Delaware
Coastal Management Program
Assessment and Strategy

2026 to 2030

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Introduction

The National Coastal Zone Management Program, administered by the National Oceanic and Atmospheric Administration (NOAA), is a voluntary partnership between the federal government and U.S. coastal and Great Lakes states and territories authorized by the Coastal Zone Management Act (CZMA) of 1972 to address national coastal issues. The program works with coastal states and territories to address coastal issues, including environmental changes, ocean planning, and energy facilities and development.

The CZMA provides the basis for protecting, restoring, and responsibly developing our nation's diverse coastal communities and resources. To meet the goals of the CZMA, the national program adopts a comprehensive approach to coastal resource management, balancing the often competing and occasionally conflicting demands of coastal resource use, economic development, and conservation. The program's key elements include protecting natural resources, managing development in high-hazard areas, prioritizing development for coastal-dependent uses, providing public access for recreation, prioritizing water-dependent uses, and coordinating state and federal actions.

The Coastal Zone Enhancement Program, established in 1990 under Section 309 of the CZMA, provides incentives to states to enhance their state programs within nine key areas: wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts, special area management planning, ocean and Great Lakes resources, energy and government facility siting, and aquaculture.

Under Section 309, the Secretary of Commerce is authorized to make awards to states with approved coastal management programs to implement multi-year strategies that focus on one or more of the priority enhancement goals. To be eligible for the awards, states assess their programs every five years to identify priority needs and opportunities for improvement. This document is the Delaware Coastal Management Program's (DCMP) 309 Coastal Zone Enhancement Program Assessment and Strategy for 2026-2030.

This assessment was prepared based on information collected during a multi-phase programmatic strategic planning effort, including interviews with network partners, internet-based surveys of network partners, focused interviews with stakeholders, and comments received from the public.

The Delaware Coastal Programs (DCP), comprised of the DCMP and the Delaware National Estuarine Research Reserve (DNERR), has assessed and ranked the nine enhancement areas. Through this document, DCP has indicated when activities are conducted in conjunction with the DNERR. DCMP has indicated when an activity is initiated, conducted, or supported

(technically or financially) solely by DCMP. The following priorities have been assigned based on the results of the assessments and the information received from DCP staff, partners, and collaborators.

Summary of Recent Section 309 Achievements

Christina-Brandywine River Remediation, Restoration, and Resilience Project (CBR4)

The Christina-Brandywine River Remediation Restoration and Resilience Project (CBR4) was selected as the 2020 assessment strategy. It is a partnership between several divisions of DNREC (Climate, Coastal, and Energy, Waste and Hazardous Substances, and Watershed Stewardship), non-profit agencies, and consulting firms to address legacy toxic contamination, restore the native ecology, and prepare for the changing conditions, as well as other threats to river health in the lower Christina River and tidal Brandywine River

CBR4 success will take multiple years to achieve and will require the efforts of various partners. To date, DNREC is in the process of conducting a multi-year sediment feasibility study, anticipated to be completed by 2028, that will provide a cost estimate and technical approach to clean up the sediments in the Christina and Brandywine rivers. Simultaneously, non-profit partners with the assistance of the DNREC CBR4 team, have identified and drafted an inventory of potential restoration project sites that would also help build resilience. Some of these projects have been advanced to the permitting phase, including restoration projects at Banning Park and the Kalmar Nyckel site, while the Riverfront Development Corporation has planted a bioswale adjacent to the Christina River.

Phase I Assessment

Wetlands

Section 309 Enhancement Objective: Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands. §309(a)(1)

> *Note: For the purposes of the Wetlands Assessment, wetlands are "those areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." [33 CFR 328.3(b)]. See also pg. 14 of the CZMA Performance Measurement Guidance[1] for a more in-depth discussion of what should be considered a wetland.*

Phase I (High-Level) Assessment: (Must be completed by all states.)
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

[1] coast.noaa.gov/data/czm/media/czmapmsguide.pdf

Resource Characterization

- Using the tables below as a guide, provide information on the status and trends of coastal wetlands. Be as quantitative as possible using state or national wetland trend data.[2] The tables are information presentation suggestions. Feel free to adjust column and row headings to align with data and time frames available in your state or territory. If quantitative data is not available for your state or territory, provide a brief qualitative narrative describing wetlands status and trends and any significant changes since the last assessment.

  Current state of wetlands in 2024 (acres): 296,351 [1]

Coastal Wetlands Status and Trends

Change in Wetlands	from 2007-2017**
Percent net change in total wetlands (% gained or lost)	-0.54% (-1,605.5 acres)*
Percent net change in freshwater (palustrine wetlands) (% gained or lost)	-0.51% (-1512 acres)*
Percent net change in saltwater (estuarine) wetlands (% gained or lost)	-0.03% (-93.5 acres)*

*Calculated using best available data from Delaware FirstMap 2017 Wetlands

** Date range changed to accurately identify and characterize wetland status and trends in Delaware using our best available state data

How Wetlands Are Changing

Land Cover Type	Area of Wetlands Transformed to Another Type of Land Cover between 2007-2017 * (Sq. Miles)
Development	1.07 sq miles
Agriculture	0.84 sq miles
Barren Land	2.39 sq miles
Water	0.25 sq miles

*Date range to reflect best available state data and calculated using Delaware FirstMap 2017 Wetlands data

Management Characterization

- Indicate any significant changes at the state or territory level (positive or negative) since the last assessment that could impact the future protection, restoration, enhancement, or creation of coastal wetlands.

Significant Changes in Wetland Management

Management Category	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	N
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	Y

[1] National data on wetlands status and trends include NOAA's Land Cover Atlas (coast.noaa.gov/digitalcoast/tools/lca.html), the U.S. Geological Survey's National Land Cover Database (usgs.gov/centers/eros/science/national-land-cover-database), and the U.S. Fish and Wildlife Service's National Wetland Inventory data (fws.gov/program/national-wetlands-inventory).

- For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Delaware Wetlands Program Plan (2021-2025)
DNREC is working to reverse past damage, protect what remains, and better understand new threats, while sharing the dynamic beauty and function of wetlands with the people who live here. The Delaware Wetland Program Plan (2021) was a collaborative effort among DNREC, other State agencies, and conservation partners to identify and prioritize areas of need for wetland science, conservation, and management. The plan is guidance for improving Delaware's wetland resources through increased agency coordination, data availability, education, monitoring, conservation, and restoration efforts. Partners are encouraged to reference the plan for project ideas. Implementation and progress over five years will be evaluated in 2025. The planning and implementation for this effort is led by the DNREC Division of Watershed Stewardship Wetland Assessment and Monitoring Section.

The plan sets out Delaware's strategy for protecting, restoring, and managing wetlands over a five-year period. It builds on previous plans by setting seven core goals: mapping, monitoring, addressing the changing environment (including wetland migration and future inundation), restoration, regulatory improvements, collaboration, and education/outreach. To measure progress, it includes specific action items under each goal, as well as new features (e.g., exploring wetland mitigation banking, focusing on sensitive communities, and securing areas likely to become future wetland habitats). The overarching goal is to increase wetland acreage and enhance the health and function of wetlands across the state.

The Delaware Wetlands Program plan can be found online at:
https://www.epa.gov/sites/default/files/2021-05/documents/de_wetland_program_plan_2021-2025.pdf

Delaware Living Shorelines Committee
The Delaware Living Shorelines Committee (DELSC), now in its 11th year, remains a workgroup dedicated to increasing the utilization and success of living shoreline tactics to stabilize shorelines and enhance coastal habitats. The Committee meets twice a year and comprises approximately 50 active professional members from state and federal agencies, National Estuary Programs, private consulting and engineering firms, academia, and nonprofit organizations. The DELSC continues to focus efforts on outreach and education to improve landowner awareness and demand for living shorelines, increase professional capacity to design, install, and maintain successful projects, and share innovative techniques and tactics for shoreline projects. The DELSC maintains a comprehensive website, delawarelivingshorelines.org, which provides access to general information, technical resources, recorded presentations, lists of local professionals, case study examples, and information on the cost-share program. In 2023, the DELSC released its newest technical document entitled Techniques and Applications of Living Shorelines in Delaware, which guides users through a three-step process to determine their project goals, select appropriate design elements, and match up suitable materials for a living shoreline design. In 2025, the Committee hosted its 9th Living Shoreline Intro Training Workshop,

which drew over two dozen participants. The workshop provided a comprehensive understanding of living shorelines through a combination of classroom and field components.

Delaware SAV Program
The Submerged Aquatic Vegetation (SAV) Program works statewide in both marine and freshwater systems. Over the last five years, the program has focused on documenting freshwater SAV locations and is developing a volunteer monitoring program. In 2025, the SAV program built a marine SAV seed-processing station in Lewes to actively restore SAV in the Inland Bays. The SAV Program also worked with Delaware Sea Grant and the Center for the Inland Bays to establish the Delaware Statewide Submerged Aquatic Vegetation Workgroup (DESSAV). This workgroup focuses on public education, monitoring, professional training, and restoration projects.
https://dnrec.delaware.gov/watershed-stewardship/assessment/sav/

Delaware Restoration Work Group
In 2021, DNREC established the Delaware Restoration Work Group (DRWG) to facilitate information sharing, encourage collaboration and partnerships, increase education and outreach on restoration options, and provide a learning platform for professionals working in stream, buffer, or wetland restoration. This group meets twice a year and comprises roughly 40 active members from state and federal agencies, nonprofits, the private sector, and NEPs. The DRWG provides project sharing presentations, online resources, field trips, technical learning, and general outreach opportunities.

Prime Hook Restoration Monitoring Project
In 2022, the monitoring activity sub-awarded to DNREC was closed, marking the end of six years of tracking the status and recovery of wetlands in Prime Hook NWR following substantial restoration to repair damage from Hurricane Sandy. Funding through a cooperative agreement with USFWS supported annual monitoring efforts in all four Units to track wetland platform stability, vegetation cover and composition, vegetative biomass, and elevation. Monitoring results varied by Unit but generally showed stabilization of areas with restored hydrology and revegetation after sediment application.

Beneficial Use Statewide Activity
DNREC has been an active participant in the coordination and execution of dredge and beneficial use projects since 2014, with more significant involvement as of 2021. DNREC is facilitating a Dredge and Beneficial Use informal work group that meets monthly to share project updates, seek collaboration, and provide guidance. There is an increasing demand and interest in beneficial use as a means to combat coastal wetland loss and degradation while also facilitating navigable channel maintenance. Given the complexity and sensitivity of beneficial use for wetland restoration, thoughtful planning and execution are necessary, and DNREC is committed to fostering successful projects that deliver ecological benefits.

Delaware Wetland Toolbox
Formerly known as the Freshwater Wetland Toolbox, the updated Delaware Wetland Toolbox is an ArcGIS storymap that helps users locate mapped biological wetlands in a simple web viewer and learn about wetland functions and services, ways to care for wetlands, and more about wetland health and condition across the state. This toolbox averages 120 visitors per month.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High	__X___
Medium	_____
Low	_____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Wetland enhancement has long been identified as one of the Delaware Coastal Management Program's top focus areas under the Section 309 Assessment and Strategies, consistently ranked high in importance, demonstrating its recognized value in Delaware's coastal programmatic focus. Wetlands provide critical ecosystem services, including wildlife habitat, flood mitigation, carbon sequestration, and numerous economic benefits. Delaware's vital wetlands continue to face risks and degraded function due to development, marsh migration, invasive species, sea level rise, and other stressors. Delaware continues to support wetland enhancement goals through various frameworks, collaboration, and actions. The 2021-2025 Wetland Program plan provides a roadmap and actionable steps to make wetland enhancement both measurable and effective. The DCMP continues to support its networked partners conducting wetland monitoring and assessment of Delaware's watersheds, and in developing tools such as the recent update to the Marsh Migration Suitability Analysis tool. Coordination between stakeholders continues to identify priority areas and methods for restoration and enhancement, land acquisition, and invasive species control. that directly support Delaware's wetland enhancement goals.

The DCMP received stakeholder engagement from state, county, and local government officials, as well as private citizens, academic institutions, and non-governmental entities. Input indicated wetlands as a high-priority enhancement area, emphasizing their role in coastal resilience, erosion buffering, and ecosystem benefits. Respondents expressed strong opinions about wetland conservation and the threats from sea level rise and the loss of wetlands.

Coastal Hazards

Section 309 Enhancement Objective: Prevent or significantly reduce threats to life and property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level change. §309(a)(2)

Note: For purposes of the Hazards Assessment, coastal hazards include the following traditional hazards and those identified in the CZMA: flooding; coastal storms (including associated storm surge); geological hazards (e.g., tsunamis, earthquakes); shoreline erosion (including bluff and dune erosion); sea level rise; Great Lake level change; land subsidence; and saltwater intrusion.

Phase 1 (High-level) Assessment: *(Must be completed by all states.)*

Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. In the table below, indicate the general level of risk in the coastal zone for each of the coastal hazards. The following resources may help assess the level of risk for each hazard. Your state may also have other state-specific resources and tools to consult. Additional information and links to these resources can be found in the "Resources" section at the end of the Coastal Hazards Phase I Assessment Template:

    - The state's multi-hazard mitigation plan
    - Coastal County Snapshots: Flood Exposure
    - Coastal Flood Exposure Mapper
    - Sea Level Rise Viewer/Great Lakes Lake Level Change Viewer

General Level of Hazard Risk in the Coastal Zone

Type of Hazard	General Level of Risk[3] (H, M, L)
Coastal Flooding	H
Tropical Cyclones (hurricanes & tropical storms)	H
Inland flooding (riverine, flood, flash)	H
Severe winter weather	H
Shoreline/Coastal erosion	H
Severe thunderstorms and tornadoes (heavy rain, high winds, strong winds, thunderstorm winds, hail, lightning)	M
Extreme temperatures	M
Drought	M
Dam/Levee Failure Flooding	M
Wildfire & Smoldering Fires	L
Sea level rise	H
Great Lakes level change	N/A
Land subsidence	H
Saltwater intrusion	H
Geological hazards (e.g., tsunamis, earthquakes)	L

Delaware natural hazards list obtained from the Delaware 2023 Hazard Mitigation Plan https://dema.delaware.gov/about/contentFolder/pdfs/HazardMitigationPlan.pdf

2. If available, briefly list and summarize the results of any additional data or reports on the level of risk and vulnerability to coastal hazards within your state since the last assessment. The state's multi-hazard mitigation plan or risk assessment or plan may be a good resource to help respond to this question.

Resilient Community Partnership

DCMP created, funds, and staffs the Resilient Community Partnership program, which provides technical assistance and potential funding to plan for and mitigate the impacts of coastal hazards, including flooding from sea level rise and coastal storms, through the development of local-level planning strategies. Since 2019, DCMP has completed projects with Lewes, Fenwick Island, Little Creek, and Milton.

The city of Lewes convened an executive committee on resilience to examine actions that the town could take to improve its resiliency. After identifying and debating an initial list of 14 potential strategies, the committee recommended two policies for adoption by the Lewes City Council: a real estate disclosure to highlight a property's vulnerability to sea level rise and the creation of a municipal resiliency fund to support a range of resiliency-building practices. As of May 2021, the Lewes Executive Committee on Resiliency was disbanded, and the City Council decided to take no action. However, the

[3] Risk is defined as "the estimated impact that a hazard would have on people, services, facilities and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage." *Understanding Your Risks: Identifying Hazards and Estimating Losses. FEMA 386-2. August 2001*

remaining 12 policy options could be considered by Lewes City Council in the future. Since May 2021, Lewes City Council has passed four ordinances that were identified and discussed during the 2021 Resilient Community Partnership: reducing lot coverage and a companion ordinance that defines pervious and impervious surfaces; doubling freeboard to 36 inches in the 100-year floodplain and requiring 18 inches in the 500-year floodplain for both residential and non-residential structures while maximum building heights were increased to accommodate these changes; doubling the tidal wetland buffer to 100 feet; defining and enforcing a tree protection policy and a tree density standard.

The Town of Fenwick Island is particularly at risk to sea level rise due to its geographical location — the Little Assawoman Bay bounds it to the west and the Atlantic Ocean to the east. Fenwick Island's proximity to both bodies of water makes it highly susceptible to daily tidal inundation and tidal surges during inclement weather and storm events. Projections of future sea level rise suggest that nearly 82% of existing buildings west of Route 1 in the town would be inundated twice daily, and 43% of all roadways would be inundated at high tide by the year 2080. The town's low-lying topography, bayside canals, and need for stormwater infrastructure improvements further exacerbate the effects of sea level rise on the community. Without proper planning, the community will struggle to adapt to these future challenges. The town and DCMP have collaborated to develop a sea level rise resilience plan, prioritizing at-risk areas, recommending actions that the town can implement, engaging residents and businesses, providing updated mapping and information to serve as the basis for well-informed decisions, and articulating the town's vision for adapting to sea level rise. Fenwick is now better positioned to implement a long-term plan and secure design work, ultimately leading to on-the-ground projects.

Little Creek is a small, rural community located in eastern Kent County, between the City of Dover and the Delaware Bay. The town was first settled in the early 1800s and developed a thriving oyster industry, which contributed to its growth as a community with homes and businesses. Today, the primary features of Little Creek are its location on the Delaware Bayshore Byway, the Little Creek Wildlife Area, the Little River Boat Ramp and Fishing Pier, and the Little Creek Dog Park. The population of Little Creek has reduced, but several historic buildings remain in the town. The Town of Little Creek was named to the National Register of Historic Places in 1984. The town has experienced recurring flooding events in recent years, which threaten both the existing and future use of roads and emergency services, as well as public, commercial, and residential properties. This study focused on the southern part of town, specifically at the intersection of Main Street and Lowe Street, and examined the tidal influences on the town's stormwater system. The focus of the Resilient Community Partnership project was a flooding study, which included an evaluation of natural resources and existing conditions in the study area, as well as modeling of flooding during various storm events. The model provided limits, depths, and duration of flooding, considering surface and subsurface drainage features. Flood mitigation alternatives were identified and evaluated using the model, and an engineer's estimate of probable construction cost was developed for the recommended alternatives. The modeling indicates that significant flooding frequently impacts Main Street and Lowe Street in an area already affected by tidal conditions from the Little River and the Delaware Bay. The drainage infrastructure in and immediately adjacent to the town was installed between the 1930s and 1960s and is not designed to handle current rainfall events. The existing drainage infrastructure of the southern portion of the town consists of a combination of inlets, storm drain piping, culverts, and a shallow farm ditch to the west of Bell Street, as well as a tidal channel on the eastern limit of the town, connecting the system to the Little River. The existing drainage infrastructure is undersized to manage current rainfall and tidal conditions. Due to the nature of the water table and soils in Little Creek, components of the system have settled and are not performing as

designed. Action is needed to reduce the frequent flooding impacts on the town. Little Creek intends to pursue on-the-ground projects and property acquisition to help alleviate the frequent flooding.

The Town of Milton's resilient community partnership project involved creating a shoreline stabilization design for Memorial Park and its associated southern shoreline of the Broadkill River, near the town's emergency services offices. Throughout its history, the town center of Milton has been subjected to frequent flooding by the Broadkill River, as a result of hurricane storm surges that push water up the river from the Delaware Bay to the east and inundation of the Wagamon's watershed after heavy rainfall from the west. Tides clearly impact the extent and severity of flooding in Milton. Thus, recurring flooding impacts have a profoundly detrimental influence on funding, maintaining, and replacing vital components of the Town's operations. The project resulted in a preliminary design, which will be updated based on feedback received as the town works through the permitting process. Milton intends to secure funding to implement an on-the-ground project.

State Hazard Mitigation Plan

The 2023 Delaware State Hazard Mitigation Plan (SHMP) identifies potential hazards, vulnerabilities to these hazards, and mitigation strategies to reduce future damages. The plan fulfills the requirements of the Federal Disaster Mitigation Act as administered by the Delaware Emergency Management Agency (DEMA) and the Federal Emergency Management Agency (FEMA). Emphasis has been placed on identifying and prioritizing potential mitigation actions to help Delaware become less vulnerable to the damaging effects of natural and non-natural hazards, while improving the state's economic, social, and environmental health.

DEMA used a collaborative planning process to update the 2018 SHMP. The State Hazard Mitigation Officer and selected staff from state departments and partner agencies formed the core of the State Hazard Mitigation Council (Council). The Council included members with coastal hazard expertise, state agencies with programs, policies, and assistance supporting communities, and organizations involved in local mitigation strategies. DCMP participates in this council.

The Council reviewed the 2018 SHMP, an assessment of previous federally declared disasters and historical events, as well as available local mitigation plans, and identified 12 natural hazards that may affect the state within the next five years. Some hazards from the 2018 SHMP, such as nor'easters and extratropical storms, were consolidated with other hazards due to their similar threats and mitigation strategies. The natural hazards identified included: 1. Coastal Erosion 2. Coastal Flooding 3. Dam/Levee Failure Flooding 4. Drought 5. Earthquakes 6. Extreme Temperatures 7. Inland Flooding 8. Local Earth Movement 9. Severe Thunderstorms & Tornadoes 10. Severe Winter Weather 11. Tropical Cyclones 12. Wildfire & Smoldering Fires. A State Risk Assessment was conducted to review and characterize the impacts of these hazards on state assets and populations statewide, as well as the likelihood of future events, potential impacts on lives and property, and the potential geographic locations of the hazards.

Management Characterization

1. In the tables below, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred that could impact the CMP's ability to prevent or significantly reduce coastal hazards risk since the last assessment.

Significant Changes in Hazards Statutes, Regulations, Policies, or Case Law

Topic Addressed	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Elimination of development/redevelopment in high-hazard areas[4]	N	Y	N
Management of development/redevelopment in other hazard areas	Y	Y	N
Sea level rise or Great Lakes level change	N	Y	Y

Significant Changes in Hazards Planning Programs or Initiatives

Topic Addressed	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Hazard mitigation	Y	Y	N
Sea level rise or Great Lakes level change	Y	Y	N

Significant Changes in Hazards Mapping or Modeling Programs or Initiatives

Topic Addressed	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Sea level rise or Great Lakes level change	Y	Y	Y
Other hazards	Y	Y	Y

2. Briefly state how "high-hazard areas" are defined in your coastal zone.

Coastal "High Hazard Areas" are defined as areas of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms. Coastal high-hazard areas are also referred to as "Zone V" or "V Zones" and are designated on FIRMs as flood insurance risk Zone VE.

Delaware's federally recognized coastal zone spans the entire state, following major waterways including the Delaware River, the Chesapeake & Delaware Canal, the Delaware Bay, the Inland Bays, and the Atlantic Ocean.

State-level management of the coastline is largely accomplished by two key legislative measures: the **Beach Preservation Act (7 Del. C. Ch 68)**, which aims to protect the ecological and recreational value of beaches and dunes by limiting development, and the **Coastal Zone Act (7 Del. C. Ch 70)**, which restricts industrial expansion along the coastal corridor. Coastal protection efforts in Delaware primarily involve maintaining natural features, such as dunes and beaches. The U.S. Army Corps of Engineers, in partnership with the Department of Natural Resources and Environmental Control (DNREC), carries out beach nourishment on the Atlantic coast. Additionally, Delaware performs and funds maintenance efforts along the Bay coastline—from Pickering Beach to Cape Henlopen.

[4] Use the state's definition of high-hazard areas.

In March and August of 2024, offshore storms caused breaches in the dune system, leading to flooding and the temporary closure of the northbound lane of SR 1. The road remained closed for several hours until the floodwaters receded and crews could remove the accumulated sand and debris. To restore the protective dune barrier at North Beach, approximately 480,000 cubic yards of sand were delivered and placed between December 2024 and March 2025. This effort significantly reinforced the shoreline and improved its resilience against future erosion.

A second phase of the restoration, overseen by the U.S. Army Corps of Engineers, is scheduled for Fall 2025. Combined with the planned rehabilitation of the Sand Bypassing Facility later that year, the two-part restoration project is expected to help maintain the stability of North Beach for the foreseeable future.

3. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

HAZUS

DCMP worked with AECOM to use the FEMA Hazus multi-hazard model to assess potential impacts and costs associated with various sea level rise (SLR) scenarios. The study focused on the Bay and Atlantic Ocean beaches, as well as the Delaware River communities, and unincorporated areas across Kent, New Castle, and Sussex Counties. Hazus modeling was performed using both Level 1 (generalized data) and Level 2 (structure-specific data) analyses to estimate building and content losses for five flood scenarios, including baseline and SLR increases of 1 to 7 feet. Various datasets, including building footprints, elevation data, tax records, and SLR projections, supported the analysis.

New Sea Level Rise Scenarios

DCMP provided technical support to the technical advisers overseeing the development of updated temperature, sea level, and precipitation forecast scenarios. These scenarios are used by state agencies, counties, municipalities, and other organizations to plan future capital projects and to inform hazard mitigation efforts and policy changes. Last updated in 2017, the new scenarios incorporate new data and modeling. DCMP will support the dissemination of future conditions information by developing maps and other outreach products to facilitate the easy incorporation of adaptation and resiliency into community planning.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High	__X__
Medium	_____
Low	_____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

    According to the DNREC stakeholder survey, 25 people responded to this question, with 14 respondents indicating that their organization was involved with or sought to be involved in efforts related to coastal hazards. At the same time, eight said that their organization was involved in a

limited capacity, and three stated that their organization was not involved at all. Survey-takers were asked, “Which of the following challenges do you believe will be most pressing to address over the next five years?” They were provided with eight choices, alongside an option to articulate another challenge, with the opportunity to provide text to elaborate. Of the 22 participants who responded, most selected “coastal storms and flooding” as the most pressing challenge, closely followed by “sea level rise and its impact on many/all of the above items.” The two respondents who noted “other” replied with, “increased stormwater runoff, not related to flooding,” and “at state parks, the challenge is finding the balance between coastal (beach) access, including necessary infrastructure, and increasing risk from sea level rise, land subsidence, and coastal storms.”

Survey-takers were then asked, “What opportunities or strategies do you believe can best address coastal hazards over the next five years?” Of the 14 respondents, limiting damage. Several responses focused on strategies to mitigate the impact of development in high-risk areas, including increased regulation, siting construction to minimize damage, and outright development restrictions. Another response pointed toward increased weather modeling and monitoring. Finally, participants also highlighted the opportunity to create new partnerships and utilize innovative outreach strategies and messaging, focusing on reframing language to emphasize hazards.

Public Access

Section 309 Enhancement Objective: Attain increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value. §309(a)(3)

Phase 1 (High-level) Assessment: *(Must be completed by all states.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. Use the table below to provide data on public access availability within the coastal zone.

Public Access Status and Trends

Type of Access	Current number[5]	Changes or Trends Since Last Assessment[6] (↑, ↓, –, unknown)	Cite data source
Beach access sites	217	Increase	DNREC Parks and Recreation
Shoreline (other than beach) access sites	Not currently tracked	Unknown	DNREC Fish & Wildlife
Recreational boat (power or non-motorized) access sites	122	Increase	DNREC Parks and Recreation
Designated scenic vistas or overlook points	6	same as previous 309 assessmment	DNREC Parks and Recreation
Fishing access points (i.e. piers, jetties)	208 Public Fishing Sites	Increase	DNREC Parks and Recreation
Coastal trails/ boardwalks *(Please indicate number of trails/boardwalks and mileage)*	~650 Miles of public trails/boardwalks and pathways	Increase	DNREC Parks and Recreation; Delaware Statewide Comprehensive Recreation Plan

[5] Be as specific as possible. For example, if you have data on many access sites but know it is not an exhaustive list, note "more than" before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

[6] If you know specific numbers, please provide. However, if specific numbers are unknown but you know that the general trend was increasing or decreasing or relatively stable or unchanged since the last assessment, note that with a ↑ (increased), ↓ (decreased), – (unchanged). If the trend is completely unknown, simply put "unknown."

Type of Access	Current number[5]	Changes or Trends Since Last Assessment[6] (↑, ↓, –, unknown)	Cite data source
Acres of parkland/open space	173,583 Acres of parks, wildlife areas, and other publicly owned openspace lands	Increase	DNREC Parks and Recreation
Access sites that are Americans with Disabilities Act (ADA) compliant[7]	113 +	Unknown – not currently tracked	DNREC Parks and Recreation

2. Briefly characterize the demand for coastal public access and the process for periodically assessing demand. Include a statement on the projected population increase for your coastal counties. There are several additional sources of statewide information that may help inform this response, such as the Statewide Comprehensive Outdoor Recreation Plan,[8] the National Survey on Fishing, Hunting, and Wildlife Associated Recreation,[9] and your state's tourism office.

Delaware's five-year Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a planning and policy effort that identifies outdoor recreation needs throughout the state. Identification of these needs guides the investment and distribution of funding for outdoor recreation from the Federal Land and Water Conservation Trust Fund, the Delaware Outdoor Recreation, Parks, and Trails Program, and other public and private sources. During the development of the SCORP, input from diverse stakeholders, including citizens, local interest groups, and municipal, county, and state government agencies, was used to identify and provide recommendations to meet Delaware's outdoor recreation needs. A technical advisory committee, comprising more than twenty local, regional, state, federal, and non-governmental organizations, informed and guided the plan's development.

In preparing the most recent SCORP, crowding and access to parks and beaches during the summer were identified as growing challenges. Delaware faces increasing strain on recreational spaces as population growth (up 4.2% since 2020) and tourism, particularly in Sussex County, outpace the static supply of parks and beach facilities. In the summer, beaches reach capacity, and park facilities cannot expand. Limited public access to privately owned or protected beaches compounds the issue. In 2024, the following Delaware state park beach parking areas experienced over-capacity: Fenwick Island State

[7] For more information on ADA see *ada.gov.*

[8] Most states routinely develop "Statewide Comprehensive Outdoor Recreation Plans", or SCORPs, that include an assessment of demand for public recreational opportunities. Although not focused on coastal public access, SCORPs could be useful to get some sense of public outdoor recreation preferences and demand. https://documents.dnrec.delaware.gov/parks/planning/scorp/2025-2030-scorp/Survey-Report.pdf

[9] The National Survey on Fishing, Hunting, and Wildlife Associated Recreation produces state-specific reports on fishing, hunting, and wildlife associated recreational use for each state. While not focused on coastal areas, the reports do include information on saltwater and Great Lakes fishing, and some coastal wildlife viewing that may be informative and compares 2016 data to 2011, 2006, and 2001 information to understand how usage has changed. The most recent survey was conducted for 2022 but due to a change in methodology, results cannot be compared to previous reports. See *fws.gov/program/national-survey-fishing-hunting-and-wildlife-associated-recreation-fhwar.*

Park (29 days), Cape Henlopen (17 days), Delaware Seashore (18 days), and Deauville Beach (9 days). While no new beaches can be created, opportunities exist to enhance access points, add inland water-based amenities, and invest in new recreational infrastructure, particularly through a county park system in Sussex County, where demand is rising fastest. To meet growing needs, Delaware must expand parks, trails, and outdoor facilities while balancing development with environmental conservation and historic preservation, ensuring sustainable recreation for both current and future residents.

3. If available, briefly list and summarize the results of any additional data or reports on the status or trends for coastal public access since the last assessment.

Findings reported in the 2025-2030 SCORP included changes identified in recreation and growth trends, community needs, and landscape preferences. According to the plan, 97% of Delaware residents indicate that outdoor recreation is important to their quality of life. Statewide, well over one-third of the respondents to the SCORP survey (41%) have personally walked or jogged, making this the most popular individual outdoor activity. Other popular individual activities include: bicycling (19%); dog walking (18%); swimming at the beach (16%); hiking (15%); swimming in a pool (15%); birdwatching and wildlife viewing (14%); fishing (14%); gardening (13%); basketball (11%); picnicking (9%); and camping (9%).

The 2025–2030 SCORP highlights five key challenges for public recreation in Delaware: protecting open space, managing summer crowding at parks and beaches, addressing environmental threats, funding facility investment and maintenance, and improving access for all. Additional issues include population growth, demographic shifts, limited affordable housing, and adjustments to the post-pandemic landscape. DNREC has also formed a working group to review the status and quality of beach access statewide.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could impact the future provision of public access to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.

Significant Changes in Public Access Management

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	No	No	No
Operation/maintenance of existing facilities	Yes	No	No
Acquisition/enhancement programs	Yes	No	No

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:

a. Describe the significance of the changes;
b. Specify if they were 309 or other CZM-driven changes; and
c. Characterize the outcomes or likely future outcomes of the changes.

There were no categories with significant changes.

3. Indicate if your state or territory has a publicly available public access guide. How current is the publication and how frequently it is updated?[10]

Guide	Web Address	Last Update/ Frequency	Print
Fishing	http://www.eregulations.com/delaware/fishing/http://www.eregulations.com/delaware/fishing/	2025; annually	Yes
Hunting & Trapping	http://www.eregulations.com/delaware/hunting/	2024; annually	Yes
State Parks	https://www.destateparks.com/	2025; Print seasonally; online as needed	Yes

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High _____
Medium __X___
Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

With outdoor recreation being a driving force in the economy, Delaware invests a significant effort in supporting public access-related activities, from acquisition to creative public programming. State parks and conservation areas are continuing to see high levels of attendance. Stakeholders in this area reasonably ranked this as a moderate priority. However, because others in the state are providing effort and resources to support this enhancement area, the DCMP has ranked it as a medium priority. DCMP will continue to participate in internal discussions regarding the status and quality of public access to the state's beaches, particularly as infrastructure supporting this access is increasingly threatened by environmental changes, development pressures, and sea level rise.

[10] Note some states may have regional or local guides in addition to state public access guides. Unless you want to list all local guides as well, there is no need to list additional guides beyond the state access guide. You may choose to note that the local guides do exist and may provide additional information that expands upon the state guides.

Marine Debris

Section 309 Enhancement Objective: Reducing marine debris entering the nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris. §309(a)(4)

Phase 1 (High-level) Assessment: *(Must be completed by all states.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. In the table below, characterize the existing status and trends of marine debris in the state's coastal zone based on the best available data.

Existing Status and Trends of Marine Debris in Coastal Zone

Source of Marine Debris	Significance of Source (H, M, L, unknown)	Type of Impact[11] (aesthetic, resource damage, user conflicts, other)	Change Since Last Assessment (↑, ↓, –, unknown)
Beach/shore litter	H	Aesthetic, resource damage	↑
Land-based dumping	M	Aesthetic, resource damage, user conflict	-
Storm drains and runoff	L	Aesthetic, other	-
Land-based fishing (e.g., fishing line, gear)	L	Aesthetic, resource damage, user conflict	-
Ocean/Great Lakes-based fishing (e.g., derelict fishing gear)	M	Aesthetic, resource damage, user conflict	-
Derelict vessels	L	Aesthetic, resource damage, user conflict	-
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	L	Aesthetic, resource damage	-
Hurricane/Storm	H	Aesthetic, resource damage, user conflict	↑
Tsunami	L	No impact to date	-

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from marine debris in the coastal zone since the last assessment.

Adopt-A-Beach
The DNREC, in partnership with dedicated volunteers, works in tandem to protect and enhance Delaware's beaches. Small sections of beach along Delaware's Atlantic coast, each approximately one-half mile, have been designated for adoption through the program. Adopt-A-Beach volunteers commit to conducting at least four cleanups over a two-year period. Cleanups take place each year during spring

[11] You can select more than one, if applicable.

and summer—between April 15 and May 15 and from mid-August to mid-September, preferably occurring simultaneously with the annual Coastal Cleanup. While data is collected for this initiative, due to the variable timing of collection and the fluctuating number of volunteers, shoreline marine debris trends cannot be determined from this effort. It does, however, elevate awareness of marine debris clean-up needs among public stakeholders.

Coastal Clean-up

DNREC has continued to lead the Delaware Coastal Cleanup in conjunction with The Ocean Conservancy's International Coastal Cleanup, completing its 37th year in 2024. The most recent efforts resulted in the collection of 2.6 tons of trash and recyclables compared to 0.3 tons in 2023, 3.1 tons in 2022, 2.8 tons in 2021, and 0.7 tons in 2020. The low numbers in 2020 and 2023 were due to the worldwide pandemic and a severe weather event, which forced cancellations in both years. In 2020 and 2021, DNREC encouraged people to clean up trash at a favorite location, such as a beach, park, or their neighborhood, and to share pictures and data with the agency. Despite limited data in some years, the top five debris items found during Coastal Cleanup remained relatively consistent, including plastic/foam pieces, cigarette butts, food wrappers, bottle caps, and plastic beverage bottles. The Delaware Coastal Cleanup includes a recycling component, which has been in place since 2011. The debris collected each year is separated to reduce the amount being directed to state landfills. This effort has resulted in 30-50% of the waste collected each year being redirected to material recovery facilities for recycling. This is a highly popular program that is key to raising public awareness of the detrimental impact litter has on the environment.

Coastal Storm Debris Removal

DNREC's Shoreline and Waterway Management is the first responder to large marine debris within Delaware, as part of its waterway and beach management duties. This includes removals of derelict vessels, abandoned fishing gear, and other large man-made marine debris. In October 2012, Hurricane Sandy arrived in the mid-Atlantic. Heavy winds and substantial rain occurred throughout the area, creating strong tidal forces that severely impacted the coastline, particularly at the Indian River Inlet. Hurricane Sandy swept away large chunks of asphalt and metal debris associated with the deconstruction of the old Route 1 bridge and roadway, as well as the construction of the new bridge and roadway. In 2023, DNREC began receiving multiple reports of concrete, metal, and asphalt along the shoreline of the Indian River Inlet, which were identified as debris washed out by Hurricane Sandy. The debris field was approximately a mile-long stretch that occurred just beyond the mean low-water line at the Inlet. It was determined from water surveys that the material could be found at least 100' from the MLW. From June to September, volunteer events were held, and roughly 82,000 pounds (42 tons or 180 feet of Road) worth of asphalt, concrete, and metal were removed. In late September of 2023, Hurricane Ophelia impacted Delaware's shoreline with another major storm event. Ophelia's storm surge brought all of the marine debris we had identified in the water to a minimum of 30 feet inland. The total removed in 2023 was over 240,000 pounds.

Regional Collaborative Efforts

Regional partners in the Mid-Atlantic Regional Council on the Ocean (MARCO), including DCMP, have been working through the Marine Debris Work Group to bring together regional stakeholders to collectively identify, understand, prevent, and mitigate the impacts of marine debris. The Work Group has successfully developed and implemented two community-based social marketing (CBSM) campaigns in the past five years. The first CBSM campaign was funded by a 2018 NOAA Marine Debris Program

grant to prevent or reduce balloon releases throughout all five Mid-Atlantic States. The project included biannual beach monitoring for balloon litter and other marine debris, as well as a "Prevent Balloon Litter" campaign that utilized CBSM marketing principles. Through Bipartisan Infrastructure Law funding, the Work Group has initiated a project to reduce the use of single-use plastic water bottles. The project is supplying water bottle refill station equipment to waterfront recreational areas in the Mid-Atlantic states. Those locations in Delaware include Grove Park in Rehoboth Beach and the Slaughter Beach public restroom facility. Data-driven CBSM strategies are guiding outreach efforts and promoting responsible environmental practices through messaging that encourages the use of the water stations.

Management Characterization

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) for how marine debris is managed in the coastal zone.

Significant Changes in Marine Debris Management

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Marine debris statutes, regulations, policies, or case law interpreting these	Y	N	Y
Marine debris removal programs	Y	N	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes and likely future outcomes of the changes.

In 2019, the General Assembly passed the Plastic Bag ban in commercial stores across Delaware. Updates to this ban were passed in 2021, further reducing the number of stores able to provide plastic bags, and took effect on July 1, 2022. On September 17, 2021, Governor John Carney signed Senate Bill 24, banning intentional mass balloon releases statewide. Senate Bill 51, which the Governor signed on August 22, 2023, and goes into effect on July 1, 2025, requires restaurants only to provide straws when requested and bans polystyrene foam food service packaging by any “food establishment providing ready-to-eat food”. These legislative actions are an essential step in reducing marine debris on Delaware’s coast.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High _____
Medium __X___
Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

New state legislation to address litter and the sources of marine debris has been enacted. DCMP has been engaged with local and regional partners to understand the significance of different sources and new approaches to changing behavior. DCMP conducted stakeholder engagement with state, county, and local governments, as well as non-governmental entities, indicating that marine debris was a concern but not the highest priority enhancement issue, and ranked it as medium. The DCMP will continue to coordinate with partners conducting marine activities and, when a need arises that can be addressed with DCMP staff or resources, it will work with its partners to address that need.

Cumulative and Secondary Impacts

Section 309 Enhancement Objective: Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources. §309(a)(5)

Phase 1 (High-level) Assessment: *(Must be completed by all states.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. Using National Ocean Economics Program Data on population and housing,[12] please indicate the change in population and housing units in the state's coastal counties between 2017 and 2021. You may wish to add additional trend comparisons to look at longer time horizons as well (data available back to 1970), but at a minimum, please show change over the most recent five-year period data is available (2017-2021) to approximate current assessment period.

Trends in Coastal Population and Housing Units

	2013	2018	2023	Percent Change (2013-2023)
Number of people	925,704	971,152	1,031,890	11.47%
Number of housing units	414,765	439,137	471,458	13.67%

2. Using the tables below as a guide, provide information on land cover changes and development trends. Be as quantitative as possible using state or national land cover data.[13] The tables are a suggestion of how you could present the information. Feel free to adjust column and row headings to align with data and time frames available in your state or territory. If quantitative data on land cover changes and development trends are not available, provide a brief qualitative narrative describing changes in land cover, especially development trends, including significant changes since the last assessment.

[12] *www.oceaneconomics.org/*. Enter "Population and Housing" section and select "Data Search" (near the top of the left sidebar). From the drop-down boxes, select your state. Select the year (2021) then select "coastal zone counties." The default comparison year will be 2017 so no need to select a comparison year.

[13] National data on wetlands status and trends include NOAA's Land Cover Atlas (*coast.noaa.gov/digitalcoast/tools/lca.html*) and the U.S. Geological Survey's National Land Cover Database (*usgs.gov/centers/eros/science/national-land-cover-database)*.

Distribution of Land Cover Types in Coastal Counties

Land Cover Type	Land Area Coverage in 2021 (Acres)	Gain/Loss Since 1996 (Acres)
Developed, High Intensity	63283.2	5072
Developed, Low Intensity	111955.2	12556.8
Developed, Open Space	62777.6	14188.8
Grassland	4454.4	-4921.6
Scrub/Shrub	25152	-8083.2
Barren Land	5868.8	-185.6
Open Water	347904	-134.4
Agriculture	504358.4	-29644.8
Forested	160089.6	7340.8
Woody Wetland	184102.4	4633.6
Emergent Wetland	85920	1555.2

Development Status and Trends for Coastal Counties

	1996	2021	Percent Net Change
Percent land area developed			
Kent	7.61%	9.42%	23.71%
New Castle	29.73%	34.28%	15.29%
Sussex	8.27%	10.65%	28.77%
Percent impervious surface area			
Kent	2.44%	3.01%	23.12%
New Castle	9.91%	11.50%	16.03%
Sussex	2.75%	3.36%	32.04%

**County level data is provided since all three of Delaware's counties are considered to be coastal, and the available dataset from NOAA was by county.*

How Land Use Is Changing in Coastal Counties

Land Cover Type	Areas Lost to Development Between 1996-2024 (Acres)
Barren Land	-185.6
Emergent Wetland	1555.2
Woody Wetland	4633.6
Open Water	-134.4
Agriculture	-29644.8
Scrub/Shrub	-8083.2
Grassland	-4921.6
Forested	7340.8

3. Briefly characterize how the coastal shoreline has changed in the past five years due to development, including potential changes to shoreline structures such as groins, bulkheads and other shoreline stabilization structures, and docks and piers. If available, include quantitative data that may be available from permitting databases or other resources about changes in shoreline structures.

Delaware has experienced relatively little coastal shoreline change over the past five years due to development. This is primarily due to the State's Beach Preservation Act (7 Del. C. Ch 68) and its associated regulations, which minimize the impact of development to preserve the protective and recreational functions of beaches and dunes, and the State Coastal Zone Act (7 Del. C. Ch 70) and its associated regulations, which restrict industrial development within the coastal strip. Shoreline protection occurs principally in the form of beaches and dunes. The U.S. Army Corps of Engineers, in coordination with DNREC, undertakes nourishment of the ocean beach. Maintenance activities for the Bay beaches, including the area from Pickering Beach south to Broadkill Beach, have been conducted as needed and are primarily funded by state resources. Several state and federal projects have occurred in the last 5 years and can be found in the Beach Nourishment Databases maintained by the American Shore and Beach Preservation Association and the Program for the Study of Developed Shorelines.

One notable shoreline stabilization project undertaken in the last five years was the rehabilitation of the jetties at the mouth of the Murderkill River. In 2022, DNREC initiated a project to replace and repair the jetties at the mouth of the Murderkill River. The river originates west of Felton and flows northeast through Kent County, emptying into the Delaware Bay just south of Bowers Beach. The jetties that stabilize the river's inlet are in poor condition, with some sections showing significant wear. DNREC contracted the design work for the rehabilitation effort, and construction began in the fall of 2023. Jetties border the inlet on both sides, extending into the bay to serve as a stabilizer for the river mouth. Previously, in 2015, the north jetty was partially rehabilitated by placing large quarry stones over an older concrete bag foundation. This repaired portion ends about 300 feet seaward of the U.S. Coast Guard Station, but an area of inland scour behind the concrete bags remains exposed and unrepaired. The south jetty, made from aging concrete bags, has a low crest and is in poor condition, making it susceptible to structural failure and sand overtopping—issues that obstruct navigation.

In the summer of 2022, an emergency dredging operation removed over 52,000 cubic yards of sediment from the Murderkill River's navigation channel. The portions of the dredged material that contained mostly beach-quality sand were placed on the eroding beach in South Bowers, while the rest of the sediment was disposed of at a designated offshore disposal site. The current engineering plan includes restoring the south jetty, finishing repairs to the remaining northern section, and addressing the inland scour through beach nourishment.

4. Briefly summarize the results of any additional state- or territory-specific data or reports on the cumulative and secondary impacts of coastal growth and development, such as water quality, shoreline hardening, and habitat fragmentation, since the last assessment.

The draft 2025-2035 Delaware Wildlife Action Plan (DEWAP) identifies coastal growth and development as a major driver of cumulative ecological impacts, particularly through habitat loss and fragmentation. Development in Delaware has expanded through incremental residential, commercial, and infrastructure projects, causing the fragmentation of formerly continuous wetlands, coastal forests, dunes, and marsh-upland transition zones. Even when some habitat remains, fragmentation reduces its ecological function by shrinking habitat patches and disrupting landscape connectivity needed by many *Species of Greatest Conservation Need*.

Beyond direct habitat loss, the draft DEWAP emphasizes the secondary impacts of fragmentation, including reduced wildlife movement, increased edge effects, higher exposure to invasive species and human disturbance, and isolation of wildlife populations. Roads, shoreline armoring, and dense development act as barriers that limit daily movement, seasonal migration, and genetic exchange. These effects accumulate over time, meaning that the ecological consequences of development intensify as landscapes become increasingly subdivided, even if individual projects appear small or localized.

The draft DEWAP further highlights that coastal development amplifies environmental stressors, particularly sea level rise. Fragmentation and hard infrastructure restrict the landward migration of tidal wetlands and other coastal habitats, creating coastal squeeze and reducing ecosystem resilience. As a result, cumulative and secondary impacts from coastal growth not only degrade existing habitats but also limit coastal ecosystems' ability to adapt to future environmental change, posing long-term risks to Delaware's coastal biodiversity and natural resources.

The draft DEWAP outlines a coordinated set of strategies to address habitat loss and fragmentation by integrating science-based planning, land conservation, policy coordination, and community engagement. The plan emphasizes strengthening data collection, monitoring, and research to better understand species distributions, habitat condition, and fragmentation pressures, ensuring conservation actions are targeted where they will be most effective. The draft DEWAP also promotes stronger partnerships among state, federal, and local agencies, non-profits, and private landowners so conservation efforts occur at landscape scales rather than as isolated projects.

Management Characterization

1. Indicate if the approach is employed by the state or territory and if there have been any significant state-level changes (positive or negative) in the development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources, since the last assessment.

Significant Changes in Management of Cumulative and Secondary Impacts of Development

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	N	N	N
Guidance documents	N	N	N
Management plans (including SAMPs)	N	N	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

No significant changes since the last assessment.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

    High _____
    Medium ___x__
    Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

    Of the 20 participants who responded, 14 selected “Land use change from development” as the most pressing challenge related to cumulative and secondary impacts. The three respondents who noted “other” replied with “lack of capacity to move forward restoration projects,” “waste disposal practices on land,” and “The four listed are all related and all important.” Survey-takers were then asked, “What opportunities or strategies do you believe can best address cumulative and secondary impacts over the next five years?” Of the ten responses received, the responses focused on better regulations, responsible land use, strengthened partnerships, interdisciplinary approaches, and buffer development. Respondents emphasized that changes are needed in land-use decision-making and that there needs to be more hard conversations focused on sustainable development.

Special Area Management Planning

Section 309 Enhancement Objective: Preparing and implementing special area management plans for important coastal areas. §309(a)(6)

The Coastal Zone Management Act defines a special area management plan (SAMP) as "a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. In addition, SAMPs provide for increased specificity in protecting natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making."

Phase 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. In the table below, identify geographic areas in the coastal zone subject to use conflicts that may be able to be addressed through a SAMP. This can include areas that are already covered by a SAMP but where new issues or conflicts have emerged that are not addressed through the current SAMP.

Geographic Area	**Opportunities for New or Updated Special Area Management Plans** Major conflicts/issues
Delaware Bay Beaches	The Delaware Bay Beaches are highly vulnerable to storms and SLR, given that many of them are either small municipalities with limited resources or unincorporated communities under the jurisdiction of the counties, but with significant state and federal investment in roads and beach nourishment projects, a comprehensive planning effort for these areas would be of value to all involved. Additionally, large portions of the Delaware Bayshore are owned by the state (DNREC) and federal (USFWS) governments, and are managed for wildlife habitat creation and conservation. A SAMP process could provide a venue and structure for bringing together county, local, state, and federal stakeholders to plan for the increasing threats to these areas.
Coastal Atlantic Region	The Coastal Atlantic Region, highly vulnerable to storms and SLR, contains five jurisdictions (Sussex County, Lewes, Rehoboth, Dewey, Bethany, South Bethany, and Fenwick Island) that are individually planning coastal resiliency projects. These jurisdictions, in particular, face threats from increasing sunny days and storm flooding along the Inland Bays, and mitigation of this hazard requires coordination among multiple jurisdictions, including the state, the county, and municipalities. Because of the similarities in issues, a SAMP could

Geographic Area	Opportunities for New or Updated Special Area Management Plans Major conflicts/issues
	provide a venue for continued collaboration on science-based decision-making.
Pea Patch Island Heronry Region	It has been over 20 years since the publication of the Pea Patch Island Heronry Region SAMP, and while the plan is still in use today, conditions in the region have changed significantly, with sea level rise and environmental change, and an increase in marine transportation emerging as threats to the Heronry and its supporting habitat. An updated SAMP in this area would assess changing conditions, outline adaptation actions, and chart the course for the next 15-20 years of management of this nationally important bird nesting area.

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of SAMPs since the last assessment.

N/A

Management Characterization

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could help prepare and implement SAMPs in the coastal zone.

   Recently, DCMP has instead favored local, less formal planning and engagement processes. To strengthen local resilience, it has expanded community grants, providing municipalities with funding, tools, and expertise to address local priorities, such as adaptation planning. DCMP also supports these efforts by organizing meetings, facilitating stakeholder engagement, and contracting technical expertise. These community-led approaches, which often result in policy or ordinance outcomes, tend to gain stronger public participation and support. Additionally, the Delaware Resilient and Sustainable Communities League (DE-RASCL) provides an informal platform for collaboration among local stakeholders, often centered on specific geographic areas.

Significant Changes in Special Area Management Planning

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
SAMP policies, or case law interpreting these	N	N	N
SAMP plans	Y	Y	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
   a. Describe the significance of the changes;
   b. Specify if they were 309 or other CZM-driven changes; and

c. Characterize the outcomes or likely future outcomes of the changes.

There were no categories with significant changes.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	___
Low	_X__

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

   Unlike the other 309 enhancement areas in Delaware, which are based on issues "on the ground", SAMPs are a tool or process that can be used to develop policies and management tools for the enhancement areas within specific geographic regions. DCMP stakeholder engagement of state, county, and local government and non-governmental entities indicated SAMPs were low-priority enhancement issues. The DCMP staff ranked this area as a low priority level and will evaluate the utility of implementing a SAMP as a planning and policy development tool for any high-priority enhancement area.

Ocean and Great Lakes Resources

Section 309 Enhancement Objective: Planning for the use of ocean [and Great Lakes] resources. §309(a)(7)

Phase 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. Understanding the ocean and Great Lakes economy can help improve management of the resources it depends on. Using Economics: National Ocean Watch (ENOW),[14] indicate the status of the ocean and Great Lakes economy as of 2021 (the most recent data) in the tables below. Include graphs and figures, as appropriate, to help illustrate the information. Note ENOW data are not available for the territories. The territories can provide alternative data, if available, or a general narrative, to capture the value of their ocean economy.

Status of Ocean and Great Lakes Economy for Coastal Counties (2021)

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	31,642.5	262.3	70	--	8,518.6	73.5	22,708.3
Establishments (# of Establishments)	1,705	36	28	--	115	10	1,513
Wages (Millions of Dollars)	$1,011.5	$12.8	$4.0	--	$445.1	$4.7	$544.3
GDP (Millions of Dollars)	$1,909.7	$28.9	$7.5	--	$565.6	$8.0	$1,298.2

[14] *coast.noaa.gov/digitalcoast/tools/enow.html*. If you select any coastal county for your state, you are directed to various data displays for that county. In the upper left of the screen, click the "State" box, to the left of the county box so that the state name will be highlighted. Now the data will reflect statewide data for all of the state's coastal counties. Make sure "2021" is selected for the year (top right corner). You can then click through the sector types by selecting the icons along the top and the type of economic data (employment, wages, GDP, etc.), by clicking through the icons on the left.

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2021)[15]

	All Ocean Sectors	Living Resources	Marine Construction	Ship & Boat Building	Marine Transportation	Offshore Mineral Extraction	Tourism & Recreation
Employment (# of Jobs)	11,126.5	-112.7	70	--	5,916.6	73.5	5,477.3
Establishments (# of Establishments)	403	6	28	--	53	10	351
Wages (Millions of Dollars)	$636.5	$3.0	$4.0	--	$346.3	$4.7	$291.8
GDP (Millions of Dollars)	$1,157.5	$11.1	$7.5	--	$411.3	$8.0	$743.0

- 2. Understanding existing uses within ocean and Great Lakes waters can help reduce use conflicts and minimize threats when planning for ocean and Great Lakes resources. Using Ocean Reports,[16] indicate the number of uses within the ocean or Great Lakes waters off of your state. To avoid duplication, energy uses (including pipelines and cables) are reported under "Energy and Government Facility Siting" in the following template. However, feel free to include energy uses in this table as well if listing all uses within ocean and Great Lakes waters in one place is preferred. Add additional lines, as needed, to include additional uses that are important to your state. Note: The Ocean Reports tool does not include data for the Great Lakes states. Great Lakes states should fill in the table as best they can using other data sources.

Uses within Ocean or Great Lakes Waters

Type of Use	Number of Sites
Federal sand and gravel leases *(Completed)*	The data are not applicable to this location
Federal sand and gravel leases *(Active)*	The data are not applicable to this location
Federal sand and gravel leases *(Expired)*	The data are not applicable to this location
Federal sand and gravel leases *(Proposed)*	The data are not applicable to this location
Beach Nourishment Projects	34 within 15 miles
Ocean Disposal Sites	7 within state waters (8 within 10 nautical miles)
Principle Ports *(Number and Total Tonnage)*	2 principal ports; 15,750,985 tons
Coastal Maintained Channels	12 within 1 nautical mile
Designated Anchorage Areas	9 within 1 nautical mile
Danger Zones and Restricted Areas	2 within 1 nautical mile
Artificial Reefs	101

[15] Trend data is available at the bottom of the page for each sector and type of economic data. Mouse over the data points for 2005 and 2021 to obtain the actual values and determine the change by subtracting 2005 data from 2021.

[16] *coast.noaa.gov/digitalcoast/tools/ort.html*. Select the "view quick reports" button and enter the name of your state or territory in the search bar. Some larger states may have the "quick reports" for their state waters broken into several different reports. Click on the "state waters" reports to view. Note the Ocean Reports tool also generates "quick reports" for national estuarine research reserve boundaries in your state. These reports are just a subset of the "state waters" report(s) so you can ignore the reserve "quick reports." Use the icons on the left hand side to select different categories: general information, energy and minerals, natural resources and conservation, oceanographic and biophysical, transportation and infrastructure, and economics and commerce. Scroll through each category to find the data needed to complete the table. The top six categories in the table above are in the "energy and minerals" section while the other information to complete the table can be found under the "transportation and infrastructure" section.

 3. In the table below, characterize how the threats to and use conflicts over ocean and Great Lakes resources in the state's or territory's coastal zone have changed since the last assessment.

Significant Changes to Ocean and Great Lakes Resources and Uses

Resource/Use **Change in the Threat to the Resource or Use Conflict**	**Since Last Assessment** (↑, ↓, –, unknown)
Benthic habitat (including coral reefs)	↑
Living marine resources (fish, shellfish, marine mammals, birds, etc.)	↑
Sand/gravel	↑
Cultural/historic	↑
Transportation/navigation	↑
Offshore development[17]	↑
Energy production	↑
Fishing (commercial and recreational)	↑
Recreation/tourism	↑
Sand/gravel extraction	↑
Dredge disposal	Unknown
Aquaculture	↑

 4. For those ocean and Great Lakes resources and uses in the table above that had an increase in threat to the resource or increased use conflict in the state's or territory's coastal zone since the last assessment, characterize the major contributors to that increase. Place an "X" in the column if the use or phenomenon is a major contributor to the increase.

[17] Offshore development includes underwater cables and pipelines, although any infrastructure specifically associated with the energy industry should be captured under the "energy production" category.

Major Contributors to an Increase in Threat or Use Conflict to Ocean and Great Lakes Resources

	Land-based development	Offshore development	Pollutedrunoff	Invasive species	Fishing (Commercial and Recreational)	Aquaculture	Recreation	Marine Transportation	Dredging	Sand / Mineral Extraction	Ocean Acidification	Energy Production
Benthic habitat (including coral reefs)		X								X	X	X
Living marine resources (fish, shellfish, marine mammals, birds, etc.)	X	X	X					X			X	X
Sand/gravel	?	X								X		X
Cultural/historic		X							X	X		X
Transportation/navigation		X										X
Offshore development	X				X				X	X		X
Energy production	X	X			X	X	X	X	X	X		X
Fishing (commercial and recreational)		X					X	X				X
Recreation/tourism		X										X
Sand/gravel extraction	X	X										X
Aquaculture		X	X		X						X	X

- 5. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of ocean and Great Lakes resources or threats to those resources since the last assessment to augment the national data sets.

Regional Ocean Planning

DCMP continues to support the Mid-Atlantic Regional Council on the Ocean (MARCO) through participation in the Management Board, various work groups, and the Mid-Atlantic Ocean Planning Committee (Mid-A OPC), formerly known as the Mid-Atlantic Committee on the Ocean. From June 2021 to June 2023, the DCP Administrator served as Chair of the MARCO Management Board, and from June 2023 until June 2025, the Ocean Planner served as Chair of the Mid-A OPC Steering Committee.

In 2022, Congress officially recognized Regional Ocean Partnerships (ROP) as intergovernmental coordinators with the passage of the Regional Ocean Partnership Act. The Bipartisan Infrastructure Law allocated funding for ROPs in recognition of the importance of regional-scale work in advancing federal and shared state priorities. BIL funding provided MARCO the

resources to bolster existing and new efforts and add three new contract staff to advance regional priorities.

Major accomplishments and initiatives include the release of New Perspectives on the Ocean Economy in Mid-Atlantic States in December 2022, which calculates the contributions of oft-overlooked portions of the ocean economy, concluding that marine research and education, state expenditures related to the ocean, and coastal electricity production support 38,000 jobs and $25.5 billion in annual economic activity.

Delaware Ocean and Bay Plan

DCMP began developing an Ocean and Bay Plan (OBP) for the state. The effort will facilitate responsible management and stewardship of marine resources and activities through a comprehensive spatial inventory of marine activities, resource taxa, and human-caused environmental changes. The interactions and whether each resource and activity can co-exist, either unconditionally or conditionally, will be described in a reference document, followed by suggested practices to de-conflict or de-risk accompanying challenges.

To fulfill this effort, DCMP secured 306 funding through NOAA Operations Grant NA20NOS4190170 to gather the most up to date and relevant information through research and engagement, culminating in the Ocean and Bay Plan: Resource and Use Guide, which was submitted to NOAA in April 2024. This component of the OBP serves as the foundation of the OBP. It includes a summary of research on other state plans, DNREC's authority as it relates to ocean resource management, baseline characterizations of marine activities conducted through a contract with the University of Delaware, and an analysis of information gathered through stakeholder and public engagement. Throughout late 2022 and early 2023, over 55 technical experts from external organizations were interviewed. Based on the values and priorities identified through those interviews, three main planning themes (Blue Economy, Blue Environment, and Blue Foundation) and seven buckets (Recreation and Tourism, Maritime, Offshore Energy, Marine Resource Conservation, Anthropogenic Impacts, Submarine Infrastructure, and Marine Minerals) were identified that would be inclusive of all priorities. Following external organization engagement, DCMP held a public comment period, coinciding with three public listening sessions, to understand which marine resources and uses are important to the general public and what they'd like to learn more about. In November 2024, DCMP published a summary of public interests and priorities based on the public engagement.

Looking ahead, the OBP and its accompanying Resource and Use Guide will remain dynamic, "living documents," continually updated to reflect new data, evolving policies and regulations, and ongoing stakeholder feedback. The OBP will include in-depth descriptions of the interactions between marine resources and their uses, as well as their level of compatibility. Best practices will be suggested to de-conflict competing interests. Additionally, the OBP will build on a gaps analysis conducted under the contract with the University of Delaware to describe gaps in marine data and information and potential recommendations for filling those gaps. As a component of the OBP, DCMP staff are working with Delaware's Department of Technology and Information (DTI) to develop a public-facing, GIS-based Ocean and Bay Planning Tool. The innovative platform will enable users to visualize interactions between marine

resources and activity data and to easily discover conflict-resolution practices for a selected activity, facilitating better planning. DTI secured licensing for a Power Automate system, enabling the report to be generated. DCMP staff identified a list of layers and associated datasets to be included in the tool.

Management Characterization

1. Indicate if the approach is employed by the state or territory and if any significant state- or territory-level changes (positive or negative) in the management of ocean and Great Lakes resources have occurred since the last assessment?

Significant Changes to Management of Ocean and Great Lakes Resources

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	N	N
Regional comprehensive ocean/Great Lakes management plans	Y	N	N
State comprehensive ocean/Great Lakes management plans	N	N	Y
Single-sector management plans	N	N	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

See Delaware Ocean and Bay Plan in the previous section for progress on the development of a state ocean plan.

3. Indicate if your state or territory has a comprehensive ocean or Great Lakes management plan.

Comprehensive Ocean/Great Lakes Management Plan	State Plan	Regional Plan
Completed plan (Y/N) (If yes, specify year completed)	N	Y (2016)
Under development (Y/N)	Y	N
Web address (if available)	https://dnrec.delaware.gov/coastal-programs/ocean-and-bay-plan/	https://www.boem.gov/environment/mid-atlantic-regional-ocean-action-plan
Area covered by plan	Delaware's jurisdictional waters in the Delaware Bay and Atlantic ocean, as well as federal waters eastward of the Delaware Atlantic coast, past the continental shelf and slope.	NY, NJ, DE, MD, VA and seaward out to 200 nm

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

   High _____
   Medium _X___
   Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

   The escalating demand for space in waters off Delaware's coastline is introducing and amplifying a range of challenges related to planning activities and natural resource conservation in marine areas. Various factors, including economic development, renewable energy initiatives, recreational activities, and environmental conservation efforts, drive this phenomenon. To address these challenges effectively and facilitate the protection and sustainability of the economic contributions and environmental benefits that the Atlantic Ocean and Delaware Bay provide to all Delawareans, a multifaceted, holistic ocean planning approach involving government, industries, communities, and individuals is required. DCMP has been engaged in efforts with local and regional partners to better understand the significance of ocean use conflicts and is building on its current and historic ocean planning efforts by developing a Delaware Ocean and Bay Plan.

   DCMP conducted stakeholder engagement with state, county, and local governments and nongovernmental entities, which indicated that ocean resources were a concern but not the highest-priority enhancement issue, and is thus ranked as a medium priority.

Energy and Government Facility Siting

Section 309 Enhancement Objective: Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and Government facilities and energy-related activities and Government activities which may be of greater than local significance. §309(a)(8)[18]

Phase 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. In the table below, characterize the status and trends of different types of energy facilities and activities in the state's or territory's coastal zone based on best-available data. If available, identify the approximate number of facilities by type. For ocean-facing states and territories (not Great Lakes states), Ocean Reports[19] includes existing data for many energy facilities and activities.

[18] CZMA § 309(a)(8) is derived from program approval requirements in CZMA § 306(d)(8), which states:

> "The management program provides for adequate consideration of the national interest involved in planning for, and managing the coastal zone, including the siting of facilities such as energy facilities which are of greater than local significance. In the case of energy facilities, the Secretary shall find that the State has given consideration to any applicable national or interstate energy plan or program."

NOAA regulations at 15 C.F.R. § 923.52 further describes what states need to do regarding national interest and consideration of interests that are greater than local interests.

[19] *coast.noaa.gov/digitalcoast/tools/ort.html.* Select the "view quick reports" button and enter the name of your state or territory in the search bar. Some larger states may have the "quick reports" for their state waters broken into several different reports. Click on the "state waters" reports to view. Note the Ocean Reports tool also generates "quick reports" for national estuarine research reserve boundaries in your state but this is just a subset of the "state waters" report(s) so you can ignore the reserve "quick reports." Click on the wind turbine icon on the left ("energy and minerals") for information on energy production. While outside your coastal zone, you may also want to consider facilities/activities in "federal waters" that may have effects on your coastal zone.

Status and Trends in Energy Facilities and Activities in the Coastal Zone

Type of Energy Facility/Activity	**Exists in Coastal Zone** (# or Y/N)	**Change in Existing Facilities/Activities Since Last Assessment** (↑, ↓, –, unknown)	**Proposed in Coastal Zone** (# or Y/N)	**Change in Proposed Facilities/Activities Since Last Assessment** (↑, ↓, –, unknown)
Pipelines	Y	↑	Y	↑
Electrical grid (transmission cables)	Y	↑	Y	↑
Ports	Y	-	Y	↑
Liquid natural gas (LNG)	N	-	N	-
Electric Power Facilities (Oil)	Y	–	N	–
Electric Power Facilities (Gas)	Y	–	N	–
Electric Power Facilities (Coal)	N	↓	N	↓
Electric Power Facilities (Nuclear)	N	–	N	↑
Electric Power Facilities (Wave)	N	–	N	–
Electric Power Facilities (Tidal)	N	–	N	–
Electric Power Facilities (Current, ocean, lake, river)	N	–	N	–
Electric Power Facilities (Hydropower)	N	–	N	–
Electric Power Facilities (Ocean thermal energy conversion)	N	–	N	–
Electric Power Facilities (Solar)	Y	↑	Y	↑
Electric Power Facilities (Biomass)	N	–	N	–
Other (please specify)				

2. If available, briefly list and summarize the results of any additional state- or territory-specific information, data, or reports on the status and trends for energy facilities and activities of greater than local significance in the coastal zone since the last assessment.

During the last assessment strategy cycle, interest in renewable energy continued to grow. Exploring partnerships with neighboring states, promoting the coordinated, cost-effective buildout of transmission systems on a regional scale and including ways to

avoid, minimize or mitigate environmental impacts of renewable energy interests were among the recommendations put forward.

The Energy Solutions Act of 2024 authorizes the procurement of offshore wind in Delaware. The Act emphasizes flexibility in timing, scale, and structure of a procurement, and requires collaboration with other buyers, such as neighboring states.

In July 2025, the Delaware legislature convened a Nuclear Energy Feasibility Task Force to examine the feasibility of small modular reactors in Delaware. The charge was to examine the feasibility, economic impact, regulatory considerations, energy reliability, and environmental implications of deploying small modular reactors in Delaware. They have conducted several reviews and released papers/reports examining the feasibility, including reliability, predictability, grid integration, land use, carbon emissions, and cost stability. A final report from the task force is likely within the year.

3. Briefly characterize the existing status and trends for federal government facilities and activities of greater than local significance[20] in the state's coastal zone since the last assessment.

   There are no federal government facilities or activities of greater than local significance that fall under this section at this time.

Management Characterization

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) that could facilitate or impede energy and government facility siting and activities have occurred since the last assessment.

Significant Changes in Energy and Government Facility Management

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpretations	Y	N	Y
State comprehensive siting plans or procedures	Y	N	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
   a. Describe the significance of the changes;
   b. Specify if they were 309 or other CZM-driven changes; and
   c. Characterize the outcomes or likely future outcomes of the changes.

[20] The CMP should make its own assessment of what government facilities may be considered "greater than local significance" in its coastal zone, but these facilities could include military installations or a significant federal government complex. An individual federal building may not rise to a level worthy of discussion here beyond a very cursory (if any at all) mention).

State Energy Plan

DNREC released an updated Delaware State Energy Plan in 2024 to guide the state as it works to meet its energy priorities and address challenges the industry faces, including rising demand, environmental change, and the need to prepare the power grid and workforce to meet changing energy needs.

Energy Legislation

Governor Carney signed the Delaware Energy Solutions Act of 2024 in September 2024. The bill authorizes the State Energy Office, with the approval of the Public Service Commission, to issue solicitations to procure offshore wind. A solicitation can be for a project that serves only Delaware or, in coordination with other states, authorizes the procurement of at least 800 megawatts and no more than 1,200 megawatts of power for Delaware, in a single or multiple solicitations.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	__X___
Low	_____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

There is a need to balance our natural resource protection efforts with interest in energy production. Input received from DCMP stakeholder engagement with state, county, and local governments, as well as nongovernmental entities, on Energy and Government Facility Siting focused on the need for effective, informative communication regarding renewable energy. With increasing energy facility-related activity in the region and the potential for cumulative and secondary impacts (e.g., water quality, impacts on threatened and endangered species), pressure on the state's coastal resources and uses is increasing. With these considerations, the DCMP ranked Energy and Government Facility Siting as a moderate priority. The DCMP will continue to monitor siting activity and support research to further characterize potential impacts.

Aquaculture

Section 309 Enhancement Objective: Adoption of procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone, which will enable states to formulate, administer, and implement strategic plans for marine aquaculture. §309(a)(9)

Phase 1 (High-level) Assessment: *(Must be completed by all states and territories.)*
Purpose: To quickly determine whether the enhancement area is a high-priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization

1. In the table below, characterize the existing status and trends of aquaculture facilities in the state's coastal zone based on the best-available data. Your state Sea Grant Program may have information to help with this assessment.[21]

Status and Trends of Aquaculture Facilities and Activities

Type of Facility/Activity	Number of Facilities[22]	Approximate Economic Value	Change Since Last Assessment (↑, ↓, –, unknown)
Catfish	1		-
Trout	1		-
Other food fish	3		-
Baitfish	1		-
Crustaceans	3	$29,000	↑
Mollusks	12	$612,000	↑
Ornamental Fish	2		↑

Source: USDA Census of Agriculture (2022 and 2017 Comparison)

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from aquaculture activities in the coastal zone since the last assessment.

Shellfish Aquaculture in Delaware's Inland Bays

Since the previous assessment, Delaware has expanded its Shellfish Aquaculture Development Areas (SADA) to include 343 total SADA-acre blocks in the Inland Bays (Indian River Bay, Rehoboth Bay, and Little Assawoman Bay), with 43 in Little Assawoman and 300 in Rehoboth and Indian River Bays. 7 SADA in the Rehoboth and Indian River Bays are unavailable for lease due to the most recent hard shell clam density survey. 27 SADA blocks are leased to 11 lessees in the Indian River and Rehoboth Bays.

[21] While focused on statewide aquaculture data rather than just within the coastal zone, the *Census of Aquaculture* (*agcensus.usda.gov/Publications/Census_of_Aquaculture/)* may help in developing your aquaculture assessment. The census is conducted every 10 years and the last report was released in 2018. The report provides a variety of state-specific aquaculture data to understand current status and recent trends.

[22] Be as specific as possible. For example, if you have specific information of the number of each type of facility or activity, note that. If you only have approximate figures, note "more than" or "approximately" before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

Management Characterization

1. Indicate if the approach is employed by the state or territory and if there have been any state- or territory-level changes (positive or negative) that could facilitate or impede the siting of public or private aquaculture facilities in the coastal zone.

Significant Changes in Aquaculture Management

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Aquaculture comprehensive siting plans or procedures	Yes	No	Yes
Other aquaculture statutes, regulations, policies, or case law interpreting these	Yes	No	Yes

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
    a. Describe the significance of the changes;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

Proposed Amendments to Delaware Shellfish Aquaculture Regulations

The revisions to the *Shellfish Aquaculture* regulations (7 DE Admin. Code 3801) are intended to improve operations for the shellfish aquaculture industry in Delaware's Inland Bays while ensuring shellfish aquaculture remains compatible with commercial and recreational finfishing and shellfish, boating navigation and public safety, public water access and use, and native biota.

The amended regulation incorporated three specific recommendations of the Shellfish Aquaculture Task Force created during the 152nd General Assembly (2023 – 2024).

- Reducing the annual planting requirement from 100,000 to 50,000 shellfish per leased acre while reducing the time period before a new lessee must meet the minimum planting requirement from 60 to 36 months and the time before a new lessee must harvest 2,000 oysters or 5,000 clams per leased acre from 72 to 48 months.
- Removing the individual gear marking requirement for gear that is attached to a line suspended by poles as long as the spacing between the poles is no more than 10 feet and each pole extends no less than 2 feet above Mean High Water.
- Removing import permitting from in-state hatcheries that meet shellfish disease control qualifications.

Pilot Shellfish Hatchery (2023-2024)

Delaware Sea Grant initiated a pilot shellfish hatchery program to support local aquaculture. In its inaugural 2023 season, the hatchery supplied 105,000 spat-on-shell oysters to a commercial grower in Delaware Bay. By 2024, production increased to 650,000 seed oysters for Rehoboth Bay growers and 460,000 spat-on-shell oysters for Delaware Bay growers. The hatchery aims to produce 1 million seed oysters annually and plans to expand to other species, such as hard clams and scallops.

Educational Initiatives (2023)

Delaware State University expanded its aquaculture extension program to support the emerging shellfish industry. This initiative includes developing a comprehensive aquaculture training manual for schools, establishing demonstration farms, conducting production demonstrations, and creating baseline production cost analyses. The program aims to equip educators and students with the necessary skills and knowledge to participate in the aquaculture sector.

Oyster Aquaculture Cost-Share Program (2023)

The Sussex Conservation District introduced a cost-share program to financially assist oyster farmers. The program offers payments of $0.05 per harvested oyster, up to a maximum of 150,000 oysters annually, equating to $7,500 per farmer. Applications are accepted year-round, with payments disbursed quarterly.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	_____
Low	__X__

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

DCMP stakeholder engagement indicated that aquaculture had varying degrees of desired focus. Due to the advancements made with the support of the DCMP's network and program partners, the shellfish aquaculture industry has made significant progress in the state, adapting to local regulatory, economic, and environmental conditions with various initiatives, projects, and facilities. With a network of resource managers and outreach professionals focused on this enhancement area, the DCMP ranked it as a low priority for its strategic planning efforts. The DCMP will continue to monitor aquaculture activities and, if a need arises that can be addressed by DCMP staff or resources, will work with its partners to address it.

Phase II Assessment

Wetlands

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities to improve the CMP's ability to protect, restore, and enhance wetlands.

1. What are the three most significant existing or emerging physical stressors or threats to wetlands within your coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout your coastal zone, or are there specific areas that are most threatened? Stressors can be development/fill; hydrological alteration/channelization; erosion; pollution; invasive species; freshwater input; sea level rise/Great Lakes level change; or other (please specify).

	Stressor/Threat	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Stressor 1	Environmental Change	Tidal and freshwater wetlands statewide
Stressor 2	Sea Level Rise	Tidal wetlands statewide
Stressor 3	Development	Lands adjacent to tidal marshes; freshwater wetlands statewide

2. Briefly explain why these are currently the most significant stressors or threats to wetlands within your coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Input from stakeholder engagement indicated that wetlands are a high-priority enhancement area, emphasizing their role in coastal resilience, erosion buffering, and ecosystem benefits. Respondents felt strongly about wetland conservation and the threats posed by sea-level rise and the loss of wetlands.

The 2017 Wetland Status and Trends[1] Report highlights threats to Delaware's wetlands and key drivers of wetland loss, resulting from environmental changes, sea level rise, and development. Environmental changes such as altered hydrology, nutrient loading, and invasive species reduce natural wetland functions, as do changes in precipitation and effects of saltwater intrusion, altering the dynamics of tidal-fresh systems. Sea Level threatens further tidal wetland erosion and conversion to open water, with wetlands struggling to keep pace with accretion and facing constrained areas for landward migration. The marsh migration focus is highlighted by the update to DNREC's Marsh Migration and Suitability Analysis Tool, which uses geospatial data and targeted outreach to landowners to identify areas highly suitable for marsh migration. Development continues to be a stressor for wetlands with a significant portion of wetland loss stemming from direct conversion to development, particularly in Sussex County. Upland development also fragments wetlands, increases runoff and pollution, and restricts migration pathways. These factors, when combined, are accelerating both the quantity of wetlands lost and the quality of remaining wetlands, underscoring the significance of wetland enhancement and protection.

1 DNREC. 2017. *Status and Trends of Wetlands in Delaware: 2007 to 2017*. Wetland Monitoring & Assessment Program, Delaware Department of Natural Resources and Environmental Control, Dover, DE.

3. Are there emerging issues of concern but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Environmental and Land Use Change	Additional research to understand how changes affect ecological conditions and processes, and monitoring to measure changes in wetlands.
Management	Additional research to identify factors that can affect wetland management, including coordination, identifying policy initiatives, and planning to minimize conflicting management priorities.

In-Depth Management Characterization

Purpose: To determine the effectiveness of management efforts to address identified problems related to the wetlands enhancement objective.

1. For each additional wetland management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Significant Changes in Wetland Management

Management Category	Employed By State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Wetland assessment methodologies	Y	N	N
Wetland mapping and GIS	Y	Y	Y
Watershed or special area management plans addressing wetlands	N	N	N
Wetland technical assistance, education, and outreach	Y	Y	N

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
    a. Describe significant changes since the last assessment;
    b. Specify if they were 309 or other CZM-driven changes; and
    c. Characterize the outcomes or likely future outcomes of the changes.

The following were CZM-driven management categories with significant changes:

Marsh Migration Model Update & Outreach

The Delaware Coastal Management Program and Division of Watershed Stewardship completed an update to a 2017 Marsh Migration Suitability Analysis using the most recent data input layers,

including: 2017 Statewide Wetlands Maps, 2023 Soils, 2017 Impervious Surface, and 2022 Land Use Land Cover. The updated analysis uses an ArcGIS Pro model to combine the 2016 Delaware Sea Level Rise scenarios with the layers to identify areas for potential future salt marsh migration. The results of this model will help inform land management decisions and develop actions to protect and prepare identified areas.

DCMP-funded Wetland Jurisdictional Mapping Research
DCMP partnered with DNREC Division of Water on a pilot project to compare tidal datums in the DNERR St. Jones and Blackbird Creek watersheds using HOBO water level data loggers to the NOAA tidal stations used to calculate tidal datums in an effort to update Delaware's Jurisdictional Wetland Maps. The results of the study revealed uncertainties in MHW elevation along tidal rivers and creeks, and further research is needed to update the regulatory wetland maps currently in use. The next phase of the project will be to develop a comprehensive GIS layer that delineates 2 feet above MHW plus uncertainty, partly based on the National Wetlands Inventory, in each watershed in the state up to the head of tide. These maps will become publicly available, allowing landowners and regulators to easily determine if a wetlands permit may be necessary and if a jurisdictional determination may be required.

2021-2025 Delaware Wetland Program Plan
The 2021–2025 Delaware Wetland Program Plan outlines a strategic approach to conserve, restore, and manage Delaware's wetlands. Key initiatives include modeling marsh migration due to sea-level rise, protecting freshwater wetlands, and developing targeted restoration strategies for areas like the Inland Bays. The plan builds on the success of the previous cycle, with support from EPA funding to expand assessments and conservation programs.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in protecting, restoring, and enhancing coastal wetlands since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

   The *Delaware Wetland Program Plan 2021–2025*, developed in coordination with the U.S. Environmental Protection Agency, does not present a single, stand-alone study evaluating wetland outcomes since the last assessment, but it documents clear evidence of growing effectiveness in Delaware's coastal wetland management through expanded monitoring, restoration implementation, and adaptive planning. The plan establishes a structured framework for tracking progress across wetland mapping, monitoring, restoration, adaptation, and protection, explicitly recognizing that long-term effectiveness is demonstrated through repeated assessment and trend analysis rather than a one-time evaluation.

   Since the last assessment, Delaware has strengthened its ability to measure wetland condition and response to management actions through the expansion of the Wetland Monitoring and Assessment Program. Data generated through standardized assessments of hydrology, habitat structure, and ecological function are being used to establish baselines, detect change over time, and inform restoration and protection priorities in coastal and estuarine wetlands. These monitoring efforts provide the foundation for evaluating whether management actions are maintaining or improving wetland condition and resilience, particularly in the face of sea level rise and development pressure.

The plan also highlights ongoing and completed coastal wetland restoration and enhancement projects, such as living shorelines, hydrologic restoration, beneficial use of dredged material, and invasive species management, that collectively illustrate increased on-the-ground implementation capacity since the previous planning cycle. While the plan acknowledges that comprehensive outcome evaluations will occur at the end of the 2021–2025 period, it concludes that Delaware's coordinated approach of linking monitoring data, restoration implementation, and adaptive management demonstrates measurable progress toward protecting, restoring, and enhancing coastal wetlands and positions the state to more clearly quantify effectiveness in future assessments.

The Delaware Wetland Program Plan 2021–2025 outlines a strong strategic framework for wetland protection and restoration, but it lacks several key elements needed to fully assess the effectiveness of Delaware's management efforts. The plan does not include consolidated baseline conditions, long-term trend analyses, or retrospective evaluations of past projects, making it difficult to clearly measure change over time or attribute improvements to specific management actions. In addition, performance metrics and quantitative outcome data are limited, and there is insufficient integration of stressor-response analyses linking wetland condition to factors such as sea level rise and development pressure. As a result, while the plan supports future evaluations, additional data and synthesis are needed to clearly demonstrate and quantify the effectiveness of Delaware's coastal wetland management efforts.

Identification of Priorities

1. Considering changes in wetlands and wetland management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively respond to significant wetlands stressors. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: _____Wetlands Regulations_____

   Description: Delaware currently lacks a comprehensive, state-level regulatory program for freshwater wetlands, creating a management gap in protecting these resources. While the Department is actively engaging stakeholders and legislators to explore potential regulatory frameworks, the absence of formal protections limits the state's ability to proactively manage wetland impacts. In addition, existing tidal wetland regulations rely on static jurisdictional maps developed more than three decades ago and do not reflect current coastal conditions or account for wetland migration in response to sea level rise. Together, these limitations highlight a clear need for coastal program management to modernize wetland regulations so they are adaptive, up to date, and capable of protecting both existing and future wetland resources.

   Management Priority 2: ___ Wetland Restoration _____

   Description: Wetlands provide significant beneficial services to the environment and society, and their health and functionality are essential for the continuation of these services, along with their support of the larger ecosystem. Prioritizing and conducting wetland restoration as part of a system-wide approach will enhance results and accelerate benefits for supported resources. Wetland restoration could also be accomplished through the beneficial use of dredged materials in the state.

Management Priority 3: __Wetlands Research, Monitoring_____

Description:
Assessing current conditions and anticipating future changes in Delaware's wetlands is essential to improving understanding of how coastal and freshwater wetland systems respond to major stressors such as sea level rise, development pressure, hydrologic alteration, and environmental changes. Targeted research and long-term monitoring will help clarify how ecological and hydrological processes are being altered, the extent to which wetlands can buffer or mitigate anthropogenic impacts, and how their resilience may change over time. These insights are critical for informing adaptive management decisions related to wetland protection, restoration, and land-use planning. In addition, there is a clear need to develop and refine robust, repeatable wetland mapping and monitoring approaches that can track wetland change over time and support accurate, up-to-date regulatory and conservation frameworks.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	**Need?** (Y or N)	**Brief Explanation of Need/Gap**
Research	Y	Continued research and monitoring to understand the changes in baseline function as a result of environmental change, land use change, and sea level rise.
Mapping/GIS	Y	Update regulatory and non-regulatory wetlands maps statewide, including new ways to identify wetlands and wetland migration areas in consideration of sea level rise for non-regulatory and permitting purposes.
Data and information management	Y	Support collaboration among wetland scientists, regulators, and project planners (including dredge project planners) to enable data sharing for analysis, and comprehensive management and restoration strategies.
Training/capacity building	Y	Continue to build networks, such as the Delaware Restoration Working Group, to foster collaboration, share limited resources, and data to support a comprehensive research and management approach.
Decision-support tools	Y	Development of reports and outreach materials to disseminate data and information to decision-makers, contractors, and regulators.
Communication and outreach	Y	Education for stakeholders prior to and during any regulatory development process for regulations updates/revisions and ongoing education on wetland importance.
Other (specify)	Y	Creation of a freshwater regulatory program

Enhancement Area Strategy Development

1. Will the CMP develop one or more strategies for this enhancement area?
   Yes __X___
   No _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

The DCMP will develop a strategy for this enhancement area. The services provided by wetlands make them the most ecologically significant habitats in Delaware. From their ability to improve water quality, increase flood storage, provide storm surge buffering, harbor biological diversity, and sequester carbon, tidal and freshwater wetlands in Delaware are invaluable resources that, due to both human and natural impacts, suffer annual losses. Stakeholders have strongly expressed the need to direct more effort and resources to this area.

Coastal Hazards

In-Depth Resource Characterization

Purpose: To determine key problems and opportunities to improve the CMP's ability to prevent or significantly reduce coastal hazard risks by eliminating development and redevelopment in high-hazard areas and managing the effects of potential sea level rise and Great Lakes level change.

1. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards[23] within your coastal zone? Also indicate the geographic scope of the hazard, i.e., is it prevalent throughout the coastal zone, or are there specific areas most at risk?

	Type of Hazard	**Geographic Scope** (throughout coastal zone or specific areas most threatened)
Hazard 1	Sea level rise	Throughout coastal zone
Hazard 2	Coastal Storms (tropical/winter)	Throughout coastal zone
Hazard 3	Flooding (coastal and inland)	Throughout coastal zone

2. Briefly explain why these are currently the most significant coastal hazards within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

   Delaware's low average land elevation and tidal exposure along its miles of coastline make it especially vulnerable to sea-level rise and flooding. A DNREC 2025 statewide survey assessed public awareness and concern about these hazards. Results showed that 74% of residents are concerned about ongoing environmental shifts, and 79% are convinced that these shifts are happening. More than half (55%) reported having a direct personal experience, 58% believe these changes will affect them personally, and nearly 80% fear that future generations will face serious harm. Through stakeholder engagement with the community planning and adaptation practitioners, including with the Delaware Office of State Planning and Coordination (OSPC), Delaware Sea Grant, the University of Delaware Institute for Public Administration (UD IPA), it was emphasized that coastal hazards, including storms, sea level rise, erosion, and flooding, were threats to both the built and natural environments. Stakeholders noted that coastal area development increases the vulnerability of residents and businesses to these hazards. To mitigate these hazards, stakeholders believed that better infrastructure planning, updated floodplain maps, and improved coordination between agencies were needed. Respondents also stressed the need for resilience measures and reducing vulnerability through strategic planning.

   During the last five years, the DCMP has focused significant effort on flooding studies and designs as part of the Resilient Community Partnership for several towns in Delaware. By completing these studies and designs, towns and municipalities are poised to implement resilient solutions for their residents. Additionally, DCMP has been showcasing the I-ADAPT tool to help Delawarean residents and business owners who own or rent property to better prepare for flooding hazards.

3. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

[23] See list of coastal hazards on pg. 27 of this assessment template.

Emerging Issue	Information Needed
Cumulative effects of SLR, Heavy Precipitation, and Storm Surge	Storm/flood models are needed that utilize future environmental scenarios under combined forces, at an appropriate scale for planning & management.
	Data is needed to determine the impact of forces, individually and combined, on contaminated sites identified for restoration or redevelopment
Holistic Coastal Adaptation Planning	Economic cost-benefit analysis is needed for adaptation alternatives across state government and statewide building and infrastructure data; economic data on the costs of action and no-action for coastal resilience issues.
	Information is needed on how various agencies can coordinate and "speak with one voice" on a planning vision for vulnerable coastal areas.
	Data is needed on the specific impacts of future conditions on individual agencies and programs' regulated and maintained assets, often at a parcel-level geographic scale.
Coastal Adaptation Plan Implementation	Data and information necessary to determine the sequence of implementation for adaptation measures, independently and in relation to other agency activities.
	Information (e.g., case studies) is needed on creative and/or mosaic funding resources for implementation.

In-Depth Management Characterization

Purpose: To determine the effectiveness of management efforts to address identified problems related to the coastal hazards enhancement objective.

1. For each coastal hazard management category below, indicate if the approach is employed by the state or territory and if there has been a significant change since the last assessment.

Significant Changes in Coastal Hazards Statutes, Regulations, and Policies

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Shorefront setbacks/no build areas	Y	Y	N
Rolling easements	N	N	N
Repair/rebuilding restrictions	Y	Y	N
Hard shoreline protection structure restrictions	Y	Y	N

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	Y	Y
Repair/replacement of shore protection structure restrictions	Y	Y	N
Inlet management	Y	N	N
Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) (other than setbacks/no build areas)	Y	Y	N
Repetitive flood loss policies (e.g., relocation, buyouts)	Y	N	N
Freeboard requirements	Y	Y	Y
Real estate sales disclosure requirements	N	N	N
Restrictions on publicly funded infrastructure	Y	Y	N
Infrastructure protection (e.g., considering hazards in siting and design)	Y	Y	Y

Significant Changes to Coastal Hazard Management Planning Programs or Initiatives

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Hazard mitigation plans	Y	Y	N
Sea level rise/Great Lake level change or adaptation plans	Y	Y	Y
Statewide requirement for local post-disaster recovery planning	N	N	N
Sediment management plans	Y	N	Y
Beach nourishment plans	Y	Y	Y
Special Area Management Plans (that address hazards issues)	N	N	N
Managed retreat plans	N	N	N

Significant Changes to Coastal Hazard Research, Mapping, and Education Programs or Initiatives

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
General hazards mapping or modeling	Y	Y	N
Sea level rise mapping or modeling	Y	Y	N
Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)	Y	Y	N
Hazards education and outreach	Y	Y	Y

2. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in addressing coastal hazards since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

   DNREC's Shoreline and Waterway Management Section released the Alternative Analysis for the Regulatory Building Line Along Delaware's Coast in October 2024. The study investigated the distribution of economic benefits from beach nourishment and laid the foundation for exploring an equitable cost-sharing policy with the people who benefit from these projects. While beach nourishment has been an effective coastal management solution for Delaware, long-term planning for fiscal sustainability is an important component of continued success.

   The report finds that Delaware's existing coastal hazard framework—anchored by the 1981 regulatory building line—has provided baseline protection, but is no longer fully effective at addressing modern coastal hazards such as accelerated erosion, sea level rise, and storm surge. While the original building line successfully limited some development in the most hazardous coastal areas, shoreline change since 1981 has left many structures closer to the water and increasingly vulnerable to flooding and erosion. As a result, the current approach is considered outdated and misaligned with present-day coastal conditions and environmental risks
   The state's ongoing efforts to evaluate and revise the building line demonstrate a proactive and science-based response to coastal hazards. The analysis shows that alternatives incorporating dynamic coastal processes, particularly erosion rates and FEMA's Limit of Moderate Wave Action (LiMWA), are substantially more effective at accounting for storm damage, wave action, and changing shorelines than static setbacks. Among the alternatives evaluated, the LiMWA-based approach performs best overall because it relies on federally maintained flood modeling, reflects real storm damage thresholds, and can be updated over time—making it more responsive to evolving coastal hazards.

   Overall, the report concludes that Delaware's effectiveness in addressing coastal hazards is improving but hinges on regulatory modernization. The state has taken important steps by aligning coastal policy with the 2025 Extreme Weather and Future Conditions Plan and evaluating best practices from other coastal states. However, continued effectiveness will depend on adopting a revised building line that moves development farther landward, incorporates dynamic hazard data, and is periodically updated to reflect sea level rise and storm surge. Without these updates, coastal development will remain increasingly exposed to long-term hazard risks despite existing regulations

Identification of Priorities

1. Considering changes in coastal hazard risk and coastal hazard management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively address the most significant hazard risks. *(Approximately 1-3 sentences per management priority.)*

   Management Priority 1: Comprehensive Coastal Adaptation Planning for Delaware Coastal Communities

   Description: In Delaware's coastal communities, a mosaic of federal, state, and local authorities and interests intersect, and each entity, historically, has pursued its own projects and goals in these areas with little coordination across groups. In some cases, this has led to maladaptation and conflicting messages about the future of these communities to residents and leaders in the area. For example, beach nourishment plans are often made on a different timeline by a different agency (DNREC) than hazard mitigation (DEMA/county) or transportation (DelDOT) plans. At a minimum, what is needed is a comprehensive plan across state agencies for areas vulnerable to coastal hazards.

   Management Priority 2: Data-based decision-making for avoiding impacts of coastal hazards

   Description: A continuing impediment to on-the-ground action for coastal hazards at the state and local level is the ability for decision-makers to understand and apply the long-term economic, social, and environmental costs and benefits in their decision-making with regard to regulatory changes and project planning and implementation. In the past, information has been collected to support this effort by modeling flooding and SLR impacts, necessary to determine long-term costs and economic benefits; however, the existing information is often general or not geographically relevant, limiting its usefulness for practical applications. Improving the understanding of the long-term costs and benefits of hazard mitigation projects and policy changes to address coastal hazards can lead to increased support for projects and policies that may appear "too costly", without the additional consideration of the benefits resulting from avoided storm damage, improved function of natural systems, and economic stability into the future.

   Management Priority 3: Updating state policies and local ordinances to support coastal hazards adaptation and support mitigation projects and measures that reduce vulnerability to coastal hazards.

   Description: Updating state policies and local ordinances is essential to align coastal management with current and future risks. This priority supports adaptation-focused regulations and mitigation measures that reduce long-term vulnerability to coastal hazards. Strengthening policy coordination between state and local governments will improve Delaware's ability to proactively manage coastal risks and enhance long-term coastal resilience.

2. Identify and briefly explain priority needs and information gaps the CMP has for addressing the management priorities identified above. The needs and gaps identified here should not be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Y	Geographically specific cost-benefit and impact studies are needed to influence decision-making. Many required data sets are lacking, including updated information on stormwater technologies, flooding, and sea-level rise impacts.
Mapping/GIS/modeling	Y	There is currently limited information available for decision-makers regarding the combined impacts of flooding, SLR, and coastal surge.
Data and information management	Y	Expanded data sets, monitoring, and modeling to support decision makers in updating or drafting enforceable policies and regulations.
Training/Capacity building	Y	A library of coastal hazard training resources for using tools and applying adaptation planning strategies should be made available to municipal officials for access as needed
Decision-support tools	Y	A website or document outlining best practices for decision-making for mitigation measure implementation, including ancillary steps necessary to implement, economic and social considerations, is necessary
Communication and outreach	Y	A revised strategic communication strategy that incorporates emerging knowledge of economic and social factors and the implementation of adaptation measures is needed.
Other (specify)		

Enhancement Area Strategy Development

1. Will the CMP develop one or more strategies for this enhancement area?

   Yes __X___
   No _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

   DCMP will develop a strategy for this enhancement area, as the program is well-suited to address the management priorities above due to its strong history of applied coastal research, planning for sea level rise, and connections to many different coastal stakeholders (state agencies, local governments, residents) to facilitate discussions around coastal hazards planning. Stakeholders from state and local government, academic and nonprofit, businesses, and private citizens continue to seek assistance to educate, inform, support, plan, and implement measures to address resiliency throughout the state. Coastal hazards continue to be a federal priority enhancement area, and the DCMP has positioned itself as a statewide leader in dealing with coastal hazards. Strategy development will focus on meeting stakeholders and network partners where they are in their efforts to address coastal hazards through research, programs, and policy implementation, and on providing technical assistance to them as requested and needed.

Strategy: Supporting Network Partners in Planning for Sea Level Rise & Future Extreme Weather Conditions

Issue Area(s)

A. The proposed strategy or implementation activities will *primarily* support the following high-priority enhancement area(s) *(check no more than two):*

☐ Aquaculture
☐ Energy and Government Facility Siting
X Coastal Hazards
☐ Ocean/Great Lakes Resources
☐ Special Area Management Planning
☐ Cumulative and Secondary Impacts
X Wetlands
☐ Marine Debris
☐ Public Access

B. The proposed strategy or implementation activities will also support the following enhancement areas *(check all that apply)*:

☐ Aquaculture
X Energy and Government Facility Siting
☐ Coastal Hazards
☐ Ocean/Great Lakes Resources
☐ Special Area Management Planning
X Cumulative and Secondary Impacts
☐ Wetlands
☐ Marine Debris
☐ Public Access

I. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;
X New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
☐ New or revised local coastal programs and implementing ordinances;
X New or revised coastal land acquisition, management, and restoration programs;
☐ New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
☐ New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. Strategy Goal:

DCMP is a networked program, comprising partners across DNREC, that helps implement the goals and tasks of the coastal zone management program and the CZMA. The enforceable policies of DCMP's Federal Consistency program consist of environmental control and natural resource management statutes, regulations, and policies implemented by network partners across the Department. As network partners incorporate sea level rise or future extreme weather into their programs, the Federal Consistency team will coordinate the maintenance of relevant enforceable policies. The goal of this strategy is to provide technical assistance and capacity across Department programs to perform the foundational scientific research, policy analysis, data collection, and

stakeholder engagement and coordination necessary to implement resilient programs related to protection from coastal hazards and the protection and management of wetlands throughout the state. The foundational work will then be used by networked partners in their administrative processes to update policies, legislation, or regulations.

C. Description

In recent years, the state of Delaware, through both new legislation and agency initiatives, has come to recognize the need to plan for future conditions, including sea-level rise, extreme weather events, and wetland degradation attributable to increasing development. However, many of the current environmental regulations do not account for future conditions (e.g., stormwater regulations are based on past precipitation data) or rely on static administrative features (e.g., wetland maps and coastal setback lines that have not been updated in over 40 years). The intention of this strategy is to provide technical assistance and capacity to programs of DCMP's network partners who are interested in taking the next steps, whatever that might be, in addressing these regulatory gaps. In some cases, the program may have already been investigating the feasibility of updating regulations through agency action or legislative action and may have identified data or stakeholder engagement gaps needed to complete a proposal for regulatory updates. Some other network partners, given their limited staff capacity, may start at the data collection and feasibility analysis steps of the process. This strategy aims to meet programs "where they are" and provide the technical assistance or capacity needed to help the updates move forward to the next step.

Delaware House Bill 99 of the 152nd General Assembly requires regular updates to the state's adaptation strategies and the development of projections for sea level rise, temperature, and precipitation to guide DNREC. It authorizes agencies to strengthen resilience against coastal hazards and extreme weather and directs DNREC to factor future conditions into regulations and the planning and upkeep of state facilities. With new statewide projections expected by late 2025, and a strong record of research, policy analysis, and collaboration, DCMP is well-positioned to provide technical support to partners carrying out these directives.

II. Needs and Gaps Addressed

Research – Additional research is necessary for DCMP networked partners to update environmental regulations, such as wetland maps and building lines, which rely on decades-old information. Research that builds upon projects like the DCMP-funded jurisdictional wetland mapping project can take into account current and potentially future conditions to implement new rules and regulations.

Mapping/GIS – Updated geospatial data provides a foundation for making new management decisions. Accurate geospatial modeling of factors such as wetland hydrology, migration and erosion rates, future sea level rise conditions, flood conditions, and exposure is needed for informed regulatory updates and resilience considerations to coastal hazards. New wetland or building line maps will need to be backed by accurate modeling and accessible digitally. Resilience to coastal hazards relies heavily on geospatial data for current and future flooding and storm conditions, as well as exposure risk to people and property with up-to-date building and population data.

Data and Information Management – This strategy will support further collaboration among wetland scientists, regulators, and project planners (including dredge project planners) to enable data sharing for analysis, and comprehensive management and restoration strategies.

Training and Capacity Building – DCMP will continue to build networks, such as the Delaware Restoration Working Group, to foster collaboration, share limited resources, and data to support a comprehensive research and management approach. DCMP will also be able to fill a technical assistance gap where the capacity of networked partners may be limited. This technical assistance may include data collection and feasibility studies for regulatory updates, policy analysis, research, and engagement.

Decision Support Tools – This strategy will support the development of reports and outreach materials to disseminate data and information to decision-makers, contractors, and regulators. Publicly accessible geospatial and online tools, such as the recent Wetland Migration and Suitability tool, provide user-friendly information to decision makers.

Communication and Outreach – This strategy will support stakeholder education prior to and during the regulatory development process for regulation updates/revisions and ongoing education on the importance of wetlands.

III. Benefits to Coastal Management

Successful completion of this strategy will provide several benefits to coastal management, including updated data and mapping that will be used in statewide planning initiatives and regulatory development. Through forward-thinking planning, coastal resilience can be improved by updating policies and local ordinances to account for increased precipitation, flooding, and associated coastal hazards when considering future residential developments and infrastructure projects.

Identification and monitoring of coastal hazards that impact development and the environment remain important to increasing resiliency throughout Delaware. Networked partners will use the updated data sets as the basis for regulation and guidance updates, as applicable.

DCMP intends to assist its networked partners in incorporating the impacts of sea level rise, changing precipitation patterns, and flooding through targeted technical research, monitoring, and data sharing. This effort will support the updating of planning and regulations by using stormwater models to reflect projected precipitation trends, existing drainage constraints, and system capacity limitations, providing a more accurate foundation for decision-making. By revisiting and modernizing regulations and best management practices to account for future precipitation conditions and coastal change, partners will be better equipped to reduce flood risk, improve water quality, and implement best available technologies that mitigate the impacts of intensified rainfall and coastal flooding.

IV. Likelihood of Success

Over the years, DCMP has established relationships with many network partners to provide technical assistance and capacity, especially in policy and applied research on coastal hazards and wetlands. For example, past DCMP awards have supported preliminary research for the DNREC Division of Water on potential jurisdictional wetlands map updates and preliminary research for

the DNREC Division of Watershed Stewardship to investigate alternatives for updating coastal construction regulations and setback lines. Additionally, DCMP has supported and led for many years the state's research and policy initiatives related to adapting to future sea level rise. Based on this prior experience, DCMP is well-positioned to meet the goal for success of this strategy in moving the needle on regulatory updates that address future coastal hazard conditions, sea level rise, and increasing development in or near wetland areas.

V. Strategy Work Plan

First, an authorities analysis would be performed to determine which actions within the 2025 Extreme Weather and Future Conditions Plan are under existing or potential future DNREC authorities (i.e., not under the authority of a different state agency, local government, etc.). The analysis would identify which Divisions' programs or programs within DNREC are best suited to implement these actions based on existing authorities.

The intention of the strategy is to annually solicit informal proposals from network partners for projects addressing a need or needs (e.g., Research, Data Collection, Policy Analysis, or Stakeholder Coordination) related to regulatory updates to address the impacts of future conditions on wetlands and coastal hazards. DCMP will work with partners who have submitted proposals to select and develop the scope of work, as funds and capacity allow, over the 5 years of the strategy. The project(s) would be selected based on criteria that prioritize: (1) direct connection to programmatic or regulatory changes; (2) magnitude of impact of proposed changes on wetlands and protecting Delawareans from coastal hazards into the future; and (3) feasibility of completion given funding and staffing constraints, both at DCMP and the DNREC partner program. This operational model is meant to mirror the successful Resilient Communities Partnership that DCMP has successfully run for close to a decade: each year, using contractual funding to meet the unique needs of, in this case, a DNREC network partner seeking to address resilience to future conditions in their programs. This model has worked successfully to address the unique needs and capacity constraints of our community partners by allowing flexibility to meet partners where they are and to leverage DCMP's expert knowledge and network to meet needs through more efficient contracting mechanisms.

Strategy Goal:
Total Years: 5
Total Budget: $430,000

DNREC Implementation Authorities Analysis

Year(s): 1
Description of activities: DCMP will hire a consultant (private sector and/or academic institution) and/or work with the DNREC DOJ to perform an authorities analysis of existing DNREC authorities and related regulations that address future conditions, as well as a gaps analysis to determine policy update needs.
Major Milestone(s): DNREC Implementation Authorities Analysis Report
Budget: $86,000

DNREC Partner Project 1

Year(s): 2
Description of activities: Contractual project, leveraging input from resilience experts to address one of the four needs areas related to updating a network partner program's regulations to address future conditions.
Major Milestone(s): Report describing work performed, results, and, most critically, next steps for implementation, including a needs assessment.
Budget: $86,000

DNREC Partner Project 2

Year(s): 3
Description of activities: Contractual project to address one of the four needs areas related to updating a partner program's regulations to address the impacts of future conditions.
Major Milestone(s): Report describing work performed, results, and, most critically, next steps for implementation, including a needs assessment.
Budget: $86,000

DNREC Partner Project 3

Year(s): 4
Description of activities: Contractual project to address one of the four needs areas related to updating a partner program's regulations to address the impacts of future conditions.
Major Milestone(s): Report describing work performed, results, and, most critically, next steps for implementation, including a needs assessment.
Budget: $86,000

DNREC Partner Project 4

Year(s): 5
Description of activities: Contractual project to address one of the four needs areas related to updating a partner program's regulations to address the impacts of future conditions.
Major Milestone(s): Report describing work performed, results, and, most critically, next steps for implementation, including a needs assessment.
Budget: $86,000

VI. Fiscal and Technical Needs

A. Fiscal Needs:

DCMP should be able to complete the outlined portions of this strategy with the available 309 funds. DCMP will also assist partners in securing additional funding and resources to meet additional goals of the strategy that the partner or Department wishes to pursue.

B. Technical Needs:

DCMP possesses the knowledge and skill to support the facilitation and outreach portions of the outlined project, and our networked partners in DNREC possess many of the technical skills to assess and formulate the plans. DCMP may also use the 309 funds to hire outside consultants to provide technical assistance for these projects.

VII. Projects of Special Merit (Optional)

While this strategy could be completed within the proposed timeline and budget, Project(s) of Special Merit could enhance the results by providing additional funding and external capacity to address the needs of DNREC network partners in responding to future regulatory updates. The need for PSMs will be evaluated throughout the strategy timeline.

5-Year Budget Summary by Strategy

Strategy Title	Anticipated Funding Source (309 or Other)	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
DNREC Implementation Authorities Analysis	309	$86,000					$86,000
DNREC Partner Project 1	309		$86,000				$86,000
DNREC Partner Project 2	309			$86,000			$86,000
DNREC Partner Project 3	309				$86,000		$86,000
DNREC Partner Project 4	309					$86,000	$86,000
Total Funding	$86,000	$86,000	$86,000	$86,000	$86,000	$86,000	$430,000

Summary of Stakeholder and Public Comment

Between March and April 2025, RK&K conducted interviews with 13 stakeholder groups to evaluate challenges and opportunities in Delaware's coastal management program, with a focus on Section 309 enhancement areas. These discussions complemented a DNREC survey (February–March 2025) that engaged 25 stakeholders[24]. Across both efforts, coastal hazards and wetlands emerged as the top priorities, followed by concerns about land use changes driven by development.

Key themes included:

- **Population growth and development pressures** in Sussex County are worsening flooding, traffic, and habitat loss.
- **Coastal hazards** such as sea level rise, flooding, and storms, with concerns that many residents—especially newcomers—are unaware of their risks.
- **Adaptation and resilience planning**, including complex questions about prioritizing projects, wetland migration, and the possibility of managed retreat for vulnerable communities. Some

[24] The Center for the Inland Bays (CIB), Delaware Department of Transportation Office of Planning (DelDOT), Delaware Emergency Management Agency (DEMA), Delaware League of Local Governments (DLLG)·Delaware Nature Society (DelNature), Delaware Sea Grant, Mid-Atlantic Regional Council on the Ocean (MARCO), The Nature Conservancy (TNC), The Office of State Planning & Coordination (OSPC), The Partnership for the Delaware Estuary (PDE), University of Delaware Cooperative Extension, University of Delaware Institute for Public Administration, University of Delaware Climate Office

participants emphasized the importance of open, facilitated conversations with those most at risk.

- **Implementation challenges**, with many noting that technical knowledge exists, but leadership and political support are lacking. Securing legislative buy-in and strong champions was seen as essential.
- **Data gaps**, with calls for standardized baseline data to unify ongoing research and strengthen planning decisions.
- **Partnerships**, which stakeholders emphasized as critical, especially given limited federal resources.

Overall, the interviews underscored both the urgency of addressing coastal risks and the necessity of strong leadership, collaboration, and data-driven strategies to enhance Delaware's resilience.