Established in 1993, Pace Law School’s Land Use Law Center is dedicated to fostering the development of sustainable communities through the promotion of innovative land use strategies and dispute resolution techniques. Through its many programs, the Center offers land use professionals, attorneys, citizens, and real estate developers assistance that enables them to achieve sustainable development at the local and regional level. Its activities provide opportunities for students of Pace Law School to gain in-depth, practical experience that allows them to become excellent practitioners serving private, public, and nongovernmental clients.

Through its programs, the Land Use Law Center offers extensive research and consulting services; conferences, seminars, and clinics; academic law school courses; practitioner training programs; continuing legal education programs; multimedia resources; and frequent publications on contemporary land use, real estate, and environmental issues.

The Center’s work is divided among three major programs:

1. Its student-driven Research & Innovation Program, which identifies solutions to cutting-edge land use issues for urban and suburban communities;

2. Its Training Programs, including the Land Use Leadership Alliance (LULA) program, which leads the nation in educating local land use leaders in land use law and community decision-making;

3. The Kheel Center on the Resolution of Environmental Interest Disputes, which focuses on environmental interest disputes of critical importance to communities, states, and regions that require innovative resolution strategies and forums.

The Land Use Law Center is one of many academic centers and programs of Pace Law School, including the Energy & Climate Center and the Center for Environmental Legal Studies.
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Message from the Land Use Law Center

This document identifies and describes the federal, state and local legal framework that controls development of the Hudson River’s shoreline. For each regulatory program it profiles, the document presents potential programmatic and legal opportunities for influencing shoreline development and implementing more sustainable shoreline stabilization structures. As such, the document provides a starting point for examining these regulatory programs. To further investigate potential programmatic and legal opportunities, the Sustainable Shorelines Project should engage the implementers of these regulatory programs to gauge feasibility of the opportunities identified in the report, ascertain the technical aspects of their implementation, and uncover further programmatic and legal opportunities. A workshop to engage these implementers is an appropriate next step to accomplish this.

We are grateful to the below listed individuals who generously provided comments for or reviewed sections of this report. Their review does not constitute endorsement or approval of the opinions expressed in this report.

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About the Hudson River Sustainable Shorelines Project

The Hudson River Sustainable Shorelines Project is a multi-year effort lead by the New York State Department of Environmental Conservation Hudson River National Estuarine Research Reserve, in cooperation with the Greenway Conservancy for the Hudson River Valley. Partners in the Project include Cary Institute for Ecosystem Studies, NYSDEC Hudson River Estuary Program and Stevens Institute of Technology. The Consensus Building Institute facilitates the Project.

The Hudson River Sustainable Shorelines Project is supported by the National Estuarine Research Reserve System Science Collaborative, a partnership of the National Oceanic and Atmospheric Administration and the University of New Hampshire. The Science Collaborative puts Reserve-based science to work for coastal communities coping with the impacts of land use change, pollution, and habitat degradation in the context of a changing climate.

Disclaimer

The opinions expressed in this report are those of the authors and do not necessarily reflect those of the New York State Department of Environmental Conservation, the Greenway Conservancy for the Hudson River Valley or our funders. Reference to any specific product, service, process, or method does not constitute an implied or expressed recommendation or endorsement of it.

Terminology

There are many ways to describe both standard and innovative engineering methods to protect shoreline. The Hudson River Sustainable Shorelines Project uses the term ecologically enhanced engineered shoreline to denote innovative techniques that incorporate measures to enhance the attractiveness of the approach to both terrestrial and aquatic biota. Some documents and reports of the Hudson River Sustainable Shorelines Project may use other terms to convey this meaning, including: alternatives to hardening,
bio-engineered, eco-alternatives, green, habitat-friendly, living, soft shorelines, or soft engineered shoreline.

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I. EXECUTIVE SUMMARY

The Hudson River Estuary is tidal for 152 miles, from Manhattan to the Federal Dam at Troy, with over 300 miles of diverse shoreline. As sea levels rise due to climate change, federal, state and local regulators anticipate an increase in permit requests for shoreline development, including shoreline protection and stabilization structures. Because available shoreline structure technologies vary widely with regard to impacts on shoreline environments, resource managers seek to identify ways to influence development of and changes to these structures to ensure the environmental health of affected shorelines.

As part of a larger, multi-disciplinary study, the Hudson River Sustainable Shorelines Project, this Legal Framework Analysis summarizes the various federal, state and local plans, laws, and policies that regulate shoreline development along the Hudson River Estuary. This work also highlights programmatic and legal opportunities to promote informed shoreline management that will ensure the future existence of Hudson River Estuary shoreline habitats. Summarized below, The Legal Framework Analysis includes plans, laws and policies that implement water quality controls, wetland protection, stormwater management, coastal management, disaster mitigation and floodplain management, environmental review, and local land use controls, as well as other laws and programs. Discussion of adaptation to climate change, in particular, sea level rise, is woven throughout the Framework Analysis.

Water Quality Controls
Federal and state water quality controls can affect and influence the construction of shoreline stabilization structures along the Hudson River. Section 401 of the federal Clean Water Act (CWA) requires state certification that federally permitted or licensed activities, including those that involve the placement of shoreline structures, will not undermine state water quality standards. The New York State Department of Environmental Conservation (DEC) issues a Protection of Waters Permit for shoreline construction projects involving Section 404 permits for discharge of dredge or fill into wetlands adjacent to and contiguous with the Hudson River; projects involving excavation and placement of fill into the Hudson or immediately adjacent land; or projects using floating equipment that discharge decant water into the Hudson. Some shoreline construction projects that disturb the Hudson River or those that install docks and moorings also require a Protection of Waters Permit. In addition, the U.S. Army Corps of Engineers (Army Corps) approves particular activities, including the placement and removal of structures, conducted below the ordinary high water elevation of navigable waters.

Neither CWA Section 401 nor the Protection of Waters Permit program regulates individual activities that have an insignificant effect on water quality, and Section 401 certification is not required for individual projects where the federal Army Corps of Engineers has established a General Section 404 permit. However, these regulatory programs do provide opportunities for influencing shoreline development. Programmatic and legal
opportunities to influence shoreline stabilization structure development through these water quality control programs include withholding or conditioning CWA Section 401 certification or Protection of Waters Permits upon appropriate shoreline structure methodologies that will help meet required criteria under those programs; including information about sustainable shoreline structure options on DEC's joint application form; providing opportunities to influence sustainable shoreline structures in the public review, pre-application, and conceptual review process for wetland permits; and creating Office of General Services (OGS) approvals for construction on or above state-owned land that are conditioned on sustainable shoreline methods.

**Wetland Protection**
Federal, state, and local wetland permitting provide opportunities to regulate shoreline development. The Army Corps of Engineers (Army Corps) and the Environmental Protection Agency (EPA) regulate wetlands through the Section 404 Permit Program of the CWA. Actions, including shoreline structure projects that discharge dredge or fill material into regulated wetlands require a Section 404 Permit. DEC regulates wetlands through the Tidal Wetland Permit and Freshwater Wetland Permit programs. DEC requires Tidal Wetland Permits for activities that affect tidal wetlands south of the Tappan Zee Bridge and Freshwater Wetlands Permits for any shoreline project that impacts a regulated freshwater wetland north of the Tappan Zee Bridge. Municipalities may regulate wetlands within their jurisdiction in place of DEC by adopting wetlands regulations at least as restrictive as the State’s and by demonstrating their ability to administer their regulations. Alternatively, municipalities may adopt local wetlands regulations under the Municipal Home Rule Law in order to regulate wetlands more extensively.

These various wetland regulations offer several programmatic and legal opportunities to influence shoreline structures. The Army Corps can influence shoreline structure methodology through its Section 404 permitting authority, and EPA can do the same using its veto power and Section 404 guidelines. The state legislature could amend state wetlands laws, and DEC could make changes to regulations and guidance accordingly. Further, DEC can withhold or condition Wetlands Permits upon appropriate shoreline structure methodologies that will help meet required criteria under those programs. Additionally, the NYS Freshwater Wetlands Appeals Board provides an opportunity to resolve permitting disputes in favor of sustainable shorelines; DEC’s joint application form could provide information about sustainable shoreline structure options; and the public review, pre-application and conceptual review process for wetland permits could provide opportunities to influence sustainable shoreline structures. Further opportunities include establishing research, monitoring and demonstration projects, as well as creating new wetland maps and tools. Finally, local governments can adopt an array of advanced wetland regulations to control shoreline development.

**Stormwater Management**
Stormwater management under the CWA’s National Pollutant Discharge Elimination System (NPDES) Stormwater Program affects and has potential to influence shoreline development. Municipal separate storm sewer systems (MS4s), construction activities, and
industrial activities all require DEC stormwater permits in order to control stormwater pollution from these point sources. When these regulated activities occur in coastal areas, there are implications for shorelines, and DEC's stormwater permitting process could influence related shoreline development, including shoreline structures.

Although somewhat limited in applicability, DEC's Stormwater Program presents several programmatic and legal opportunities to influence shoreline structures. These include amendments to and adaptive use of MS4 Phase II general permit stormwater management program minimum control measures, amendments to DEC's non-structural best management practices for MS4s, incorporating sustainable shoreline methodology into the technical standards required for expedited review of construction activities, requiring post-construction stormwater management practices for a greater range of construction projects, including sustainable shoreline methodology in DEC's list of best management practices for industrial activities, expanding use of sustainable shoreline structures in local erosion and sediment control requirements, and using the historic preservation and endangered species protection requirements in all permits to influence shorelines.

Coastal Management
The coastal management legal framework also influences shoreline development. In accordance with the federal Coastal Zone Management Act (CZMA), New York adopted a Coastal Management Program (CMP) that coordinates development along coastal resources throughout the state. In coordination with this program, many municipalities have adopted a Local Waterfront Revitalization Program (LWRP) to ensure that proposed actions are consistent with local priorities. CZMA requires federal actions to be consistent to the maximum extent practicable with New York's CMP. If such action occurs within a LWRP boundary or would affect coastal resources or uses within this boundary, it must be consistent with LWRP policies in place of CMP policies. Additionally, New York's CMP requires state actions that are subject to environmental review under the State Environmental Quality Review Act (SEQRA) to be consistent with the CMP or any relevant LWRP as described above (see the Environmental Review part for more information about SEQRA).

Changes to the coastal management legal framework are limited because new policies require implementing legislation. Despite this, potential opportunities to influence shoreline development within the coastal management legal framework include several possible amendments to New York's CMP and CEHA, incorporating climate change and sea level rise impacts into LWRPs, using coastal consistency concurrence requirements to ensure federal projects manage shoreline structures properly, and better coordination of local planning efforts.

Disaster Mitigation and Floodplain Management
The Federal Emergency Management Agency (FEMA) and the New York Office of Emergency Management (OEM) administer the Disaster Mitigation Act (DMA). The DMA creates the federal multi-hazard mitigation planning program, which provides disaster assistance to state and local governments that implement mitigation planning. FEMA also
provides funding for a variety of mitigation activities through the Hazard Mitigation Assistance (HMA) Grant programs. FEMA’s National Flood Insurance Program (NFIP), administered by FEMA and the Department of Environmental Conservation (DEC), identifies and maps flood hazard areas and provides flood insurance to communities that adopt and enforce floodplain management standards.

Limitations of the disaster mitigation legal framework include the impact of laws on coastal development, the impermanence of NFIP, and NFIP’s limited consideration of sea level rise. However, this area of the law offers several programmatic and legal opportunities to influence shoreline structures. These include DMA mitigation plans, state grant assistance for disaster plans that consider climate adaptation and shoreline structures, coordination of planning efforts, enhanced floodplain maps, increased Community Rating System membership, the NFIP reform process, floodplain regulations that address sea level rise and shoreline structure methodology, the Association of State Floodplain Managers No Adverse Impact Approach, and the creation of a coastal risk management zone in NFIP maps. For these reasons, this legal framework offers an opportunity to encourage more sustainable shoreline development.

Environmental Review
The State Environmental Quality Review Act (SEQRA) requires review of environmental impacts prior to any proposed action by state or local government that could affect adversely a broad array of physical conditions in our environment. The environmental review process varies according to a project’s potential impacts. Prior to taking any action that might have a significant adverse impact, lead agencies under SEQRA must find that the action is conditioned reasonably to mitigate this impact on the environment, which includes coastal and riverfront areas subject to sea level rise.

Because SEQRA review precedes many development projects, including projects for shoreline development, it provides DEC and local governments with several programmatic and legal opportunities to influence shoreline structure methodology. These opportunities include the creation of critical environmental areas or coastal risk management zones, the development of a DEC sea level rise impact mitigation guidance document for environmental impact statements, agency influence on SEQRA review, consistency of SEQRA with the State’s coastal programs, the development of special local sea level rise regulations, and amending the SEQRA process to include consideration of sea level rise issues.

Local Land Use
Municipalities in New York have broad authority to adopt plans and laws to regulate land use. Most local governments control land use, including shoreline development, through comprehensive planning, as well as basic zoning techniques such as as-of-right and accessory uses, special use permits, rezoning, subdivision and site plan regulation, and overlay zoning. Localities also may adopt land use laws separate from zoning. Municipalities can deal with challenges to land use regulations, including takings challenges and political opposition, through proper provisions for nonconforming uses,
supportive comprehensive planning, fair and just regulation, hardship exemptions, and consensus building, among others.

Programmatic and legal opportunities to influence shoreline structures through the local land use legal framework include sea level rise components in comprehensive plans; coordinated planning efforts; local laws that control shoreline structures through as-of-right or special use permit uses, subdivision and site plan regulations, and overlay zones; conservation advisory councils and other boards or task forces; rolling easements; intermunicipal coordination; county government action; official sea level rise projections for New York State; provision of training and resources for local governments; and possible mandates for local governments.

**Other Laws and Programs**

II. INTRODUCTION

A. Introduction to the Project

Climate change and associated sea level rise likely will contribute to a significant rise in permit requests for shoreline stabilization and protection structures. Some shoreline structure technologies negatively impact the shoreline environment. To control their use and protect the environmental quality of affected shorelines, resource managers must find ways to influence shoreline structure development and modifications. The Sustainable Shorelines Project (the Project) seeks to identify the ecosystem services that different types of shorelines produce, evaluate structural performance of shorelines under projected climate changes, and identify the economic tradeoffs of different shoreline management methods. The Project uses a collaborative process to reach and engage key shoreline decision-makers, including property owners, regulators, law and policy-makers, municipal officials, advocates, and experts and consultants. This collaborative process helps build consensus about preferred methods for shoreline stabilization. The Project makes shoreline information, tools, and resources available to a wide range of potential users.

As a participant in the Sustainable Shorelines Project, the Land Use Law Center is charged with describing the regulatory and legal framework that governs land use and shoreline management on the Hudson Estuary. This Legal Framework Analysis summarizes the planning and regulatory framework that controls shoreline development along the Hudson River Estuary and identifies the programmatic and legal opportunities that should inform shoreline management to enable the future persistence of Hudson River Estuary shorelines and shoreline habitats. The Cooperative Institute of Coastal and Estuarine Environmental Technology (CICEET) funds the Project. The Greenway Conservancy for the Hudson River Valley, Inc. administers CICEET.

B. The Hudson River Estuary

The Hudson River Estuary is a narrow, 152-mile arm of the sea that extends from the southern tip of Manhattan north to the Federal Dam at Troy. Much of the river is 20-50 feet deep, and a 32-foot-deep navigation channel extends all the way to Albany. However, the river also contains extensive shallow-water areas that are less than 5 feet deep at low tide, many of which support wetlands or beds of submerged vegetation. The average tidal range along the Hudson Estuary is about four feet, peaking at five feet at either end of the estuary.

The shoreline has been dramatically altered over the last 150 years to support industry and other development, contain channel dredge spoils, and withstand erosion. About half of the shoreline has been conspicuously engineered with revetment, bulkhead, cribbing or reinforced with riprap. Many additional shorelines contain remnant engineered structures from previous human activities. The remaining “natural” shorelines (which however have been affected by human activities such as disposal of dredge spoil, invasive species, and
contaminants) including a mix of wooded, grassy, and un-vegetated communities on mud, sand, cobbles, and bedrock.

The shoreline of the Hudson River Estuary comprises a variety of land uses and land covers, which reflect not only the management strategies of current owners but also implies an infrastructure and management pattern inherited from previous generations of people living and working along the River's shores. A full 29% of the shoreline is managed for public transportation and cargo shipments via railroad.¹

**Shoreline Construction**

The Project focuses on regulation of shoreline protection structures... Shoreline construction is characterized by activities that place engineered structures or materials in the zone where water meets land, in order to provide protection from erosion or inundation. “Hard” shoreline construction structures and materials include fixed, built structures like bulkheads, gabion baskets, groins, jetties, revetments, riprap, and or steel sheeting. “Soft” shoreline construction describes the bolstering or restoration of indigenous vegetation and aggregate or the introduction of non-indigenous vegetation and aggregate to naturally mitigate the effects of erosion. For example, planting vegetation and beach re-nourishment are soft shoreline techniques. Dredge or excavation projects that place fill along a shoreline to alter its characteristics are also considered soft shoreline protection approaches.

Traditional hard vertical structures such as bulkheads, made of wood or steel sheet pile, have been permitted with far less frequency along the Hudson in the last few years. The Sustainable Shorelines Project focuses on the long-term feasibility of a handful of sloped hard and ecologically enhanced shoreline structures, including rip-rap, revetments, gabions, etc. Each of these techniques will undergo an in-depth engineering analysis, providing project managers and permit writers with the environmental and economic costs associated with each construction approach.

In addition to physical methods, policy and planning techniques also can protect shorelines. These techniques protect shorelines by regulating human uses near or on the shoreline and help prevent the need for engineered shoreline protection. Typical policy and planning techniques include construction setbacks, planned and managed retreat, and land use regulation. The majority of the programmatic and legal opportunities presented in this document are policy and planning techniques.

C. The Legal Framework for Hudson River Estuary Shoreline Management

The Hudson River Estuary is a complex ecosystem governed by similarly intricate laws and regulations. A mixture of legal doctrines, statutes, and regulations govern the River, its use, and use of surrounding lands. Relevant legal principles are derived from federal, state, and local law. These principles include land held in the public trust, the powers delegated to federal and state administrative agencies, the abilities of local governments to control land uses within their borders, and the constitutional rights of private citizens to use and enjoy their land subject to reasonable regulation. In practice, these authorities have established a complicated but predictable legal framework through legislation and case law.

This Legal Framework Analysis presents the plans, laws, regulations and policies that control shoreline development along the Hudson River Estuary. This Framework is divided into several legal and regulatory “parts,” including water quality controls, wetland protection, stormwater management, coastal management, disaster mitigation and floodplain management, environmental review, and local land use, as well as other laws and programs.

For each part below, the Framework first summarizes the part. Then, the Framework presents a short Purpose and Implementation section that briefly describes that part’s general legal framework to provide the necessary context for identifying relevant agencies and potential programmatic and legal opportunities. Next, the Framework provides a Limitations and Concerns section for each part that describes the specific constraints that could impede implementation of the programs within each part. Finally, the Framework covers a Programmatic and Legal Opportunities section for each part. These sections identify opportunities to further influence shoreline development and implement more sustainable shoreline stabilization structures within each part. The identified programmatic and legal opportunities within each part provide the Sustainable Shoreline Project with a foundation from which it can continue to investigate, with the help of relevant agency personnel, the feasibility of these and other opportunities. The Programmatic and Legal Opportunities Comparison Chart in the Framework’s Appendix lists every opportunity identified in each part of the Framework. For each opportunity, the Comparison Chart notes whether that shoreline management tool relates directly to shoreline structure development, relates to land uses that impact the shoreline, or generally affects shorelines. The Comparison Chart further indicates relevant agencies involved with each opportunity.

Many of the programmatic and legal opportunities suggested throughout the Framework derive from and/or reference three important policy documents: (1) The New York State Sea Level Rise Task Force Report to the Legislature,\(^2\) (2) the Environmental Protection

Agency’s June, 2, 2011 statement on adaptation to climate change,³ and (3) the New York Department of Environmental Conservation Commissioner’s climate change policy statement.⁴ Completed December 31, 2010, the Sea Level Rise Task Force Report is the State of New York’s official authoritative document regarding sea level rise adaptation. The Report assesses sea level rise projections, details the impacts of sea level rise on the State of New York, and includes recommendations for adaptation to these challenges. To date, neither the Governor nor the legislature has addressed the Task Force Report. In its statement on adaptation to climate change, the Environmental Protection Agency (EPA) acknowledged that, as the climate is “changing in unprecedented ways,” EPA must adapt to continue performing statutory, regulatory, and programmatic requirements necessary to protect human health and the environment. The statement directs EPA to develop and implement a climate-change adaptation plan that integrates climate adaptation “into the agency’s programs, policies, rules and operations.” Similarly, the New York Department of Environmental Conservation (DEC) has responded to climate change by issuing a DEC Commissioner’s policy statement, specifying that “DEC shall incorporate climate change considerations into all aspects of its activities.” The DEC statement directs permitting programs, regulations, and other activities to consider climate change.

³ The statement is available on the Environmental Protection Agency’s website at http://epa.gov/climatechange/effects/downloads/adaptation-statement.pdf (last visited June 8, 2011).
Federal and state water quality controls can affect and influence the construction of shoreline stabilization structures along the Hudson River. Section 401 of the federal Clean Water Act (CWA) requires state certification that federally permitted or licensed activities, including those that involve the placement of shoreline structures, will not undermine state water quality standards. In addition, the New York State Department of Environmental Conservation (DEC) issues Protection of Waters Permits for certain activities that disturb protected waters, including the Hudson River, and U.S. Army Corps of Engineers (Army Corps) approves particular activities conducted below the ordinary high water elevation of navigable waters. Several of these permitted activities also can involve shoreline structure construction. Programmatic and legal opportunities to influence shoreline stabilization structure development through these water quality control programs include withholding or conditioning CWA Section 401 certification, Protection of Waters Permits, and Section 10 Rivers and Harbors Act permits upon appropriate shoreline structure methodologies that will help meet required criteria under those programs; including information about sustainable shoreline structure options on DEC’s joint application form; providing opportunities to influence sustainable shoreline structures in the public review, pre-application, and conceptual review process for wetland permits; and creating Office of General Services (OGS) approvals for construction on or above state-owned land that are conditioned on sustainable shoreline methods.

A. Purpose and Implementation

CWA Water Quality Criteria and Section 401 Certification
In the United States, the CWA is the primary federal legislation governing water pollution. The CWA aims to restore and maintain the chemical, physical, and biological integrity of the waters of the United States. CWA Section 303 aims to meet this objective by requiring each state to establish a designated use, such as recreation or drinking water supply, for intrastate water bodies and to create water quality criteria to protect those designated uses. Water quality criteria include numeric requirements for pollution concentrations, as well as narrative statements for biological, nutrient, and sediment requirements. Section 401 water quality certifications are required for applicants that obtain federal permits or licenses for activities resulting in regulated discharges into navigable waters. In addition, a federal anti-degradation policy prohibits any activity from lowering existing water quality and requires states to protect high quality waters.

The New York State Assembly adopted approved water quality monitoring criteria and baseline standards and wrote water quality standards into law. DEC is authorized to regulate intrastate water quality in coordination with the federal Environmental Protection Agency (EPA). DEC regulations assign all New York waters a letter classification that denotes the best use. These regulations also provide narrative and numeric water quality standards for each classification. At a minimum, designated uses for the Hudson must meet
CWA goals to protect and propagate fish, shellfish, and wildlife, as well as to provide recreation in and on the water.

**Protection of Waters Program**
At the state level, DEC created the Protection of Waters Regulatory Program to implement the policy under Title 5 of Article 15 of the New York State Environmental Conservation Law (NYS ECL). Through this program, DEC issues Protection of Waters Permits for disturbance to regulated stream beds or banks, for dam or impoundment structure construction, for docking and mooring facilities construction, and for excavation or placement of fill in regulated waters and contiguous wetlands. Wetlands adjacent or connected to the Hudson River may be regulated under wetland law (see *Wetland Protection* part for additional details). Many activities associated with shoreline construction projects on the Hudson River also require conformance with the program, with the exception of some smaller projects.

The following shoreline construction projects typically will require a Protection of Waters Permit and water quality certification:

- A project requiring a CWA Section 404 permit for discharging dredge or fill material into wetlands adjacent to and contiguous with the Hudson. Projects that add material to federally regulated wetlands also may need to obtain water quality certification and may require a NYS freshwater or tidal wetlands permit (discussed below in the *Wetland Protection* part).
- A project involving excavation and placement of fill into the Hudson or its immediately adjacent land. Excavation or filling likely will coincide with the completion of sustainable shoreline projects along the Hudson because of construction methods used to install structures associated with these projects. Note that this is limited to fill into the Hudson, as Article 15 of the NYS ECL does not regulate the adjacent area.
- A project using floating equipment that temporarily discharges decant waters into navigable waters, such as dredging projects.

In addition, some projects involving minor modifications to property that include shoreline structure construction or alteration may require Protection of Waters Permits and water quality certification:

- A project that involves disturbance to the Hudson River, a protected stream. DEC classifies intrastate waters to provide guidelines consistent with a waterway's intended use. The agency established the following four classifications: (A) waters used as a source of drinking water; (B) waters best used for swimming and other contact recreation but not drinking water; (C) waters supporting fisheries and that are suitable for non-contact activities; and (D) all other waters. Additionally, A, B, and C waters may have a secondary classification: (T) indicating that it may support a trout population or (TS) indicating that it may support trout spawning. The Protection of Waters Program applies to any stream or portage that is classified as
C(T) or higher (i.e., C(TS), B, or A). The Hudson River classification varies in different segments and includes C(T) or higher classifications. Because of this, a Protection of Waters Permit is required for any sustainable shoreline project that requires alterations to the Hudson’s bed or banks where it has a C(T) or higher classification. Adjacent areas are not regulated by Article 15 of the NYS ECL.

- A project installing docks and moorings. The construction of large docks and moorings in navigable and/or protected waters that are not exempt under NYS ECL 15-0503.3 and that are associated with a sustainable shoreline project may require a Protection of Waters Permit due to the potential impact that these installations can have on the surrounding waters.

**New York State SPDES Program**

Although not directly relevant to shoreline structures, the New York State Pollution Discharge Elimination System (SPDES) program is a key component of the water quality legal framework. NYS ECL Article 17 declares it public policy to “maintain reasonable standards of purity of the waters of the state consistent with public health and public enjoyment, thereof,” with the goal of preventing and controlling pollution in New York State. Article 17 created New York State’s SPDES permit program. Certain discharges of pollutants from point sources require a SPDES permit under Article 17 and CWA Section 402.

**Section 10 of the Rivers and Harbors Act of 1899**

Section 10 of the Rivers and Harbors Act requires the U.S. Army Corps of Engineers (Army Corps) to approve certain activities conducted below the ordinary high water elevation of navigable waters of the United States. Activities requiring a Section 10 permit from the Army Corps include the placement and removal of structures; work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils or sediments; or modification of a navigable waterway.

The Regulatory Branch of the Army Corps issues Section 10 permits. The Army Corps can authorize activities by a standard individual permit, letter-of-permission, nationwide permit, or regional permit. When engaged in its permitting authority, the Army Corps determines what type of Section 10 permit an activity requires. While some projects proposed along the Hudson River shoreline will require a Section 10 individual permit, certain activities may be subject to regional, general or nationwide permits. For example, Nationwide Permit #13 allows bank stabilization activities necessary for erosion prevention provided that the scope of the project falls within certain thresholds.

**B. Limitations and Concerns**

Neither CWA Section 401 water quality certification nor the Protection of Waters Permit Program applies to individual activities that have an insignificant effect on water quality. Activities with “insignificant” effects are associated with minor property modifications by single applicants.
In addition, Section 401 certification is not required for individual projects where the federal Army Corps of Engineers has established a General Section 404 permit. General 404 permits are designed to create a streamlined permit approval process related to wetland activities, but the blanketing effect of the permit is contingent upon DEC issuing a Statewide Water Quality Certification for the general 404 permit.

C. Potential Programmatic and Legal Opportunities

The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 1 on page A-1 in the appendix for a simple comparison of the opportunities discussed below.

**Denial of and Conditions for State 401 Certification**

Federal license or permit applicants engaged in activities potentially resulting in a discharge into navigable waters must obtain Section 401 certification. DEC can withhold or condition a CWA Section 401 certification until a project is modified to comply with state criteria contained in 6 NYCRR Part 608.9. This may present an opportunity for DEC to influence shoreline structure construction and promote structures with fewer impacts on water quality. Sea level rise and storm hazards will exacerbate negative impacts from shoreline structures. Under DEC’s policy statement, the agency is required to consider climate change when issuing certification. This also provides DEC with an opportunity to influence shoreline projects through the certification process.

**Denial of and Conditions for Protection of Waters Permits**

In order to control shoreline structure impacts on the Hudson and ensure appropriate shoreline structure methodology, DEC can deny Protection of Waters Permits or require special conditions for activities that do not meet the standards contained in 6 NYCRR Part 608.8. These activities are regulated because they can cause incidental physical changes in water quality, including increased turbidity, temperature change, and higher concentrations of total suspended solids. As a result, shoreline project planners should be aware of and implement shoreline structure construction methods that limit these types of impacts. Sea level rise will aggravate these impacts further, and DEC must take this into consideration, consistent with its policy statement, when issuing Protection of Waters Permits.

**Denial of and Conditions for Section 10 Permits**

Similar to CWA Section 401 certification and Protection of Waters Permits discussed directly above, the Army Corps can use Section 10 permitting authority to direct shoreline activities and uses towards greater sustainability by denying these permits or requiring special conditions for activities that do not meet permitting standards and that utilize unsustainable shoreline practices. Further, guidance documents on the issue and administration of permits could be amended to ensure this process adequately considers sustainable shoreline methodologies.
Joint Application Form
Applicants for shoreline projects that require a water quality permit and DEC certification will use the DEC Joint Application Form, which streamlines the permitting process. This coordinated process provides an opportunity to provide information about sustainable shoreline structures and the environmental and economic benefits of each option.

Permit Review Process
The Uniform Procedures Act provides timeframes and procedures for permit review and is intended to encourage public participation. Protection of Waters permits, like all DEC permits, are categorized as either major or minor. Major projects are subject to public review before DEC may issue a permit. Minor projects, on the other hand, technically require a permit but are less likely to adversely impact water quality and do not require public notice. The public review process allows community members and interested parties to express their concerns about the permit’s issuance and provides an opportunity for outreach and education programs to have an impact. DEC should use the public review process for Protection of Water Permits to educate the public about sustainable shoreline methodologies and sea level rise impacts.

The Uniform Procedures Act also provides for a pre-application conference and conceptual plan review. Both of these procedures provide flexibility and give an applicant the opportunity to discuss with the appropriate department any innovative techniques and technologies that the applicant seeks approval for with respect to its proposed shoreline activities. This provides an opportunity for the developer to propose better methods of protecting shorelines. Developers could be educated about these techniques through non-profit outreach programs. (See the Uniform Procedures Act section in the Other Laws and Programs part.)

State-Owned Underwater Lands and State Public Trust Lands
As a tidal estuary, the Hudson River and its shores are protected by the public trust doctrine. The public trust doctrine, an ancient legal principle partially represented by the New York State Public Lands Law, requires the government to act as steward of public land, waters, and resources for the benefit and enjoyment of the people of the state. The New York State Office of General Services (OGS) is charged with holding and administering these lands, including granting property interests discussed below. If an applicant’s project exhibits a significant public purpose and benefit, OGS may allow the applicant to fill public trust property. The applicant must be an owner of adjacent upland who first obtains an easement or land grant from OGS for a water-dependent use. The issuance of the easement or lease provides an opportunity for OGS to influence the type of shoreline protection structure built. In addition, this process does not eliminate the need for other permits or the possibility of protecting the property by other means, such as a valuable habitat designation by the U.S. Fish and Wildlife Service.

Furthermore, New York State’s Submerged Lands Law provides another legal opportunity to influence shoreline structure construction. This law applies directly to shoreline
construction projects on the submerged lands of the Hudson. It requires developers to obtain a lease, easement, permit or other property interest from OGS prior to occupying state-owned underwater lands. Construction projects requiring such permission include wharfs, docks, piers, jetties, platforms, breakwaters, moorings or other similar structures. The erection, suspension, anchorage, placement, replacement, alteration, or modification of any such structure over state owned lands requires OGS permission. Because of this authority, OGS leases, easements, permits, and other interests present another opportunity to influence or require certain shoreline structure methodology. DEC oversees these requests and could use this authority to influence the shoreline structure methodology for these projects.

D. Authority

Statutes


Water Resources law, N.Y. ENVTL. CONSERV. LAW Art. 15.

Water Pollution Control Law, N.Y. ENVTL. CONSERV. LAW Art. 17.


Tidal Wetlands Act, N.Y. ENVTL. CONSERV. LAW Art. 25.

Uniform Procedures Act, N.Y. ENVTL. CONSERV. LAW Art. 70.

Regulations
Permits for Structures or Work in or Affecting Navigable Waters of the United States, 33 C.F.R. § 322.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 608.1-608.11.


N.Y. COMP. CODES R. & REGS. tit. 6, §§ 703.1-703.7.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 800-941.
E. References


IV. WETLAND PROTECTION

Federal, state, and local wetland permitting provide opportunities to regulate shoreline development. The Army Corps of Engineers (Army Corps) and the Environmental Protection Agency (EPA) regulate wetlands at the federal level by implementing the Clean Water Act (CWA) Section 404 Permit program. At the state level, the New York State Department of Conservation (DEC) regulates wetlands through the Tidal Wetland Permit and Freshwater Wetland Permit programs. DEC requires Tidal Wetland Permits for activities that affect tidal wetlands and adjacent areas south of the Tappan Zee Bridge. North of the Tappan Zee Bridge, DEC regulates wetlands, including those that are tidally influenced, through the Freshwater Wetland Act. Any shoreline project impacting a regulated freshwater wetland requires a Freshwater Wetland Permit. We note that wetlands are protected and regulated along the entire river by and through the Water Resources Law, a.k.a. Protection of Waters (NYS ECL Article 15 – described above). At the local level municipalities may regulate wetlands within their jurisdiction, supplanting DEC regulation by adopting local wetland laws at least as restrictive as the State’s. Alternatively, municipalities may adopt local wetland regulations that regulate wetlands more extensively under the Municipal Home Rule Law.

These various wetland regulations offer several programmatic and legal opportunities to influence shoreline structures. The Army Corps can influence shoreline structure methodology through its Section 404 permitting authority, and EPA can do the same using its veto power and Section 404 guidelines. The state legislature could amend state wetlands laws, and DEC could make changes to regulations and guidance accordingly. Further, DEC could withhold or condition Wetlands Permits upon appropriate shoreline structure methodologies that will help meet required criteria under those programs. Additionally, the NYS Freshwater Wetlands Appeals Board provides an opportunity to resolve permitting disputes in favor of sustainable shorelines; DEC’s joint application form could provide information about sustainable shoreline structure options; and the public review, pre-application and conceptual review process for wetland permits could provide opportunities to influence sustainable shoreline structures. Further opportunities include establishing research, monitoring and demonstration projects, as well as creating new wetland maps and tools. Finally, local governments can adopt an array of advanced wetland regulations to control shoreline development.

A. Purpose and Implementation

CWA Section 404 Permits
At the federal level, the Army Corps and EPA regulate wetlands through the CWA Section 404 Permit program. The CWA’s primary objective is “to maintain and restore . . . the integrity of the waters of the United States.” To limit and control damage to wetlands, the CWA gives the Army Corps and EPA cooperative authority to regulate, issue permits and review potential impacts to wetlands for activities that affect “waters of the US.”
Section 404 of the CWA makes it unlawful to discharge dredge or fill material into the waters of the United States without an Army Corp's Section 404 permit. In its regulations, the Army Corp defines waters of the United States to include wetlands that are so saturated by surface or groundwater that they support a predominance of vegetation typically found in saturated soil conditions. If a wetland’s health may affect the viability of navigable waters, it may be subject to federal regulation. Federal law regulates only wetlands themselves and not areas surrounding wetlands unless a proposed activity in a neighboring area directly affects dedicated wetlands. To obtain a permit, applicants must demonstrate that no realistic alternatives to the proposed action exist that would lessen the negative impact on the wetland. Typically, applicants must prove that the project will avoid wetland impacts where possible, minimize potential impacts, and restore or create wetlands to compensate for any remaining, unavoidable impacts.

Two types of Section 404 permits exist: individual and general. General permits (a.k.a. nationwide or regional permits) are far more common and include minor projects with minimal adverse environmental impacts. The Army Corps issues general permits for activities that “are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will only have minimal cumulative adverse effect on the environment.” A general permit states the requirements and standards that apply to any activity authorized under the permit. Section 404 general permits typically cover activities that are secondary to shoreline construction, such as minor road activities or utility backfilling.

Individual permits (a.k.a. standard permits) are required for projects that result in significant environmental impacts not covered by an approved nationwide or regional permit program (a.k.a. general permits). These include large-scale dredge projects and activities that could alter wetland ecosystems, including shoreline structure projects. In order to receive an individual Section 404 permit, applicants must prevent significant harm to the wetland and prove that workable, site-specific alternatives do not exist. In addition, applicants must demonstrate that their mitigation measures lessen, to the greatest extent possible, the negative impact on a wetland environment.

**DEC Tidal Wetland Permits**

At the state level, DEC regulates intertidal wetlands south of the Tappan Zee Bridge under the Tidal Wetlands Act (NYS ECL Article 25) the Tidal Wetlands Land Use Regulations, and tidal wetlands maps that are on file at DEC regional offices. The Act and its corresponding regulations only allow uses in tidal wetlands that are compatible with the preservation, protection, and enhancement of these wetlands. Tidal wetlands are comprised of salt marshes (intertidal marsh and coastal fresh marsh); coastal shoals, bars, and flats; a littoral zone (shallows up to six feet deep at mean low water); and adjacent areas (areas adjacent to tidal wetlands generally include lands less than ten feet in elevation within 300 feet of the wetland boundary). This affects virtually all shorelines subject to tides south of the Tappan Zee Bridge.
Most shoreline projects along the Hudson River south of the Tappan Zee Bridge will require a tidal wetland permit. Regulated activities include placement of fill, dredging, excavation, re-grading, construction, expansion, modification, and reconstruction of built structures, septic systems, bulkheads, fastened docks, floating docks, catwalks, piers, drainage systems, mooring facilities, and underground utilities. In general, tidal wetland permits for regulated activities must (1) be “compatible with the policy of the act” (2) be “compatible with the public health and welfare” (3) be “reasonable and necessary,” and (4) comply with development restrictions and use guidelines in the Tidal Wetlands Act.

**DEC Freshwater Wetlands Permits**

In the tidal Hudson River north of the Tappan Zee Bridge, wetlands influenced by tides are regulated under the State Freshwater Wetlands Act (NYS ECL Article 24). The Act’s purpose is to preserve, protect, and conserve freshwater wetlands, as well as to regulate use and development to secure the natural benefits of freshwater wetlands. The Act defines freshwater wetlands as “lands and submerged lands commonly called marshes, swamps, sloughs, bogs, and flats supporting aquatic or semi-aquatic vegetation.” The Freshwater Wetlands Act and DEC implementing regulations further define freshwater wetlands mainly by the presence of vegetation found in wetlands and adjacent areas within 100 feet of a wetlands boundary. DEC also classifies regulated freshwater wetlands according to their functions, values, and benefits. Factors used to determine a wetland’s classification include: “their vegetative cover, their ecological associations, their special features, their hydrological and pollution control features, and their distribution and location.” Regulated freshwater wetlands are mapped and on file at DEC regional offices. DEC also offers an environmental resource mapping tool that provides users with the location of freshwater wetlands.

Under the Freshwater Wetlands Act, DEC regulates freshwater wetlands 12.4 acres (2 hectares) or larger and smaller freshwater wetlands of unusual local significance. Freshwater wetlands smaller than 12.4 acres qualify for regulation by the DEC if they provide habitat for endangered or threatened species, protect developed areas from flooding or are connected to a public water supply. Regulated activities requiring a freshwater wetland permit include the construction of buildings, bulkheads, dikes, or dams; the placement of fill, excavation, or grading; and the modification, expansion, or extensive restoration of existing structures.

In order to receive a freshwater wetland permit or a letter of permission, an applicant must meet the standards for issuing listed in 6 NYCRR Part 663.5. A letter of permission is issued if the Commissioner finds that “the proposed activity will not substantially alter or impair the functions or benefits of a wetland.” Under Subdivision 663.5 (e), the grant, denial or modification of a permit requires a determination of compatibility and a cost benefit analysis. In general, DEC may issue a freshwater wetlands permit if the activity (1) is compatible with the preservation, protection, and conservation of the wetlands and its benefits, (2) does not result in substantial degradation or loss of any part of the wetland, and (3) would be compatible with the public health and welfare. Part 663.4 (d) of the DEC regulations determines whether a regulated activity requires a permit or a letter of permission.
Local Regulation of Wetlands
Under the Freshwater Wetlands Act, localities may replace DEC as the regulator of wetlands within their jurisdiction by adopting wetlands regulations at least as restrictive as the State's and demonstrating their ability to administer their regulations. Because wetlands are defined by statute and regulation, the border of a municipality's jurisdiction over the wetland is defined. For example, the border of wetland jurisdiction for municipalities along the Hudson River is approximately halfway across the Hudson. Very few localities in New York have elected this option.

Alternatively, municipalities may adopt local wetlands laws under the Municipal Home Rule Law, which authorizes local governments to create laws that protect the "physical environment." Under these local laws, localities may adopt broader definitions of wetlands, regulate larger buffer areas and cover a more extensive range of activities. When localities use their home rule authority to regulate local wetlands, they typically regulate smaller wetlands than DEC regulates. If they wish, they also may regulate wetlands 12.4 acres in size or larger, but these regulations must protect wetlands as well as or better than the State program. When localities choose to regulate wetlands under their home rule authority, their regulations coexist with DEC wetlands regulations, and landowners must comply with both sets of standards separately.

B. Limitations and Concerns

The CWA and Tidal and Freshwater Wetlands Acts carve out some potentially relevant exceptions for structure maintenance. Though very strictly construed by EPA, Section 404(F)(1)(B) excludes from the Section 404 permit requirement maintenance and emergency reconstruction of currently serviceable structures such as riprap, breakwaters, bridge abutments, and transportation structures. Additionally, DEC requires a Tidal Wetland Permit to repair a shoreline structure only if the agency determines that the structure will require extensive rehabilitation next to a tidal wetland boundary. Similarly, DEC does not require a Freshwater Wetland Permit for farming related activities necessary to enhance or maintain agricultural productivity. This includes the construction of necessary farming structures and draining wetlands.

C. Potential Programmatic and Legal Opportunities

The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 2 on page A-2 in the appendix for a simple comparison of the opportunities discussed below.

Denial of and Conditions for CWA Section 404 Permits
The Army Corps has authority to deny and condition Section 404 Permits for dredge and fill activities. The agency can use this authority to encourage sustainable shoreline methods
by controlling shoreline structure impacts on the Hudson and ensuring appropriate shoreline methodology. EPA guidance documents and controlling regulations should be updated to authorize and assist permit writers. Even without formal guidance, permit writers, if properly educated on shoreline structure options, can use the permit process to influence sustainable shoreline practices.

EPA Veto Power over Army Corps Permitting Decisions and EPA Guidelines

EPA develops regulations with which the Army Corps must comply and also reviews permits issued by the Army Corps. CWA Section 404(c) gives EPA the ability to veto Army Corps permitting decisions if the permitted action “will have an unacceptable effect on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas.” EPA’s veto authority applies to Army Corps permits that authorize the placement of dredge spoils beside navigable waters like the Hudson River.

Although EPA rarely vetoes permits, the agency has used this power in the past. The majority of EPA’s past vetoes targeted activities related to mining. However, in 2008, EPA used its veto power to prevent the Army Corps from permitting the Yazoo Pumps Project in the Mississippi Delta. Here, EPA used its veto power, for the first time, to prevent the destruction of nearly 67,000 acres of wetlands. Similarly, EPA’s veto power presents an opportunity for the agency to control shoreline structure construction more stringent along the Hudson. Through this veto power, EPA can ensure that Section 404 Permits adequately address shoreline structure methodology for activities that both require this permit and involve shoreline structure construction.

In addition, EPA may influence shoreline structures through guidance. Under the federal system, EPA develops guidelines for the issuance of Army Corps’ Section 404 permits. Consistent with EPA’s June 2011 adaptation policy, which directs the agency to integrate climate change adaptation “into the agency’s programs, policies, rules and operations,” EPA could include in these Section 404 permit guidelines specific recommendations that encourage sustainable shorelines.

Amendments to Tidal Wetlands Act

The New York Sea Level Rise Task Force (Task Force) recommends that New York Environmental Conservation Law (ECL) § 25-0102 of the Tidal Wetlands Act be amended to include the phrase, “It is declared to be the public policy of the state to preserve and protect tidal wetlands and to prevent their despoliation and destruction, giving due consideration to the occurrence of sea level rise that will result in wetlands loss and migration, and to the reasonable economic and social development of the state.” In addition, ECL § 25-0103 should be amended by adding definitions for “sea level rise” and “coastal risk management zone” and should include adopted projections of sea level rise. Further recommended changes include developing criteria to map and inventory tidal wetland migration areas that result from sea level rise, adding a definition for “tidal wetland migration areas” in the Tidal Wetlands Act, revising and narrowing criteria for
variances in 6 NYCRR § 661.11 similar to criteria set forth in Section 505.13, and amending the implementing regulations in 6 NYCRR Part 601 to correspond to these principles.

Amendments to Freshwater Wetlands Act
In addition, the Task Force recommends amending the Freshwater Wetlands Act and its corresponding regulations. In order to further protect freshwater wetlands threatened by sea level rise, the Task Force suggests that DEC should revise 6 NYCRR Part 664 to designate “smaller wetlands that are in close proximity to the tidally influenced coastline of the state as having ‘unusual local importance.’” This amendment would heighten recognition of these sensitive resources.

Denial of and Conditions for Protection of Wetlands Permits & DEC Permitting Guidance
In order to control shoreline structure impacts on the Hudson River and ensure appropriate shoreline structure methodology, DEC can deny Tidal or Freshwater permits or require special conditions for activities that do not meet the regulatory standards and permit guidance. Further, the Task Force recommends that DEC revise its guidance and programming with the following two changes. First, DEC should establish permitting guidance to ensure that tidal wetland permit decisions take into account a project’s expected “lifetime.” Second, DEC should amend its guidance and regulations to make sure that stabilization structure approvals do not “result in the elimination of foreshore areas and the public trust embedded in those areas due to the restriction of landward movement of high-water lines.” These changes would promote a long-term perspective for shoreline stabilization.

Additionally, sea level rise will aggravate negative impacts to wetlands. DEC should take this into consideration, consistent with its climate change policy statement, when issuing wetlands permits and developing permit guidance documents.

Freshwater Wetlands Appeals Board
The New York State Freshwater Wetlands Appeals Board is a specialized forum for challenging regulatory decisions. It was created to permit the expeditious review of decisions involving Freshwater Wetlands. A quasi-judicial body, the Board serves as an alternative forum for individuals seeking substantially the same relief as would be available through an Article 78 proceeding under the Civil Practice Law and Rules. Moreover, decisions of the Board are subject to appeal pursuant to Article 78 of the Civil Practice Law & Rules by either the appellant or the responding agency. This specialized alternative forum poses an opportunity to resolve freshwater permit disputes in favor of more sustainable shorelines. Providing education about sustainable shoreline structures to Board members would help them include proper consideration of shorelines in their decisions.

Joint Application Form
A shoreline project that impacts a regulated freshwater wetland or tidal wetland requires permits from both DEC and the Army Corps. DEC provides a Joint Application Form, which streamlines the permitting process. This coordinated process presents an opportunity to
provide information about sustainable shoreline structures and the environmental and economic benefits of each option.

**Permit Review**
The Uniform Procedures Act provides timeframes and procedures for permit review and is intended to encourage public participation. Wetland permits, like all DEC permits, are categorized as either major or minor. Major projects are always subject to public review before DEC may issue a permit. Minor projects, on the other hand, technically require a permit but are less likely to adversely impact the wetlands and do not require public notice. The public review process allows community members and interested parties to express their concerns about the permit’s issuance and is an opportunity for outreach and education programs to have an impact. DEC should use the public review process to educate the public about sustainable shoreline methodologies and sea level rise impacts.

The Uniform Procedures Act also provides for a pre-application conference and conceptual plan review. Both of these procedures provide flexibility and allow an applicant an opportunity to discuss with the appropriate department any innovative techniques and technologies that the applicant seeks approval for with respect to its proposed shoreline activities. This provides an opportunity for the developer to propose better methods of shoreline protection. Developers could be educated about these techniques through non-profit outreach programs. (See the Uniform Procedures Act section in the Other Laws and Programs part.)

**Research, Monitoring and Demonstration Projects**
To better understand how critical coastal ecosystems, infrastructure and communities are vulnerable to sea level rise, the New York State Sea Level Rise Task Force recommends that state agencies coordinate funding for research, monitoring, and demonstration projects. In particular, the Task Force recommends that agencies track tidal wetlands at a landscape scale to understand the key factors that contribute to their loss. This research effort should include: (1) expanding existing monitoring of wetland health to all tidal wetlands in the marine district and Hudson River (to the Federal Dam at Troy), as well as other critical habitats; (2) unifying tidal wetland monitoring and assessment programs in the marine district and tidal Hudson River; (3) modeling tidal wetland migration pathways due to sea level rise and developing methodology to map areas of this possible tidal wetland migration; (4) understanding how sea level rise contributes to ongoing tidal wetlands loss and assessing the relative effects of other factors that play a role in marsh loss; and (5) determining how marsh productivity changes with sea level rise. In addition, the Task Force recommends that agencies improve understanding of the natural processes which affect land forms in coastal areas, including how sea level rise affects shoreline change. To do this, the Task Force suggests developing “sediment budgets” that track how sediment moves due to shoreline change and studying how this fine sediment affects wetlands. With greater knowledge of how these systems are impacted by sea level rise, regulators and local leaders can make more informed decisions about the use of shoreline structures.
**Wetland Maps & Tools**

In its final report, the New York State Sea Level Rise Task Force recommends that the State develop maps and other tools to help decision makers respond to sea level rise. The report states that decision makers should have access to current and accurate planning data for this purpose and recommends that the State “maintain complete up-to-date maps of tidal and freshwater wetlands.” In particular, the existing 40-year-old tidal wetland maps “should be updated to include all existing tidal wetland areas.” The State also should consider revision of tidal flood surge maps of the National Weather Service, many of which are part of local planning databases. Additionally, the State should modify the Tidal Wetland Act to include the effects of sea level rise on tidal wetlands and should re-inventory the tidal wetland maps to include wetland migration areas. Further, the State should use and promote decision-support tools and planning information such as maps and data, “including maps of areas of future inundation from sea level rise and high-intensity storms, changes in shoreline position, and areas of potential habitat migration including wetlands, dunes and barrier islands.”

New York State agencies, such as DEC and the N.Y. Department of State (DOS) can help accomplish this by forming a working group to identify and implement funding strategies; coordinating information collection and dissemination among the federal, state and local governments; and ensuring regular updates of these mapping initiatives. The report recommends that the working group determine funding strategies within one year and complete implementation within five to ten years. Updated wetland maps and decision-support tools will help agencies and local governments make decisions about shoreline structures to anticipate new conditions.

**Adoption of Local Wetland Regulations**

Locally adopted wetland laws present a unique opportunity for municipalities to go beyond DEC wetland regulations to ensure sustainable shoreline practices. Local planning and zoning boards may regulate activities that affect wetlands as they review and approve development applications. For example, a local legislature may adopt standards to protect wetlands in subdivision, site plan, and special permit regulations. If wetlands standards exist, local administrative bodies may consider the impact of proposed projects on wetlands during the approval process. To protect wetlands, local agencies may impose conditions or deny applications as a routine part of the development review and approval process. Some localities also protect wetlands by adopting floodplain, erosion and sedimentation, and clearing and grading regulations. In addition, municipalities may designate specific sensitive areas for extra protection (See Coastal Management, Environmental Review, & Local Land Use parts).

The Town of Ossining regulates wetlands adjacent to the Hudson River under New York’s Municipal Home Rule Law authority. Ossining’s Freshwater Wetlands, Watercourses and Water Body Protection Law regulates “the dredging, filling, deposition or removal of materials; diversion or obstruction of water flow; and placement of structures and other uses in the water bodies, watercourses and wetlands in the Town of Ossining.” Under Ossining’s law, wetlands are defined to include: (a) watercourses, (b) water bodies, (c)
wetlands as shown on the NYS Freshwater Wetlands Map, (d) areas a half acre or more in size that are saturated by surface or groundwater sufficient to support a prevalence of hydrophytic vegetation, (e) wetlands as shown on the Town of Ossining Wetlands and Drainage Map, or (f) areas a half acre or more in size that are specified as being comprised of hydric soils on the Town’s Wetlands and Drainage Map and determined by the approval authority to constitute a wetland.

The ordinance creates a 100-foot buffer area for wetlands. It requires a written permit for activities within a wetland or buffer area that result in the placement or construction of any structure, a change in natural drainage patterns, or impairment to the natural functions of a wetland. The Town Building and Planning Department office issues permits for activities only if the proposed regulated activity (1) is consistent with the preservation of wetland functions and prevents wetland destruction to the maximum extent practicable, (2) is compatible with the public health and welfare, and (3) cannot practicably be relocated to eliminate or reduce intrusion into the wetland or buffer area.

In the 1980s, the Town of East Hampton, New York, began continuous surveillance of wetland boundary locations. Based on this monitoring, the Town tracks wetland movement and takes appropriate measures to ensure that wetlands can retreat naturally and not drown. Surveillance data also demonstrated that arbitrary bulkhead placement stops the natural progression of wetland migration. In light of the data, the Town prohibits bulkhead construction that would prevent wetland migration. The Town also participates in a program with four other Long Island municipalities, implementing an additional two percent tax on houses over a certain price. This extra influx of tax money has allowed increased spending on wetland conservation.

In addition, East Hampton’s Coastal and Wetland Setbacks and Buffers law creates wetland setbacks for all areas of the town. The law requires setbacks of 150 feet from wetland boundaries for septic systems and 100 foot setbacks for all other structures. Further, the law prohibits construction within a wetland, bans turf within 50 feet of the upward boundary, and creates coastal setbacks of 100 to 150 feet from bluff lines or dune crests. Where multiple setbacks may affect a property, the law requires compliance with each setback unless the landowner can show non-feasibility.

The Wetlands Protection law of the Town of Barnstable, Massachusetts, acknowledges that accelerated sea level rise will result in increased coastal erosion processes and impact land erosion, storm drainage, flooding and wetland loss and prohibits removal, filling, dredging and alterations within 100 feet of wetlands and related water resources without a permit. The Town’s Conservation Commission enhanced this wetland buffer regulation by adding an undisturbed buffer zone of 50 feet in width between wetland resource areas within the 100 foot buffer zone and by limiting site disturbance. The 50 foot setback helps insulate wetland resource areas from development elsewhere in the 100 foot buffer zone. The Wetlands Buffer Zone Activity law recommends that proposed structures be located no closer than 20 feet to the landward limit of the 50 foot buffer to allow for construction, landscaping, and maintenance activities.
The Coastal Zone Management law of Collier County, Florida, establishes a hierarchy of preferred site development that discourages development on wetlands. This hierarchy applies to projects that are within the coastal zone and that are on shorelines. Parcels are categorized within the hierarchy based on the current state of development and the underlying habitat. The hierarchy has seven categories of areas: (1) presently developed disturbed uplands, (2) disturbed freshwater wetlands, (3) disturbed brackish water and marine wetlands, (4) viable unaltered uplands, (5) viable unaltered freshwater wetlands, (6) viable unaltered brackish water, and (7) marine wetlands. The law requires development on areas lower in the hierarchy rather than higher areas.

In addition, the ordinance requires the environmental impact statement for a shoreline development plan to consider the effect of a projected six-inch sea level rise. Finally, the ordinance restricts development on undeveloped coastal barriers, with listed exceptions.

The Town of Falmouth, Massachusetts’ code protects land within 100 feet of almost any water-related resource or land subject to flooding. The code prevents improvements to or alterations to these flood prone lands. After establishing a standard regarding all wetlands, the ordinance differentiates between coastal and inland wetlands. The ordinance places different restrictions on the development of coastal wetlands and inland wetlands due to their inherent differences. The ordinance specifically identifies the protection of coastal wetlands as a means of storm damage and flood prevention.

The City of Olympia, Washington, adopted a number of laws regulating wetlands and small lakes. These laws create a grading system by which wetlands are categorized. The ordinances prevent the grading, dredging, and removal of particular wetlands, with exceptions for minor activities. In addition to protecting the wetland itself, the ordinance extends protection to the land lying within a certain distance from the wetland. The grading of the wetland area determines its buffer area, as dictated by a table within the law.

These ordinances illustrate the breadth and detail of protection which is possible under local law for wetland protection. Adoption of similar laws by local governments can have a strong impact on the sustainability of shorelines.

**D. Authority**

**Statutes**


General Powers of Local Governments to Adopt and Amend Local Laws; Restrictions, N.Y. MUN. HOME RULE LAW §§ 10-11.

Freshwater Wetlands Act, N.Y. ENVTL. CONSERV. LAW §§ 24-0101 to 24-1305.
Tidal Wetlands Act, N.Y. ENVTL. CONSERV. LAW §§25-0101 to 25-0601.

Uniform Procedures Act, N.Y. ENVTL. CONSERV. LAW Art. 70.

Local Laws
TOWN OF BARNSTABLE, MASS., CODE ch. 237 & 704.

COLLIER COUNTY, FL, LAND DEVELOPMENT CODE § 3.03.

TOWN OF EAST HAMPTON, N.Y., CODE § 255-4-30.

TOWN OF FALMOUTH, MASS., CODE ch. 235.

CITY OF OLYMPIA, WASH., CODE §§ 18.32.500-595.

TOWN OF OSSINING, N.Y., CODE, ch. 105.

Regulations
N.Y. COMP. CODES R. & REGS. tit. 6, § 505.13.

N.Y. COMP. CODES R. & REGS. tit. 6, § 601.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 647.1-647.23.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 661.5-661.11.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 663.1-663.11.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 664.1-664.9.

N.Y. COMP. CODES R. & REGS. tit. 6, §§ 700.1-704.7.

E. References

Federal Guidance, Program, and Other Documents


New York State Programs


Other Resources and References

V. STORMWATER MANAGEMENT

Stormwater management under the National Pollutant Discharge Elimination System (NPDES) Stormwater Program of the Clean Water Act (CWA) affects and has potential to influence shoreline development. Municipal separate storm sewer systems (MS4s), construction activities, and industrial activities all require DEC stormwater permits in order to control stormwater pollution from these point sources. When these regulated activities occur in coastal areas, there are implications for shorelines, and DEC’s stormwater permitting process could influence related shoreline development, including shoreline structures. Programmatic and legal opportunities to influence shoreline structures include amendments to and adaptive use of MS4 Phase II general permit stormwater management program minimum control measures and amendments to DEC’s non-structural best management practices for MS4s. Other opportunities include incorporating sustainable shoreline methodology into the technical standards required for expedited review of construction activities, requiring post-construction stormwater management practices for a greater range of construction projects, including sustainable shoreline methodology in DEC’s list of best management practices for industrial activities, expanding use of sustainable shoreline structures in local erosion and sediment control requirements, and using the historic preservation and endangered species protection requirements in all permits to influence shorelines.

A. Purpose and Implementation

Stormwater runoff is a major source of water pollution in the United States, and certain sources are regulated by CWA. Stormwater transports algae-promoting nutrients, floatable trash, oil and grease, suspended metals, sediments, raw sewage, pesticides, and other toxic contaminants. Under its CWA authority in 33 U.S.C. § 1342(p), the Environmental Protection Agency (EPA) established the NPDES Stormwater Program to address stormwater runoff from regulated point sources. State agencies implement and administer most of this program. New York’s Stormwater Program, authorized under New York Environmental Conservation Law (ECL) 17-0808, regulates three potential types of sources: municipal separate storm sewer systems (MS4s), construction activities and industrial activities.

The State’s Stormwater Program affects shorelines in several ways and provides a regulatory framework that may influence shoreline structures associated with the development of regulated point sources. Many shoreline structures are used to combat erosion caused by a waterbody. However, erosion also occurs as stormwater carries sediment from upland areas to the shore. Additionally, stormwater pollution and some shoreline structures degrade natural habitats, which capture sediment in stormwater runoff and reduce erosion impacts from the waterbody. Thus, controlling sediment and pollution in stormwater helps reduces the need for shoreline structures.
Municipal Separate Storm Sewer Systems

EPA issues municipal separate storm sewer systems (MS4) permits in two phases. In 1990, Phase I of the program began regulating medium and large MS4s. In 1999, EPA began Phase II of the program, which regulates small MS4s in urbanized areas and certain designated small MS4s outside of urbanized areas. EPA's stormwater website contains a list of urbanized area and designated small MS4s.

A few larger communities on the Hudson River fall under Phase I; however, most Hudson River communities are regulated under Phase II. Individual permits cover medium and large MS4s regulated in Phase I. In New York, a general permit covers small Phase II MS4s. Each small MS4 must develop and implement a stormwater management program (SWMP), as well as meet all CWA requirements and New York Environmental Conservation Law requirements in order to protect water quality.

SWMPs must reduce an MS4's pollution discharges to the maximum extent possible. SWMPs achieve this by satisfying the following six program components, which are called minimum control measures (MCM): (1) public education programs; (2) public involvement or participation programs; (3) programs to detect and eliminate unlawful discharges and spills into storm drain systems; (4) programs to prevent pollution from municipal activities and facilities; (5) programs to address stormwater runoff from active construction sites; and (6) programs to address post-construction land uses by developers, property owners, and municipalities.

Three of the above minimum control measures could directly influence shoreline structures. Under MCM 4, municipal best practices programs incorporate general industrial permit requirements (see below) into the MS4 permit. Under MCM 5, construction site programs incorporate general construction activities permit requirements (see below) into the MS4 permit. Post-construction programs under MCM 6 require sites to implement erosion and sediment controls. MCM 6 also requires MS4s to incorporate structural and non-structural stormwater management practices into their SWMP in order to reduce discharge of pollutants. DEC could regulate shoreline structures associated with MS4s along the Hudson through these general permit requirements, erosion and sediment controls, and stormwater management practices.

Additionally, the general permit for small Phase II MS4s identifies watersheds where MS4s must develop or modify their SWMPs to address watershed specific issues. The general permit also includes specific strategies for implementation.

Construction Activities

DEC requires owners and operators of construction activities to obtain coverage under the general stormwater permit for construction activities. Coverage is required for any disturbance of soil that is one acre or greater. Additionally, coverage is required for any soil disturbance of five thousand square feet or greater that occurs in the New York City watershed east of the Hudson River.
Under this general permit, owners and operators must comply with CWA and New York Environmental Conservation Law requirements and must submit Stormwater Pollution Prevention Plans (SWPPP) describing erosion and sediment control practices. In addition, certain projects must include post-construction stormwater management practices in their SWPPPs. These techniques provide an opportunity to influence shoreline structures associated with combating erosion and regulated construction sites near the Hudson River.

Owners and operators comply with the general permit through SWPPP implementation. Once DEC authorizes a SWPPP, the permittee may discharge stormwater from the sources identified to DEC. The owner or operator must identify the parties and individuals responsible for implementing SWPPP practices. Additionally, the owner or operator must inspect the implemented practices routinely and update the SWPPP whenever changes in practices actually used or planned for future use occur.

**Industrial Activities**
The DEC also requires general stormwater permit coverage for stormwater discharges from industrial activities. With the exception of industrial facilities owned and operated by a municipality that is regulated under an MS4 permit, the DEC requires coverage for facilities in certain industry sectors that conduct activities or use materials which may become exposed to precipitation or otherwise contaminate stormwater.

Though primarily focused on mitigating stormwater pollution, several permit requirements influence shorelines. Potential dischargers must submit a SWPPP that describes stormwater pollution reduction practices, determines best management practices (BMPs), and identifies potential sources of pollution. The SWPPP must describe the site and stormwater controls appropriate for the facility, including a description of existing and planned BMPs and consideration of certain BMP types. Additionally, the permittee must describe how each existing or planned BMP is or will be implemented, consider certain structural and nonstructural BMPs for implementation, and, in the case of new or expanding facilities that disturb one or more acres, provide documentation regarding impacts to nearby endangered species and historic places. These stormwater pollution reduction practices, BMPs, and site stormwater controls provide an opportunity to regulate shoreline structures associated with industrial activities along the Hudson River.

**B. Limitations and Concerns**

Stormwater regulation has limited direct applicability to shoreline structures. Its provisions are directly applicable only in a few instances; for example, construction activities on shorelines likely will involve shoreline structures. However, this Framework includes stormwater management programs because they help mitigate the need for structures through reduced erosion, sediment control, and improved resiliency and adaptive capabilities of shoreline vegetation.
Additionally, the general stormwater permit for construction activities contains exceptions for certain types of projects. The construction permit contains an appendix categorizing the types of plans required for a range of possible activities. Also, the stormwater permits for construction activities have limited applicability to plots of less than an acre.

C. Potential Programmatic and Legal Opportunities

The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 3 on page A-3 of the appendix for a simple comparison of the opportunities discussed below.

Green Infrastructure Upgrades for MS4s
The pollution prevention minimum control measure in the MS4 general permit (MCM 4) requires permittees to consider, to the maximum extent possible, cost-effective runoff reduction techniques and green infrastructure for routine upgrades of existing stormwater conveyance systems and municipal properties. This requirement provides an opportunity to encourage sustainable shoreline practices further. This permit provision includes a list of example runoff reduction and green infrastructure techniques. DEC could expand this list to include more sustainable shoreline practices, thereby clarifying and providing greater certainty about acceptable practices. Additionally, DEC could incorporate a similar requirement into the other general stormwater permits.

Bank and Credit System for MS4s
The minimum control measure for post-construction stormwater management (MCM 6) allows an MS4 to use a banking and credit system in its SWMP plan in order to meet its pollution reduction permit requirements (the “no-net increase” and watershed improvement requirements). A banking and credit system allows an MS4 with an existing watershed plan to meet or exceed the on-site pollution reduction requirement in its permit through off-site pollution reduction practices. Thus, the MS4’s efforts to reduce pollution off-site count toward or “offset” its on-site pollution reduction requirements. The reduced off-site pollutants must be identical to the on-site pollutants, and the amount of off-site pollution reduction is determined using a standard reduction factor, which calculates the additional pollution reduction required as a consequence of choosing to control pollution off-site. This banking and credit system is used primarily for construction projects and industrial activities that are controlled by an MS4.

Although used to reduce pollution, banking and credit systems can provide an opportunity for greater shoreline protection by offering bonuses to MS4s for reducing impacts on shorelines or for improving or protecting sensitive shoreline areas. Such bonuses could (1) award additional on-site pollution reduction offsets or (2) reduce the standard reduction factor used to calculate the amount of required off-site pollution reduction. In this way, DEC could incentivize MS4s using the banking and credit system to control pollution sediment in critical areas and ensure more sustainable shorelines.
Non-structural Best Management Practices for MS4s
Federal and state regulations offer non-structural best management practices that DEC encourages local MS4s to adopt through the permit process. These practices include model zoning ordinances and comprehensive planning guidance which direct growth away from sensitive areas and restrict industrial and other intense land uses that compromise water quality. Suggested zoning measures include requiring buffer strips, designating riparian preservation zones, and maximizing open space. New York municipalities can adopt these non-structural best management practices at relatively low cost to reduce shoreline impacts and diminish the need for shoreline structures. Where model ordinances fail to incorporate shoreline structure best practices, DEC could amend them to ensure better use of more advanced and sustainable shoreline structures.

Public Outreach and Participation Requirement for MS4s
The public outreach component in MS4 permits (MCM 1) gives MS4s the opportunity to educate the public about alternatives to traditional shoreline structures. With knowledge of new shoreline structure methodologies, developers and landowners can plan to include these alternatives earlier in the design and planning phase. Additionally, DEC could use the public participation component (MCM 2) to develop an optimal SWMP for the MS4 that incorporates methods to reduce shoreline impacts. The optimal SWMP could incorporate the needs and desires of the public and simultaneously limit future tensions associated with regulation.

Expedited Review Process for Construction Activities Outside of MS4 Jurisdiction
The DEC incentivizes compliance with its technical standards by greatly reducing how long the owners or operators of the construction activities must wait before they may begin discharging from the site after authorization. Construction activities outside the jurisdiction of an MS4 may begin discharging five (5) days after authorization if they comply with the technical standards or sixty (60) days if they do not comply. Incorporating sustainable shoreline concepts into the technical standards would incentivize sustainable practices effectively.

Post-Construction Stormwater Management Requirement for Construction Activities
The construction activities general permit lists construction projects that must develop erosion and sediment control practices, as well as projects that must include post-construction stormwater management practices. Generally, a construction project must implement both types of practices if the project results in certain amounts of impervious area, alters pre-development hydrology at the development site, and is not included in the permit’s list of projects requiring only erosion and sediment control practices. However, post-construction stormwater management practices are not required for construction projects located in certain watersheds or for certain project types (residential, agricultural, etc.).

Because post-construction stormwater management practices help protect the ecosystem services that provide natural shoreline protection, this requirement presents opportunities for ensuring more sustainable shorelines. Regulators could influence shorelines further by requiring a broader range of construction projects to implement post-construction
stormwater management practices. DEC could accomplish this by lowering the impervious cover threshold in certain listed items, thereby expanding the scope of the general permit to include more construction projects. By requiring post-construction stormwater management practices for a greater range of projects, DEC could ensure more owners and operators incorporate sustainable management practices.

Another possible opportunity involves expediting permit applications for permittees that implement pre-approved sustainable practices. If resources permit, DEC could reduce the time participating permittees must wait to commence activity, particularly when a project exists beyond the boundaries of a regulated MS4. A program of this kind would incentivize permittees to utilize more advanced stormwater management practices, which would not be cost effective otherwise. In this way, DEC would promote advanced stormwater runoff and erosion mitigation practices and incentivize sustainable shoreline practices.

**Consideration of Best Management Practices for Industrial Activities**

In selecting best management practices for different pollution sources, an industrial activities permittee must consider (1) the quantity and nature of pollutants and potential impacts to water quality of receiving waters; (2) opportunities to combine water quality protection and local flood control; and (3) opportunities to offset a facility’s impact from impervious areas on groundwater recharge, base flows in local streams, and groundwater contamination. By emphasizing these considerations, regulators could promote implementation of more sustainable shoreline practices while simultaneously and efficiently achieving other environmental objectives.

Additionally, the industrial activities permit requires permittees to consider a list of identified structural and nonstructural best management practices. DEC could expand this list to include more sustainable options for shoreline development.

**Local Erosion and Sediment Control Requirements in All Permits**

Each of the general permits requires the creation of a regulatory mechanism, such as an ordinance, plan, or program, to reduce local erosion and control sediment in stormwater. This regulatory mechanism requirement provides regulators with another opportunity to compel preferred shoreline structures and practices. Additionally, the regulatory mechanism can help manage erosion and reduce the need for certain structures.

**Historic Preservation and Endangered Species Protection Requirements in All Permits**

Two opportunities to influence shoreline structures exist through permit provisions for endangered species protection and historic place preservation. The general permits for stormwater management contain provisions for endangered species protection and historic preservation. Identification of nearby endangered species or critical habitat can prevent industrial activities from obtaining permit coverage and discharging stormwater pollution. Similarly, stormwater discharges from industrial activities that adversely affect National Historic Places or places eligible for listing on the National Register of Historic Places are also barred from obtaining permit coverage. The MS4 general permit prohibits stormwater discharges that could jeopardize endangered species or critical habitat, as well
as unmitigated discharges adversely affecting historic places. Likewise, the construction activities general permit contains historic preservation provisions similar to the industrial activities general permit and endangered species provisions similar to the MS4 general permit.

Currently, the impact threshold is undefined for these provisions. Regulators could amend the permit by defining the threshold of impact necessary to trigger these provisions such that they cover small or more distant impacts. Once triggered, regulators could use these provisions to encourage better protection of shorelines and more sustainable structures. The endangered species protection provisions could be used to require additional wetlands protection and enhancement where endangered species or critical habitat is in a wetland affected by a regulated activity. Also, regulators could use the historic places protection provisions to encourage greater stormwater management when a historic place on a shoreline is jeopardized by a regulated activity. This may also lend greater protection to shorelines.

D. Authority

Statutes

Municipal and Industrial Stormwater Discharges, N.Y. ENVTL. CONSERV. LAW § 17-0808.

Regulations
Storm Water Discharges, 40 C.F.R. §§ 122.26(b)(14)(i) to (ix), (xi).

State Pollutant Discharge Elimination System (SPDES) Permits, N.Y. COMP. CODES R. & REGS. tit. 6, §§ 750-1.1 to 750-2.11.

E. References

Federal Guidance, Program, and Other Documents


New York State Programs


VI. COASTAL MANAGEMENT

In accordance with the federal Coastal Zone Management Act (CZMA), New York adopted a Coastal Management Program (CMP) that coordinates development along coastal resources throughout New York State. This coastal management program provides ample opportunities to further influence shoreline development. Many municipalities in New York have adopted a Local Waterfront Revitalization Program (LWRP)\(^5\) to ensure that proposed actions are consistent with unique local characteristics. Given proper legislative authority (as discussed below) the CMP and these LWRPs could include consideration of potential sea level rise, related impacts anticipated with changes in water levels and shoreline stabilization to ensure that projects address and mitigate potential impacts to the shoreline. CZMA requires federal actions to be consistent to the maximum extent practicable with New York’s CMP. If such action occurs within a LWRP boundary or would affect coastal resources or uses within this boundary, it must be consistent with LWRP policies in place of CMP policies. Additionally, New York’s CMP requires state actions that are subject to environmental review under the State Environmental Quality Review Act (SEQRA) to be consistent with the CMP or any relevant LWRP as described above (see the Environmental Review part for more information about SEQRA).

Potential Programmatic and legal opportunities to influence shoreline development within the coastal management legal framework include several possible amendments to New York’s CMP and CEHA, incorporating climate change and sea level rise impacts into LWRPs, using coastal consistency concurrence requirements to ensure federal projects manage shoreline structures properly, and better coordination of local planning efforts.

A. Purpose and Implementation

Congress enacted the CZMA in 1972 to preserve, protect, develop, and restore the resources of the nation’s coastal zone. To accomplish this, the CZMA establishes a process for the development of state Coastal Management Programs (CMPs). In addition, the CZMA offers federally funded development and administrative grants to cooperating states. The National Oceanic and Atmospheric Administration’s (NOAA) Office of Ocean and Coastal Resource Management (OCRM) assists with and approves state CMPs.

A state CMP typically is implemented through state legislation. In 1981, New York State adopted the New York Waterfront Revitalization and Coastal Resources Act (WRCRA), which identifies the New York Department of State (DOS) as the lead agency with authority to develop and administer the State’s coastal management program. WRCRA Section 919

\(^5\) Please note that “Local Waterfront Revitalization Program” is the term used in the field to refer to (1) the local plans submitted for approval to the state; (2) the local program implementing the plan; and (3) the state program generally. To limit confusion, this section will use “LWRP” to refer to the local implementing programs, “LWRP document” to refer to the local plan, and “Local Waterfront Revitalization Program” to identify the state program more generally.
grants DOS responsibility to review state agency actions and make recommendations to help agencies act consistently with the CMP. Regulations created under WRCRA authority control and coordinate all State actions affecting the coastal area, along with State Environmental Quality Review Act regulations.

Before WRCRA, several different state statutes addressed coastal resource management, giving an array of state agencies different responsibilities. Together, DOS; DEC; the Public Service Commission; the Office of Parks, Recreation and Historic Preservation; and several other state agencies implement the CMP through WRCRA and other New York regulatory and statutory authorities.

New York State's CMP affects and creates requirements for development along the State's shoreline, including shoreline structures. It helps guide federal and state government decision-making that affects New York's coastal areas and serves as a reference for local government action in the coastal areas. The CMP accomplishes this through its forty-four coastal policies, the Local Waterfront Revitalization Program, a coastal consistency requirement, and the Coastal Erosion Hazard Area Act. Additionally, the CMP includes the Long Island Sound Coastal Management Program (LIS CMP), a special management area with thirteen separate coastal policies used to review private and government actions that occur within the coastal boundary of Long Island Sound or that would otherwise affect the coastal resources and uses of the Sound.

**CMP Coastal Policies**

New York's CMP provides forty-four coastal policies which reflect New York's varied laws, programs, and regulations that manage coastal resources and activities. These policies promote beneficial use of coastal resources, prevent coastal resource impairment, and manage major activities that substantially affect numerous resources. The forty-four policies are grouped by topic and recommend specific actions to address issues of concern. These topics include (1) promoting waterfront revitalization, (2) promoting water dependent uses, (3) protecting fish and wildlife habitats, (4) protecting and enhancing scenic areas, (5) protecting and enhancing historic areas, (6) protecting farmlands, (7) protecting and enhancing small harbors, (8) protecting and enhancing public access, (9) providing research, data, and information for participation of government agencies and citizens concerned with the State's coastal area, and (10) coping with erosion and flooding hazards. State agencies must adhere to New York's forty-four CMP policies as much as legally and physically possible.

Several of the forty-four policies directly relate to shorelines and shoreline structure construction. The most important and relevant of these policies is Policy 17, which requires the use of non-structural measures to minimize erosion and flooding wherever possible. Other policies are relevant to shoreline structures as well. Policies 1 and 4 address waterfront and harbor restoration and include guidelines which recommend projects that could improve the economic base and scenic quality of the area. Policies 23 through 25 suggest protection of natural and man-made resources that contribute scenic value and recommend enhancing that value. Policy 5 encourages locating development in areas
where necessary public services and facilities already exist in order to preserve open space, among other objectives. Policy 7 requires the preservation of significant habitats, and Policy 9 suggests expanding recreational use of coastal resources through supplementing stocks and improving access without impairing the resource. Policies 11 through 15 each address erosion prevention and sediment control for various development and activities, including conserving natural protective features, limiting dredging and excavation, and taking steps to prevent damage from erosion and floods. Policy 26 recommends the conservation of agricultural land in coastal areas, and Policy 37 requires that best management practices be used to address non-point source pollution. Policy 32 encourages the use of innovative waste systems in small communities, and Policy 33 requires best management practices for stormwater control. Policy 35 requires that dredge and fill permits only be issued after consideration and satisfactory control of impacts on coastal resources. Finally, Policy 44 recommends preserving and protecting wetlands and the benefits derived from them.

**Local Waterfront Revitalization Programs**

DOS provides technical and financial assistance to local governments for development and implementation of LWRPs, which are authorized under WRCRA Section 915. An LWRP is a land and water use program prepared by a municipality after consideration of unique local characteristics. An LWRP creates requirements for shoreline development and includes implementation strategies. The LWRP document may be comprehensive, addressing all issues that affect a community’s entire waterfront, or it may address only concerns that are most critical to a community’s waterfront.

When the Secretary of State approves an LWRP document, the local government is eligible to receive additional funding for pre-construction activities and project construction recommended in the LWRP document. When OCRM consents to this approval, the LWRP incorporates into the state CMP. As part of the CMP, subsequent federal and state actions in the area where the LWRP applies must be consistent to the maximum extent practicable with the LWRP’s policies (see discussion below).

**Coastal Consistency Concurrency**

The CZMA’s consistency requirement forces government agencies to act consistently with the policies of state CMPs when conducting, permitting, or funding a project in a state’s coastal area. DOS applies this consistency requirement, guaranteeing that such federal actions are consistent with New York’s CMP. If a project requires a federal permit and lies within or affects a coastal zone, the project sponsor must submit a Federal Consistency certification to DOS. DOS then determines if the project is consistent with the CMP policies or any state-approved LWRP adopted in the affected area.

For proposed state actions subject to SEQRA review, the acting state agency evaluates the policy questions in New York’s Coastal Assessment Form to determine if the state action is consistent with CMP policies. Similarly, a municipality that has adopted an LWRP must complete a Coastal Assessment Form to determine if a proposed municipal action is
consistent with coastal policies prescribed in its local consistency law. If a proposed
government action is not consistent with New York’s CMP, then the action cannot proceed.

Coastal Erosion Hazards Area Act
The final CMP coastal policies topic, which addresses erosion and flooding hazards, is
implemented through New York State’s Coastal Erosion Hazards Area Act (CEHA). Although CEHA’s provisions currently do not cover the Hudson River, it is a central coastal
management program, and the program’s possible expansion would advance the goal of encouraging sustainable shoreline structures. Administered by DEC, CEHA orders the protection of New York coastlines prone to erosion hazards. Under CEHA, DEC identifies and helps conserve natural protective features, ensures that activities and development minimize potential erosion damage, and restricts or prohibits such activities, if necessary, to secure natural protective features.

CEHA and its regulations authorize DEC to identify and map two types of erosion hazard areas: structural hazard areas and natural protective feature areas. Structural hazard areas occur where the long-term average rate of erosion is at least one foot per year. Natural protective feature areas include near-shore areas, beaches, bluffs, primary dunes, secondary dunes, and wetlands. These areas contain natural protective features that protect other land from erosion, high water, and loss of sand and other materials.

In order to implement CEHA goals, DEC issues Coastal Erosion Management Permits for construction and other activities that occur within designated erosion hazard areas. Regulated activities include modification or addition to a structure and land uses like grading, dredging, or filling. Permits ensure that an activity is “reasonable and necessary” and that it will not cause a “measurable increase in erosion.” In addition, permits make certain that projects prevent or mitigate adverse effects on natural protective features, existing erosion protection devices, and “significant fish and wildlife habitats and shellfish beds.”

DEC may permit movable structures in structural hazard areas, but a structure must be removed before the shore edge reaches ten feet from the structure’s seaward edge. Non-movable structures are prohibited in structural hazard areas. DEC regulations generally discourage erosion control structures because they likely will cause harm, but DEC may allow erosion control structures that protect life and property without causing harm elsewhere. Permitted structures must be constructed of materials expected to last for thirty years or have a maintenance program that will control erosion for at least thirty years.

B. Limitations and Concerns

All New York State coastal policies are implemented and enforced through existing State laws and regulations, constitutional provisions, land use plans, ordinances, or judicial or administrative decisions, by which the State exerts control over private and public land and water uses and natural resources in the coastal zone. There are several ways the State may amend or add to its CMP to better regulate shoreline structures in the face of climate
change and sea level rise. However, the State may act only within the authority it is given by the New York State Legislature. With regard to coastal management policies, the Secretary of State may add or amend CMP policies if the change is within the scope of the Secretary’s power and advances the policies of the implementing state legislation. New state legislation may be required to support proposed changes in state coastal management policies. A state law addressing projected sea level rise levels would allow DOS to amend the CMP by implementing new regulations that provide a new coastal policy or amend existing coastal policies to include sea level rise impacts. Then DOS could extend the program requirements to new or amended LWRPs. It might also be necessary to revise the New York State Environmental Quality Review law to require consideration of climate change effects as part of the assessment for a project in the coastal area. Further, since there is no current basis in law for evaluating satisfactory compliance with a state or local coastal policy, the new law must establish climate change standards and sea level rise projections. Thus, proposed CMP additions may be politically difficult and time consuming to achieve.

C. Potential Programmatic and Legal Opportunities

The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 4 on page A-4 of the appendix for a simple comparison of the opportunities discussed below.

**Possible Amendments to New York’s State Coastal Management Program**

New York’s CMP creates a number of legal opportunities for municipalities to influence shoreline structures; however, most local governments have not implemented existing policies related to shoreline construction as thoroughly as possible. Other states have similar coastal management policies but have generated more local regulation of shoreline structures. In addition, other states implement more stringent state coastal management regulations and policies than New York. By examining the policies of other states, New York could improve its efforts. Many of the opportunities described below derive from other state coastal management plans or the Sea Level Rise Task Force Report and demonstrate areas where New York could take further action. In order to implement any of the below opportunities, New York must adopt supporting legislation as needed to provide state authority for these strategies.

**(1) Requirement for Substantial Development Permits and Local Plan Mandate**

New York’s CMP derives authorization for its coastal policies through a “network” of authority within Executive Law Article 42 for 29 of the coastal policies and from a myriad of other state laws and regulations for the other 15 coastal policies. New York State does not administer its program through a coastal permit system but could make legislative changes to this network to do so. As discussed in the Sea Level Rise Task Force Report, New York State could better protect its shorelines by requiring local shoreline development permits and mandating local shoreline
management plans. Washington successfully implements these tools through the State of Washington Shoreline Management Act (SMA).

Washington’s SMA requires a permit for substantial shoreline development and mandates coastal municipalities to develop shoreline management programs consistent with the Act. The Act requires substantial development permits for projects costing over $2,500 or for those that materially interfere with the public’s use of the waters. The Act further recommends that municipalities use traditional land use controls, such as variances and special use permits, to regulate other projects. It also requires all cities and counties located along the shoreline develop shoreline management programs (SMPs). Local SMPs implement the SMA’s vision for the use and development of shoreline areas and create regulations that set standards for shoreline projects and uses. The Washington State Department of Ecology reviews SMPs for consistency with the SMA and state master program guidelines before approving them. The resulting SMPs allow for extensive regulation of shoreline protective structures.

The Town of Friday Harbor, Washington adopted an SMP that requires a permit for substantial shoreline development. Friday Harbor is a small island community located off Washington’s western coast. The Town prohibits substantial development on the local shoreline without a shoreline permit approved in accordance with the SMP. Friday Harbor’s SMP sets out specific use policies and regulations for a range of shoreline structures and land uses and regulates protective shoreline and offshore structures extensively. Specifically, the Town prohibits jetties and groins in the natural environment but allows them as conditional uses in the urban and urban residential zoning districts. Friday Harbor also regulates bulkheads, allowing them only where a developer meets certain conditions.

LWRPs, which must include erosion-related coastal policies, increase local government involvement. By further engaging local governments in administration of coastal areas, local knowledge and authority could be leveraged into better shoreline protection. Currently, DOS does encourage and educate municipalities about progressive approaches to regulating shorelines through the Local Waterfront Revitalization Program; however, these approaches are not mandated and are not implemented in all circumstances, as municipalities are not required to participate. New York should consider adopting legislation to authorize amendments to the CMP that require local governments to develop local shoreline development permits and management plans. Alternatively, the State should further encourage municipalities to pursue these techniques without adopting a mandate.

(2) Shoreline Classification and Development Objectives
To further influence shoreline development, New York State could classify shorelines into categories and provide specific guidance regarding the type of
development appropriate for each category. The States of Washington, North Carolina, and Rhode Island have adopted this approach.

Washington’s state guidelines define four categories of "environment," around which development objectives and examples of appropriate uses are established. These categories include natural, conservancy, rural and urban. The natural environment designation prevents degradation or change to unique natural or cultural features that are "relatively intolerant of intensive human use." The conservancy environment designation maintains that environment’s existing character and calls for management that ensures a continuous flow of benefit to the public and achieves sustained resource utilization. Rural environments act as buffers between urban and natural environments and should limit residential development and prevent damage to shoreline resources. An urban environment designation ensures optimum utilization of shorelines within urbanized areas, including mandatory public access to the waterfront. These categories guide local government creation of SMPs.

Pacific County, Washington provides an example of Washington’s approach to shoreline structure regulation. Section 15 of Pacific County’s SMP prohibits the construction of shoreline structures on natural shorelines but allows construction on conservancy shorelines where shoreline works and structures likely will not change the character of the environment and where shoreline structures are a "necessary part" of a water-dependent use. Additionally, Section 15 requires builders of shoreline structures in conservancy, rural, and urban environments to determine any adverse impacts on fish, wildlife, and private property and to minimize these impacts.

In a similar state coastal management statute, North Carolina’s Coastal Area Management Act (CAMA), the State defines "areas of environmental concern." In North Carolina, CAMA requires a permit for all development in an area of environmental concern (AEC). CAMA defines several categories of AEC, including coastal wetlands, areas of public water access, and natural hazard areas. It also includes areas impacted by "key facilities." These are areas that encourage development around them, such as airports and energy facilities. For each AEC category, CAMA requires applicants to meet specific standards in order to obtain a permit to develop land. A permit is granted only if the proposed development (1) meets AEC requirements, (2) is consistent with state guidelines and local plans, (3) does not contribute to cumulative effects that would be inconsistent with the AEC or guidelines, and (4) has no practical economic or engineering alternative with fewer adverse impacts.

Rhode Island also recognizes that shoreline protection can damage inland migration of wetlands and other coastal ecosystems. In a system of categorization similar to Washington and North Carolina, Rhode Island’s Coastal Resources Management
Program prohibits shoreline protection devices except in limited circumstances, including conservation area beachfront and low intensity use areas.

Although DOS does implement special management areas for Significant Coastal Fish and Wildlife Habitat Areas and for Scenic Areas of Statewide Significance, New York currently does not categorize coastal areas in this manner. DOS and DEC could cooperate to establish classification categories, such as preferred use, erosive forces and geological substrate, to help tailor regulation of erosion hazard areas to local needs in cases where a municipal or county government has opted not to assume local control. To ensure compliance with a new shoreline classification system, New York should adopt legislation requiring local plans to coordinate with the new system. DOS has worked with communities to characterize their shorelines in the context of LWRP development, a process that guides regulatory and planning decisions at multiple levels. The agencies could complete categorization of coastal areas in conjunction with coastal risk mapping efforts (discussed below in the Disaster Mitigation and Floodplain Management part) to increase effectiveness.

The Sea Level Rise Task Force Report recommends an alternative classification system for New York. This shoreline classification system is based on the flood plain mapping of the National Flood Insurance Program and projected areas vulnerable to sea level rise (Task Force recommendations 3 and 4). It does not discriminate shoreline areas based on use, as described in Washington State. These classifications could be layered with the use classification system proposed above.

(3) Policy for Post-disaster Planning and Permitting

New York could encourage post-disaster planning and permitting programs that regulate shoreline development the way North Carolina and Rhode Island do. In order to satisfy North Carolina’s CMP policy that requires “adequate plans for post-disaster reconstruction . . . prepared by and coordinated between all levels of government prior to the advent of a disaster,” the Coastal Resource Commission requires local governments to incorporate disaster planning activities into land use plans. The State Design and Construction Guidelines for local hazard mitigation plans provide that coastal communities should “outline a post-disaster permitting process that facilitates repairs but remains steadfast to the need to mitigate against future disasters.” Rhode Island implements post-disaster planning in a different manner, prohibiting shoreline protection in areas of historic disasters and requiring review of reconstruction options to mitigate future storm damage.

On North Carolina’s Outer Banks, the Town of Duck adopted a land use plan that provides an example of a post-storm disaster planning ordinance. This ordinance lists procedures for assessing damage, declares a building moratorium, and defines the types of moratoriums that the Town may institute in the aftermath of a damaging storm. The ordinance creates a reconstruction task force that is responsible for making recommendations regarding rezoning after a disaster,
deciding the duration of moratoriums, and identifying “appropriate areas for post-storm change and innovation.”

Rhode Island takes a different approach to post-disaster sites. The State’s Coastal Resources Management Council (the Council), which is in charge of implementing Rhode Island’s Coastal Resource Management Program, establishes a thirty-day maximum moratorium on development in order to provide the Council and affected coastal communities adequate time to assess damages, determine changes in natural features that may alter vulnerability to damage, and identify mitigation opportunities. When a major storm causes severe damage, reconstruction and replacement of essential public facilities receives priority. For such damage, the Council requires the review of reconstruction options that may lessen or mitigate the probability of future recurrent damage. Additionally, the Coastal Resource Management Program’s general permitting program prohibits shoreline protection where property has been lost “through historical erosion or storm events.”

New York does not have a post-disaster planning and permitting process in its coastal management program. To accomplish this, the New York State Legislature must adopt legislation requiring local governments to prepare post-disaster recovery plans and providing guidance on what such plans should include. The State may amend local planning law (Town, Village and City) and/or the State and Local Natural and Man-Made Disaster Preparedness law to require or encourage resilience plans, and the CMP could support and derive authority from these statutes, as modified, to encourage such local plans (See the Local Land Use part for a detailed discussion of local planning). Alternatively, the State may adopt a law authorizing direct amendments to the CMP to add these requirements. Absent such changes, the CMP cannot adopt policies requiring post-disaster plans.

(4) Coastal Management Program Policies and Planning for Sea Level Rise Adaptation

Another legal opportunity involves incorporating sea level rise mitigation and adaptation planning into existing planning procedures. The Sea Level Rise Task Force recommends adding a policy to the CMP’s forty-four policies that includes “adaptation to sea level rise,” as well as revising the policies to include sea level rise as a consideration, such as when assessing impacts on Significant Coastal Fish and Wildlife Habitat. Rhode Island, for example, formally incorporates sea level rise into their planning processes through the Coastal Resources Management Council’s legislative mandate “to preserve, protect, and where possible, restore the coastal resources of the state through comprehensive and coordinated long-range planning.” Through this mandate, the Council established a policy of “proactively plan[ing] for and adapt[ing] to climate change and sea level rise.” In addition, the Council has a policy of “integrat[ing] climate change and sea level rise scenarios into its operations.”

Currently, New York does not incorporate sea level rise explicitly in planning procedures. However, planning and impact assessment are key features in the State
Environmental Quality Review Act (SEQRA) and local land use law (see the Environmental Review and Local Land Use parts). In addition, DOS informally encourages the incorporation of sea level rise in the LWRP development process. New York could amend CEHA regulations or the LWRP approval process to require consideration of sea level rise. Formalizing consideration of sea level rise would ensure better planning and result in less damage and more sustainable shorelines. In addition, it could express anticipation of increased applications for shoreline protective structures and indicate preferred engineering options.

(5) Expansion and Local Assumption of the Coastal Erosion Hazard Areas Program

The Sea Level Rise Task Force further recommends remapping coastal erosion hazard areas to “minimize investment in areas subject to coastal storm damage, erosion, and sea level rise impacts” and suggests digitizing these new maps. By replacing the original maps with digital maps, the information is more accessible and easily incorporated into geographic information systems (GIS). When combined with subsequent periodic updates, the Task Force suggests this measure can have a substantial impact.

If appropriate, such remapping should identify and include areas on the Hudson River where erosion is a problem. The Hudson region contains bluffs and wetlands that are identified and mapped as CEHA natural protective feature areas. Generally, bluff erosion is not a significant consideration along the Hudson. Wetlands are the shoreline feature of greatest concern on the Hudson, but separate regulatory programs for tidal and freshwater wetlands already are established. To minimize wetland erosion, the State should consider whether to modify state wetland regulations or CEHA to address Hudson shoreline structures.

If the State decides to amend CEHA to include the Hudson River, local government assumption of DEC's Coastal Erosion Management Permit authority through adoption of land use regulations in accordance with the minimum standards established under CEHA may provide opportunities for influencing the types of shoreline structures developed. Before a local government may take over permitting authority, the DEC Commissioner must approve the permitting program, local regulations, and any amendments. Local governments may use this power to adopt more stringent standards.

For example, the Village of Sagaponack, New York, adopted a Coastal Erosion Hazard Area Law that prohibits new erosion protection structure construction, as well as preexisting erosion protection structure modification, except in very limited circumstances. The law also requires a permit for maintenance and repair of preexisting erosion protection structures. In this way, municipalities can control shoreline structures further through adoption of local coastal erosion hazard area laws that address specific problems.
New York’s Sea Level Rise Task Force also suggests strengthening the effectiveness of local implementation of CEHA. The Task Force’s recommendations for this include strengthening penalty provisions, indemnifying local governments against takings claims; preserving DEC’s authority by allowing it to veto local actions inconsistent with the purposes and policies of CEHA; and reviewing and, if necessary, revising the definition of erosion hazard area to reflect the realities of sea level rise.

**Local Waterfront Revitalization Programs**

LWRPs can include specific goals related to sea level rise and its related impacts on local shorelines and shoreline structures. The Towns of East Hampton (discussed below in the Coordination of Planning Efforts opportunity and in the Local Land Use part) and Rhinebeck, New York, are examples of municipalities that have incorporated sea level rise and its related impacts into their LWRPs.

The Town of Rhinebeck’s LWRP aims to develop a "comprehensive management program that promotes the balanced preservation, enhancement, and utilization" of Rhinebeck’s waterfront. The LWRP recognizes that several areas of the Town along the Hudson River are subject to erosion and a change in river level. The LWRP also contains provisions (Policies 7, 7A, and 7B) intended to control and prevent habitat loss, and these sections stress the importance of controlling erosion through natural vegetation along shorelines and steep slopes. Policies 11, 12, 13, and 14 concern shoreline erosion and steep slopes. In particular, Policy 12 requires that site plan and subdivision review consider erosion hazards. Required techniques for erosion prevention and mitigation include the maintenance of existing vegetation and setbacks of at least fifty feet from streams, bluffs, and "erosion prone clay soils." In addition, this policy prohibits the excavation and grading of riverbank areas.

LWRPs also present an opportunity for local governments to develop comprehensive regulations for the waterfront area. The Town of Haverstraw, New York, adopted an LWRP to "restore, revitalize, and redevelop" its waterfront area and to establish water-dependent and water-enhanced uses in the area. The program set out several goals and recommendations for the Town, including a zoning district (the Waterfront Planned Development District), a Local Waterfront Consistency Law, and Local Waterfront Advisory Committee. These comprehensive programs provide an opportunity to include provisions that control the location and types of shoreline structures.

In addition, LWRPs present another opportunity for DOS to influence shoreline structure methodology. Currently, DOS participates in the LWRP process and must approve all LWRPs. DOS can use this authority, along with any associated funding requests, to shape shoreline development by conditioning approval on more sustainable methodologies for shoreline structures. If authorized, DOS can encourage communities to consider sea level rise or climate change more broadly when developing LWRPs, which DOS is beginning to do. To further enable this, the State Legislature should adopt a law directing consideration of climate change during LWRP development. Since there is no current basis in law for
evaluating satisfactory compliance with a state or local coastal policy, the new law also must establish climate change standards and sea level rise projections. Absent state requirements a local law could provide such authority for an LWRP, but it would be applicable only within the LWRP boundaries of the subject community.

Coastal Consistency Concurrence
DOS can use coastal consistency concurrence requirements to ensure that federal projects and approvals manage shoreline structures appropriately. While New York’s forty-four coastal policies do not explicitly address climate change or require that climate change be considered during consistency review, DOS could incorporate climate change and sea-level rise adaptation strategies into the review of projects, as suggested by the Sea Level Rise Task Force Report. Currently, DOS coastal consistency reviewers do consider sea level rise as a natural coastal process, where appropriate, when reviewing potential project impacts on coastal policies. As supporting state or federal standards, regulations and analyses are developed, the State should incorporate these into the CMP.

Coordination of Planning Efforts
Coordinated planning offers municipalities another way to influence shoreline structures. Local governments can integrate their comprehensive plans with planning for other programs, coordinate implementation of these related plans, and qualify for additional funding. For example, the Town of East Hampton, New York, adopted its LWRP document as the Coastal Management component of its comprehensive plan. East Hampton’s LWRP document states that “[f]uture planning efforts should examine the likely effects of global warming, including increasing sea level rise and storm and hurricane activity on the town’s coastline. Beginning to plan for these effects, assessing potential damage to public resources and infrastructure, and evaluating methods of protection and associated costs are vital for future coastal management.” In this way, municipalities can integrate comprehensive plans and LWRPs to ensure all planning efforts work together and address shoreline sustainability. Similarly, local governments can coordinate disaster mitigation planning. For more information about coordinated planning efforts, see the Disaster Mitigation and Floodplain Management part and the Local Land Use part.

In addition, the Task Force recommends directing policy, investment, and programs “toward development and implementation of long-term, regional coastal resilience plans.” These recommendations suggest developing coastal resilience plans by coordinating with local governments through existing planning support programs and funding mechanisms, such as the Local Waterfront Revitalization Program. Such plans should identify non-structural alternatives to reduce vulnerability in the coastal risk management zone where feasible; identify areas where structural protection is needed to protect public investment, uses and/or infrastructure; and identify ways to reduce vulnerability by using non-structural measures after storm events.

To ensure effectiveness, the Task Force recommends subjecting state funding to a coastal resilience plan consistency requirement. The recommendations also list criteria that these plans should meet, as well as conditions for projects or actions occurring within
jurisdictions that do not have coastal resilience plans. These planning efforts can enable local governments to provide consistent guidance on the type and location of shoreline structures permitted.

**Flood Impact Reporting**
There is no standardized, searchable state or national forum reporting flood impacts at specific geographic locations. As a consequence, it is difficult to document flood impacts over the course of time to support resilient land use and climate change adaptation. At the local and State level, summary information on flooding is limited to general descriptions of individual disaster events. The specific location, extent, frequency, cause and nature of flood impacts are not available, and events categorized as less than disasters are not documented. Without adequate reporting, it is difficult to make management recommendations to reduce impacts. The CMP has draft reporting forms that could be used to compile more complete information about flooding events and impacts. Additionally, the State could implement standardized reporting procedures, including social and environmental impacts, in order to help understand and manage flood impacts. The State should do this in conjunction with the Office of Emergency Management’s authorities and programs.

**D. Authority**

**Statutes**
Coastal Zone Management Act (CZMA), 16 U.S.C. §§ 1451-1465.


Waterfront Revitalization of Coastal Areas and Inland Waterways, N.Y. EXEC. LAW Art. 42 §§ 910-923; (originally named the Waterfront Revitalization and Coastal Resources Act of 1981, but was amended in 1986, reflecting its current title).

Specific Powers, Functions, and Duties, N.Y. EXEC. LAW § 153.

State and Local Natural and Man-Made Disaster Preparedness, NY EXEC. LAW Art. 2-B.

Coastal Erosion Hazard Areas, N.Y. ENVTL. CONSERV. LAW §§ 34-0101 to 34-0113.


**Local Laws**
Rebuilding and Reconstruction; Damaging Storms, TOWN OF DUCK, N.C., CODE ch. 152 (2002).


**Regulations**


**E. References**

**New York State Programs**


Comparable State Statutes, Regulations, and Programs


Other Resources and References
VII. DISASTER MITIGATION AND FLOODPLAIN MANAGEMENT

Disasters, especially floods, can substantially impact shorelines. Shoreline structures are often constructed to combat the risk posed by disasters. For these reasons, this legal framework offers an opportunity to encourage more sustainable shoreline development. The Federal Emergency Management Agency (FEMA) and the New York Office of Emergency Management (OEM) administer the Disaster Mitigation Act (DMA). The DMA creates the federal multi-hazard mitigation planning program, which provides disaster assistance to state and local governments that implement mitigation planning. FEMA also provides funding for a variety of mitigation activities through the Hazard Mitigation Assistance (HMA) Grant programs. FEMA's National Flood Insurance Program (NFIP), administered by FEMA and the Department of Environmental Conservation (DEC), identifies and maps flood hazard areas and provides flood insurance to communities that adopt and enforce floodplain management standards.

The disaster mitigation and floodplain management legal framework offers several programmatic and legal opportunities to influence shoreline structures. These include DMA mitigation plans, state grant assistance for disaster plans that consider climate adaptation and shoreline structures, coordination of planning efforts, enhanced floodplain maps, increased Community Rating System membership, the NFIP reform process, floodplain regulations that address sea level rise and shoreline structure methodology, the Association of State Floodplain Managers No Adverse Impact Approach, and the creation of a coastal risk management zone in NFIP maps.

A. Purpose and Implementation

The disaster mitigation programs and policies that are most relevant to shoreline structures come from the mitigation planning requirement of the Disaster Mitigation Act, the Hazard Mitigation Assistance Grant Programs, and the floodplain regulations of the National Flood Insurance Program.

Disaster Mitigation Planning
Congress enacted the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act and others, to provide federal assistance to disaster victims through state distribution. DMA Congressional findings emphasize the need to protect human life and property by identifying and assessing the risks to states and local governments from natural disasters and by implementing adequate measures to reduce losses. Generally, this relief becomes available through a presidential declaration of a major disaster or an emergency situation. FEMA directs and coordinates disaster relief assistance and provides aid mainly through emergency assistance, temporary housing assistance, and grant programs. Governments may, as-of right, use this funding to pay for up to three-quarters of the restoration cost of restoring a disaster area to its pre-disaster state.
DMA and its implementing regulations establish mitigation planning requirements for states as a condition to receiving certain types of disaster assistance funding. DMA Section 322 (a) requires state, local, and tribal governments to develop and submit mitigation plans outlining “processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the [submitting] government” in order to receive funding beyond emergency protection and debris clean-up assistance. New York’s plan addresses many potential hazards from traditional natural disasters. Potential hazards most relevant to shoreline structures include floods, landslides, storms, power failure, and the subsequent effects of disasters such as coastal erosion caused by large storms.

FEMA’s disaster mitigation strategy relies upon state and local government cooperation. OEM has a Disaster Preparedness Commission (DPC) that is responsible for the preparation of state disaster plans, the direction of state disaster operations, and the coordination of local government operations with federal, state, and private recovery efforts. The DPC is comprised of commissioners, directors, or chairpersons from thirty-two state agencies, as well as the American Red Cross. With the help of grants, tools, and training from FEMA to support local mitigation planning, OEM works with local communities to create state-wide mitigation strategies. OEM also coordinates with FEMA to provide and administer hazard mitigation planning assistance to municipalities.

Local municipalities are best equipped to develop and implement hazard mitigation strategies because they are most familiar with unique local challenges. Most localities only plan for emergencies, but communities that create more proactive plans will realize long-term benefits of hazard mitigation planning. These benefits include increased community awareness of potential hazards, sustainable and disaster-ready infrastructure, the creation of partnerships that support planning and mitigation efforts, and a reduction in future damages to human health and the built environment.

**Hazard Mitigation Assistance Grant Programs**

The federal government provides funding for a variety of mitigation activities through FEMA’s HMA grant programs. The mitigation activities these programs support further objectives of shoreline sustainability as well as disaster mitigation.

FEMA’s HMA grant programs provide funding for pre- and post-disaster mitigation. Generally, FEMA provides the grants to eligible states, tribes, and territories that, in turn, provide subgrants to local governments and communities upon FEMA approval. These grant programs include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA), Repetitive Flood Claims (RFC), and Severe Repetitive Loss (SRL). Funding from these programs can support various protective shoreline measures, including planning and implementation activities. HMGP grant cycles are tied to presidential declarations. Combined under the Unified Hazard Mitigation Assistance (HMA) Program, the other four grant programs are funded annually. FEMA

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6 Private non-profit organizations are eligible subgrantees under HMGP.
issued “FY 2011 Hazard Mitigation Assistance (HMA) Unified Guidance” to assist local governments seeking these grants. Further, FEMA websites and fact sheets dedicated to these programs contain additional information detailing which activities are eligible under each grant program.

**National Flood Insurance Program**

Established under the National Flood Insurance Act of 1968, NFIP is the federal government’s primary tool for managing flood hazards. FEMA’s Flood Insurance and Mitigation Administration (FIMA) manages this program to increase the availability of flood insurance, reduce flood damage through state and local floodplain management regulations, and lessen federal assistance associated with floods.

The NFIP has three components: flood insurance, floodplain management, and flood hazard mapping. Communities participate in the program by adopting and enforcing floodplain management ordinances to reduce risks for new development in federally identified floodplains. In return, the federal government provides insurance for disaster assistance to reduce the costs of repairing flood damage to buildings and their contents in participating communities. The program is voluntary and requires participating communities to meet or exceed NFIP standards for land use and building regulations.

In addition to the flood insurance and floodplain management program, NFIP maps the nation’s floodplains. Floodplain mapping clearly identifies flood hazards and helps support floodplain management programs. The Special Flood Hazard Area (SFHA) is delineated within NFIP maps. NFIP’s floodplain management regulations must be enforced within an SFHA, and flood insurance must be purchased within this area as well. FEMA must consider both state and local laws when designating an SFHA, which is defined as land subject to a one percent or greater chance of flooding in a given year and is sometimes described as a “100-year flood” zone.

In New York, DEC administers NFIP in partnership with FEMA. Prior to applying for NFIP’s flood insurance program, New York municipalities must establish a local floodplain management law that conforms to FEMA guidelines, and DEC and FEMA must approve the law. To help with this process, DEC provides localities with model flood damage prevention laws. Once passed, these laws help protect development from flooding hazards and may protect environmental benefits of floodplains. Municipalities with approved floodplain laws may proceed with DEC’s NFIP flood insurance application. In addition, DEC works with FEMA to forecast floods and coordinates mapping of floodplain areas that potentially could join the NFIP.

New York State can establish standards which exceed FEMA’s guidelines, as it has in its Residential Code (R324) floodplain development standards. For example, the state code requires elevations that exceed FEMA standards.
B. Limitations and Concerns

Limitations associated with the disaster mitigation legal framework include the impact of laws on coastal development, the impermanence of NFIP, and NFIP’s limited consideration of sea level rise. NFIP may inadvertently assist inappropriate coastal development and redevelopment. Flood insurance availability can encourage coastal development by reducing economic risk, making floodplain property financing attractive to financial lenders, and making investment less risky for buyers. However, NFIP's actual impact on development is difficult to determine because program requirements also make floodplain occupation safer. Additionally, other factors such as landowner perception of flood risk and property characteristics further influence the decision to occupy a floodplain.

Congress originally intended to phase out NFIP as land use regulations and controls were adopted and the reduced risk of flood damage enabled private insurers to provide all flood insurance. As such, NFIP is not a permanent program, and Congress must extend it periodically. Though it is unlikely that Congress will allow the program to expire, concerns about improper incentives and budget deficits could result in reduced funding or significant cuts to the program.

Currently, the NFIP program and maps do not provide information about projected future impacts of climate change and sea level rise and do not limit flood insurance in areas likely to experience flooding under present climate change projections. FEMA now, however, allows communities to include projections of future hydrology conditions (discussed below) and have these projections added to NFIP maps. Only local governments use these projections in any meaningful way; FEMA does not use them in any official capacity. The impact and usefulness of these projections is limited if FEMA does not incorporate them into the flood insurance premium rates.

C. Potential Programmatic and Legal Opportunities

The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 5 on page A-5 in the appendix for a simple comparison of the opportunities discussed below.

Mitigation Plans
To be eligible for increased federal funds under DMA Section 322 (e) when a national emergency is declared, a state government must complete an approved mitigation plan that fulfills requirements outlined in DMA and by FEMA. As another condition, state and local governments must outline processes for identifying the natural hazards, risks, and vulnerabilities of their jurisdictions.

Mitigation plans at the state and local level provide opportunities for greater consideration of shoreline sustainability. The DPC coordinated the preparation of New York's current mitigation plan, which OEM completed in November 2010 and FEMA later approved on January 4, 2011. The DPC could use its authority to prepare state disaster plans, guide state
disaster operations, and coordinate recovery efforts to influence shoreline structures. New York must update its State Hazard Mitigation Plan every three years, and each update period is open for public comment. Local all-hazard mitigation plans become active once they are approved by FEMA and adopted by one of the participating jurisdictions. Local plans must be reviewed, updated, and resubmitted for approval every five years. These periodic updates at the State and local levels provide an opportunity to recommend better shoreline policies and practices.

Mitigation plan development yields multiple benefits to shoreline communities. The plans increase the amount of disaster assistance available when disasters occur, and plan implementation reduces the damage that occurs. The plans and their subsequent updates provide local governments opportunities to coordinate shoreline sustainability activities. Together, this improves a shoreline community’s resilience to hazards and overall sustainability.

**Hazard Mitigation Assistance Grant Programs**

The federal government provides funding for a variety of mitigation activities through FEMA’s HMA grant programs discussed above. Local governments lack funds to conduct these types of planning initiatives and undertake mitigation projects. The mitigation activities these grant programs support provide an opportunity to plan for or develop sustainable shoreline structures that further disaster mitigation objectives.

The Sea Level Rise Task Force also recommends State support for community-based efforts to develop vulnerability assessments, climate adaptation plans, and coastal resilience plans through technical and financial assistance. Such assistance includes guidance for communities regarding development of post-disaster recovery and redevelopment plans. The Task Force suggests funding this support through post-disaster mitigation funds.

**Coordination of Planning Efforts**

Coordination between planners, legislators, and emergency managers ensures that systems complement one another. Coordinated governance limits conflict between the objectives of different departments. The American Planning Association (APA), in partnership with FEMA, encourages incorporation of hazard mitigation into all aspects of local planning and regulation. According to APA, improved communication between planners and emergency managers allows synergistic planning and wise use of resources. A municipality with a hazard mitigation plan can incorporate this plan by reference into the municipality’s comprehensive plan. Coordinated planning provides an opportunity for local governments to assess shoreline structures and incorporate into local land use planning and regulations standards for structure development and repair following a storm event.

Coordinated planning efforts could qualify New York for increased funding. FEMA provides financial incentives to states that go beyond the requirements of a Standard State Mitigation Plan. States with approved Enhanced State Mitigation Plans at the time of a disaster declaration qualify to receive additional funds from HMGP. To obtain approval as an Enhanced State Mitigation Plan, the plan must score “Satisfactory” for all Standard Plan
requirements, as well as (1) integrate the Enhance Plan with other planning initiatives to the maximum extent practicable; (2) document the state’s project implementation capability; (3) demonstrate that the state effectively uses existing mitigation programs to achieve its mitigation goals; and (4) demonstrate that the state is committed to a comprehensive state mitigation program.

In addition, local governments can coordinate planning on a regional level. The all-hazard mitigation guidelines indicate that municipalities can prepare local mitigation plans either individually or through coordination with multiple jurisdictions. OEM strongly recommends multi-jurisdictional plans because the resulting plans are more cost-effective and of higher quality. Local municipal governments seeking to participate in a regional plan can coordinate with the State or use FEMA’s Cooperating Technical Partners (CTP) Program, which organizes municipalities to achieve regional results. The CTP Program allows communities, regional agencies, State agencies, universities, and Tribal Nations to become active partners in the FEMA Flood Hazard Mapping program. CTP also offers local and regional officials technical guidance assistance with regional plans and maps. For more information about coordinated planning efforts, see the Coastal Management part and the Local Land Use part.

**FEMA Floodplains Maps**

Mapping provides a means of assessing risks and organizing information that is vital for proper planning. Many state and local laws refer to maps, such as FEMA floodplain maps. Enhancing these maps with more information, such as projected changes, provides a means for state and local governments to mitigate risks to shorelines and provide support for decisions to encourage or require particular shoreline structures.

NFIP is structured around FEMA floodplain maps. Floodplain maps depict flood zones that designate which communities are required to purchase flood insurance. Flood zone designations are determined by the risk and magnitude of flooding in a given location, as well as the likely source of the flood (coastal waters, rivers, streams, etc.). The current flood zone designations are: A, AE, A1-30, AH, AO, AR, A99, B, C, D, V, VE, V1-30, X-shaded, and X-unshaded.

FEMA encourages communities to map and plan based on projected future flooding, known as future conditions hydrology. A community develops these flood discharge projections based on projected land use conditions as represented in the community’s zoning maps and comprehensive plans, not including any possible construction of flood detention structures or other hydraulic modifications. The projections provide the opportunity to study and incorporate sea level rise into local planning and land use efforts. FEMA provides state and local governments with flood mapping funds, technical assistance, and mentoring to develop these flood maps. At a local government’s request, FEMA will include the future condition hydrology impacts on their flood insurance rate map, though these impacts are purely informational and do not affect flood insurance rates.
Future conditions maps place developers on notice of anticipated changes in local floodplain regulations. Further, mapping and planning for future conditions hydrology counts as a creditable activity under the Mapping and Regulation category of the Community Rating System (discussed below). FEMA has several guidance documents dedicated to helping municipal governments create their own maps.

Falmouth, Massachusetts' wetlands ordinance and regulations provide an example of FEMA designated zones and future conditions related to sea level rise, as well as a way to develop shoreline development regulations. Falmouth’s wetlands ordinance and regulations identify: (1) specific resource areas for protection, including coastal wetlands, beaches, dunes, and marshes; (2) land subject to tidal action, flooding, inundation, or coastal storm flowage; and (3) any land within 100 feet of the protected resource areas. The regulations require special protection for coastal floodplains immediately landward of salt marshes, coastal beaches, dunes, banks, and barrier beaches. Any buildings in these areas should be designed to incorporate a relative sea level rise of at least one foot per 100 years in FEMA designated A-zones and at least two feet per 100 years in FEMA designated V-zones. By entwining wetland regulation, floodplain management, and the associated risks of sea level rise, Falmouth is able to regulate shoreline development more effectively.

In addition, municipalities can use NFIP maps as a basis for their local plans and regulations. The Barnstable County, Massachusetts, regional policy plan aims to limit development in areas subject to coastal storm flow, particularly high-hazard areas, in order to minimize human casualties and property or environmental damage resulting from storms, flooding, erosion, and relative sea level rise. The plan includes a series of best development practices and required minimum performance standards. Barnstable requires the lowest horizontal structural member of all new and replacement buildings and substantial improvements to be at least one foot above Base Flood Elevation in FEMA-designated A-zones and at least two feet above Base Flood Elevation in FEMA-designated V-zones. The plan prohibits development within a ten-year floodplain from impeding landward migration of natural resources, such as dunes and salt marshes. Further, Barnstable prohibits development in V-zones, with the exception of reconstruction after a disaster, and explicitly encourages development removal from coastal floodplains. The plan prohibits new development on barrier beaches and coastal dunes. It also requires existing building reconstruction and renovation to refrain from increasing in total space or use and to demonstrate that the project will have no adverse impact.

The Nature Conservancy’s free web-based Coastal Resilience planning tool provides another example of mitigation through mapping. Originally developed for Long Island, the application is expanding its scope to pilot communities in New York and Connecticut. The Coastal Resilience tool provides detailed geographic information on demographics, ecology, land use management, locations of critical facilities, and more. Recommended by the New York State Sea Level Rise Task Force, this broadly-scoped geographic information system (GIS) helps planners plan wisely and protect coastal systems.
Floodplain mapping and related actions can impact development and demand for shoreline structures substantially. Strong mapping efforts that include considerations of projected changes in sea level and hydrologic conditions offer a way to increase shoreline sustainability and support decisions that encourage or require particular shoreline structures.

**Community Rating System**

The Community Rating System (CRS) represents an important FEMA effort to promote the protection of natural and beneficial floodplain uses through NFIP. Any NFIP community may join CRS, provided the community is in full compliance with NFIP eligibility requirements and makes a commitment to perform a minimum amount of additional floodplain management activities. Local governments that choose to participate in CRS receive discounted flood insurance premium rates for exceeding NFIP’s minimum requirements. Discounts vary according to the number and type of additional CRS floodplain regulations a community adopts. To participate, FEMA must determine the community's classification within the program, and the community must obtain elevation certificates. State and local governments can qualify as communities if they possess qualifying characteristics.

The program has four categories of creditable activities: (1) Public Information, (2) Mapping and Regulations, (3) Flood Damage Reduction, and (4) Flood Preparedness. Public Information activities advise people about flood hazards, flood insurance, and flood protection measures. A community that exceeds the NFIP minimum standards by providing more flood protection for new development is eligible for an amount of Mapping and Regulation credits based on the land area mapped and regulated. Flood Damage Reduction activities address potential flood damage to existing buildings through acquisition and retrofitting. Usually coordinated at the local level by an emergency manager, Flood Preparedness activities consist of programs in place prior to flooding that reduce flooding damage. Several actions beneficial to shorelines are creditable activities. These include increasing freeboard requirements, establishing greater coastal erosion-based setbacks, improving stormwater management, and incorporating future conditions hydrology.

Although the current CRS communities represent more than two thirds of all NFIP policyholders, they represent less than six percent of all NFIP communities. Additionally, most CRS participants have the lowest CRS rating levels. A study of the NFIP revealed that common traits among CRS communities include flood vulnerability awareness, strong local leadership, strong state support, and full-time floodplain management staff. Better coordination and promotion of CRS among smaller communities and improved education and training for local officials regarding CRS membership advantages will help communities develop and adopt floodplain protection and management practices that protect shorelines.
NFIP Reform Process
FEMA has recognized significant problems with NFIP and implemented a three-phase reform initiative. Currently in Phase III, FEMA anticipates completing the initiative within the next few years. A Working Group occasionally holds public meetings and continuously accepts public comments. FEMA's website presents information about the reform process, as well as contact information for those interested in submitting comments. This public participation process provides a means of injecting the reform discussion with issues pertaining to sustainability and shorelines protection.

The Sea Level Rise Task Force recommends a range of modifications to the program to ensure that rates better reflect actual risk exposure. Suggested modifications include strengthening FEMA’s CRS incentives, implementing a flood insurance surcharge to provide funds for adaptation planning, and tracking the gain and loss of structures in high-risk areas.

Several other federal initiatives also offer public participation procedures that present further opportunities to influence NFIP changes. These initiatives, which are associated with the reform process, include The White House Long-Term Disaster Recovery Working Group; The Federal Inter-Agency Floodplain Management Task Force; The White House Task Force on Climate Change Adaptation; Updated Principals and Guidelines for Water and Land Related Resources Implementation Studies; and the review and update of Executive Order 11988, Floodplain Management.

NFIP and Floodplain Regulation
Localities that participate in NFIP and adopt floodplain ordinances could include requirements for shoreline structures in these laws. In addition, DEC could suggest certain shoreline structure standards when approving a locality’s code for admission to NFIP and could include similar standards in its model flood damage prevention laws.

Besides NFIP, local governments in New York also have authority to adopt floodplain regulations under the state zoning enabling acts and the Municipal Home Rule Law. These sources either explicitly or implicitly designate floodplain control and protection as a matter of local concern. The New York zoning enabling act provides that local regulations “shall be . . . designed to . . . secure safety from fire, flood, panic, and other dangers [emphasis added].”

Through their zoning power, local governments can create zoning districts and overlay districts that incorporate floodplain regulations. Density restrictions and conditions attached to site plan and subdivision approval also can limit the alteration of flood hazard areas. Though NFIP requirements only protect development, local governments may protect and conserve the environmental and ecological benefits of floodplains through local land use authority. Additionally, local floodplain regulations adopted under these authorities can address shoreline structures to ensure sustainable shorelines. Municipalities can use future conditions hydrology to zone for more open spaces or place
restrictions on building permits to include flood mitigation measures, such as limitations on impervious surfaces.

The Town of Duck, on North Carolina’s Outer Banks, used its zoning power to address disasters. The Town coordinates emergency management and land use planning to reduce risk from future disasters. Duck created a short-term building moratorium to allow the community time to assess damage and consider mitigation measures following a storm occurrence. The law establishes procedures for assessing damage, declaring a building moratorium, and defining types of moratoriums that may be declared in the aftermath of a damaging storm. The ordinance is intended to ensure that rebuilding occurs “in an orderly manner,” and with the opportunity to identify “appropriate areas for post-storm change and innovation.”

**Association of State Floodplain Managers No Adverse Impact Approach**

Massachusetts’ Coastal Program’s StormSmart program encourages local governments to implement better floodplain management. Like StormSmart, New York can encourage local governments to adopt the Association of State Floodplain Managers (ASFPM) No Adverse Impact Approach (NAI) to floodplain management. Recommended by the Sea Level Rise Task Force, this approach specifically regulates shoreline protection structures and encourages vegetative shoreline stabilization. NAI advocates community consideration of the cumulative impacts of local land use decisions. Further, NAI aims to ensure that individual development and permitting decisions do not adversely affect property, natural resources, or communities in neighboring areas. According to the ASFPM:

> In essence, No Adverse Impact floodplain management takes place when the actions of one property owner are not allowed to adversely affect the rights of other property owners. The adverse effects or impacts can be measured in terms of increased flood peaks, increased flood stages, higher flood velocities, increased erosion and sedimentation, or other impacts the community considers important. The No Adverse Impact philosophy can shape the default management criteria: a community develops and adopts a comprehensive plan to manage development that identifies acceptable levels of impact, specifies appropriate measures to mitigate those adverse impacts, and establishes a plan for implementation. No Adverse Impact criteria can be extended to entire watersheds as a means to promote the use of regional retention/detention or other stormwater techniques to mitigate damage from increased runoff from urban areas.

ASFPM sets out the following seven principles in the No Adverse Impact Approach: (1) Hazard Identification and Mapping: coastal hazard data included in maps and regulations; (2) Planning: special area management plans; (3) Regulations and Development Standards: for sensitive resource preservation, densities, restricted shoreline development, buffers, and impervious surfaces; (4) Mitigation: vegetative shoreline stabilization, regulation of shoreline protection structures and construction in vulnerable areas, beach nourishment only where appropriate; (5) Infrastructure Siting and Design: no major public infrastructure sited in hazard areas, critical infrastructure sited above 500-year floodplain,
roads and infrastructure sited to avoid encouraging new development of resource areas; (6) Emergency Services: post-disaster planning; and (7) Public Outreach: information including disclosure on property transfers. (See the *Environmental Review* part for further discussion.)

**Coastal Risk Management Zone**
Lastly, the Sea Level Rise Task Force recommends defining a “coastal risk management zone”, by legislation or executive order, to encompass high hazard coastal areas and “Areas of Moderate Wave Action” as defined by NFIP maps. This zone would be subject to stricter development and redevelopment standards in order to reduce risk. The Task Force recommends making maps for areas within this zone more accurate and electronically accessible by local governments and the public.

**D. Authority**

**Statutes**


Participation in Flood Insurance Programs, N.Y. ENVT. CONSERV. LAW §§ 36-0101 to 36-0113.

General Powers of Local Governments to Adopt and Amend Local Laws, N.Y. MUN. HOME RULE LAW § 10.

Zoning Enabling Act, N.Y. TOWN LAW § 263.

**Local Laws**

TOWN OF DUCK, N.C., CODE ch. 152.

TOWN OF FALMOUTH, MASS., CODE ch. 235; Falmouth Wetlands Regulations, FWR § 10.00, -.02, -.38.
Regulations


Criteria for Land Management and Use, 44 C.F.R. § 60.

Flood Mitigation Grants, 44 C.F.R. § 79.

Property Acquisition and Relocation for Open Space, 44 C.F.R. § 80.

Mitigation Planning, 44 C.F.R. § 201.

E. References

Federal Guidance, Program, and Other Documents


**New York State Programs**


**Other Resources and References**


VIII. ENVIRONMENTAL REVIEW

The State Environmental Quality Review Act (SEQRA) requires review of environmental impacts prior to any proposed action by state or local government that could affect adversely a broad array of physical conditions in our environment. The environmental review process varies according to a project’s potential impacts. Prior to taking any action that might have a significant adverse impact, lead agencies under SEQRA must find that the action is conditioned reasonably to mitigate this impact on the environment, which includes coastal and riverfront areas subject to sea level rise.

Because SEQRA review precedes many development projects, including projects for shoreline development, it provides DEC and local governments with several programmatic and legal opportunities to influence shoreline structure methodology. These opportunities include the creation of critical environmental areas or coastal risk management zones, the development of a DEC sea level rise impact mitigation guidance document for environmental impact statements, agency influence on SEQRA review, consistency of SEQRA with the State’s coastal programs, the development of special local sea level rise regulations, and amending the SEQRA process to include consideration of sea level rise issues.

A. Purpose and Implementation

In 1970, Congress enacted the National Environmental Policy Act (NEPA) which requires all federal agencies to contemplate the environmental impact of their actions before finalizing a particular action. Since NEPA’s enactment, some states have adopted similar legislation. The New York State Assembly passed the State Environmental Quality Review Act (SEQRA) to reduce negative environmental impacts from development. SEQRA requires that environmental impact statements be prepared prior to any action that potentially could impact the environment adversely. SEQRA broadly defines “environment” to comprise any physical conditions that the proposed action will affect. This includes land, air, water, minerals, flora, fauna, and noise. It also includes agricultural, archaeological, historical and aesthetic resources; existing population concentration patterns; growth distribution; existing community or neighborhood character; and human health.

SEQRA’s scope is broad; it applies to all agencies and instrumentalities of the state, including local agencies such as local legislative bodies, planning boards, and zoning boards of appeal. An assessment of a proposed project’s environmental impact must precede any local agency decisions regarding site plans, subdivisions, variances or special permits.

SEQRA regulations list actions that automatically trigger environmental impact review. Once triggered, SEQRA requires the designation of a lead agency. The lead agency is the government agency with primary approval power over the proposed action. Lead agencies must guide applicants through the environmental review process and ultimately approve, approve with conditions, or deny an applicant’s action.
Initially, a developer applying for a land use permit to build must submit an Environmental Assessment Form (EAF) listing the potential environmental impacts of the proposed project. The lead agency reviews the EAF to determine the proposed action's significance. If the proposed action will not have a significant adverse impact, the lead agency issues a negative declaration and no further environmental review is required. If the project may have a significant adverse environmental impact, the lead agency must issue a positive declaration, and the applicant must prepare a Draft Environmental Impact Statement (DEIS).

If a DEIS is required, the lead agency initially may compel the preparation of a “scope” of the DEIS and may allow public participation in its preparation. In the scoping process, the lead agency identifies the areas of potentially significant adverse impacts and defines the scope of issues that the DEIS must address. SEQRA requires that the DEIS (1) consider all relevant environmental impacts; (2) identify possible conditions that mitigate any adverse environmental impacts; and (3) discuss any alternatives that would avoid or mitigate those impacts. Once the lead agency has accepted the DEIS, it may hold a public hearing on the DEIS.

After a final DEIS is submitted and the required public comment period is held, the applicant must prepare a Final Environmental Impact Statement (FEIS) that includes the lead agency’s responses to any substantive comments. After determining that the FEIS is “adequate and accurate,” the lead agency must adopt a reasoned findings statement based on the FEIS that recommends either approval or denial. The findings statement must balance impacts disclosed in the FEIS with social, economic, and other essential considerations. The lead agency also selects mitigation measures and alternatives to minimize any negative impacts. In addition, all other involved agencies must adopt a findings statement.

B. Potential Programmatic and Legal Opportunities

The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 6 on page A-6 in the appendix for a simple comparison of the opportunities discussed below.

Critical Environmental Areas or Coastal Risk Management Zones
Under SEQRA, municipalities may designate an area subject to sea level rise as a Critical Environmental Area (CEA) and place more stringent environmental impact mitigation conditions on projects in the CEA. According to SEQRA regulations, a CEA is "a specific geographical area designated by a state or local agency, having exceptional or unique environmental characteristics." A CEA identifies fragile or threatened areas to ensure that their particular characteristics are considered appropriately during SEQRA review for subsequent, individual projects. By designating shoreline and coastal areas as CEAs, municipalities can ensure adequate environmental review that may address sea level rise for these areas. In adopting a CEA, the local government may specify the specific mitigation
considerations and conditions that apply to all applicants for development permits in the Area.

The Sea Level Rise Task Force’s Report proposes a related zonal concept more squarely focused on coastal risks. The report states that “[t]he state should define a new ‘coastal risk management zone,’ comprised of, and consistent with, zones designated by FEMA to include coastal high hazard areas (V, V 1-30, or VE zones) and any areas defined by FEMA as ‘Areas of Moderate Wave Action’ (i.e., areas within the A zone and subject to wave action of 1.5 to 3 feet) as areas currently most vulnerable to coastal hazards.”

If the State establishes a coastal risk management zone, a municipality could adopt a specific sea level rise area plan and perform a generic environmental impact statement (GEIS) for the area. A GEIS simplifies the SEQRA process by identifying environmental conditions within an area and developing standards and review thresholds, including conditions for mitigating impacts, to ensure the compatibility of future development with an area’s environmental conditions. Developments within the zone would share the pro rata cost of preparing the GEIS. In this way, a locality can enforce specific shoreline structure requirements for its sea level rise area.

In addition, a municipality could adopt an overlay zone in which a coastal risk management zone overlaps with a CEA. This type of overlay zone would justify the placement of more stringent environmental impact mitigation conditions on subsequent developments that the planning board, acting as lead agency under SEQRA, approves. In coastal areas, this includes shoreline structure requirements. For more information about overlay zones, see the Local Land Use part.

**DEC Environmental Impact Statement Guidance Document**

The DEC Policy for Assessing Energy Use and Greenhouse Gas Emissions in EISs instructs DEC staff on how to review an EIS that includes a discussion of energy use or greenhouse gas (GHG) emissions. This policy document explicitly states that it does not deal with sea level rise effects on projects and that potential impacts will be addressed on a case-by-case basis. DEC could change this current practice of ad hoc review by amending this policy document or developing a new guidance document to make review of climate change impacts, including sea level rise, a standard practice. This new guidance would work well in tandem with the DEC’s Office of Air, Energy, and Climate guidance from July 2009, which instructs DEC staff to incorporate greenhouse gas (GHG) emissions into SEQRA environmental impact analysis and effectively enhances the environmental review process to better address and mitigate a project’s GHG emissions.

A DEC-issued guidance document requiring DEC staff to incorporate sea level rise and shoreline impacts into SEQRA review would mitigate these effects and encourage sustainable shorelines. In accordance with Sea Level Rise Task Force recommendations, the guidance document should require decisions with impacts in the coastal risk management zone to consider potential coastal flooding and other effects of climate change for the expected “lifetime” of the project, structure, or facility. As with the Energy Use and
Greenhouse Gas Emissions policy document, DEC can have local lead agencies follow the same procedures that DEC follows when issuing a permit that affects an area subject to sea level rise.

**Lead and Interested Agencies Influence Environmental Review**

The lead agency has primary approval responsibility for a decision to approve a development proposal or other action subject to SEQRA. An involved agency has the authority to fund or approve that same action. An interested agency lacks such jurisdiction but wishes to participate in the environmental review process because of its specific expertise or concern about the action. Involved agencies must be included in a lead agency's environmental review and determination; interested agencies may insert themselves at appropriate times in the process.

The SEQRA process offers opportunities for involved and interested agencies to encourage the consideration of sea level rise impacts and shoreline structures during environmental review. Such environmental review should include an assessment of different shoreline structure technologies and recommend more sustainable shoreline options. If the lead agency releases a positive declaration, anyone may request that the DEIS and FEIS address impacts on sea level rise and climate change during the scoping process. Similarly, the scoping document’s “alternatives” section may include alternatives or mitigation measures that specifically address climate change and sea level rise. Both points offer opportunities for involved and interested agencies to improve shoreline sustainability. It is important for lead, involved and interested agencies to consult Sustainable Shorelines Project findings, especially the ecologically enhanced shoreline protection methods, and include these methods in the DEIS and FEIS.

Further, DEC’s control over permitting procedures presents another opportunity for interjecting sea level rise concerns into the environmental review process. The Uniform Procedures Act requires DEC’s internal permitting procedures to conform to SEQRA. Because of this, DEC permits required for Hudson River shoreline projects are subject to SEQRA. When DEC serves as lead agency for permit-related SEQRA review, DEC makes the final decision about a proposed action’s environmental impact and can use this position to influence shoreline structures associated with the proposed action.

The South Pier Improvement Project of the Astoria Generating Company, L.P. (a US Power Gen Company) provides an example of SEQRA review that assesses climate change impacts. The applicant designed this project to improve the Gowanus Generating Station. DEC sought the lead agency position for this project in order to mitigate the site’s air permit. Although DEC did not require the project’s SEQRA process to consider sea-level rise, Astoria discussed sea level rise mitigation in the DEIS because of effects at the site.

**Connection of SEQRA with the State’s Coastal Programs**

Article 42 of the Executive Law requires that actions under SEQRA be consistent with the State's Coastal Management Program and Local Waterfront Revitalization Programs. As discussed in the Coastal Management part, many opportunities exist to enhance shoreline
sustainability through the coastal management legal framework. Aligning the SEQRA process with coastal management and waterfront revitalization offers an opportunity to improve regulatory efficiency and establish a consistent approach for shoreline development and its associated structures.

**Development of Special Local Sea Level Rise Regulations**
In addition to adopting CEAs and overlay zones as indicated above, municipalities also may influence shoreline structures through local environmental review of individual development proposals. Local governments must conduct SEQRA review for any local actions that impact the use of the land. Local decision makers engaged in SEQRA review of a local project must minimize or avoid adverse environmental impacts, choose alternative actions, and impose mitigation conditions.

Alternatively, SEQRA allows communities to adopt more stringent environmental impact provisions through local regulations. Under this SEQRA authority, a local government could adopt a sea level rise area plan which includes mitigation techniques that reduce impacts associated with shoreline development activities in the designated area. Further, a local government could create planning board authority under its sea level rise area regulations to impose further conditions related to shoreline protection. This would give the planning board or other lead agency flexibility to add other mitigation measures, including shoreline structure requirements, where needed.

Collier County, Florida, provides an example of this type of law. The County requires impact planning that considers the potential impacts of sea level rise. Development applicants must conduct a sea level rise impact analysis for shoreline development. The analysis must show that the development will remain fully functional for its intended use after a six-inch rise in sea level.

**Amendments to SEQRA Process**
The Sea Level Rise Task Force recommends refining the SEQRA process to include consideration of sea level rise issues. The recommendations also suggest revisions to the SEQRA assessment process. This involves changes in the EAF forms (both short and long versions) to evaluate impacts from or to the proposed project based on risks associated with sea level rise, coastal hazards (i.e., rising groundwater, coastal flooding, saltwater intrusion or other impacts), and other effects related to sea level rise. The state could create a supplemental form that lists required information applicants must provide in the EAF.

**C. Authority**

**Statutes**

New York State Environmental Quality Review Act, N.Y. Envtl. Conserv. Law §§ 8-0101, 8-0103, 8-0113.

Uniform Procedures Act, N.Y. ENVTL. CONSERV. LAW §§ 70-0101 to 70-0121.

Local Laws
COLLIER COUNTY, FL, LAND DEVELOPMENT CODE §3.03.05.

D. References

New York State Programs
IX. LOCAL LAND USE

Local land use tools provide municipalities with many opportunities to better regulate shoreline development and shoreline structures. Municipalities in New York State have broad authority to adopt plans and laws to regulate land use. Most local governments control land use, including shoreline development, through comprehensive planning and basic zoning techniques such as as-of-right and accessory uses, special use permits, rezoning, subdivision and site plan regulation, and overlay zoning. Separate from zoning, localities also may adopt land use laws that influence the development and conservation of the land. Land use law involves intersections between federal, state, regional, and local laws and is influenced by environmental, administrative, and municipal law.

Programmatic and legal opportunities to influence shoreline structures through the local land use legal framework include sea level rise components in comprehensive plans; coordinated planning efforts; local laws that control shoreline structures through as-of-right or special use permit uses, subdivision and site plan regulations, and overlay zones; conservation advisory councils and other boards or task forces; rolling easements; intermunicipal coordination; county government action; official sea level rise projections for New York State; provision of training and resources for local governments; and possible mandates for local governments.

A. Purpose and Implementation

Local governments in New York have broad authority to adopt land use laws. These local land use laws and ordinances affect shoreline construction projects. Even if a project obtains all necessary federal and state approvals, lack of conformity with local laws can prevent a project from proceeding. City, village, or town building permits, special use permits, subdivision and site plan approval, or other land use approvals may be necessary for shoreline structures.

Municipalities derive their ability to adopt zoning laws from a variety of legal authorities. The Town, Village, and General City Laws grant New York municipalities the specific authority to adopt comprehensive plans and zoning laws and to adopt subdivision and site plan regulations. The Municipal Home Rule Law delegates general authority to legislate with regard to public health, safety, and welfare, as well as the physical environment, and is the authority municipalities often rely upon to adopt natural resource protection regulations. Finally, the General Municipal Law provides specific authority to local governments to adopt laws for water resource protection, the preservation of historic districts and landmarks, and the creation of conservation advisory boards, among other matters.

State statutes define the roles of land use boards and commissions and provide the procedures and standards they must follow. Local zoning regulations often extensively
supplement these state laws. Local governments have flexible authority to establish standards and procedures that meet their unique needs.

Under the above legal framework, local governments can regulate private land use and construction of shoreline structures through a variety of techniques. These techniques each trigger a different procedure and are governed by different standards:

**Comprehensive Planning**
A comprehensive plan contains goals, objectives, principles, guidelines, policies, standards and strategies for the growth and development of the community. Comprised of maps, charts, studies, resolutions, reports, and other descriptive materials, a comprehensive plan guides a municipality’s physical and economic development while incorporating its social, environmental, and regional concerns, which may include sustainable shorelines. Although New York statutes authorize and encourage comprehensive planning by listing fifteen separate components that comprehensive plans may contain, state law does not require comprehensive planning or any fixed plan format for communities. However, State statutes do require zoning and other land use regulations to conform to the comprehensive plan, which the local legislature adopts.

**As-of-Right Uses and Their Accessory Uses**
Shoreline structures may be designated as-of-right uses or accessory uses. A zoning law contains development requirements for different zoning districts. Each zoning district permits, as-of-right, certain land uses as the principal and primary uses of land. A zoning district also allows accessory uses that complement these primary uses. Accessory uses are incidental and subordinate to and customarily found in connection with primary uses but are allowed as-of-right as well. For example, in a single-family zoning district, a single-family home is the principal use, and the same zoning district may allow a garage or private boat launch as an accessory use to the home. In most cases, the owner of an individual lot who proposes a primary or accessory use on that lot need only submit construction drawings and secure a building permit. Typically, no zoning decisions are involved in such an application.

**Special Use Permits**
In addition to authorizing as-of-right land uses, a zoning law can authorize shoreline structures by special use permit issued by a local administrative agency such as the zoning board of appeals or the planning board. Special use permits also are called conditional use permits, special exception permits, and special permits. Typically, land uses authorized by special permit include religious institutions, nursing homes, and day-care centers, but these can include shoreline structures as well. The local legislature declares that special uses are generally harmonious with as-of-right uses; however, in certain locations, a special use might affect adjacent properties negatively and require limits or conditions. If a special use permit applicant demonstrates that a special use will not have negative impacts or that the proposed project will mitigate any negative impact, the agency usually will grant the special use permit.
Rezoning
Where a proposed use is not permitted as-of-right or by special use permit, the property owner may request that the local government rezone the property, making the proposed activity, such as shoreline structure construction, an as-of-right use in the new zoning district. In most cases, the local legislature is not required to entertain a single owner’s rezoning petition. Alternatively, the local legislature, on its own initiative, can act to rezone a parcel or an area in the public interest.

Subdivision and Site Plan Regulation
Local governments are authorized to adopt subdivision regulations, which govern the division of land for development, and site plan regulations, which control the development of individual parcels of land. Typically, subdivision and site plan regulations supplement zoning prescriptions by allowing administrative agencies to review and approve specific site design and features, including shoreline structures, for their impact on a neighborhood and community. Planning boards, zoning boards of appeal or legislative boards generally are responsible for subdivision and site plan approval. Applicants typically submit an existing conditions plat or map for their parcel showing the location of water, electrical, sewage, drainage, transportation, landscaping, and other site features, including shoreline structures. By carefully reviewing, modifying, and conditioning the features of these plats, the locality hopes to ensure that new development is cost-effective, is properly designed by accounting for environmental considerations, and favorably impacts the neighborhood.

Special Resource Overlay Zones
Municipalities are not restricted to traditional techniques for regulating shoreline structures. The breadth of statutes delegating land use authority to local governments and the presumption of validity that courts accord land use regulations allow localities to create a variety of mechanisms not mentioned in the enabling statutes. Courts uphold these laws because they fall within the localities’ implied authority to legislate to achieve the most appropriate use of the land.

Overlay zones are zones or districts created by the local legislature for the purpose of conserving natural resources or promoting certain types of development. Overlay zones are imposed over existing zoning districts and contain requirements that apply in addition to existing zoning provisions. After identifying a development or special resource area like a vulnerable shoreline, local legislatures may adopt an overlay district for the special area that contains new development restrictions. Superimposed on the existing zoning map’s district designations, the overlay district or zone typically applies more restrictive standards to the special area. A special area overlay zone creates a framework for conservation when the existing zoning is not adequate enough to protect resources. Specifically, it applies restrictions to those parcels where development may threaten natural resource viability. Some examples of overlay districts include shoreland or wetland overlay districts, floodplain overlay districts, agricultural overlay districts, and aquifer protection overlay districts.
Conservation Advisory Councils and Conservation Boards
Conservation advisory councils (CACs) are created by local legislatures to advise the development, management and protection of local natural resources. CACs can study and protect local open areas, including those areas characterized by natural scenic beauty which, if preserved, would enhance the value of surrounding development, establish a desirable pattern of development, achieve objectives of the comprehensive plan, or enhance the conservation of natural or scenic resources. CACs are directed to keep an inventory and map of all local open areas and list them in order of priority for acquisition or preservation. The map must identify open areas designated for preservation, including those having conservation, historic, or scenic significance. Additionally, CACs must cooperate with other official municipal bodies active in the area of community planning and development approvals.

Once the local legislative body receives and approves the CAC’s open area inventory and map, it may designate the CAC as a conservation board. At this time, the inventory and map become the municipality’s official open space index, and the local legislature may give the conservation board additional duties that assist the community with its open area planning and ensure the preservation of its natural and scenic resources. These duties include reviewing applications made to other local agencies that seek approval to use or develop any area on the open space index, as well as submitting reports regarding the impact of such proposals on the listed open area and on the locality’s open area objectives. Both CACs and conservation boards may perform these other assigned duties as long as these duties are consistent with their general statutory advisory role regarding the development, management and protection of local natural resources.

B. Limitations and Concerns

Limitations to the local land use legal framework include nonconforming uses, takings challenges and indemnifications, political opposition, and the Interstate Commerce Commission Termination Act. These limitations are described below.

Nonconforming Uses
New legislation restricting shoreline structures should contain provisions for nonconforming uses, those land uses existing prior to adoption of a zoning restriction that prohibits a specific use. Because of the landowner's investment in the prior use, most zoning laws permit nonconforming uses to continue without expansion or enlargement. A landowner may not, however, reestablish or reconstruct an abandoned or seriously damaged nonconforming use. Where certain nonconforming uses are inconsistent with a district's as-of-right uses, zoning can require termination of nonconforming uses after a specified number of years. Alternately, zoning can require immediate termination of nonconforming uses that threaten public health or safety.
Takings Challenges and Indemnifications
Occasionally, courts find that a regulation’s impact on private property rights is so burdensome that it violates the constitutional guarantee that property shall not be taken for a public use without just compensation. This often happens when local governments single out a few property owners to bear a burden that the general public should bear. Because of this, concerns over takings challenges, the cost of defending these suits, and potential liability often paralyze local governments.

When landowners challenge land use regulations as regulatory takings, courts presume that the regulations are constitutional, and challengers face a heavy burden of proof that the regulations violate the constitutional guarantee. To overcome this burden, property owners must produce evidence that the regulation destroyed all but a bare residual of the property’s value. In this event, courts may award compensation for damages suffered by the regulated property owner.

In addition, landowners can bring takings challenges to exactions imposed by a local agency in exchange for project approvals. An exaction exists when an applicant must designate part of a parcel of land to public use prior to development. To survive a takings challenge, the imposed conditions must provide public benefits in proportion to the development’s adverse impacts on the community.

Local governments can take precautions to avoid regulatory takings challenges. First, a municipality can adopt a comprehensive plan, keep it current, support it with studies, and ensure that all regulations conform to this plan. Second, localities should regulate all similarly situated properties in the same way to distribute the regulation’s benefits and burdens fairly. Third, if a land use regulation will prevent all economically beneficial use of a land parcel, the municipality should provide a mechanism allowing the landowner to prove no reasonable use and obtain a hardship exemption from strict application of the regulations. This avoids a successful takings challenge by allowing some reasonable use of the property. Fourth, prior to imposing conditions on project approvals, local governments should conduct studies showing that the conditions are necessary to mitigate the project’s impact on the community. Fifth, careful and appropriate State Environmental Quality Review Act (SEQRA) review for projects likely to substantially and adversely impact the environment can protect localities from successful takings challenges. Finally, communities can adopt land use techniques authorized under New York State law that balance development regulation with resource protection, like cluster development, transfer of development rights, incentive zoning, or conservation easement purchase.

Political Opposition & Consensus Building
Often, controversy and political opposition accompany new comprehensive planning efforts, zoning amendments, and land use regulations. Controversy and opposition can further restrict development. Local governments can manage this opposition and minimize future legal challenges by fostering broad community participation in early consensus building during the decision-making process. Successful consensus building requires trained facilitators and community leaders to design processes, establish agendas, respond
to questions, run meetings, and follow up on those meetings. Appropriate facilitation involves identifying and convening all interested parties, then holding discussions to identify true interests and the policies that will address these interests. This process builds community support to prevent delays.

**Local Preemption and Railroads**
The Interstate Commerce Commission Termination Act (ICCTA) of 1995 expressly overrules state law in the area of railroads and related facilities. This includes local zoning and shoreline regulations. Thus, local government regulation of hard or soft shoreline structures is preempted where a railway owns or controls the shoreline or railway facilities impacted by the local law. For more information about the ICCTA, see the *Other Laws and Programs* part below.

**C. Potential Programmatic and Legal Opportunities**
The following strategies provide opportunities for regulating shoreline structures and ensuring sustainable shoreline practices. See Table 7 on page A-7 in the appendix for a simple comparison of the opportunities discussed below.

**Comprehensive Planning**
Comprehensive planning provides two opportunities to influence shoreline structures: the sea level rise component in a comprehensive plan and coordinated comprehensive planning.

**(1) Sea Level Rise Component in Comprehensive Plan**
The New York State Sea Level Rise Task Force recommends amending New York State local planning enabling legislation. Specifically, the New York State Assembly should amend Village Law § 7-722 (2)(a); Town Law § 272-a (2)(a); and General City Law § 28-a (3)(a) to recommend that localities add a Sea Level Rise component to their comprehensive plans.

The sea level rise component in a comprehensive plan may recognize a locality's susceptibility to flooding, erosion, sea level rise, or severe storm events. It should contain information on the consequences of these threats and draw the public's attention. A detailed sea level rise component can include projected impacts on topography vulnerable to sea level rise, including dunes, tidal wetlands, and groundwater. It also can address shoreline structure issues. Since all local land use regulations must conform to a community's comprehensive plan, a sea level rise component can assist communities in establishing regulations for sea level rise adaptation. These components may consider buffer areas, shoreline structure strategies, and other land use strategies for waterfront areas.

The City of Bainbridge Island, Washington, explicitly addressed the potential for sea level rise in its Comprehensive Plan chapter “Environmental Element.” Adopted in 2004, the chapter recognizes that Bainbridge Island is potentially subject to sea
level related impacts, including flooding and erosion. The overall goal of the Environmental Element chapter is to avoid adverse impacts where possible; to minimize, reduce, or eliminate impacts over time; and to compensate for unavoidable impacts. First, the chapter outlines protections for critical areas through the transfer of and purchase of development rights. Second, the chapter establishes the City’s Shoreline Management Master Program to address and protect marine fish and marine shoreline habitat. Finally, the chapter mandates no net loss of the City’s remaining regulated aquatic resources, maintenance of vegetated buffers between proposed development and aquatic resources, preservation of stream courses, and protection or restoration of natural functions of riparian habitat.

The “Frequently Flooded Areas” component of the Environmental Element chapter also recommends mitigating measures. These measures include limitations on development and alteration of natural floodplains, preservation of stream channels and natural protective barriers, revision of the flood insurance rate map to reflect the natural migration of frequently flooded areas, and implementation of nonstructural protective methods such as setbacks and natural vegetation.

Malibu, California, adopted a Local Coastal Program Implementation Plan in September 2002. In general, implementation plans coordinate strategies for the execution of a comprehensive plan. The Malibu plan requires consideration of future sea level rise for shoreline protection device siting and construction. Furthermore, the plan bans shoreline protection for new construction, with the exception of septic systems. For existing construction, an applicant must demonstrate that the “proposed protective device is the least environmentally damaging alternative and is designed to eliminate or mitigate adverse impacts to local shorelines and supply public access.” The applicant must consider alternatives, including “the relocation of existing development landward as well as the removal of portions of existing development” and “soft solutions” like dune restoration and setbacks.

Development standards in the Malibu plan expressly require the consideration of sea level rise and mandate setbacks of a sufficient distance landward and elevations to a sufficient finished floor height. These measures will “eliminate or minimize to the maximum extent feasible hazards associated with anticipated sea level rise over the expected 100 year economic life of the structure.” Malibu also requires deed restrictions, which are covenants or restrictions placed in a deed to restrict the use of the land. Often, deed restrictions are used to ensure that the owner complies with the conditions imposed.

(2) Coordinated Comprehensive Planning
By coordinating comprehensive planning with other planning activities, municipalities can secure implementing regulations and leverage funding opportunities. In the Town of East Hampton, New York, the municipality adopted its Local Waterfront Revitalization Program as the Coastal Management component of
its comprehensive plan. Similarly, a locality could coordinate its FEMA-approved all-hazard mitigation plan and its comprehensive plan. For more information about coordinated planning efforts, see the Coastal Management part and the Disaster Mitigation and Floodplain Management part.

The Sea Level Rise Task Force Report recommends that long-term regional-scale coastal resilience plans be developed. These resilience plans can reduce vulnerability in the coastal area (including Task Force recommended coastal risk management zones) by identifying non-structural alternatives and structural measures, as well as identifying opportunities to further reduce vulnerability through non-structural measures in the recovery and restoration process following coastal storms. The report also recommends that these plans be coordinated with comprehensive plans, hazard mitigation plans, or local waterfront revitalization plans.

**As-of-Right and Special Use Permits Uses**

Municipalities can control coastal development and shoreline structures through as-of-right use regulations and special use permits. The Village of Tarrytown, New York, adopted a Wetlands and Watercourses law that regulates land it defines as wetlands or watercourses, as well as associated buffer areas. The law is designed to protect steep slopes, groundwater, and shoreline habitat by controlling flooding and stabilizing shorelines. It designates activities in these areas as either prohibited, allowable as-of-right, or regulated. Regulated activities require approval by the Planning Board followed by a permit issued by the Wetland Inspector.

The Village of Dobbs Ferry, New York, has a Waterfront District with two different zones. The Waterfront District permits as-of-right, water-dependent uses such as docking facilities and launching piers for non-motorized personal watercraft. The Board of Trustees, upon recommendation by the Planning Board, can approve other uses through a special permit process. In granting a special permit, the Planning Board or Board of Trustees may require compliance with certain requirements in order to achieve specific objectives. These objectives can include preservation and enhancement of aesthetic, recreational, historic, or environmental qualities of the area. Requirements may include, at the board’s discretion, "minimizing construction . . . of steeply sloped areas," and "protecting streams and watercourses leading into the Hudson River."

Longboat Key, Florida, safeguards coastal resources by regulating seawalls and other shoreline protection devices. Longboat Key requires a permit for construction of any shoreline protection device and will issue a permit only in a limited set of circumstances: (1) significant erosion, (2) no alternative, (3) failure of non-structural protection, (4) a threatened inhabited structure, (5) construction above the mean high tide water line, and (6) code adherence. This provision also prevents reclamation of property lost to the rising tide. However, it also stops property owners from planning too far in advance because the existing structure must be threatened before property owners may take Shoreline protection measures.
Subdivisions and Site Plan Regulation
Municipalities can address shoreline development further in their subdivision and site plan regulations. Ossining, New York, requires site plan review for development along the shoreline. This review ensures that stabilization structures are properly installed to limit erosion from construction. Additionally, the Town requires a permit for placement or construction of any structure in any wetland, watercourse, or buffer area.

Overlay Zones
Some municipalities control shorelines by adopting overlay zones that regulate shoreline structures. Adopted in April 2007, the Town of East Hampton, New York’s coastal erosion overlay district regulates the construction and alteration of shoreline protective structures. The overlay district establishes four coastal erosion zones to protect the natural shoreline, defined by physical and ecological features. Construction of new coastal erosion structures is prohibited in Zones 1, 2, and 3, which are all ocean or bay coast-side. In Zone 4, where many erosion structures exist, the overlay district requires a special permit to construct or alter any erosion control structure. The overlay also prohibits repair or construction of structures perpendicular to the shore unless the alteration would reduce the size of an existing perpendicular structure or provide other environmental benefits. If a landowner wants to do this, he or she may apply for an expedited Emergency Repair Building Permit contingent upon the landowner’s agreement to use suitable materials, such as sand from dredging, in the alteration. This process enabled the Town to eliminate unnecessary bulkheads in the district and has provided local landowners with expedient relief from erosion.

Tillamook County, Oregon, is vulnerable to ongoing coastal erosion, landslides, and sand inundation of permitted structures in the fore-dune areas of the coast. Pursuant to the Beach and Dune Overlay provisions of the County’s land use ordinance, beachfront protective structures like “riprap and other revetments” are permitted only in “developed beachfront areas” and “fore-dune management areas” where development was already in place by January 1, 1977. Proposals for protective structures must demonstrate that a threat of ocean erosion or flooding exists; that non-structural means cannot protect development adequately; that protective structures will occur as far landward as possible and be angled into the bank to prevent flank erosion; that existing public access is preserved; and that specified construction standards are met.

The Town of Chatham, Massachusetts’ Conservancy Districts Overlay is intended to preserve groundwater, coastal waters, and habitat and to “protect persons and property from the hazards of flood and tidal waters which may result from unsuitable development in or near swamps, ponds, bogs, marshes, along water courses or in areas subject to flooding, extreme high tides and the rising sea level.” The protective overlay zone encompasses “all the submerged lands along the coast of the Town, and areas subject to flooding,” including the FEMA-designated 100-year floodplain. Permitted activities include beach nourishment, except in salt marsh areas or shellfish tidal flats; dune nourishment; non-structural bank and dune stabilization; and approved coastal engineering structures.
Prohibited activities include construction of residential dwelling units anywhere in the district and any construction in FEMA-designated V and V1-30 Zones. Pre-existing structures and uses are subject to the non-conforming use provisions of the zoning ordinance.

Pismo Beach, California, promulgated the Hazards and Protection Overlay Zone “to prevent unsafe development of hazardous areas” and protect life and property. The zone covers landslide areas, areas near fault lines, and coastal areas that are retreating or easily erodible. The code prohibits development in landslide areas and easily erodible areas without approved mitigation measures. Furthermore, all development on hillsides and in environmentally sensitive areas must preserve natural plant and animal life and prevent erosion.

The Pismo Beach overlay zone also includes specific provisions for shoreline protection. These provisions prohibit permanent non-safety structures on dry sandy beaches, new development that would require shoreline protection in the next 100 years, and new development on bluff faces, providing only limited exceptions. Additionally, the provisions restrict seawalls and other shoreline protection when there is no existing structure or coastal dependent use. If approved, the seawall must (a) respect natural landforms; (b) provide for lateral beach access; and (c) use visually compatible colors and materials and eliminate or mitigate any adverse impacts on local shoreline and supply. Similar restrictions apply to other shoreline structures. Municipalities can use this type of detailed regulation to prescribe preferred sustainable shoreline devices.

Conservation Advisory Councils, Conservation Boards, Special Committees, Boards, Councils, and Task Forces
State law encourages localities to form Conservation Advisory Councils (CACs) to develop an inventory of all open areas in a community and to list them in order of priority for acquisition or preservation. The State could broaden the role of the CAC to include an inventory of developed and opened land susceptible to sea level rise and storm hazards. Once this inventory is approved by the local legislature, the CAC can become the locality's conservation board and may be empowered to review and make recommendations regarding development projects that affect listed natural areas or features. Studies could provide an inventory of the open space and other lands in sensitive areas susceptible to sea level rise and storm hazards. Ideally, a municipality would conduct a sea level rise and storm hazard mitigation study as part of the comprehensive planning process.

Additionally, local legislatures may establish special committees, boards, councils, or taskforces to conduct studies, provide advisory opinions and technical assistance, or perform an environmental inventory. If a community has an established CAC, it may create a task force within the CAC. The local legislature may create the task force by ordinance and provide it with the authority to conduct surveys, study the results, build citizen awareness of local problems, and work with experts to develop an effective strategy for adaptation. The group should include landowners and developers who can help develop strategies that are politically and economically workable.
CAC task forces can serve as special information gathering groups to help municipalities determine future sea level rise impacts and decide how to plan for and regulate future shoreline development. CACs can gather data about how sea level rise will affect a property owner’s land and whether it will destroy local habitat. This collection and analysis may document infrastructure elevations, areas susceptible to erosion and pollution, drainage and storm-surge risk areas, or the vulnerability of water supplies. Also, it might establish possible sea level rise scenarios to help determine strategies for preserving habitability and how infrastructure must retreat.

The Town of Rhinebeck, New York, established a CAC "responsible for coordinating review of actions in the [T]own's coastal area for consistency with the LWRP." Every time a proposed action is located within the Town’s coastal area, "each Town agency shall, prior to approving, funding or undertaking the action, make a determination that it is consistent with the LWRP." CACs in other communities can assume similar responsibilities to incorporate shoreline considerations into their actions.

Ossining, New York, refers proposals to an Environmental Advisory Committee. The committee’s purpose is to "build awareness and support for the development, management, and protection of Ossining’s natural resources; draft environmental ordinances for consideration by the Town of Ossining, designed to provide protection for natural resources; and participate in environmental reviews as specified in the Town's ordinances." This role could expand to include advisory opinions for shoreline structure applications, and other communities could adopt this approach.

In 2008, New York City launched the Climate Change Adaptation Task Force and the New York City Panel on Climate Change to develop adaptation strategies to secure the City’s infrastructure from the effects of climate change. The Task Force is one of 127 initiatives proposed in PlaNYC, the City’s long-term sustainability plan. The Task Force will inventory existing infrastructure at risk from the effects of climate change; develop coordinated adaptation plans to secure these assets based on city-specific climate change projections; draft design guidelines for new infrastructure that take climate change impacts into account; and identify broad adaptation strategies for further study. The New York City Panel on Climate Change, modeled after the Intergovernmental Panel on Climate Change (IPCC), will advise the task force. The panel will develop a unified set of climate change projections based on work by the New York State Sea Level Rise Task Force, draft protection levels to guide the design of new infrastructure, and produce a technical report on the localized effects of climate change. Though other municipalities may have fewer resources than New York City, local governments can capitalize on their existing resources, including local experts, interested community members, and regional institutions, to develop similar reports and projections for climate change adaptation generally and sea level rise adaptation specifically.

In 2006, the Florida Miami Dade Climate Change Advisory Task Force was created to provide technical assistance and advice to the Board of County Commissioners concerning
mitigation and adaptation measures in response to the impacts of global climate change. The Task Force consists of twenty-five appointed members representing various sectors of the Miami-Dade community, including government agencies and educational institutions. This Task Force provides another example of how municipalities can utilize local resources to plan for sea level rise.

In 2008, the Science and Technology Committee of the Task Force published a statement documenting the “very real threat” posed by accelerating sea level rise. The report noted that Southern Florida’s relative sea level rise over the last seventy years would be about eight times greater than the rise over the previous 2,500 years. The Committee report emphasized the urgency “of reconsidering nearly every aspect of the county’s management, zoning, infrastructure, and planning” and recommended establishing sea level rise scenarios reflecting future rise to help determine what the County must do to preserve habitability and allow infrastructure “to yield to the rising sea.” The report called for detailed documentation of infrastructure elevations, areas susceptible to erosion and pollution, drainage and storm-surge risks, and water supplies from across the county’s various departments. The data and subsequent modeling of different sea level rise scenarios are compiled in the Committee’s “Climate Change Briefing Book,” which discusses the County’s vulnerability to sea level rise and catalogs specific adaptive steps. CACs and other dedicated local government groups could develop similar recommendations.

Rolling Easements
Rolling easements are regulatory mechanisms or interests in land that allow wetlands or beaches to migrate inland as sea level rises. Thus, rolling easements transfer the risk of sea level rise from the environment or the public to the property owner. A 2007 article in the Ecology Law Quarterly summarized the common law basis for rolling easements as follows:

Although a rolling easement can be authorized through statutory action or judicial fiat, there is a strong argument that such easements are most fundamentally rooted in common law principles—primarily the public trust doctrine, although the laws of custom and public nuisance may also play a role. Expressly grounding rolling easements in the longstanding background principles of the common law and within the principles of property law helps to immunize the state from potential constitutional takings challenges because articulating such background principles does not change the existence of fundamental property rights enjoyed by a private owner but merely clarifies that owner’s existing rights. Put simply, there can be no taking when the property owner never had a “right” to armor to begin with.

When rolling easements are implemented as a regulation, they provide an alternative to prohibiting all development in coastal area, which may be politically infeasible, inequitable, or even unconstitutional. When implemented as an interest in land, a rolling easement offers an alternative to a government’s purchase of the property or the negotiation of a conservation easement.
A rolling easement helps align a property owner’s expectations with the migrating nature of the shore. It enables property owners to prepare efficiently for possible sea level rise. Because they allow development but preclude shore protection, rolling easements are appropriate for areas where preventing development is not feasible and shore protection is unsustainable.

**Intermunicipal Coordination**

Municipalities in New York have extensive authority to cooperate with one another to accomplish their land use objectives. The state authorizes villages, towns, and cities to enter into intermunicipal agreements to perform together any municipal function that these localities have power to undertake individually.

The State Legislature makes it clear through enabling legislation that the authority to cooperate includes the power to adopt consistent comprehensive plans, zoning laws, and land use regulations, as well as to combine local land use agencies and to enter into joint enforcement and monitoring programs. The Legislature also makes clear that county governments may provide technical and advisory services (i.e., the adoption of land use plans, public health reviews, planning reviews, etc.) in the land use field to their local constituencies. Similarly, a State statute authorizes the Hudson River Greenway Communities Council to provide incentives for localities that adopt local plans and regulations that conform to Greenway planning principles.

Local governments have begun to use their intermunicipal authority in a variety of creative ways as they discover that it provides them with a new method of expanding their control over the forces that determine their future. As the population grows and natural resources become more threatened, some local governments embrace the notion that they can control shared wetlands, waterways, and floodplains by entering into compacts with one another, with their counties, and with regional agencies established to help them accomplish their land use objectives. The Long Island Sound Watershed Intermunicipal Council provides a successful example of local coordination on water issues.

Additionally, intermunicipal coordination may prove beneficial in preparing for the impacts sea level rise. If a community is forced to retreat from shorelines, displaced businesses and people will move inland. This movement may change the population distribution within the municipality and nearby communities and consequentially impact near-shore and urban fringe habitats. Unprepared municipalities may face unexpected burdens on municipal services and local resources as available land decreases and property values change. Moreover, the slow pace of the change will hide the cumulative effects of the shifting development pattern. To address this problem, municipalities can coordinate planning and adaptive measures, such as post-disaster reconstruction ordinances and floodplain map amendments, with economic development plans, regional planning, and open space planning within their own municipality and nearby communities.

**Regional Efforts and County Governments**

Regional agencies and county governments can use their authority to influence and shape shoreline structures and development. In 1969, the California State Legislature created the
San Francisco Bay Conservation and Development Commission (BCDC), a land use planning and regulatory agency for the San Francisco Bay, to address filling activities that were reducing the Bay’s intertidal mudflats and marshlands. The state legislature authorized the BCDC to develop the San Francisco Bay Plan (Bay Plan) and conduct other planning activities. Further, the state legislature authorized the agency to issue BCDC permits for development projects that dredge, place fill, extract certain materials, or create any substantial use in land, water or structure within the Bay or along its shoreline. Permitted projects must be consistent with certain policies outlined in relevant state legislation and the Bay Plan or otherwise necessary for the Bay Area’s health, safety and welfare. BCDC has enforcement authority to ensure that regulated activities obtain and comply with BCDC permits. Additionally, BCDC exercises federal consistency authority through the BCDC Management Program, a federally-approved program that meets CZMA requirements and controls the San Francisco Bay Segment of the California Coastal Zone.

In 2011, BCDC adopted a resolution that amends the Bay Plan, setting new climate change findings and policies to which regulated projects must adhere. The new rules require BCDC permit applicants to prepare a risk assessment using sea level rise projections and implement resilient design in areas that the assessment determines are vulnerable to future shoreline flooding. Further, the policies require special consideration and preservation for undeveloped areas vulnerable to future flooding that sustain significant habitat or species or are suitable for ecosystem enhancement. In addition, the new policies encourage innovative sea level rise adaptation approaches and charge the BCDC, in collaboration with other committees, agencies and the public, to formulate a regional sea level rise adaptation strategy to protect critical developed shoreline areas and natural ecosystems within the Bay area.

In New York State, counties have authority to adopt laws that can affect shoreline development, similar to the authority granted to towns, villages, and cities. Counties can adopt comprehensive plans and create planning review for different types of applications. Some counties also create soil and water conservation boards to review and implement county-wide plans and policies. County regulation is beneficial because counties can govern on a wider geographic scale than municipalities, providing more uniform regulation related to natural resources and environmental issues, which often exceed municipal boundaries. According to the Federal Emergency Management Agency (FEMA) and the New York Division of Homeland Security and Emergency Preparedness, a broader scope often leads to better plans and regulations developed and implemented at a lower cost. Using county authority provides a means of developing and implementing robust and effective shoreline management strategies.

Adoption of Official Sea Level Rise Projections
The Sea Level Rise Task Force Report recommends that the State adopt official sea level rise projections that include the Hudson River to the Federal Dam at Troy. State projections provide a reference point for local planning and support for other local initiatives.

Training and Resources for Local Governments
The Task Force also recommends that the State develop and disseminate guidance and training on climate adaptation and make use of decision-support tools and model laws. In addition, the State should provide grants, maps, and other resources and technical assistance to help local decision makers analyze their communities’ circumstances as they relate to sea level related impacts. This would help local decision makers better develop appropriate strategies for reducing community vulnerability.

The Task Force further suggests that the State’s Local Waterfront Revitalization Program and Climate Smart Communities program provide significant opportunities to coordinate State and local initiatives and resources. These programs can facilitate implementation and execution of coastal resilience planning (see Coastal Management part for details).

**Mandates for Local Government**

Finally, the Task Force recommends that, in some cases, state legislation may need to mandate risk-reduction strategies. This strategy may be necessary if local governments lack resources or authority to pass or enforce local laws that reduce risk or conserve flood protection systems.

**D. Authority**

**Constitutional Provisions**

U.S. Const. amend. V.

**Statutes**


N.Y. Gen. Mun. Law § 119-o (authorizing all municipal governments to act together to perform functions each can perform separately).

N.Y. Gen. Mun. Law § 239-x (authorizing local legislative bodies to create Conservation Advisory Councils and Conservation Boards to advise in the development, management, and protection of natural resources).

N.Y. Mun. Home Rule Law § 10(1)(ii)(a)(11) (providing a municipality can adopt local laws for the “protection and enhancement of its physical and visual environment”).

N.Y. Village Law § 7-700, Town Law § 261, and Gen. City Law § 20(24) (granting basic land use authority to local governments for “the purpose of promoting the health, safety, morals or the general welfare of the community”).

N.Y. Village Law § 7-702, Town Law § 262, and Gen. City Law § 20(25) (authorizing local governments to divide the community into zoning districts and to regulate the use, construction, and alteration of buildings and land within those districts).
N.Y. Village Law § 7-704, Town Law § 263, and Gen. City Law § 20(25) (requiring that zoning laws conform to the comprehensive plan, and articulating the purposes of zoning with overlay districts).

N.Y. Village Law § 7-718(1), Town Law § 271(1), and Gen. City Law § 27(1) (authorizing local governments to create and manage planning boards).

N.Y. Village Law § 7-722, Town Law § 272-a, and Gen. City Law § 28-a (providing a definition, suggested elements, and necessary procedural requirements for a comprehensive plan).


N.Y. Envtl. Conserv. Law § 44-0101 (outlining the creation, purpose, and administration of the Hudson River Valley Greenway Communities Council).


Local Laws


Town of East Hampton, N.Y., Code, §§ 255-3-80 to -93; 255-4-40.


Town of Longboat Key, Fla., Code of Ordinances tit. 15, ch. 151.


Miami-Dade County, Fla., Code, art. CXXVI, §§ 2-1941 to -1946.


Village of Tarrytown, N.Y., Code §§ 302-4, 5, 7, 8.

Tillamook County, Or., Land Use Ordinance. § 3.085, available at http://www.co.tillamook.or.us/Gov/ComDev/Planning/luo.htm.

E. References

Federal Guidance, Program, and Other Documents


New York State Programs


Other Resources and References


John Nolon, Well Grounded: Using Local Land Use Authority to Achieve Smart Growth (Environmental Law Institute 2001).


X. OTHER LAWS AND PROGRAMS

Several other laws and programs provide further programmatic and legal opportunities to influence shoreline development. See Table 8 on page A-8 in the appendix for a simple comparison of the opportunities discussed below.

A. The Uniform Procedures Act

Painstaking permitting requirements and approval procedures govern all shoreline projects along the complex, living ecosystem of the Hudson River Estuary. Typically, project planners must obtain all required certificates and permits in order to commence work. On the Hudson, this often involves engaging federal, state, and local agencies that regulate both the River and the land adjacent to it.

New York State’s Uniform Procedures Act (UPA) standardizes permit procedures for specific types of projects under the New York Environmental Conservation Law (ECL). The UPA mandates the timeframe and procedures applicants must follow in the permit processes at the following agencies: New York State Department of Environmental Conservation (DEC) (including the State Environmental Quality Review Act), the State Historic Preservation Office (SHPO), New York State Department of State (DOS), New York State Office of General Services (OGS), the U.S. Army Corps of Engineers (Army Corps), local governments, and any other potentially relevant state agencies.

UPA applies to a wide variety of activities conducted along water bodies in New York. If a project requires more than one application, the applicant must submit all applications simultaneously. This requirement includes construction activities, excavation and filling in navigable waters, activities involving a Water Quality Certification through the Army Corps, activities along protected waters, and activities in freshwater and tidal wetlands. The statute is inclusive and applies to most activities relevant to shoreline structures. DEC and the Army Corps have a “Joint Application Form” that streamlines the permitting process and is used for covered projects along the Hudson River.

In addition, UPA provides for a pre-application conference and conceptual plan review. Both of these procedures provide flexibility and allow the applicant an opportunity to discuss with the appropriate department any innovative techniques and technologies for which the applicant may seek to obtain approval with respect to its proposed shoreline activities. This provides an opportunity for the developer to propose better methods of protecting shorelines.

Outreach and education programs could educate developers about these techniques. These programs could provide an opportunity for State representatives to teach developers about preferred shoreline structures, equipping them with necessary resources and knowledge to implement these techniques. Further, UPA is intended to make the approval process open to the public and includes requirements for notice, public comment, and public hearings.
These requirements provide an opportunity for the public to propose preferred shoreline structures if properly educated through an outreach program.

Authority


References


B. New York State Historic Preservation Act (SHPA)

The New York State Assembly passed the State Historic Preservation Act of 1980 (SHPA) to correspond with the federal National Historic Preservation Act of 1980. The Act establishes the New York State Historic Preservation Office (SHPO) and requires state agencies to consult with SHPO if a proposed project may or will affect the quality of any historic, architectural, archeological, or cultural property that is listed or eligible for listing on either the National Register of Historic Places or the State Register.

Under the Act, state agencies must attempt to avoid or mitigate adverse impacts to these properties by exploring and considering all feasible and prudent alternatives. Project planners must consider a shoreline construction project’s direct and indirect effects upon any site covered by the Act and must consult with SHPO to avoid or mitigate any adverse impacts.

The Act provides an opportunity for SHPO to consider sustainable shorelines, in particular those adjacent to or otherwise potentially impacting historic buildings. SHPO can inject shoreline considerations into the discussion once engaged in ways similar to those proposed in the *Environmental Review* part above.

Authority

New York Parks, Recreation and Historic Preservation Law, § 3.09(8), art. 14; 6 N.Y. Comp. Codes R. & Regs, pts. 426.1-426.3.
C. Brownfield Remediation

Throughout the Hudson River Estuary, old industrial and commercial properties exist along the shoreline. The presence or potential presence of contaminants complicates redevelopment or reuse of these abandoned or underutilized sites. New York has several brownfield remediation programs that provide incentives to clean up and redevelop these properties.

The Brownfield Cleanup Program (BCP), administered by DEC, promotes private sector remediation and redevelopment of brownfield sites. It encourages voluntary activities by providing financial incentives, including business and personal tax credits, and legal liability protection.

The Environmental Restoration Program (ERP), also administered by DEC, provides financial and technical assistance to municipalities for the investigation and remediation of eligible brownfield properties. Under this program, New York State provides grants to municipalities covering up to ninety percent of on-site and 100 percent of off-site eligible costs for site investigation and remediation. However, a municipal cost share is required. Importantly, the ERP provides liability protection for municipalities, including an indemnification for any claims made against the municipality and future site owners, and defense of those claims by New York State.

The Brownfield Opportunity Areas (BOA) Program provides municipalities and community organizations with financial and technical assistance to complete revitalization plans and implementation strategies for areas impacted by multiple brownfield sites, including those along the shoreline or waterfront. Through a nomination and designation process administered by DOS, municipalities can identify potential brownfield opportunity areas and develop an implementation strategy to revitalize and improve these areas so they become economically and environmentally sustainable. The program provides municipalities and community organizations with financial assistance of up to ninety percent of the total eligible project costs to complete redevelopment and implementation strategies. Once DOS designates a BOA, projects in the BOA receive priority for financial assistance under DEC’s Environmental Protection Fund and ERP and also may receive priority for financial assistance under other federal, state or local laws.

Each of the programs summarized above provide opportunities to address the need for shoreline stabilization and other shoreline improvement projects where appropriate in conjunction with brownfield site remediation and revitalization. Similar opportunities may exist under the federal Comprehensive Environmental Response, Compensation and
Liability Act (CERCLA). Provisions of CERCLA allow innocent purchasers to investigate, remediate, and redevelop or reuse contaminated property without concern of future liability where they satisfy the requirements of the statute. Likewise, state and municipal governments that acquire contaminated property involuntarily or through eminent domain also are shielded from the statute’s strict liability provisions. Whether an innocent purchaser or governmental entity, both may address shoreline protection measures in the context of brownfield remediation and reuse or redevelopment along the Hudson River.

Authority


Environmental Restoration Program (ERP), N.Y. Envtl. Conservation Law §§ 56-0501 to -0515.

Brownfield Opportunity Areas (BOA) Program, N.Y. General Municipal Law § 970-r.

References

Federal Guidance, Program, and Other Documents

New York State Programs


D. The Interstate Commerce Commission Termination Act

The Interstate Commerce Commission Termination Act (ICCTA) of 1995 poses a limitation for each part of the Framework because it restricts state and local authority to regulate land owned or controlled by railroads. Congress enacted the ICCTA to relieve railways of onerous state and local regulation and establish the Surface Transportation Board (STB) with regulatory oversight. The ICCTA expressly overrules state law in the area of railroads and related facilities. This includes most state environmental laws and land use regulations, such as local zoning and shoreline regulations. The ICCTA preempts state and
local regulation of hard or soft shoreline structures where a railway owns or controls shoreline or railway facilities impacted by the regulation. However, if a railway does not own or control the shoreline and facilities, then preemption is unlikely.

Although ICCTA preemption limits state and local regulation of shorelines controlled by railroads, it provides an opportunity to influence shoreline structures on railroad land. Railroad companies can be educated on sustainable shoreline practices and engaged to develop strategies for developing sustainable shoreline structures on railroad land.

**Authority**

XI. APPENDIX: Programmatic and Legal Opportunities Comparison Charts
<table>
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<tr>
<th>Opportunities</th>
<th>Type of shoreline management tool</th>
<th>Who can take action / use legal opportunity?</th>
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<td>Denial of and Conditions for State 401 Certification</td>
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<td>Federal: DEC</td>
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<tr>
<td>Denial of and Conditions for Protection of Waters Permit</td>
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<td>Federal: DEC</td>
</tr>
<tr>
<td>Denial of and Conditions for Section 10 Permits</td>
<td>X</td>
<td>Federal: Army Corps</td>
</tr>
<tr>
<td>Joint Application Form</td>
<td>X</td>
<td>Federal: DEC</td>
</tr>
<tr>
<td>Public Review</td>
<td>X</td>
<td>Federal: DEC</td>
</tr>
<tr>
<td>Pre-application and Conceptual Review</td>
<td>X</td>
<td>Federal: DEC</td>
</tr>
<tr>
<td>State Owned Underwater Lands and State Public Trust Lands</td>
<td>X</td>
<td>Federal: FWS, OGS/DEC</td>
</tr>
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</table>

TABLE 1: Programmatic & Legal Opportunities for Water Quality Controls

**Opportunities**
- Directly relates to development of stabilization structures
- Relates to land uses that impact shoreline
- Generally affects shorelines
<table>
<thead>
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<th>Opportunities</th>
<th>Type of shoreline management tool</th>
<th>Who can take action / use legal opportunity?</th>
</tr>
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<td>Denial of and Conditions for CWA Section 404 Permits</td>
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<td>Army Corps</td>
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<td>Relates to land uses that impact shoreline</td>
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<tr>
<td></td>
<td>Generally affects shorelines</td>
<td>Federal</td>
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<td>EPA Veto Power over Army Corps</td>
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<td>EPA</td>
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<td>EPA Guidance for Section 404 Permits</td>
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<tr>
<td></td>
<td>Generally affects shorelines</td>
<td>Federal</td>
</tr>
<tr>
<td>Amendments to Tidal Wetlands Act</td>
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<td>legislature</td>
</tr>
<tr>
<td></td>
<td>Relates to land uses that impact shoreline</td>
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<tr>
<td></td>
<td>Generally affects shorelines</td>
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<td>Generally affects shorelines</td>
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<td>Type of shoreline management tool</td>
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<td>Expedited Review Process for Construction Activities Outside of MS4 Jurisdiction</td>
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<td>Consideration of Best Management Practices for Industrial Activities</td>
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<td>Local Erosion and Sediment Control Requirements in All Permits</td>
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<td>Historic Preservation and Endangered Species Protection Requirements in All Permits</td>
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TABLE 4: Programmatic & Legal Opportunities for Coastal Management

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<th>Who can take action / use legal opportunity?</th>
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<td>Connection of SEQRA with State's Coastal Programs</td>
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