in the *Coastal Zone Management Act Performance Measurement System Coastal Management Program Guidance*, April 2011, and new program literature designed to further the goal.

Performance Measure: Number of educational and outreach efforts that assist in identification of new and/or revised projects, activities or program partners that enhance and revitalize the New Jersey Coastal Zone Management Program per year.

Target: Three educational and outreach efforts that assist in identification of new and/or revised projects, activities or program partners that enhance and revitalize the New Jersey Coastal Zone Management Program per year.

Cumulative Results: 23

First Year Results: 7

Second Year Results: 4

Third Year Results: 7

Fourth Year Results: 5

Discussion: The coastal program has successfully exceeded the target during years one through four.

METRIC 3

Goal: Encourage Sustainable Coastal Communities that adopt and implement plans, ordinances, and policies protective of coastal resources.

Objective 2: Define municipal actions that, when adopted and implemented, will move a community towards environmental sustainability.

Strategy: Sustainable Coastal Communities: Local initiatives are critical to long-term protection of coastal resources. Innovative local coastal management projects can inspire community action and promote the protection and effective management of coastal resources while also achieving local economic and social objectives.

Drawing on current state and federal coastal management priorities, the New Jersey Coastal Management Program will define coastal environment protection needs. Based on these needs, the coastal program will work with local municipalities to promote existing sustainable, local growth management approaches through actions such as the adoption of best management

practices, ordinances, and policies and use of planning tools. The New Jersey Coastal Management Program will build on existing processes and programs such as state plan endorsement and the Sustainable Jersey Program. The coastal program, in coordination with local and regional resource protection organizations, as appropriate, will provide technical assistance (and, as possible, incentives) to communities that seek to participate in this voluntary initiative. “Sustainable Coastal Community action” (also principles for sustainable development) is defined in *the Coastal Zone Management Act Performance Measurement System Coastal Management Program Guidance*, dated April 2011. If additional criteria are developed, the New Jersey Coastal Management Program will describe criteria and submit to the Office of Ocean and Coastal Resource Management for approval and incorporation into the measure.

Performance Measure: Number of municipalities that adopt and/or implement a new Sustainable Coastal Community action.

Target: Between 2012 - 2017, 100 municipalities have adopted and/or are implementing a new Sustainable Coastal Community action.

Cumulative Results: 67

First Year Results: 13

Second Year Results: 21

Third Year Results: 0

Fourth Year Results: 33

Discussion: The coastal program is behind in meeting its target, but if the fifth-year results are the same, or higher, than those of the fourth year, the program will meet its target. Coastal communities have been focused on recovery after Superstorm Sandy and have had less capacity to focus on other governmental efforts.

Conclusion

For the reasons stated herein, I find that the State of New Jersey is adhering to the programmatic requirements of the Coastal Zone Management Act and its implementing regulations in the operation of its approved New Jersey Coastal Management Program.

These evaluation findings contain six recommendations that must be considered before the next regularly scheduled program evaluation but which are not mandatory at this time. Recommendations that must be repeated in subsequent evaluations may be elevated to necessary actions.

This is a programmatic evaluation of the New Jersey Coastal Management Program that may have implications regarding the state's financial assistance awards. However, it does not make any judgment about or replace any financial audits.

signed by Dr. Jeffrey Payne

Jeffrey L. Payne, Ph.D.

Director, NOAA Office for Coastal Management

dated May 30, 2018

Date

Appendix A: Response to Written Comments

No Comments were received.