Protecting the Public Interest through the National Coastal Zone Management Program: How Coastal States and Territories Use No-Build Areas along Ocean and Great Lake Shorefronts

A Report of the National Coastal Zone Management Program

National Oceanic and Atmospheric Administration
National Ocean Service
Office of Ocean and Coastal Resource Management
1305 East West Highway
Silver Spring, MD 20910
(301) 713-3155

May 2012

Table of Contents

Suggested Citation: National Oceanic and Atmospheric Administration (NOAA). 2012. Protecting the Public Interest through the National Coastal Zone Management Program: How Coastal States and Territories Use No-Build Areas along Ocean and Great Lake Shorefronts. NOAA Office of Ocean and Coastal Resource Management. http://coastalmanagement.noaa.gov/resources/publications.html

Protecting the Public Interest through the National Coastal Zone Management Program: How Coastal States and Territories Use No-Build Areas along Ocean and Great Lake Shorefronts

Introduction

The U.S. coast is susceptible to a number of natural hazards, including coastal storms, flooding, coastal erosion, tsunamis, and sea level rise, that threaten lives, property, the natural environment, and, ultimately, economies. The threats posed by these hazards are exacerbated as development and redevelopment along our coasts continue and coastal populations rise. As the impacts of these hazards, both realized and projected, become greater, some coastal states and territories are reexamining how they can protect the public interest in their shorefronts. One way to do this is by establishing "shorefront no-build areas" (see sidebar on next page). This report explores how coastal states and territories are currently using no-build areas to protect the public interest along ocean and Great Lake shorefronts.

Recognizing the threat of coastal hazards to the public interest, the Coastal Zone Management Act of 1972, as amended (CZMA), calls for coastal states and territories (states) to "manage coastal development to minimize the loss of life and property caused by improper development in flood-prone, storm surge, geological hazard, and erosion-prone areas and in areas likely to be affected by or vulnerable to sea level rise, land subsidence, and saltwater intrusion, and by the destruction of natural protective features such as beaches, dunes, wetlands, and barrier islands" (16 U.S.C. 1451, et seq.).

"Over the next 60 years, erosion may claim one out of four houses within 500 feet of the U.S. shoreline" (Heinz Center 2000).

"Roughly 1,500 homes and the land on which they are built will be lost to erosion each year, on average, for the next several decades. Costs to coastal property owners will average $530 million per year" (Heinz Center 2000).

"Continued coastal growth and inflation will almost certainly result in every future major landfalling hurricane (and even weaker hurricanes and tropical storms) replacing one of the current costliest hurricanes; ….large property losses are inevitable in the absence of a significant change of attitude, policy, or laws governing building practices (codes and location) near the ocean" (Blake et al. 2011).

In recent decades, coastal storms have accounted for the majority of U.S. annual disaster losses. Hurricane Katrina alone caused approximately $125 billion in damage/costs (much of it related to storm surge), making it the most expensive natural disaster in U.S. history (NOAA 2011).

There are a number of things states can do to meet this national policy objective. Vulnerability is best reduced by limiting exposure, and "evidence suggests that land use planning techniques are the most effective approaches for promoting sustainable mitigation from hazards" (Burby et al. 2000).[1] And, while most land use decisions are made at the local level, states can and do play a role in directing new development away from hazard-prone places along shorefronts through their coastal management programs (CMPs), which are developed and administered under the CZMA.

[1] Other ways to manage coastal development to minimize loss of life and property include coastal and floodplain management laws and regulations that establish construction, design, and performance standards.

Shorefront no-build areas, for the purposes of this report, are those areas where states do not allow new development, typically through one or more of the mechanisms noted below.

Shoreline setbacks require structures and/or uses to be sited inland (off of and away from the shoreline) a minimum distance from a specific shoreline feature, such as a high water mark, vegetation line, dune toe, or bluff crest. This distance may be a fixed number of feet (e.g., 100 feet) or may be based on the long-term annual rate of erosion (e.g., 30 times the long-term annual rate of erosion).

Rolling easements are shoreline easements that limit future development, and other uses, and allow for the natural migration of shorelines in response to coastal processes (e.g., erosion, sea level rise). As water rises, easements, which are usually delineated by a physical characteristic such as the line of vegetation, move or "roll" landward.

Zoning is a way of regulating land use that divides jurisdictions into zones or districts. Zoning can be used to regulate uses, setbacks, rolling easements, and more.

Planning and regulatory tools that can be used to keep new development out of harm's way include shoreline setbacks, rolling easements, and zoning.[2] And, although the most effective way to protect development is to avoid hazard-prone areas entirely, establishing shorefront no-build areas to site development away from hazard-prone areas from the outset, states can provide an additional measure of protection by incorporating provisions into their laws and regulations that require nonconforming structures to be brought into compliance if they are destroyed or substantially damaged or improved.

NOAA's Office of Ocean and Coastal Resource Management (OCRM), part of the National Ocean Service, administers the CZMA and provides national leadership, strategic direction, and guidance to state CMPs. To better understand and communicate how state CMPs manage ocean and Great Lake shorefront development, OCRM conducted this study to look specifically at where states are employing shorefront no-build areas to protect the public interest.

The information was compiled first by OCRM and then confirmed by state CMPs. OCRM researched state laws and regulations and worked with state CMPs to ensure the information was current and accurate. This report is a compilation of the laws and regulations of those states with federally approved CMPs that include no-build areas, typically on dry,[3] privately owned land, along their ocean and/or Great Lake[4] shorefronts as they were in effect in December 2011.[5] These laws and regulations vary considerably from state to state, but it is important to note that this compilation is not a comparative analysis and that each state's laws and regulations, and its role in establishing and enforcing them, are best understood in the context of its:

- Geographic and geologic situations (e.g., hazards, length and type of shoreline, rate of erosion, rate of relative sea level rise),

[2] While there are a number of other measures that can be taken to protect shorefront development, this study is focused solely on laws and regulations that keep new development out of hazard-prone areas as this approach offers the highest level of protection.
[3] Submerged lands were not a focus of this study. Typically, their use is governed by states' authorities over their public trust resources. However, these sensitive and hazard-prone areas may be included as part of a state's larger no-build area.
[4] Laws and regulations that are specific to estuaries (i.e., the Chesapeake Bay) and tidal rivers are not included.
[5] State laws and regulations are not static. For the most up-to-date information, we encourage readers to contact the states directly (see Appendix C).

- Regulatory framework (e.g., delegation of rulemaking),
- Shorefront property ownership (i.e., extent of public ownership), and
- Level of existing development.

A study conducted for the Federal Emergency Management Agency in North Carolina after Hurricane Floyd illustrated the benefit of setbacks. It examined the cost of flood damage to oceanfront buildings with similar structural characteristics and found flood losses to be highest for structures located directly on the open beach or set back 0–30 feet from the first line of vegetation. The average loss to these structures was twice as high as to those in the 31–100-foot setback area and more than three times the loss experienced by structures 100 feet or more from the shorefront (HMTAP et al. 2000).

For the purposes of identifying laws and regulations to include in this report, we considered a loose and broad definition of "development" that includes residential structures, hotels, motels, commercial establishments, industrial facilities, and the like. This was done to account for the various definitions of "development" employed by the states. While there may also be laws, regulations, and individual provisions, as well as exceptions, exemptions, and variances that apply specifically to infrastructure, shoreline protection structures, septic tanks, and minor structures such as dune walkovers, sand fences, piers, or docks, they are not specifically addressed in this report. However, they may be included in a state's definition of "development" or "structure." We encourage readers to refer to the specific laws and regulations themselves (see Appendix B) to learn more.

Findings

The vast majority (94 percent) of the 33 coastal states with federally approved CMPs (as of December 2011) have a role in regulating shorefront development on dry land (see Figure 1). Laws and regulations address siting, uses, design, construction methods and materials, density, and more and range from recommendations to restrictions to prohibitions.

There are a number of reasons why states regulate shorefront development, including:

- To protect life and property,
- To protect natural resources (for their own value as well as the storm and flood protection they provide), and
- To preserve and maintain public access and aesthetic values.

Many of these laws and regulations are related to hazards; some are more explicit than others. But, regardless of the purpose of the regulations, they ultimately serve multiple purposes.

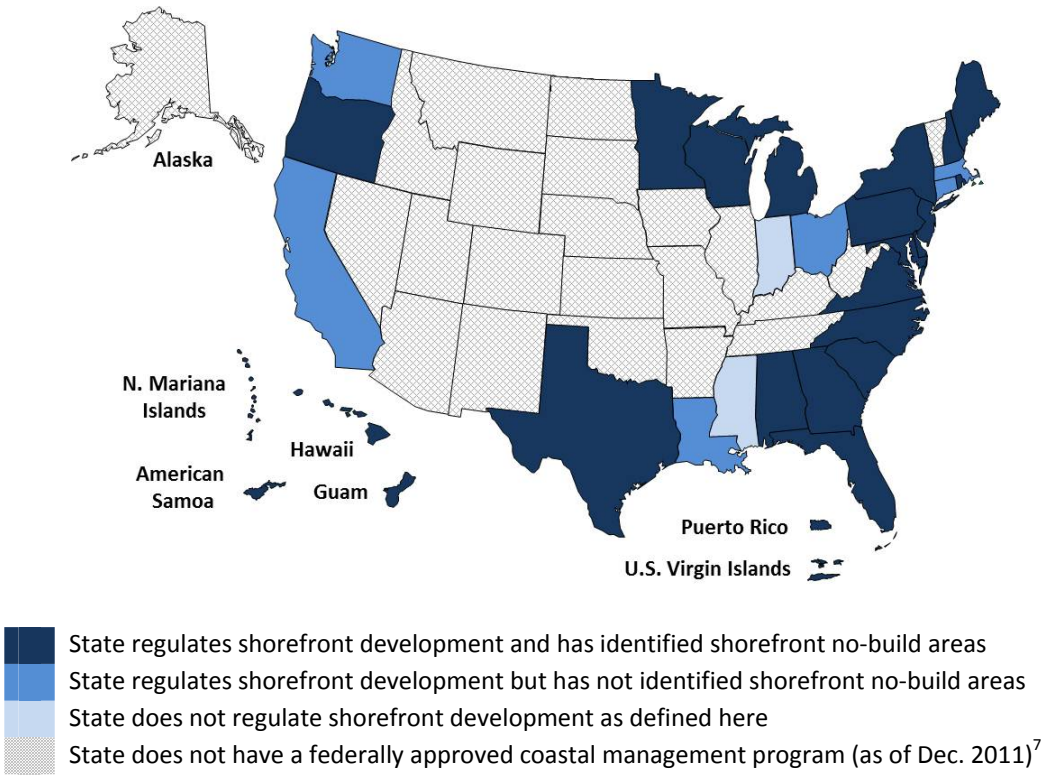
As with the laws and regulations themselves, the state's level of involvement varies greatly. In states where local governments have primary responsibility for regulating shorefront development, or state law delegates it to them, the role of the state is in some instances limited to setting base standards for program, plan, or ordinance development. In other instances, it may include establishing minimum requirements and maintaining some level of oversight (e.g., program approval and permit appeals and reviews).

Thus, if a state that has a role in regulating shorefront development does not identify shorefront no-build areas within its regulatory jurisdiction, it does not mean that the public interest is unprotected along that state's shorefront. Local governments play a critical role in protecting the public interest along ocean and Great Lake shorefronts, and it is important to note that they often regulate land use beyond state minimum requirements. In addition, rigorous permitting requirements (e.g., performance standards), at both the state and local level, might have the same limiting effect as prohibiting new development through the establishment of a shorefront no-build area.

Regulating Development through Ocean and Great Lake Shorefront No-Build Areas

Eighty-one percent (25) of the states with federally approved CMPs that regulate ocean or Great Lake shorefront development (outside of submerged lands) employ no-build areas along some portion of their shorefront (see Figure 1).[6] Some of these states go beyond prohibiting new development and prohibit or impose conditions on redevelopment, and some require the removal of a structure once it is imminently threatened by natural forces (e.g., erosion), becomes a threat to human health, or encroaches on the public beach. In general, the geographic extent of shorefront no-build areas ranges from beach only to beach and natural features, such as dunes and bluffs, to beach and natural features plus areas beyond.

Figure 1: Role of Coastal States in Regulating Ocean and Great Lake Shorefront Development



[6] In the other states, shorefront no-build areas may be employed at the local level.
[7] Illinois did not have an approved CMP at the time this study was initiated (they were approved January 31, 2012) and thus was not included in the study. Alaska's CMP sunset in July 2011.

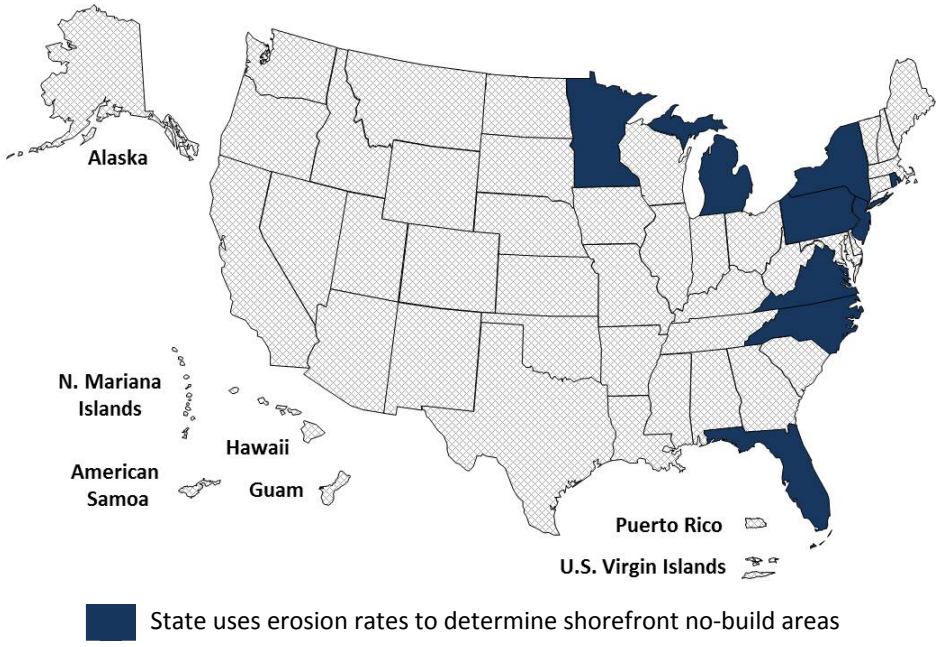
Using Erosion Rates to Determine Ocean and Great Lake Shorefront No-Build Areas

A 1990 report from the National Academies recommended minimum development standards for areas experiencing significant erosion based on local rates of erosion. Specifically, it suggested the following:

- No new development should be permitted seaward of 10 times the annual rate of erosion.
- Only readily movable structures should be permitted seaward of 60 times the annual rate of erosion (and even then, most should be landward of 30 times the annual rate of erosion).

Today, roughly 36 percent (9) of the states that employ no-build areas are using erosion rates to delineate them along some portion of their shorefront (see Figure 2). In these states, new development is not allowed seaward/lakeward of lines/points measured horizontally at least 20 times the annual erosion rate from reference features that include seasonal high water lines, vegetation lines, bluff and dune crests, and inland edges of natural landforms—features that can be tracked and reestablished as the shoreline changes. In most instances, these erosion-based prohibitions only apply to areas identified as erosion hazard zones and do not extend the full length of the state's shorefront.

Figure 2: Use of Erosion Rates to Determine Ocean and Great Lake Shorefront No-Build Areas



A number of states use multiple methodologies to establish no-build areas at different locations along their ocean and Great Lake shorefronts. In addition to erosion rates, shorefront no-build areas are delineated and defined based on:

- Fixed distances measured horizontally from reference features (mean high tide/water, mean low tide/water, elevation contours, vegetation lines, shore protection structures, etc.) that range from 20 to 200 feet;

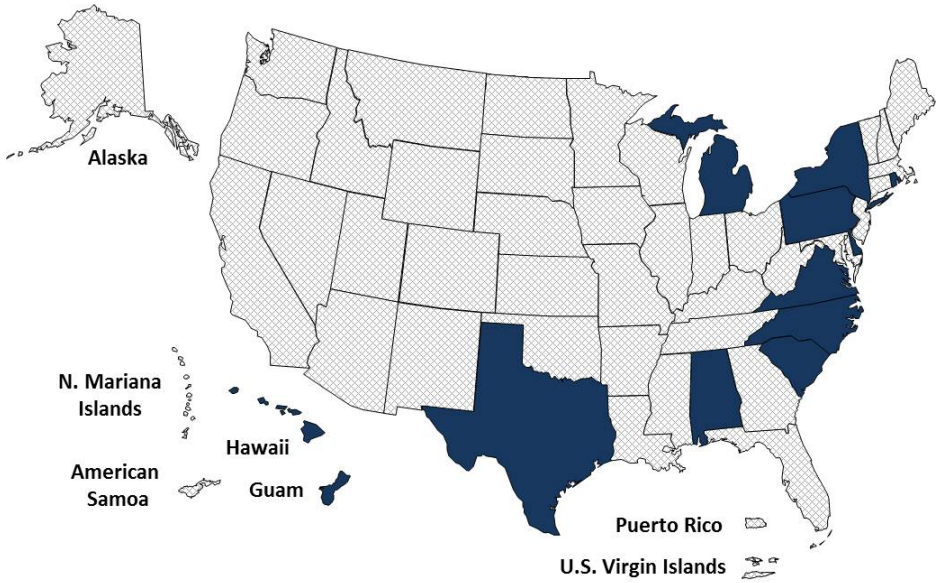
- Designated natural resource areas, such as beaches, dunes, and bluffs; and
- Other areas designated based on plane coordinates or mapped districts or zones.

Rebuilding of Nonconforming Structures in Ocean and Great Lake Shorefront No-Build Areas

As noted previously, the best time to protect development from coastal hazards is before it is built in a hazard-prone area. However, development may have occurred before the hazard was fully understood, before the hazard existed (i.e., erosion, sea level rise, and increased development and other modifications to the natural system may put a structure at risk that was not in a hazard-prone area when it was first constructed), or before laws and regulations were in place.

Acknowledging that there may be structures in areas that have been deemed inappropriate for new development, 48 percent (12) of the states that have established shorefront no-build areas do not allow the reconstruction of nonconforming structures (see Figure 3) within them.[8] In most cases, this applies to structures that are destroyed or substantially damaged (e.g., cost to repair equals or exceeds 50 percent of the replacement value). While most of the laws and regulations that address the reconstruction of nonconforming structures are explicit, some of them are implicit, saying what is allowed rather than what is not allowed. Some of them are specific to structures damaged or destroyed by coastal hazards/processes, others apply regardless of cause.

Figure 3: Rebuilding of Nonconforming Structures in Ocean and Great Lake Shorefront No-Build Areas



These laws and regulations only apply to the shorefront no-build areas, where new development is already prohibited. They are not meant to preclude all reconstruction, only to bring

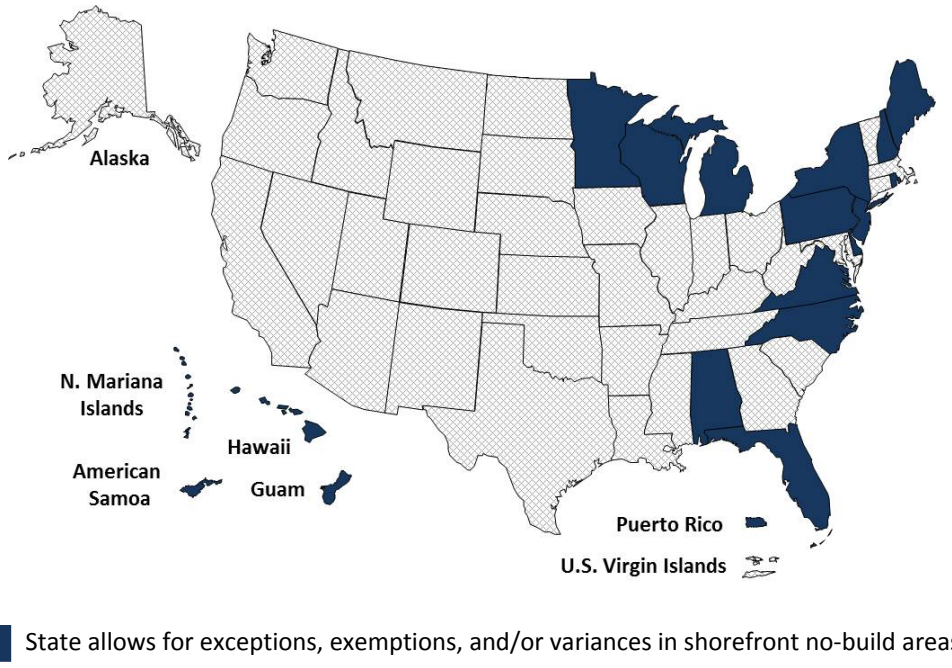
[8] Where reconstruction of a nonconforming structure is allowed, it can usually only be repaired or built back in or landward of its original footprint and may not be enlarged or made any more nonconforming.

nonconforming structures into compliance by requiring them to meet current permit requirements. This usually means a structure will need to be sited further landward than its original footprint.

Exceptions, Exemptions, and Variances

Where the requirements of a law or regulation cannot be met, states may include exceptions, exemptions, and/or variances in their laws and regulations to enable new development and redevelopment based on certain conditions. Of the states that employ shorefront no-build areas, 76 percent (19) allow for exceptions, exemptions, and/or variances (see Figure 4).

Figure 4: Exceptions, Exemptions, and/or Variances in Ocean and Great Lake Shorefront No-Build Areas



Criteria vary, but the most typical reason for why a state might allow a structure to be built that does not comply with state laws and regulations is if their strict application would result in unnecessary hardship due to the unique circumstances of the site (e.g., there is no practicable alternative). Such development might also be allowed if it meets a public need, is water-dependent or water-related, is on a parcel that predates the law or regulation, and/or is otherwise consistent with state policy.

States also impose conditions on these exceptions, exemptions, and variances to minimize adverse impacts on the coastal area. Conditions include siting, design, construction, and size requirements; maintenance of public access; and mitigation of adverse impacts.

Conclusion

The art and science of regulating shorefront development and protecting the public interest continues to evolve.[9] A number of states have changed their regulations in recent years, and others are considering change or are already in the process. Notably, while the states that have ocean and Great Lake shorefront no-build areas that are based on updated erosion rates or natural features that are allowed to migrate are implicitly incorporating *current* sea level rise and lake-level change (e.g., no-build areas move landward as shorelines succumb to rising seas), only one state, Maine, explicitly factors the potential for increases in sea level rise during the twenty-first century into a provision that establishes the state's shorefront no-build areas.

In the face of continued development along our nation's coasts, more costly and devastating storms, and sea level rise, we hope that the information presented here will be useful to states as they consider how best to deal with protecting and managing development within their ocean and Great Lake shorefront jurisdictions. We also hope this summary report will be useful to local governments and researchers and other policy makers with an interest in how coastal states are managing shorefront development.

State-Specific Statutes and Regulations

What follows is an overview of the laws and regulations that coastal states employ to establish no-build areas along their ocean and Great Lake shorefronts. These overviews include information about regulating agencies and authorities, shoreline type,[10] where new development and redevelopment is not allowed (largely on dry land); exceptions, exemptions, and variances; and other notable provisions. Summary tables highlight key information about where boundaries and setbacks are set, but should not stand alone, and the text that follows each table provides important details. Associated provisions and details outside of the narrow focus of this study are not included, but may warrant further examination, and the overviews presented here should not be used out of context.

In most cases, the laws and regulations are much more complex than presented here, and definitions of common terms such as "mean high water," "hardship," and "practical difficulty" often differ by state. To learn more about a specific state's laws and/or regulations, including the role of local governments in related planning, regulating, permitting, and enforcement activities, see Appendix B, which contains links to online copies of state laws and regulations, and Appendix C, which includes contact information for each state.

Note: The following states do not have overviews in this report because they do not have state laws or regulations that establish no-build areas along their ocean or Great Lake shorefronts: California, Connecticut, Indiana, Louisiana, Massachusetts, Mississippi, Ohio, and Washington.

[9] Case law is also evolving, and the issue of takings is ever present in the discussions of regulating land use. While it is important to understand the legal implications of establishing shorefront no-build areas, the takings issue is outside the scope of this study.

[10] Shoreline type is primarily from "State Coastal Management Effectiveness in Protecting Beaches, Dunes, Bluffs, Rocky Shores: A National Overview" (http://www.ikzm-oder.de/pl/download.php?fileid=272). For states that were not included in that study (MN and TX), shoreline type was assigned to align with its typology.

Most of these states use other mechanisms to protect the public interest, including working closely with and/or through local governments. Some general information about how these states regulate shorefront development and support local governments in their efforts and contacts for each of these states can be found in the appendices.

Alabama

Regulating Agency

- Alabama Department of Environmental Management

Key Regulating Authorities

- Code of Alabama, Title 9 Conservation and Natural Resources, Chapter 7 Preservation, Development, Etc., of Coastal Areas
- Alabama Administrative Code, Department of Environmental Management, Coastal Area Management Program:
    - Chapter 335-8-1 General Provisions and Review Process
    - Chapter 335-8-2 Provisions Related to Coastal Activities

Shoreline Type

- Beaches

Alabama's Shorefront No-Build Area

Seaward Reference Feature:	Mean high tide
Landward Boundary:	Construction Control Line as defined

In Alabama, state regulations do not allow construction of new structures (motels, condominiums, houses, buildings, etc.) and substantial improvements to existing structures on, beneath, or above the surface of any land located between mean high tide and the Construction Control Line, which is defined in the regulations and delineated largely in state plane coordinates. The width of this shorefront no-build area varies along the coast. "Substantial improvement" means any improvement that increases the size of the structure and is subject to local building ordinances or any repair, reconstruction, or improvement, the cost of which equals or exceeds 50 percent of the structure's fair market value.

Related Provision:

- A variance may be granted where an applicant demonstrates that the requirement is unduly restrictive or constitutes a taking of property without compensation. A variance may impose conditions and requirements to minimize the impacts of a project on the coastal area.

American Samoa

Regulating Agency

- American Samoa Department of Commerce

Key Regulating Authorities

- American Samoa Code Annotated, Title 24 Natural Resources and Environment, Chapter 5 Coastal Management Program
- American Samoa Administrative Code, Title 26 Environmental Safety and Land Management, Chapter 2 American Samoa Coastal Management Program Administrative Rules

Shoreline Type

- Beaches, bluffs, rocky shores

American Samoa's Shorefront No-Build Areas

Coastal Hazard Areas	
Floodplains, storm wave inundation areas, landslide hazard areas, and erosion-prone areas	
General	
Seaward Reference Feature:	Mean high tide
Landward Boundary:	200 feet from seaward reference feature

The coastal hazards and shoreline development policies in American Samoa's administrative rules state that projects, uses, or activities in Coastal Hazard Areas (floodplains, storm wave inundation areas, landslide hazard areas, and erosion-prone areas) and in the area measured 200 feet from the mean high tide mark will normally be denied.

Related Provisions:

- In villages with ratified village mitigation ordinances established by village councils and the American Samoa Coastal Management Program, the distances between projects, uses, and activities and coastal hazards lands may be less than the 200-foot territorial regulation given limitations of village geography.
- Certain activities have been determined to not adversely impact coastal resources and are exempt from these rules. Exempt activities include constructing and maintaining a Samoan umu (cook house) or a faleo'o (small guest house).
- Repair and maintenance of an existing nonconforming single-family home or other structure is allowed if it does not change the footprint, increase dimensions, or change the use of the structure.
- In Coastal Hazard Areas and in the area measured 200 feet from mean high tide, a project, activity, or use may be allowed if it meets a public need; is located and designed to minimize risks to public safety; is water-dependent or water-related; is compatible with adjacent land uses and traditional Samoan uses; has no feasible, environmentally preferable alternative sites; alterations to the natural shoreline, streams, and hillsides are minimized; and adverse effects on habitats, streams, and drainage are minimized.

Commonwealth of the Northern Mariana Islands

Regulating Agency

- Commonwealth of the Northern Mariana Islands Coastal Resources Management Office

Key Regulating Authorities

- Commonwealth of the Northern Mariana Islands Public Law 3-47 (Coastal Resources Management Act)
- Northern Mariana Islands Administrative Code, Title 15, Chapter 10 Coastal Resources Rules and Regulations, Part 315 Height, Density, Setback, Coverage and Parking Guidelines

Shoreline Type

- Beaches, bluffs, rocky shores

Commonwealth of the Northern Mariana Islands' Shorefront No-Build Area

Seaward Reference Feature:	Mean high water
Landward Boundary:	• Single-story structures <12 feet high: 75 feet from seaward reference feature • Other structures: 100 feet from seaward reference feature

In the Commonwealth of the Northern Mariana Islands, territorial regulations establish four shoreline setback areas. In three of them, structures are prohibited or limited by size. Together, these setbacks disallow all structures within 75 feet of mean high water and only allow single-story structures less than 12 feet in height between 75 and 100 feet from mean high water. All other structures must be set back 100 feet.

On small shoreline lots, where 30 percent or more of the land area of a lot is affected by these regulations, the setback requirements are relaxed. On these lots, all structures are prohibited within 60 feet of mean high water, and only one- and two-story structures that do not exceed 20 feet in height are allowed between 60 and 100 feet from mean high water.

Related Provision:

- Setback regulations do not apply to the port and industrial areas of particular concern.

Delaware

Regulating Agencies

- Delaware Department of Natural Resources and Environmental Control
    - Division of Watershed Stewardship, Shoreline and Waterway Management Section
    - Office of the Secretary, Delaware Coastal Programs

Key Regulating Authorities

- Delaware Code, Title 7 Conservation, Chapter 68 Beach Preservation (Beach Preservation Act)
- Delaware Administrative Code, Title 7 Natural Resources and Environmental Control
    - 5102 Regulation Governing Beach Protection and the Use of Beaches
    - 5104 Delaware Coastal Management Program Federal Consistency Policies and Procedures

Shoreline Type

- Beaches, dunes

Delaware's Shorefront No-Build Area

Whichever landward boundary is most seaward:		
1	Seaward Reference Feature:	Seaward-most 10-foot elevation contour above NGVD 29
	Landward Boundary:	Building Line: 100 feet from seaward reference feature
2	Seaward Reference Feature:	Mean high water mark
	Landward Boundary:	Building Line—Landward limit of beach, whichever is most seaward: • 1,000 feet from seaward reference feature • Road for automobiles

Delaware state regulations prohibit the construction of any structure, or portion thereof, seaward of the Building Line, which, for the Atlantic coastline, is 100 feet landward of the adjusted seaward-most 10-foot elevation contour above NGVD 29 (National Geodetic Vertical Datum of 1929) or the landward limit of the beach (1,000 feet inland from the mean high water mark or a road for automobiles, whichever is most seaward), whichever is most seaward. This also applies to the modification or expansion of any structure, or portion thereof, seaward of the Building Line. The reconstruction of a structure seaward of the Building Line that is completely destroyed (i.e., more than 50 percent of the original foundation pilings are unsuitable for incorporation into reconstruction of the structure) is also not allowed.

Related Provision:

- Construction/reconstruction of buildings seaward of the Building Line may be allowed if the size of the area of the parcel located landward of the Building Line is inadequate for the building (or portion thereof) or the dimensions, location, or other design aspects of the building cannot be modified so that it is either less seaward or completely landward of the Building Line. Where construction is allowed seaward of the Building Line, it must be located as far landward as possible on the parcel.

Florida

Regulating Agency

- Florida Department of Environmental Protection, Bureau of Beaches and Coastal Systems

Key Regulating Authorities

- Florida Statutes, Title XI County Organization and Intergovernmental Relations, Chapter 161 Beach and Shore Preservation
- Florida Administrative Code, 62B-33 Rules and Procedures for Coastal Construction and Excavation

Shoreline Type

- Beaches, dunes

Florida's Shorefront No-Build Area

Seaward Reference Feature:	Seasonal high water line
Landward Boundary:	Whichever is most seaward: • 30x erosion rate from seaward reference feature • Coastal Construction Control Line—Landward limit of the beach-dune system subject to the 100-year storm surge, storm waves, or other predictable weather conditions

In Florida, construction of major structures (e.g., residential, commercial, and public buildings that could cause an adverse impact to the beach and dune system) is prohibited seaward of a 30-year erosion-based setback line. This setback line is landward of the seasonal high water line a distance equal to the rate of erosion for each individual property multiplied by 30 years but no more landward than the Coastal Construction Control Line (the landward limit of the beach-dune system subject to the 100-year storm surge, storm waves, or other predictable weather conditions). In areas that are stable or accreting, a minus one foot per year shoreline change rate applies, which allows for a minimum setback distance of 30 feet.

Related Provisions:

- Construction of a single-family home may be allowed if the parcel was platted before the effective date of the law, the owner of the parcel does not own another one immediately adjacent and landward, the dwelling will be landward of the frontal dune structure, and the dwelling will be as far landward on its parcel as possible.
- Modification, maintenance, and repair of a nonconforming structure are allowed within the structure's existing foundation (exclusive of additions to and repair/modification of the foundation).
- A nonconforming damaged or existing structure may be relocated or rebuilt landward if the activity would not cause further harm to the beach-dune system.

- The state may call for the adjustment, alteration, or removal of a structure below the mean high water line that endangers human life, health, or welfare or is undesirable or unnecessary.

Georgia

Regulating Agency

- Georgia Department of Natural Resources

Key Regulating Authority

- Georgia Code, Title 12 Conservation and Natural Resources, Chapter 5 Water Resources, Article 4 Coastal Waters, Beaches, and Sand Dunes, Part 2 Shore Protection (Shore Protection Act)

Shoreline Type

- Beaches, dunes

Georgia's Shorefront No-Build Areas

Beaches	
Seaward Reference Feature:	Ordinary low water mark
Landward Boundary:	Line of permanent vegetation
Eroding Sand Dune Areas	

Georgia's Shore Protection Act does not allow permitting of structures (institutional, residential, commercial, or industrial buildings) on beaches and eroding sand dune areas. In Georgia, the beach extends landward from the ordinary low water mark to the line of permanent vegetation.

Guam

Regulating Agency

- Guam Bureau of Statistics and Plans

Key Regulating Authority

- Guam Annotated Code, Title 21 Real Property, Chapter 61 Zoning Law (The Zoning Law of the Territory of Guam)

Shoreline Type

- Beaches, bluffs, rocky shores

Guam's Shorefront No-Build Area

Seaward Reference Feature:	Mean high water mark
Landward Boundary:	• Structures ≤20 feet high: 35 feet from seaward reference feature • Structures >20 feet high: 75 feet from seaward reference feature

According to Guam's Zoning Law, no building may be constructed within 35 feet of the mean high water mark along any beach in the territory. ("Beach" does not include those areas where the shoreline is a cliff or bluff higher than 25 feet.) In addition, no building higher than 20 feet may be constructed within 75 feet of the mean high water mark. Repair and reconstruction of a nonconforming damaged building must conform to all applicable regulations for new construction if the total costs exceed 50 percent of the replacement cost.

Related Provisions:

- This does not apply to those areas where the shoreline is bounded by village lots containing no more than 1,000 square meters in those villages wherein residences have been constructed along the shoreline since prior to the Second World War.
- Where practical difficulties, unnecessary hardship, or results inconsistent with the general purposes of the law would occur from its strict literal interpretation or enforcement, a variance may be granted. However, the proposed building must substantially enhance the recreational, aesthetic, or commercial value of the applicable beach area and must not interfere with or adversely affect the surrounding property owners' or the public's right to unimpeded use of the beach and its natural beauty.
- A building that does not conform to these restrictions, and which lawfully existed at the time they became effective, may be maintained and repaired (if total costs do not exceed 50 percent of its replacement cost) but may not be enlarged.

Hawaii

Regulating Agencies

- Hawaii Department of Business, Economic Development and Tourism, Office of Planning
- Hawaii Department of Land and Natural Resources, Office of Conservation and Coastal Lands

Key Regulating Authorities

- Hawaii Revised Statutes
    - Title 13 Planning and Economic Development, Chapter 205A Coastal Zone Management, Part III Shoreline Setbacks
    - Title 12 Conservation and Resources; Subtitle 4 Forestry and Wildlife, Recreation Areas, Fire Protection; Chapter 183C Conservation District
- Hawaii Administrative Rules
    - Title 15 Department of Business, Economic Development, and Tourism, Subtitle 1 Office Of Planning, Chapter 150 Rules Governing Special Management Areas and Shoreline Areas within Community Development Districts and Practice and Procedures Before the Office of Planning
    - Title 13 Department of Land and Natural Resources, Subtitle 1 Administration, Chapter 5 Conservation District

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

Hawaii's Shorefront No-Build Areas

General: Shoreline Area	
Seaward Reference Feature:	Shoreline–Upper wash of waves at high tide
Landward Boundary:	20-40 feet from seaward reference feature
In the Conservation District	
General	
Seaward Reference Feature:	Shoreline–Upper wash of waves at high tide
Landward Boundary:	• Structures with average lot depth >200 feet: 40 feet from seaward reference feature plus 70 times average annual coastal erosion rate • Structures with average lot depth ≤200 feet: As above or between 40 and 90 feet from seaward reference feature based on average lot depth
Protective Subzone	
Lands and waters necessary for protecting watersheds, water sources, and water supplies and/or the preservation and enhancement of designated historic or archaeological sites and designated sites of unique physiographic significance; areas necessary for preserving natural ecosystems of native plants, fish, and wildlife; and all land encompassing the northwestern Hawaiian islands except Midway Island	

Shoreline Area

Hawaii state law requires that structures be set back from the Shoreline Area, which is an area that extends not less than 20 feet and not more than 40 feet from the shoreline (upper wash of waves at high tide).[11]

Related Provisions:

- Variances to the setback requirements may be granted if the structure is necessary for or ancillary to activities specified by the law, including cultivation of crops; aquaculture; boating, maritime, or water sports recreational facilities; facilities or improvements by public agencies or public utilities; private facilities or improvements that are clearly in the public interest; and private facilities or improvements that will not adversely affect beach processes and where hardship will result if disallowed. Variance conditions include maintaining safe lateral access to and along the shoreline, minimizing risk of adverse impacts on beach processes and public views, and minimizing risk of structures failing and becoming loose rocks or rubble on public property.
- A nonconforming structure in the Shoreline Area may be repaired but not enlarged if grandfathered by the law or if it was outside the Shoreline Area when the building permit or board approval was issued.

Conservation District

Additional setback requirements apply in the Conservation District, which is established by state law and includes lands subject to flooding and soil erosion and areas necessary for protecting watersheds and water sources; scenic and historic areas; parks; wilderness; open space;

[11] Despite the maximum setback of 40 feet, the law allows counties to increase setbacks beyond 40 feet from the shoreline.

recreational areas; habitats of endemic plants, fish, and wildlife; and submerged lands seaward of the shoreline. The Conservation District allows only a very limited range of uses, which are defined in state regulations. In general, commercial and residential development, other than single-family homes, is not allowed in the Conservation District. And, in the Protective Subzone (one of four main subzones), no new structures are allowed.

Where structures are allowed in the Conservation District, they must be set back from the shoreline (upper wash of waves at high tide) a distance of 40 feet plus 70 times the average annual coastal erosion rate. If a lot's average depth is 200 feet or less, the setback line can be determined using this method or the minimum setbacks established in the regulations, whichever the applicant prefers. If the average lot depth is 100 feet or less, a minimum setback of 40 feet applies. The minimum setback increases by 10 feet for every 20-foot increase in average lot depth (e.g., if the average lot depth is between 101 and 120 feet, a minimum of 50 feet applies). A nonconforming structure that is damaged or destroyed by any means may not be reconstructed if costs exceed 50 percent of its replacement cost at the time of destruction unless it conforms to the regulations, including the setback requirements.

Related Provisions:

- Any land in the Conservation District identified as a kuleana (those lands granted to native tenants pursuant to state law) may be put to those uses which were historically, customarily, and actually found on the particular lot. Associated structures may be subject to conditions to ensure they are consistent with the surrounding environment.
- A deviation from the regulations may be considered if it is necessary because of the lack of practical alternatives, will not result in any substantial adverse impacts to natural resources, does not conflict with the objective of the subzone, and is not inconsistent with the public health, safety, or welfare.
- Existing (i.e., permitted under a Conservation District permit) structures and nonconforming structures, if grandfathered by the law, in the Conservation District but landward of the shoreline setback line may be repaired, maintained, and replaced.

Maine

Regulating Agency

- Maine Department of Environmental Protection

Key Regulating Authorities

- Maine Revised Statutes Annotated, Title 38 Waters and Navigation
    - Chapter 3 Protection and Improvement of Waters, Subchapter 1 Environmental Protection Board
        - Article 2-B Mandatory Shoreland Zoning
        - Article 5-A Natural Resources Protection Act
- Code of Maine Rules, Department of Environmental Protection
    - 06-096 Chapter 1000 Guidelines—Municipal Shoreland Zoning Ordinances
    - 06-096 Chapter 355 Coastal Sand Dune Rules

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

Maine's Shorefront No-Build Areas

In the Shoreland Zone (Area)	
Seaward Reference Feature:	• Shoreline—Highest annual tide elevation • Top of unstable or highly unstable bluff
Landward Boundary:	• Shoreland Zone (General): 75 feet from seaward reference feature • General Development I Districts: 25 feet from seaward reference feature
Resource Protection Districts:	Along the oceanfront, include undeveloped lands in the Shoreland Zone, including 100-year floodplains, areas of two or more acres with slopes of 20 percent or greater, areas with two or more acres of wetland vegetation that are not part of a water body (typically, forested wetlands), and lands adjacent to tidal waters that are subject to severe erosion
In Coastal Sand Dune Systems	
Frontal dune and V-Zone	

Shoreland Zone (Area)

Through a model ordinance, Maine state rules require that new principal and accessory structures in the Shoreland Zone be set back at least 75 feet from the shoreline, which along the Atlantic is the highest annual tide elevation. In addition, new principal structures must be set back 75 feet from the top of coastal bluffs that have been identified on Coastal Bluff maps as being unstable or highly unstable.

In addition, the state sets basic criteria for districts, where the no-build areas may be different than the general Shoreland Zone setback requirement:

- In General Development I Districts (i.e., existing intensively developed areas of commercial, industrial, and/or recreational activities), the minimum setback is 25 feet.
- In Resource Protection Districts, in general, principal structures and uses as defined by the rules are not allowed. Resource Protection Districts protect undeveloped lands within the 250-foot Shoreland Zone and, along the oceanfront, include 100-year floodplains, areas of two or more acres with slopes of 20 percent or greater, areas with two or more acres of wetland vegetation that are not part of a water body (typically, forested wetlands), and lands adjacent to tidal waters that are subject to severe erosion.

Related Provisions:

- There is no setback requirement for Commercial Fisheries and Maritime Activities Districts and for water-dependent uses.
- A variance may be granted from setback requirements if the proposed structure or use meets the other provisions of the land use standards and if the setback requirement results in undue hardship.

- A nonconforming structure that is grandfathered by the law may be expanded up to 30 percent of the volume or floor area of the portion of the structure that does not meet the required setback provided the expansion does not increase the nonconformity (although municipalities may adopt an alternative expansion limitation for nonconforming structures).
- A nonconforming structure that is grandfathered by the law may be relocated on its parcel provided that it conforms to setback requirements to the greatest extent practicable.
- A nonconforming structure that is grandfathered by the law that is damaged or destroyed by more than 50 percent of its market value, regardless of the cause, may be reconstructed if a permit is obtained within 18 months and if the reconstruction meets shoreline setback requirements to the greatest extent practicable.
- A special exception may be made to build a single-family residence in a Resource Protection District, where development is typically not allowed, if other permit requirements are met, there is no other location on the property outside of the Resource Protection District where the structure can be built, the lot predates the establishment of the district, and the structure is located on a slope of less than 20 percent, is outside of the V-Zone, is set back from the normal high water line to the greatest extent practicable (but not less than 75 feet), and meets design conditions.

Coastal Sand Dune Systems

In Coastal Sand Dune Systems, Maine's Coastal Sand Dune Rules do not allow new construction and additions to existing structures on or seaward of a frontal dune and in the V-Zone (the land area subject to high velocity water and wave action as identified on flood insurance rate maps).

In addition, a project in a Coastal Sand Dune System may not be allowed if, within 100 years, it may be reasonably expected to be severely damaged by erosion, assuming a two-foot sea level rise. No building greater than 2,500 square feet may be constructed in the Coastal Sand Dune System unless the applicant can demonstrate that the site will remain stable given a two-foot sea level rise over 100 years.

Related Provisions:

- If there is not enough space in the back dune area for construction, it may be allowed in the frontal dune area if the undeveloped lot was a deeded lot of record on August 1, 1983; a residential building (that existed on January 1, 2003) is within 100 feet of both sides of the lot; the building will be constructed the greatest distance practicable from the beach; and other conditions, including conditions related to construction and size, are met.
- A variance for construction of a building on a previously undeveloped lot under single ownership in the frontal dune area or the V-Zone may be granted if a court determines a denial would constitute a takings or denial would result in undue hardship. However, the building must meet other standards, including siting, construction, and size standards. And, sand dune mitigation and enhancement measures may be required.
- The reconstruction of a building on a frontal dune or in the V-Zone that is severely damaged (damage exceeds 50 percent of its value) may be allowed, but the building must

be sited back from the beach to the extent practicable. Restrictions on area, dimension, and height also apply.
    - A building on a frontal dune that is severely damaged by wave action from an ocean storm may be reconstructed more than once, but additional standards apply.
    - A building in the V-Zone that is severely damaged by wave action from an ocean storm may not be reconstructed more than once.
- If the shoreline recedes so that a coastal wetland extends to any part of a structure in a Coastal Sand Dune System for six months or more, the structure must be removed, and the site restored to natural conditions within one year.

Maryland

Regulating Agency

- Maryland Department of Natural Resources

Key Regulating Authorities

- Annotated Code of Maryland, Natural Resources, Title 8 Waters, Subtitle 11 Beach Erosion Control and Replenishment
- Code of Maryland Regulations, Title 08 Department of Natural Resources, Subtitle 09 State-Ocean City Beach Erosion Control District

Shoreline Type

- Beaches, dunes

Maryland's Shorefront No-Build Area

Beach Erosion Control District	
Seaward Reference Feature:	Ocean
Landward Boundary:	State-Ocean City Building Limit Line as defined

Maryland's only ocean-fronting municipality is Ocean City, which is on Fenwick Island, a barrier island. The city's shorefront is part of the state's Beach Erosion Control District, which, in Ocean City, is bounded on the east by the waters of the Atlantic Ocean and on the west by the mutually approved State–Ocean City Building Limit Line as defined in state regulations and based primarily on control points established by the U.S. Army Corps of Engineers. The State-Ocean City Building Limit Line coincides, more or less, with the existing Ocean City building limit line and on occasion may coincide with the crest of the littoral system. Land clearing, construction activity, or the construction or placement of permanent structures within the Beach Erosion Control District is prohibited by state law.

Michigan

Regulating Agency

- Michigan Department of Environmental Quality, Water Resources Division

Key Regulating Authorities

- Michigan Compiled Laws, Chapter 324 Natural Resources and Environmental Protection, Article III Natural Resources Management, Chapter 1 Habitat Protection (Natural Resources and Environmental Protection Act)
    - Part 323 Shorelands Protection and Management
    - Part 353 Sand Dunes Protection and Management
- Michigan Administrative Code, Department of Environmental Quality, Water Resources Division (formerly Land and Water Management), Shorelands Protection and Management (formerly Great Lakes Shorelands)

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

Michigan's Shorefront No-Build Areas

In High-Risk Erosion Areas	
Lakeward Reference Feature:	Erosion Hazard Line—whichever is most landward: • Landward edge of active erosion • Line where identified contours of Lakes Michigan, Huron, and Superior meet the shoreland
Landward Boundary:	• Small permanent structures: 30x erosion rate from lakeward reference feature + 15 feet • Other structures: 60x erosion rate from lakeward reference feature + 15 feet
In Critical Dune Areas	
Lakeward Reference Feature:	Lake
Landward Boundary:	Crest of the first landward ridge of a critical dune that is not a foredune

High-Risk Erosion Areas

In Michigan, state regulations require new construction (and additions) in High-Risk Erosion Areas (areas eroding at an average rate of one foot or more per year) to be set back from the Erosion Hazard Line, which is the landward edge of the zone of active erosion (i.e., where erosion has occurred frequently enough to cause unstable slopes or prevent vegetation of the area) or line where identified contours of Lakes Michigan, Huron, and Superior meet the shoreland, whichever is most landward. Setbacks are based on structure size and rate of erosion from the Erosion Hazard Line and include an additional 15 feet to account for potential severe short-term losses (e.g., those caused by storms). Small permanent structures (3,500 square feet or less) must be set back 30 times the annual rate of erosion plus 15 feet. All other structures must be set back 60 times the annual rate of erosion plus 15 feet.

An additional multiplier of up to 2.0 may be applied for high bluff areas if measuring from the Erosion Hazard Line. However, wherever there is an identifiable top of bank/bluff/dune crest, the minimum setback distance is not to exceed the projected recession distance (30 or 60 times the erosion rate plus 15 feet) from the top of the lakeward facing dune or bluff (this may be different than the Erosion Hazard Line). Additionally, for bluffs and dunes over 100 feet in elevation with

slopes of more than 60 percent, the minimum setback distance is established not less than 30 feet landward of the top of the lakeward facing slope.

Reconstruction of nonconforming structures that deteriorate or become damaged due to erosion must meet setback requirements if repair costs are greater than 60 percent of the replacement value. In addition, if a structure is 100 percent destroyed by a force other than erosion or declared a total loss for insurance purposes, setback requirements apply.

Related Provisions:

- A special exception may be granted, and a portion of the required setback distance waived, for a small readily moveable structure lakeward of the setback line on a substandard parcel if certain provisions are met, including that the structure is not less than 30 feet landward of the Erosion Hazard Line.
- If a substandard parcel is not wide enough or too steep to allow access for a readily moveable structure, or if the land owner wants to build a large permanent structure on a substandard parcel, a special exception may be granted to use a shore protection structure in place of a portion of the required setback if certain provisions are met, including that the structure is not less than (and possibly more than) 30 feet landward of the shore protection structure.

Critical Dune Areas

Michigan law also does not allow construction of structures lakeward of the crest of the first landward ridge of a Critical Dune Area that is not a foredune. Setback requirements as discussed above may also apply.

Related Provisions:

- A variance or special exception may be granted if a practical difficulty to the property owner will result.
- If lawful at the time of construction, a structure that is destroyed by means other than erosion (or the owner) may be rebuilt but may not exceed the size or scope of the structure that was destroyed.

Minnesota

Regulating Agencies

- Minnesota Department of Natural Resources, Division of Ecological and Water Resources:
    - Shoreland Management Program
    - North Shore Management Board

Key Regulating Authorities

- Minnesota Statutes, Chapter 103F Protection of Water Resources, Shoreland Development (Shoreland Management Act)

- Minnesota Administrative Rules, Department of Natural Resources, Chapter 6120 Shoreland and Floodplain Management, Shoreland Management
    - North Shore Management Plan

Shoreline Type

- Beaches, bluffs, rocky shores

Minnesota's Shorefront No-Build Areas

General		
Whichever is greater:		
1	Lakeward Reference Feature:	Permanent vegetation line
	Landward Boundary:	40 feet from lakeward reference feature
2	Lakeward Reference Feature:	Average water level
	Landward Boundary:	75 feet from lakeward reference feature
In Erosion Hazard Areas		
	Lakeward Reference Feature:	Top edge of bluff
	Landward Boundary:	• General: 50x erosion rate from lakeward reference feature + 25 feet • No erosion rate: 125 feet from lakeward reference feature

Minnesota's Shoreland Management rules were written to provide the minimum standards for the general management of lakes and rivers in Minnesota. However, the North Shore Management Plan, which is consistent with the rules and has been incorporated into them by reference, now sets the minimum standards for the majority of the land adjacent to Lake Superior in Minnesota (excluding the city of Duluth). Generally, the plan requires that new construction be set back 40 feet from the permanent vegetation line of Lake Superior or 75 feet from the average water level, whichever is greater.

In Erosion Hazard Areas, which are defined as those areas of Lake Superior's North Shore where the long-term average annual rate of recession is one foot or greater per year, new structures must be set back 50 times the annual erosion rate plus 25 feet (to allow for structure relocation) from the top edge of the bluff. In the absence of an established long-term erosion rate, the setback is 125 feet.

Related Provisions:

- A variance may be granted if strict enforcement of the setback would cause unnecessary hardship (due to circumstances unique to the property and not created by the landowner) as long as that variance is in harmony with the general purpose and intent of the rules.
- In Erosion Hazard Areas, a variance may be granted if the landowner can disprove the erosion rate or demonstrate that the erosion hazard can be mitigated by structural protection. However, the setback may not be less than that required outside Erosion Hazard Areas.

New Hampshire

Regulating Agency

- New Hampshire Department of Environmental Services, Wetlands Bureau, Shoreland Program

Key Regulating Authorities

- New Hampshire Statutes, Title L Water Management and Protection, Chapter 483-B Shoreland Water Quality Protection Act
- New Hampshire Code of Administrative Rules, Department of Environmental Services, Chapter Env-Wq 1400 Shoreland Protection

Shoreline Type

- Beaches, dunes, rocky shores

New Hampshire's Shorefront No-Build Area

Seaward Reference Feature:	Highest observable astronomical tide line
Landward Boundary:	Primary Building Line (Primary Structure Setback): 50 feet from seaward reference feature

Along New Hampshire's coastal waters, state law requires that primary structures be set back behind the Primary Building Line (Primary Structure Setback), which is 50 feet from the highest observable astronomical[12] tide line (Reference Line).

Related Provisions:

- An exemption may be granted if special local urbanization conditions exist.
- A single-family home may be allowed on an undeveloped, nonconforming lot of record provided the primary structure meets the 50-foot Primary Structure Setback to the greatest extent feasible.
- A nonconforming structure may be repaired, renovated, or replaced in kind. The footprint of a nonconforming primary structure may be expanded provided the subject lot becomes "more nearly conforming" as defined by the law.

New Jersey

Regulating Agency

- New Jersey Department of Environmental Protection

Key Regulating Authorities

- New Jersey Statutes, Title 13 Conservation and Development—Parks and Reservations, Chapter 19 Coastal Protection, Etc. (Coastal Area Facility Review Act)

[12] Although the law does not specify "astronomical," the state finds that in practice it is a more reliable measure since it provides for a relatively fixed position.

- New Jersey Administrative Code, Title 7 Environmental Protection, Chapter 7E Coastal Zone Management Rules

Shoreline Type

- Beaches, dunes

New Jersey's Shorefront No-Build Areas

Beaches	
Seaward Reference Feature:	Mean high water line
Landward Boundary:	Whichever is most seaward: • Manmade feature generally parallel to the sea • Seaward foot of dunes
Dunes	
Foredune, secondary or tertiary dune ridges and mounds, and all landward dune ridges and mounds, as well as manmade dunes	
Coastal Bluffs	
Seaward Reference Feature:	Whichever is nearest bluff toe: • 25 feet seaward of toe of bluff face • Mean high water line
Landward Boundary:	Whichever is most landward: • Landward limit of area likely to be eroded within 50 years • 25 feet landward of bluff crest
Erosion Hazard Areas	
Seaward Reference Feature:	• Coastal bluffs: Bluff crest • Unvegetated dunes: Most seaward established dune crest • Vegetated dunes: First vegetation line from water • Nondune areas—whichever is most landward: - Landward edge of beach - 8-foot contour line
Landward Boundary:	• 1- to 4-unit dwelling structures: 30x erosion rate from seaward reference feature • Other structures: 60x erosion rate from seaward reference feature
Overwash Areas	
Seaward Reference Feature:	• Former dune: Seaward toe of dune • No dune: Landward limit of beach
Landward Boundary:	Inland limit of sediment transport
Coastal High Hazard Areas	
V-Zones	
Seaward Reference Feature:	Offshore
Landward Boundary:	Whichever is most landward: • Inland limit of V-Zone • Inland limit of primary frontal dune
Other	
Seaward Reference Feature:	Shore protection structures
Landward Boundary:	25 feet from seaward reference feature
In Flood Hazard Areas	
Seaward Reference Feature:	Navigable water body
Landward Boundary:	100 feet from seaward reference feature

New Jersey regulations prohibit development on beaches, dunes, and coastal bluffs and in Erosion Hazard and Overwash Areas. These no-build areas are defined spatially as follows:

- Beaches extend landward from the mean high water line to a manmade feature generally parallel to the sea (e.g., a retaining structure, seawall, bulkhead, road, or boardwalk) or the seaward foot of dunes, whichever is most seaward.
- Dunes include the foredune, secondary or tertiary dune ridges and mounds, and all landward dune ridges and mounds, as well as manmade dunes.
- Coastal bluffs extend from a point that is 25 feet seaward of the toe of a bluff face or the mean high water line, whichever is nearest the toe of the bluff, to the landward limit of the area likely to be eroded within 50 years or a point 25 feet landward of the crest of the bluff, whichever is most landward.
- Erosion Hazard Areas extend inland from the edge of a stabilized upland area to the limit of the area likely to be eroded in 30 years for one- to four-unit dwelling structures and 60 years for all other structures. This distance is measured from the crest of a bluff for coastal bluff areas, the most seaward established dune crest for unvegetated dune areas, the first vegetation line from the water for established vegetated dune areas, and the landward edge of a beach or the eight-foot contour line, whichever is most landward, for nondune areas.
- Overwash Areas extend from the seaward toe of a former dune or, in the absence of a dune, the landward limit of the beach to the inland limit of sediment transport.

Residential development[13] is also prohibited in Coastal High Hazard Areas. Coastal High Hazard Areas are those areas that extend from offshore to the inland limit of the V-Zone (flood-prone areas subject to high-velocity waters as delineated on flood insurance rate maps) or the inland limit of the primary frontal dune, whichever is most landward, as well as areas within 25 feet of shore protection structures.

Where any of the areas discussed above are also considered Flood Hazard Areas, and in those instances where development is allowed (see below), development other than water-dependent uses in undeveloped (no impervious cover) Flood Hazard Areas (A- and V-Zones) is prohibited within 100 feet of a navigable water body.

Related Provisions:

- On beaches and dunes and in Overwash Areas, development may be allowed if there is no practicable or feasible alternative and it will not cause significant adverse long-term impacts on the natural functioning of the beach and dune system, either individually or in combination with other existing or proposed structures, land disturbances, or activities.
- Development may also be allowed in Overwash Areas if the classification of the site is changed (i.e., by creating a dune with buffer zone or expanding an existing dune landward) so as to significantly diminish the possibility of future overwash or if the development is a single-story, beach/tourism-oriented commercial development in a commercial boardwalk area that existed on July 19, 1993.

[13] In general, commercial development is discouraged in Coastal High Hazard Areas.

- In Erosion Hazard Areas, single-family and duplex development, expansion, or reconstruction may be allowed if the lot was subdivided prior to July 19, 1993, is served by a municipal sewer system, and a house or commercial building is located within 100 feet of both sides of the property. In addition, single-story, beach/tourism-oriented commercial development (not lodging) located within a commercial boardwalk area existing on July 19, 1993, may be allowed if it meets certain conditions.
- In dunes, development, expansion, or reconstruction of a single-family home or duplex may be allowed on the landward slope of a secondary or tertiary dune as long as the site is more than 500 feet from the mean high water line or the development is isolated from a beach and dune system by a paved public road, public seawall, or public bulkhead that existed on July 19, 1993. In both instances, additional criteria apply. Expansion or reconstruction of a single-family home or duplex may also be allowed if it existed on July 19, 1993, and size, siting, and other conditions, including a conservation restriction on dune areas seaward of the construction, are met.
- In Coastal High Hazard Areas, single-family and duplex *infill* development, expansion, or reconstruction may be allowed if the lot was subdivided prior to July 19, 1993, is served by a municipal sewer system, and a house or commercial building is located within 100 feet of both sides of the property.
- In Atlantic City, limited development, such as development on or over existing ocean piers and development on or over the boardwalk, may be allowed in Coastal High Hazard and Erosion Hazard Areas and on beaches.

New York

Regulating Agency

- New York Department of Environmental Conservation

Key Regulating Authorities

- Laws of New York, Environmental Conservation, Article 34 Coastal Erosion Hazard Areas (Coastal Erosion Hazard Areas Act)
- New York Codes, Rules and Regulations, Title 6 Department of Environmental Conservation, Chapter V Resource Management Services, Part 505 Coastal Erosion Management

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

New York's Shorefront No-Build Areas

Coastal Erosion Hazard Areas	
Natural Protective Feature Areas	
Beaches	
Seaward/Lakeward Reference Feature:	• Bluff or dune: Mean low water line • No Bluff or Dune–whichever is most seaward/lakeward: - Where there is a marked change in material or physiographic form - Line of permanent vegetation
Landward Boundary:	• Bluff or dune—whichever is most seaward/lakeward: - Seaward/lakeward toe of dune - Seaward/lakeward toe of bluff • No bluff or dune: 100 feet landward of seaward/lakeward reference feature
Bluffs	
Seaward/Lakeward Reference Feature:	• Beach: Landward beach boundary • No beach: Mean low water line
Landward Boundary:	25 feet landward of bluff's receding edge/point of inflection
Primary Dunes	
Seaward/Lakeward Reference Feature:	Landward beach boundary
Landward Boundary:	25 feet landward of primary dune's landward toe
Structural Hazard Areas	
Seaward/Lakeward Reference Feature:	Landward limit of fronting natural protective feature
Landward Boundary:	40x erosion rate from seaward/lakeward reference feature

New York's coastal erosion management rules, which apply to all coastlines, including Lakes Erie and Ontario and the Atlantic Ocean, define two types of Coastal Erosion Hazard Areas: Natural Protective Feature Areas and Structural Hazard Areas. Natural Protective Feature Areas include beaches, bluffs, and primary dunes. Development is prohibited in Natural Protective Feature Areas, which are spatially defined as follows:

- A beach extends landward from the mean low water line to the seaward/lakeward toe of a dune or bluff, whichever is most seaward/lakeward, or, if no dune or bluff exists, 100 feet landward from the place where there is a marked change in material or physiographic form or from the line of permanent vegetation, whichever is most seaward/lakeward.
- A bluff encompasses the area between the landward beach boundary (mean low water if there is no beach) and a point 25 feet landward of the bluff's receding edge or point of inflection if there is no discernible line of active erosion.
- A primary dune encompasses the area between the landward beach boundary and a point 25 feet landward of the dune's landward toe.

A structure on a beach, bluff, or primary dune that is damaged or destroyed (reconstruction cost equals or exceeds 50 percent of its replacement cost) by coastal flooding or erosion may not be rebuilt.

Development restrictions extend further inland in Structural Hazard Areas. Structural Hazard Areas are those shorelands landward of natural protective features with shorelines receding at a long-term average annual recession rate of one foot or more per year. The construction or placement of a nonmovable structure, or nonmovable major addition to an existing structure, is prohibited in Structural Hazard Areas, which encompass the area 40 times the long-term average annual recession rate measured from the landward limit of the fronting natural protective feature.

Related Provisions:

- A variance may be allowed if restrictions will cause practical difficulty or unnecessary hardship. Additional criteria and conditions apply and include requirements that no reasonable, prudent, alternative site is available; the development will be reasonably safe from flood and erosion damage; adverse impacts on natural systems will be mitigated; and where public funds are utilized, the public benefits outweigh any long-term adverse effects.
- A structure on a beach, bluff, or primary dune that is damaged or destroyed by an event not related to coastal flooding and erosion may be rebuilt but may not be enlarged by more than 25 percent of its original footprint.

North Carolina

Regulating Agency

- North Carolina Department of Environment and Natural Resources

Key Regulating Authorities

- North Carolina General Statutes, Chapter 113A Pollution Control and Environment, Article 7 North Carolina Coastal Area Management (North Carolina Coastal Area Management Act)
- North Carolina Administrative Code, Title 15A Environment and Natural Resources, Chapter 7 Coastal Management
    - Subchapter 7H State Guidelines for Areas of Environmental Concern
    - Subchapter 7J Procedures for Processing and Enforcement of Major and Minor Development Permits, Variance Requests, Appeals from Permit Decisions, and Declaratory Rulings

Shoreline Type

- Beaches, dunes

North Carolina's Shorefront No-Build Area

In Ocean Hazard Areas	
Seaward Reference Feature:	First line of stable natural vegetation
Landward Boundary:	Whichever is most landward: • Primary dune: Landward of the crest of primary dune • No primary dune: Landward of frontal dune • Ocean Hazard Setback - Structures <5,000 square feet—whichever is greater: · 30x erosion rate from seaward reference feature · 60 feet - Structures 5,000–9,999 square feet—whichever is greater: · 60x erosion rate from seaward reference feature · 120 feet - Structures ≥10,000 square feet: Setback moves landward incrementally based on size up to 90x erosion rate or 180 feet, whichever is greater, from seaward reference feature

North Carolina manages oceanfront development using a combination of no-build areas and siting of development based on structure size. State regulations require that new construction and additions in Ocean Hazard Areas (beaches, frontal dunes, inlet lands, and other areas in which geologic, vegetative, and soil conditions indicate a substantial possibility of excessive erosion or flood damage) be set back from the oceanfront. This also applies to the replacement of a structure damaged or destroyed by natural elements, fire, or normal deterioration if the damage exceeds 50 percent of its replacement value.

Development must be set back landward of the crest of the primary dune or the frontal dune (in the absence of a primary dune) or in accordance with the Ocean Hazard Setback, whichever is most landward. Ocean Hazard Setbacks are measured landward from the first line of stable natural vegetation (or proxy). In areas within a large-scale beach fill project (greater than 300,000 cubic yards of sediment or any storm protection project constructed by the U.S. Army Corps of Engineers), setbacks are measured from static vegetation lines, which are the vegetation lines that existed within one year prior to the onset of initial project construction or the first line of stable natural vegetation, whichever is most restrictive.

Ocean Hazard Setbacks are based on the size of development and the annual shoreline erosion rate:

- A structure less than 5,000 square feet requires a minimum setback of 60 feet or 30 times the annual shoreline erosion rate, whichever is greater.
- A structure between 5,000 and 9,999 square feet requires a minimum setback of 120 feet or 60 times the annual shoreline erosion rate, whichever is greater.
- A structure between 10,000 and 19,999 square feet requires a minimum setback of 130 feet or 65 times the shoreline erosion rate, whichever is greater.
- A structure between 20,000 and 39,999 square feet requires a minimum setback of 140 feet or 70 times the shoreline erosion rate, whichever is greater.

- A structure between 40,000 and 59,999 square feet requires a minimum setback of 150 feet or 75 times the shoreline erosion rate, whichever is greater.
- A structure between 60,000 and 79,999 square feet requires a minimum setback of 160 feet or 80 times the shoreline erosion rate, whichever is greater.
- A structure between 80,000 and 99,999 square feet requires a minimum setback of 170 feet or 85 times the shoreline erosion rate, whichever is greater.
- A structure greater than or equal to 100,000 square feet requires a minimum setback of 180 feet or 90 times the shoreline erosion rate, whichever is greater.

Related Provisions:

- A variance may be granted if unnecessary hardship would result from strict application of the setback requirement, as long as the hardship results from conditions peculiar to the property (e.g., location, size, topography), are not the result of actions taken by the petitioner, and the requested variance is consistent with the spirit, purpose, and intent of state policy.
- In some Ocean Hazard Areas (not Inlet Hazard Areas, unvegetated beach areas, or areas granted static line exceptions as described below), setback requirements may be waived for new structures on lots existing as of June 1, 1979, as long as the development is set back as much as possible and at least 60 feet from the vegetation line or static vegetation line, is not on or in front of a frontal dune, incorporates mandated size restrictions and design standards, and meets all other Ocean Hazard Area provisions and other state and local regulations.
- In areas within a large-scale beach fill project as previously described, static line exceptions may be granted where communities can effectively demonstrate that they have a long-term (at least 30 years) beach fill program in place that identifies sources of compatible sediment and funding for the lifetime of the project. Exceptions are only granted for structures less than 2,500 square feet that are no further seaward than the landward most adjacent structure.
- In Inlet Hazard Areas, a subset of Ocean Hazard Areas that are especially vulnerable due to their proximity to dynamic ocean inlets, the density of permanent structures may not exceed more than one commercial or residential unit per 15,000 square feet of land area on lots subdivided or created after July 23, 1981, and only residential structures of four units or fewer or nonresidential structures of less than 5,000 square feet total floor area may be constructed.
- Any structure built after 1995 that becomes imminently threatened by shoreline changes must be relocated or dismantled within two years or upon collapse unless natural shoreline recovery or beach renourishment mitigates the threat.

Oregon

Regulating Agency

- Oregon Parks and Recreation Department
- Oregon Department of Land Conservation and Development

Key Regulating Authorities

- Oregon Revised Statues
  - Chapter 390 State and Local Parks, Recreation Programs, Scenic Waterways, Recreation Trails; Ocean Shores, State Recreation Areas
  - Chapter 197 Comprehensive Land Use Planning Coordination
- Oregon Administrative Rules
  - Chapter 736 Parks and Recreation Department, Division 20 Beach Construction/ Alteration Standards
  - Chapter 660 Department of Land Conservation and Development, Division 15 Statewide Planning Goals and Guidelines
    - Oregon Statewide Planning Goal 18 Beaches and Dunes
    - Oregon Statewide Planning Goal 17 Coastal Shorelands

Shoreline Type

- Beaches, dunes, bluffs, rocky shores, and headlands

Oregon's Shorefront No-Build Areas

Ocean Shores	
Seaward Reference Feature:	Extreme low tide
Landward Boundary:	Whichever is most landward: • Statutory Vegetation Line • Line of established upland shore vegetation
Beaches	
Seaward Reference Feature:	Low water line
Landward Boundary:	Point of definite change in material type or landform or vegetation line
Dunes	
Active foredunes, conditionally stable foredunes subject to ocean undercutting or wave overtopping, interdune areas subject to ocean flooding	
Coastal Headlands	
Bluffs, promontories, or points of high shoreland jutting into ocean, generally sloping abruptly into water	
Aesthetic Resources	
Areas of exceptional aesthetic or scenic quality, where quality is primarily derived from or related to coastal water areas	

Oregon state law establishes a public easement over the state's Ocean Shores, which are delineated as the lands between extreme low tide and the surveyed Statutory Vegetation Line (generally the 16-foot elevation) or the line of established upland vegetation, whichever is most landward. As such, development is prohibited in these areas.

The associated regulations call for compliance with relevant statewide planning goals, which provide another layer of protection. Oregon's Beaches and Dunes goal prohibits residential development and commercial and industrial buildings on beaches, which are defined as the area between the low water line and a point of definite change in material type or landform or the line of vegetation (i.e., the Statutory Vegetation Line or the line of actual vegetation, whichever is

most landward). Residential development and commercial and industrial buildings are also prohibited on active foredunes; other foredunes that are conditionally stable and that are subject to ocean undercutting or wave overtopping; and on interdune areas (deflation plains) that are subject to ocean flooding. The Coastal Shorelands goal extends this prohibition to coastal headlands and "areas of exceptional aesthetic or scenic quality" (as identified by local governments) by limiting uses in these areas to those that are consistent with protection of natural values.

Pennsylvania

Regulating Agency

- Pennsylvania Department of Environmental Protection

Key Regulating Authority

- Pennsylvania Code, Title 25 Environmental Protection, Chapter 85 Bluff Recession and Setback Act

Shoreline Type

- Beaches, bluffs

Pennsylvania's Shorefront No-Build Area

In Bluff Hazard Recession Areas	
Lakeward Reference Feature:	Bluff edge or crest
Landward Boundary:	Whichever is greater: • Appropriate structure life span x erosion rate from lakeward reference feature - Residential: 50 years - Commercial: 75 years - Industrial: 100 years • 25 feet from lakeward reference feature

Pennsylvania state regulations establish minimum setback requirements for each of the municipalities fronting the shoreline of Lake Erie that contain Bluff Recession Hazard Areas as identified by the state. In general, new construction and substantial improvements (repair, reconstruction, or improvement of a structure where the cost equals or exceeds 50 percent of its market value) must be set back from the bluff edge or crest a distance determined by multiplying the average annual rate of bluff recession by the appropriate structure life span. The appropriate life span of a structure is 50 years for residential homes, 75 years for commercial structures, and 100 years for industrial structures. The minimum bluff setback distance may not be less than 25 feet.

Related Provisions:

- When a parcel established prior to a Bluff Recession Hazard Area designation is not deep enough to meet the setback requirement and allow for reasonable use, a variance may be granted as long as the structure is movable and located as far landward as allowed by

other municipal ordinances, and erosion and sediment management requirements are observed. A variance may also be granted for a structure that requires access to the body of water where there is no feasible alternative for obtaining access and certain conditions to protect the bluff, lake, environment, and adjacent properties are met.
- Minimum setback requirements may be modified by municipalities if they can effectively demonstrate annual recession rates that differ from the recession rate data of the state.

Puerto Rico

Regulating Agencies (lead)

- Puerto Rico Department of Natural and Environmental Resources
- Puerto Rico Planning Board

Key Regulating Authorities

- Laws of Puerto Rico Annotated, Title 23 Public Planning and Development, Part IV Navigation and Marine Trade, Chapter 101 Dock and Harbor Act of Puerto Rico of June 1968 (Título Veintitrés Planificación y Fomento Público, Parte IV Navegación y Tráfico Marítimo, Capítulo 101 Ley de Muelles y Puertos de 1968)
- Department of Natural and Environmental Resources Regulation 4860 (December 28, 1992), Regulation for the Use, Surveillance, Conservation, and Administration of Territorial Waters, Submerged Lands beneath Them, and the Maritime Zone (Reglamento para el Aprovechamiento, Vigilancia, Conservación y Administración de las Aguas Territoriales, los Terrenos Sumergidos Bajo Estas y la Zona Marítimo-Terrestre)
- Puerto Rico Planning Board Regulation 7951, Joint Permit Regulation for Construction Works and Land Uses, Title V Special Planning Provisions, Chapter 3 Coastal Zoning and Beach Access (Reglamento Conjunto de Permisos para Obras de Construcción y Usos de Terrenos, Tomo V Disposiciones Especiales de Planificación, Capítulo 3 Zonificación de la Zona Costanera y de Accesos a Las Playas y Costas de Puerto Rico)

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

Puerto Rico's Shorefront No-Build Area

Seaward Reference Feature:	High tide line
Landward Boundary:	Whichever is greater: • 50 meters from seaward reference feature • 2.5x building height

According to Puerto Rico regulations, all projects involving the construction of buildings must be set back a minimum of 50 meters from the landward boundary of the Maritime Terrestrial Zone, which is the high tide line. Puerto Rico also regulates setbacks based on building height, requiring all buildings constructed within 400 meters of the Maritime Terrestrial Zone to be set back a distance at least two and a half times the height of the building or 50 meters, whichever is greater.

Related Provisions:

- Waivers may be granted to reduce setback requirements for water-dependent uses and in urban zoning districts where concessions are made for the provision of open space on each side of the structure or where the builder makes a financial investment (based on construction costs associated with exceeding the height limit) in physical improvements for public use.
- Also, in urban zones, a partial exemption may be granted from the height-based setback if a lot was approved before the regulation was passed and an exemption is needed to make the lot usable or if buildings within 100 meters on one or both sides of the lot are nonconforming, in which case additional calculations are required to establish height limits and setback requirements.

Rhode Island

Regulating Agency

- Rhode Island Coastal Resources Management Council

Key Regulating Authorities

- Rhode Island General Laws, Title 46 Waters and Navigation, Chapter 23 Coastal Resource Management Council
- Rhode Island Coastal Resources Management Program, as Amended

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

Rhode Islands' Shorefront No-Build Areas

General	
Seaward Reference Feature:	Inland boundary of most landward coastal feature (beach, dune, wetland, rocky shore, manmade shoreline, or headland/bluff/cliff)
Landward Boundary:	Whichever is greater: • Residential: 30x erosion rate from seaward reference feature • Commercial, industrial, larger residential (4+ units): 60x erosion rate from seaward reference feature • 50 feet from seaward reference feature • 25 feet from edge of coastal buffer zone
Barrier Islands	
Undeveloped and moderately developed barrier islands and those developed barrier islands on which only roads, utility lines, and other forms of public infrastructure were present as of 1985	

Coastal development in Rhode Island is regulated by the state. Regulations require that new development be set back off of and away from coastal features (i.e., beaches, dunes, wetlands, rocky shores, manmade shorelines, or headlands/bluffs/cliffs). Residential buildings (less than four units) and garages must be set back 30 times the average annual rate of erosion from the inland boundary of the most landward coastal feature. Commercial and industrial structures that are not water dependent and dwellings with more than four units must be set back 60 times the

average annual rate of erosion from the inland boundary of the most landward coastal feature. The minimum allowable setback is 50 feet from the coastal feature or 25 feet from the edge of a Coastal Buffer Zone, whichever is further landward.

The Coastal Buffer Zone establishes a natural area adjacent to a shoreline feature that must be retained in, or restored to, a natural vegetative condition and is generally contained within the established setback. Buffer zones vary in width from 15 to 200 feet based on lot size and abutting water use category as prescribed in the Coastal Resources Management Program.

No new development is allowed on moderately developed or undeveloped coastal barrier islands, and new infrastructure and utilities are generally prohibited on all barriers. In addition, new construction is not allowed on developed barriers on which only roads, utility lines, and other forms of public infrastructure were present as of 1985.

Along Rhode Island's ocean shorefront, in general, any rebuilding/repair of a structure that is damaged by 50 percent or more by storms, waves, or other natural coastal processes must meet the minimum setback requirements. On undeveloped barriers, a structure that is damaged by 50 percent or more by storm-induced flooding or wave or wind damage may not be reconstructed.

Related Provisions:

- A variance may be granted if the setback requirement would cause undue hardship (due to the conditions of the site) and the proposed project conforms to applicable goals and policies of the Coastal Resources Management Program (including the policy that calls for the accommodation of three to five feet in sea level rise by 2100 in the siting of coastal activities), will not result in significant adverse environmental impacts or use conflicts (taking into account cumulative impacts), requests the minimum variance necessary to allow a reasonable use, and does not need the variance as a result of prior action of the applicant or their predecessors in title.
- On developed barrier islands, such a variance may be granted for development between the 50-foot minimum setback and any greater setback based on the annual erosion rate, but no variances may be granted for development seaward of the 50-foot minimum setback.
- On barrier islands, infrastructure that services the needs of the state or meets a demonstrated state need that provides public benefit may be allowed.

South Carolina

Regulating Agency

- South Carolina Department of Health and Environmental Control

Key Regulating Authorities

- South Carolina Code of Laws, Title 48 Environmental Protection and Conservation, Chapter 39 Coastal Tidelands and Wetlands (Coastal Tidelands and Wetlands Act)
- South Carolina Code Regulations, Chapter 30 Department of Health and Environmental Control—Coastal Division

Shoreline Type

- Beaches, dunes

South Carolina's Shorefront No-Build Areas

Active Beach	
Seaward Reference Feature:	Ocean
Landward Boundary:	Whichever is most seaward: • Escarpment • First line of stable natural vegetation
Primary Oceanfront Sand Dunes	

South Carolina law does not allow new construction, additions, and reconstruction on the active beach, which is the area seaward of the escarpment or the first line of stable natural vegetation, whichever is most seaward, and on primary oceanfront sand dunes.

Related Provision:

- In areas between a beach and a primary oceanfront sand dune, a special permit may be granted to build or rebuild a structure that is otherwise not allowed per the restrictions noted above if, without such a permit, the property owner would have no reasonable use of his property or an overriding public benefit can be demonstrated. However, construction and reconstruction are not allowed on a primary oceanfront sand dune or on the active beach, and it must not be detrimental to public health, safety, or welfare. In addition, if the beach erodes to the extent that the structure is on the active beach, the permittee must remove the structure if ordered by the state. Generally, special permits are only granted under extraordinary circumstances and have been deemed more appropriate for single-family homes that are no larger than similar structures in the neighborhood (maximum of 5,000 square feet) and no further seaward than the houses on either side unless this would preclude a house from being constructed on the lot.

Texas

Regulating Agency

- Texas General Land Office

Key Regulating Authorities

- Texas Natural Resources Code, Title 2 Public Domain, Subtitle E Beaches and Dunes
  - Chapter 61 Use And Maintenance of Public Beaches (Open Beaches Act)
  - Chapter 63 Dunes
- Texas Administrative Code, Title 31 Natural Resources and Conservation, Part 1 General Land Office, Chapter 15 Coastal Area Planning, Subchapter A Management of the Beach/Dune System

Shoreline Type

- Beaches, dunes

Texas' Shorefront No-Build Areas

Public Beach	
Seaward Reference Feature:	Mean low tide
Landward Boundary:	Line of vegetation
Critical Dune Areas	
Seaward Reference Feature:	Mean high tide
Landward Boundary:	Up to 1,000 feet from seaward reference feature

In Texas, state law prohibits construction on the public beach, which is defined as any beach area, whether publicly or privately owned, between mean low tide and the line of vegetation (i.e., the extreme seaward boundary of natural vegetation that spreads continuously inland) and upon which the public has acquired the right of use or easement through law or custom. The regulations describe ways of delineating a regulatory vegetation line when no vegetation is present. Also, if, as the result of a meteorological event, a structure ends up on the public beach, repairs may not be allowed if it was destroyed or if damage to the structure exceeds 50 percent unless it is relocated landward of the public beach easement.

Additional prohibitions apply in dunes where development that may have adverse effects on dunes and dune vegetation in Critical Dune Areas is not allowed. These areas are those portions of the beach/dune system as designated by the state that are located within 1,000 feet of mean high tide and contain dunes and dune complexes that are essential to the protection of public beaches, submerged land, and state-owned land from nuisance, erosion, storm surge, and high wind and waves.

Related Provisions:

- Repairs to a house on the public beach may be made if the structure was landward of the vegetation line before erosion or a meteorological event occurred as long as no portion of the house is seaward of mean high tide, it was not damaged more than 50 percent or destroyed as the result of a meteorological event, and there is not an imminent threat to public health and safety. Repairs are only allowed to make the house habitable. Additional construction-related conditions must be met, and the footprint may not be increased.
- Development may be allowed in critical dune areas if there is no practicable alternative to the proposed activity, proposed site, or proposed methods for conducting the activity, and the activity will not materially weaken the dunes or dune vegetation.
- The state may issue a removal order of a structure located on the public beach if the structure was either constructed in violation of the local government's beach access and use plan or constitutes an imminent hazard to safety, health, or public welfare.

U.S. Virgin Islands

Regulating Agency

- U.S. Virgin Islands Department of Planning and Natural Resources

Key Regulating Authority

- Virgin Islands Code Annotated, Title 12 Conservation, Chapter 10 Open Shorelines (Open Shorelines Act)

Shoreline Type

- Beaches, bluffs, rocky shores

U.S. Virgin Island's Shorefront No-Build Area

Shorelines	
Seaward Reference Feature:	Line of low tide
Landward Boundary:	Whichever is most seaward: • 50 feet from seaward reference feature • First line of vegetation • Natural barrier

In the U.S. Virgin Islands, development is not allowed upon, across, or within the shorelines, which are the areas between the line of low tide and a line measured inland 50 feet, the extreme seaward boundary of natural vegetation, or a natural barrier, whichever is most seaward.

Virginia

Regulating Agency

- Virginia Marine Resources Commission

Key Regulating Authorities

- Code of Virginia, Title 28.2 Fisheries and Habitat of the Tidal Waters, Chapter 14 Coastal Primary Sand Dunes and Beaches (Coastal Primary Sand Dunes and Beaches Act)
- Virginia Administrative Code, Title 4 Conservation and Natural Resources, Agency 20 Marine Resources Commission, Chapter 440 Coastal Primary Sand Dune/Beaches Guidelines: Barrier Island Policy

Shoreline Type

- Beaches, dunes

Virginia's Shorefront No-Build Areas

Beaches	
Seaward Reference Feature:	Low water line
Landward Boundary:	Marked change in material composition or physiographic form, line of woody vegetation, or nearest impermeable manmade structure
Coastal Primary Sand Dunes	
Seaward Reference Feature:	Mean high water
Landward Boundary:	Where landward dune grade falls below 10 percent
On Barrier Islands	
Seaward Reference Feature:	Dune crest
Landward Boundary:	20x erosion rate from seaward reference feature

Virginia state law does not allow construction on beaches and coastal primary sand dunes that would impair natural functions, physically alter the feature, or destroy vegetation. The beach extends from the low water line landward to where there is a marked change in material composition or physiographic form, the line of woody vegetation (usually the effective limit of storm waves), or the nearest impermeable manmade structure (e.g., bulkhead, revetment, paved road). The coastal primary sand dune extends from mean high water landward to where the dune grade on the landward side falls below 10 percent.

State regulations provide supplemental guidelines that require structures on barrier islands (new and reconstructed) to be set back from the dune crest (the location of the highest elevation of the coastal primary sand dune, beach, or washover located on the lot) a distance 20 times the 100-year long-term annual shoreline erosion rate. If a nonconforming structure on a barrier island is destroyed or damaged by natural events such that it is condemned by health officials or local building officials, reconstruction in that location may not be allowed.

Related Provisions:

- The state may allow construction on a coastal primary sand dune or beach if it is determined that there will be no significant adverse ecological impact or if the development is clearly necessary and consistent with the public interest.
- An exception to the barrier island requirements may be granted if their strict application would produce undue hardship and as long as the exception would not result in significant detriment to barrier islands, their natural resources, or adjacent property.
- On barrier islands, once local mean high water approaches a structure to within 10 times the average erosion rate, a plan for its movement/relocation must be submitted to the state for review.

Wisconsin

Regulating Agency

- Wisconsin Department of Natural Resources

Key Regulating Authorities

- Wisconsin Statutes, Functions and Government of Municipalities, Chapter 59 Counties, Subchapter VII Land Use, Information and Regulation, Environmental Protection, Surveys, Planning and Zoning, Section 692 Zoning of Shorelands on Navigable Waters
- Wisconsin Administrative Code, Natural Resources, Environmental Protection, Chapter 115 Wisconsin's Shoreland Protection Program

Shoreline Type

- Beaches, dunes, bluffs, rocky shores

Wisconsin's Shorefront No-Build Area

Shoreland Setback Area	
Lakeward Reference Feature:	Ordinary high water mark
Landward Boundary:	75 feet from lakeward reference feature

Wisconsin state law requires that buildings in unincorporated areas[14] of the shoreland, which includes the land within 1,000 feet of Lakes Michigan and Superior, be set back 75 feet from the ordinary high water mark.

Related Provisions:

- A variance may be granted if the structure is not contrary to the public interest and where literal enforcement of the setback will result in unnecessary hardship (i.e., special conditions affecting a property, which were not self-created, make strict conformity unnecessarily burdensome or unreasonable in light of the purposes of the zoning ordinance).
- Where an existing development pattern exists (i.e., there are principal structures within 250 feet of both sides of the proposed structure), the setback may be reduced to the average setback of the principal structure on each adjacent lot, but may not be reduced to less than 35 feet from the ordinary high water mark.
- A nonconforming principal structure that was lawfully placed when constructed may be:
    - Maintained and repaired within its existing building envelope;
    - Expanded vertically, provided that certain requirements are met, including that the structure is at least 35 feet from the ordinary high water mark;
    - Expanded horizontally landward of the setback if the expanded area meets the setback requirements; and
    - Replaced or relocated on the property, provided that certain criteria and conditions are met, including that the existing principal structure is at least 35 feet from the ordinary high water mark, no portion of the replaced or relocated structure is any closer to the ordinary high water mark than the closest point of the existing structure, and a more suitable location on the property is not available.

[14] State shoreland setbacks only apply to unincorporated shoreland areas and to those that are annexed from a county or incorporated after the adoption of the regulations.

Appendix A: State Summary

The information in the tables on the next two pages summarizes the following:

Table A: General Ocean and Great Lake Shorefront Development Regulation

1. Does the state regulate ocean and/or Great Lake shorefront development (dry land, not submerged land)?
2. Do local governments regulate ocean and/or Great Lake shorefront development?
3. Can local governments pass laws and ordinances that exceed state requirements?
4. Does the state provide assistance to local governments to help them establish, administer, and enforce shorefront development regulations?
5. Does the state conduct outreach to targeted groups to educate them about shorefront development regulations?

Table B: Use of No-Build Areas in Regulating Ocean and Great Lake Shorefront Development

6. Has the state identified no-build areas along some portion of the ocean and/or Great Lake shorefront (dry land, not submerged land)?
7. How do the state's shorefront no-build area law and/or regulations delineate the area(s) in which development is not allowed? Do they use erosion-based setbacks, setbacks based on a fixed distance from a reference feature/line, specially designated areas, and/or something else?
8. Are the state's shorefront no-build area law and/or regulations based on use?
9. Are the state's shorefront no-build area law and/or regulations based on size?
10. Do the state's shorefront no-build area law and/or regulations allow for exceptions, exemptions, and/or variances?
11. Do the state's shorefront no-build area law and/or regulations contain provisions that prohibit rebuilding of damaged or destroyed nonconforming structures?

Table A: General Shorefront Development Regulation (Questions 1-5)

State	1. State Regulates Shorefront Development on Dry Land[1]	2. Local Governments Regulate Shorefront Development on Dry Land	3. Local Governments May Exceed State Requirements	4. State Provides Assistance to Local Governments	5.State Conducts Outreach to:					
					Local Officials	Real Estate Agents	Builders/Developers	General Public	Homeowners	Other[2]
AL	✓	✓	✓	✓	✓					
AS	✓	✓	✓		✓		✓	✓	✓	
CA	✓	✓	✓	✓	✓		✓	✓	✓	
CNMI	✓				✓	✓	✓	✓	✓	✓
CT	✓	✓	✓	✓	✓		✓	✓	✓	
DE	✓	✓	✓		✓	✓	✓	✓	✓	✓
FL	✓	✓	✓	✓	✓		✓	✓	✓	
GA	✓	✓	✓	✓				✓		
GU	✓				✓	✓	✓	✓	✓	
HI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IN		✓	✓		✓			✓		✓
LA	✓	✓	✓	✓	✓					
MA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MD	✓	✓	✓	✓	✓			✓	✓	
ME	✓	✓	✓	✓	✓	✓		✓	✓	✓
MI	✓	✓	✓	✓	✓		✓	✓		
MN	✓	✓	✓	✓	✓			✓	✓	
MS		✓	✓	✓	✓					
NC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NH	✓	✓	✓		✓	✓	✓	✓	✓	✓
NJ	✓	✓			✓		✓	✓		
NY	✓	✓	✓	✓	✓			✓		
OH	✓	✓	✓	✓	✓	✓	✓	✓	✓	
OR	✓	✓	✓	✓	✓	✓	✓	✓	✓	
PA	✓	✓	✓	✓	✓	✓	✓	✓	✓	
PR	✓	✓	✓	✓	✓		✓			
RI	✓	✓		✓	✓	✓	✓	✓	✓	✓
SC	✓	✓	✓	✓	✓	✓	✓	✓	✓	
TX	✓	✓	✓	✓	✓		✓	✓	✓	✓
USVI	✓					✓	✓	✓	✓	✓
VA	✓	✓		✓	✓	✓	✓	✓	✓	
WA	✓	✓	✓	✓	✓			✓	✓	✓
WI	✓	✓	✓	✓	✓	✓	✓	✓	✓	

[1] Most land use regulation takes place at the local level. Role of state coastal program varies.

[2] Includes state and federal agencies, state and local councils and commissions, local government staff, school groups, nongovernmental organizations, citizens advisory groups, hotels and resorts, and consultants.

Table B: Use of No-Build Areas in Regulating Shorefront Development (Questions 6-11)

State	6. State Has Identified Shorefront No-Build Areas	7. Type of Delineation			8. State Employs Shorefront No-Build Areas Based on Use	9. State Employs Shorefront No-Build Areas Based on Size	10. State Allows for Exceptions, Exemptions, and/or Variances	11.State Prohibits Rebuilding of Nonconforming Structures in Shorefront No-Build Areas
		Erosion-Based	Fixed	Area/Other				
AL	✓			✓			✓	✓
AS	✓		✓	✓			✓	
CA								
CNMI	✓		✓				✓	
CT								
DE	✓		✓	✓			✓	✓
FL	✓	✓		✓			✓	
GA	✓			✓				
GU	✓		✓			✓	✓	✓
HI	✓	✓	✓	✓			✓	✓
IN								
LA								
MA								
MD	✓			✓				
ME	✓		✓	✓	✓	✓	✓	
MI	✓	✓		✓		✓	✓	✓
MN	✓	✓	✓				✓	
MS								
NC	✓	✓	✓	✓		✓	✓	✓
NH	✓		✓				✓	
NJ	✓	✓	✓	✓	✓		✓	
NY	✓	✓	✓				✓	✓
OH								
OR	✓			✓				
PA	✓	✓	✓		✓		✓	✓
PR	✓		✓	✓		✓	✓	
RI	✓	✓	✓	✓	✓	✓	✓	✓
SC	✓			✓				✓
TX	✓		✓	✓				✓
USVI	✓		✓	✓				
VA	✓	✓		✓			✓	✓
WA								
WI	✓		✓				✓	

Appendix B: Laws and Regulations[15]

Alabama

Code of Alabama	http://alisondb.legislature.state.al.us/acas/CodeOfAlabama/1975/coatoc.htm
• Title 9 Conservation and Natural Resources, Chapter 7 Preservation, Development, Etc., of Coastal Areas	Direct link not available
Alabama Administrative Code	http://www.alabamaadministrativecode.state.al.us/
• Department of Environmental Management, Coastal Area Management Program:	http://adem.alabama.gov/alEnviroRegLaws/default.cnt
o Chapter 335-8-1 General Provisions and Review Process	
o Chapter 335-8-2 Provisions Related to Coastal Activities	

American Samoa

American Samoa Code Annotated	http://www.asbar.org/ (see Legal Resources)
• Title 24 Natural Resources and Environment, Chapter 5 Coastal Management Program	http://asbar.org/Newcode/Title%2024.htm#chapter5
American Samoa Administrative Code	http://www.asbar.org/ (see Legal Resources)
• Title 26 Environmental Safety and Land Management, Chapter 2 American Samoa Coastal Management Program Administrative Rules	http://asbar.org/Regs/asac26_02.htm

California

The State of California does not explicitly identify no-build areas along its ocean shorefront. However, the California Coastal Commission interprets provisions in the California Coastal Act to mean that new development in the state's coastal zone must be stable for its economic life and allows siting accordingly on a case-by-case basis. Thus, the law has the same net effect as a no-build area.

California Public Resources Code	http://www.leginfo.ca.gov/calaw.html
• Division 20 California Coastal Act	http://www.coastal.ca.gov/coastact.pdf

Commonwealth of the Northern Mariana Islands

Commonwealth of the Northern Mariana Islands Statutes	http://www.cnmilaw.org/publicandlocallaws.htm
• Commonwealth of the Northern Mariana Islands Public Law 3-47 (Coastal Resources Management Act)	http://www.cnmilaw.org/pdf/public_laws/03/pl03-47.pdf
Northern Mariana Islands Administrative Code	Full code not available online
• Title 15, Chapter 10 Coastal Resources Rules and Regulations	http://www.crm.gov.mp/programs/permitting/regs.asp
o Part 315 Height, Density, Setback, Coverage and Parking Guidelines	http://www.crm.gov.mp/programs/permitting/regsdtl.asp?pmtreglistID=4

[15] Links functional as of May 2, 2012. Please note, laws and regulations online may not be current.

Delaware

Delaware Code	http://delcode.delaware.gov/
• Title 7 Conservation, Chapter 68 Beach Preservation (Beach Preservation Act)	http://delcode.delaware.gov/title7/c068/index.shtml
Delaware Administrative Code	http://regulations.delaware.gov/AdminCode/
• Title 7 Natural Resources and Environmental Control	http://regulations.delaware.gov/AdminCode/title7/
o 5102 Regulation Governing Beach Protection and the Use of Beaches	http://regulations.delaware.gov/AdminCode/title7/5000/5102.shtml
o 5104 Delaware Coastal Management Program Federal Consistency Policies and Procedures	http://regulations.delaware.gov/AdminCode/title7/5000/5104.shtml

Florida

Florida Statutes	http://www.leg.state.fl.us/STATUTES/
• Title XI County Organization and Intergovernmental Relations, Chapter 161 Beach and Shore Preservation	http://www.leg.state.fl.us/STATUTES/index.cfm?App_mode=Display_Statute&URL=0100-0199/0161/0161ContentsIndex.html&StatuteYear=2011&Title=%2D%3E2011%2D%3EChapter%20161
Florida Administrative Code	https://www.flrules.org/default.asp
• 62B-33 Rules and Procedures for Coastal Construction and Excavation	https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62b-33

Georgia

Georgia Code	http://www.lexisnexis.com/hottopics/gacode/
• Title 12 Conservation and Natural Resources; Chapter 5 Water Resources; Article 4 Coastal Waters, Beaches, and Sand Dunes; Part 2 Shore Protection (Shore Protection Act)	Direct link not available

Guam

Guam Annotated Code	http://www.guamcourts.org/justicedocs/
• Title 21 Real Property, Chapter 61 Zoning Law (The Zoning Law of the Territory of Guam)	Direct link not available

Hawaii

Hawaii Revised Statues	http://www.capitol.hawaii.gov/docs/HRS.htm
• Title 13 Planning and Economic Development, Chapter 205A Coastal Zone Management, Part III Shoreline Setbacks	http://www.capitol.hawaii.gov/hrscurrent/Vol04_Ch0201-0257/HRS0205A/HRS_0205A-0041.htm
• Title 12 Conservation and Resources, Subtitle 4 Forestry and Wildlife; Recreation Areas; Fire Protection, Chapter 183C Conservation District	http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0183C/HRS_0183C-.htm

Hawaii (continued)

Hawaii Administrative Rules	http://hawaii.gov/ltgov/office/adminrules
• Title 15 Department of Business, Economic Development, and Tourism, Subtitle 1 Office Of Planning, Chapter 150 Rules Governing Special Management Areas and Shoreline Areas within Community Development Districts and Practice and Procedures Before the Office of Planning	http://hawaii.gov/dbedt/main/about/admin-rules/15-150.pdf
• Title 13 Department of Land and Natural Resources, Subtitle 1 Administration, Chapter 5 Conservation District	http://hawaii.gov/dlnr/occl/documents-forms/rules/13-5.PDF

Maine

Maine Revised Statutes Annotated	http://www.mainelegislature.org/legis/Statutes/
• Title 38 Waters and Navigation, Chapter 3 Protection and Improvement of Waters, Subchapter 1 Environmental Protection Board	http://www.mainelegislature.org/legis/Statutes/38/title38ch3sec0.html
o Article 2-B Mandatory Shoreland Zoning	
o Article 5-A Natural Resources Protection Act	
Code of Maine Rules	http://www.maine.gov/sos/cec/rules/rules.html
• Department of Environmental Protection	http://www.maine.gov/sos/cec/rules/06/chaps06.htm
o 06-096 Chapter 1000 Guidelines—Municipal Shoreland Zoning Ordinances	http://www.maine.gov/sos/cec/rules/06/096/096c1000.doc
o 06-096 Chapter 355 Coastal Sand Dune Rules	http://www.maine.gov/sos/cec/rules/06/096/096c355.doc

Massachusetts

The State of Massachusetts does not explicitly identify no-build areas along its ocean shorefront. However, performance standards in state regulations that call for "no adverse effect" make permitting of new construction extremely difficult on primary dunes, coastal beaches, and salt marshes and have the same net effect as a no-build area.

Massachusetts General Laws	http://www.malegislature.gov/Laws/GeneralLaws/
• Part I Administration of the Government	http://www.malegislature.gov/Laws/GeneralLaws/PartI
o Title XIV Public Ways And Works, Chapter 91 Waterways	http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleXIV/Chapter91
o Title XIX Agriculture and Conservation, Chapter 131 Inland Fisheries and Game and Other Natural Resources	http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter131
Code of Massachusetts Regulations	http://www.lawlib.state.ma.us/source/mass/cmr/
• Title 310 Department of Environmental Protection	http://www.mass.gov/dep/water/laws/regulati.htm
o Chapter 9 Waterways	http://www.mass.gov/dep/service/regulations/310cmr09.pdf
o Chapter 10 Wetlands Protection	http://www.mass.gov/dep/service/regulations/310cmr10a.pdf

Maryland

Annotated Code of Maryland	http://www.lexisnexis.com/hottopics/mdcode/
• Natural Resources, Title 8 Waters, Subtitle 11 Beach Erosion Control and Replenishment	Direct link not available
Code of Maryland Regulations	http://www.dsd.state.md.us/comar/
• Title 08 Department of Natural Resources, Subtitle 09 State-Ocean City Beach Erosion Control District	http://www.dsd.state.md.us/comar/subtitle_chapters/08_Chapters.aspx

Michigan

Michigan Compiled Laws	http://www.legislature.mi.gov/
• Chapter 324 Natural Resources and Environmental Protection, Article III Natural Resources Management, Chapter 1 Habitat Protection (Natural Resources and Environmental Protection Act)	http://www.legislature.mi.gov/(S(qtacvf45jjsay4mbcajwu3f3))/mileg.aspx?page=getObject&objectName=mcl-451-1994-III-1
o Part 323 Shorelands Protection and Management	http://www.legislature.mi.gov/(S(kx25xv55qliyoe45gkwczd45))/mileg.aspx?page=getObject&objectName=mcl-451-1994-III-1-THE-GREAT-LAKES-323
o Part 353 Sand Dunes Protection and Management	http://www.legislature.mi.gov/(S(idlwf1b3lm4t3j450vmxbp55))/mileg.aspx?page=getObject&objectName=mcl-451-1994-III-1-LAND-HABITATS-353
Michigan Administrative Code	http://michigan.gov/lara/0,4601,7-154-10576_35738_5698---,00.html
• Department of Environmental Quality, Water Resources Division (formerly Land and Water Management), Shorelands Protection and Management (formerly Great Lakes Shorelands)	http://www.state.mi.us/orr/emi/admincode.asp?AdminCode=Single&Admin_Num=28100021&Dpt=EQ&RngHigh=

Minnesota

Minnesota Statutes	https://www.revisor.mn.gov/statutes/
• Chapter 103F Protection of Water Resources, Shoreland Development (Shoreland Management Act)	https://www.revisor.mn.gov/statutes/?id=103F
Minnesota Administrative Rules	https://www.revisor.mn.gov/rules/
• Department of Natural Resources, Chapter 6120 Shoreland and Floodplain Management, Shoreland Management	https://www.revisor.mn.gov/rules/?id=6120
o North Shore Management Plan	http://www.northshoremanagementboard.org/

New Hampshire

New Hampshire Statutes	http://www.gencourt.state.nh.us/rsa/html/indexes/default.html
• Title L Water Management and Protection, Chapter 483-B Shoreland Water Quality Protection Act	http://www.gencourt.state.nh.us/rsa/html/NHTOC/NHTOC-L-483-B.htm
New Hampshire Code of Administrative Rules	http://gencourt.state.nh.us/rules/index.html
• Department of Environmental Services, Chapter Env-Wq 1400 Shoreland Protection	http://gencourt.state.nh.us/rules/state_agencies/env-wq1400.html

New Jersey

New Jersey Statutes	http://lis.njleg.state.nj.us/cgi-bin/om_isapi.dll?clientID=688011&depth=2&expandheadings=off&headingswithhits=on&infobase=statutes.nfo&softpage=TOC_Frame_Pg42
• Title 13 Conservation and Development—Parks and Reservations, Chapter 19 Coastal Protection, Etc. (Coastal Area Facility Review Act)	http://www.state.nj.us/dep/landuse/13_19.pdf
New Jersey Administrative Code	http://www.michie.com/newjersey/lpext.dll?f=templates&fn=main-h.htm&cp=
• Title 7 Environmental Protection, Chapter 7E Coastal Zone Management Rules	http://www.state.nj.us/dep/landuse/7-7e.pdf

New York

Laws of New York	http://public.leginfo.state.ny.us/menugetf.cgi?COMMONQUERY=LAWS
• Environmental Conservation, Article 34 Coastal Erosion Hazard Areas (Coastal Erosion Hazard Areas Act)	http://public.leginfo.state.ny.us/LAWSSEAF.cgi?QUERYTYPE=LAWS+&QUERYDATA=@SLENV0A34+&LIST=LAW+&BROWSER=EXPLORER+&TOKEN=45020410+&TARGET=VIEW
New York Codes, Rules and Regulations	http://www.dos.state.ny.us/info/nycrr.html
• Title 6 Department of Environmental Conservation	http:// www.dec.ny.gov/regulations/regulations.html
o Chapter V Resource Management Services, Part 505 Coastal Erosion Management	http://www.dec.ny.gov/regs/4470.html

North Carolina

North Carolina General Statutes	http://www.ncga.state.nc.us/gascripts/statutes/Statutes.asp
• Chapter 113A: Pollution Control and Environment, Article 7 North Carolina Coastal Area Management (North Carolina Coastal Area Management Act)	http://dcm2.enr.state.nc.us/Rules/cama.htm
North Carolina Administrative Code	http://reports.oah.state.nc.us/ncac.asp
• Title 15A Environment and Natural Resources, Chapter 7 Coastal Management	http://dcm2.enr.state.nc.us/Rules/current.htm
o Subchapter 7H State Guidelines for Areas of Environmental Concern	http://www.nccoastalmanagement.net/Rules/Text/t15a_07h.pdf
o Subchapter 7J Procedures for Processing and Enforcement of Major and Minor Development Permits, Variance Requests, Appeals from Permit Decisions, and Declaratory Rulings	http://www.nccoastalmanagement.net/Rules/Text/t15a_07j.pdf

Oregon

Oregon Revised Statutes	http://www.leg.state.or.us/ors/
• Chapter 390 State and Local Parks, Recreation Programs, Scenic Waterways, Recreation Trails; Ocean Shores, State Recreation Areas	http://www.leg.state.or.us/ors/390.html
• Chapter 197 Comprehensive Land Use Planning Coordination	http://www.leg.state.or.us/ors/197.html

Oregon (continued)

Oregon Administrative Rules	http://arcweb.sos.state.or.us/pages/rules/access/
• Chapter 736 Parks and Recreation Department, Division 20 Beach Construction/Alteration Standards	http://arcweb.sos.state.or.us/pages/rules/oars_700/oar_736/736_020.html
• Chapter 660 Department of Land Conservation and Development, Division 15 Statewide Planning Goals and Guidelines	http://arcweb.sos.state.or.us/pages/rules/oars_600/oar_660/660_015.html
o Oregon Statewide Planning Goals	http://www.oregon.gov/LCD/goals.shtml
- Goal 18 Beaches and Dunes	http://www.oregon.gov/LCD/docs/goals/goal18.pdf
- Goal 17 Coastal Shorelands	http://www.oregon.gov/LCD/docs/goals/goal17.pdf

Pennsylvania

Pennsylvania Code	http://www.legis.state.pa.us/
• Title 25 Environmental Protection, Chapter 85 Bluff Recession and Setback	http://www.pacode.com/secure/data/025/chapter85/chap85toc.html

Puerto Rico

Laws of Puerto Rico Annotated	http://www.lexisnexis.com/hottopics/lawsofpuertorico/
• Title 23 Public Planning and Development, Part IV Navigation and Marine Trade, Chapter 101 Dock and Harbor Act of Puerto Rico of June 1968 (Título Veintitrés Planificación y Fomento Público, Parte IV Navegación y Tráfico Marítimo, Capítulo 101 Ley de Muelles y Puertos de 1968)	Direct link not available
Regulations of Puerto Rico	http://app.estado.gobierno.pr/ReglamentosOnLine/RegIOnLine.aspx
• Department of Natural Resources Regulation 4860, Regulation for the Use, Surveillance, Conservation, and Administration of Territorial Waters, Submerged Lands beneath them, and the Maritime Zone (Reglamento para el Aprovechamiento, Vigilancia, Conservación y Administración de las Aguas Territoriales, los Terrenos Sumergidos Bajo Estas y la Zona Marítimo-Terrestre)	Direct link not available (English translation not available online)
• Puerto Rico Planning Board Regulation 7951, Joint Permit Regulation for Construction Works and Land Uses, Title V Special Planning Provisions, Chapter 3 Coastal Zoning and Beach Access (Reglamento Conjunto de Permisos para Obras de Construcción y Usos de Terrenos, Tomo V Disposiciones Especiales de Planificación, Capítulo 3 Zonificación de la Zona Costanera y de Accesos a Las Playas y Costas de Puerto Rico)	http://www.jp.gobierno.pr/Portal_JP/Portals/0/Reglamentos/ReglamentoConjunto%28Vigencia29noviembre2010%29%28Protegido%29.pdf (English translation in process)

Rhode Island

Rhode Island General Laws	http://www.rilin.state.ri.us/Statutes/Statutes.html
• Title 46 Waters and Navigation, Chapter 23 Coastal Resource Management Council	http://www.rilin.state.ri.us/Statutes/TITLE46/46-23/INDEX.HTM (also contained in Coastal Resources Management Program, as Amended, see below)
Rhode Island Rules and Regulations	http://sos.ri.gov/rules/
• Coastal Resources Management Program, as Amended	http://www.crmc.ri.gov/regulations.html

South Carolina

South Carolina Code of Laws	http://www.scstatehouse.gov/code/statmast.php
• Title 48 Environmental Protection and Conservation, Chapter 39 Coastal Tidelands and Wetlands (Coastal Tidelands and Wetlands Act)	http://www.scstatehouse.gov/code/t48c039.php
South Carolina Code of Regulations	http://www.scstatehouse.gov/coderegs/statmast.php
• Chapter 30 Department of Health and Environmental Control—Coastal Division	http://www.scstatehouse.gov/coderegs/c030.php

Texas

Texas Natural Resources Code	http://www.statutes.legis.state.tx.us/
• Title 2 Public Domain, Subtitle E Beaches and Dunes	
o Chapter 61 Use And Maintenance of Public Beaches (Open Beaches Act)	http://www.statutes.legis.state.tx.us/Docs/NR/htm/NR.61.htm
o Chapter 63 Dunes	http://www.statutes.legis.state.tx.us/Docs/NR/htm/NR.63.htm
Texas Administrative Code	http://www.sos.state.tx.us/tac/index.shtml
• Title 31 Natural Resources and Conservation, Part 1 General Land Office, Chapter 15 Coastal Area Planning, Subchapter A Management of the Beach/Dune System	http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=5&ti=31&pt=1&ch=15&sch=A&rl=Y

U.S. Virgin Islands

Virgin Islands Code Annotated	http://www.lexisnexis.com/hottopics/vicode/
• Title 12 Conservation, Chapter 10 Open Shorelines (Open Shorelines Act)	Direct link not available

Virginia

Code of Virginia	http://leg1.state.va.us/000/src.htm
• Title 28.2 Fisheries and Habitat of the Tidal Waters, Chapter 14 Coastal Primary Sand Dunes and Beaches (Coastal Primary Sand Dunes and Beaches Act)	http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC28020000014000000000000
Virginia Administrative Code	http://leg1.state.va.us/cgi-bin/legp504.exe?000+men+SRR
• Title 4 Conservation and Natural Resources, Agency 20 Marine Resources Commission, Chapter 440 Coastal Primary Sand Dune/Beaches Guidelines: Barrier Island Policy	http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+4VAC20-440-10

Washington

The State of Washington does not explicitly identify no-build areas. Structural setbacks and vegetative buffers are required along the Washington shorefront, but vary in application depending upon existing coastal development patterns and ecological condition. Thus, Washington's Shoreline Management Act law and its implementing codes have the same net effect as no-build areas.

Revised Code of Washington	http://apps.leg.wa.gov/rcw/default.aspx
• Title 90 Water Rights–Environment, Chapter 90.58 Shoreline Management Act of 1971	http://apps.leg.wa.gov/rcw/default.aspx?cite=90.58
Washington Administrative Code	http://apps.leg.wa.gov/wac/default.aspx
• Title 173 Ecology, Department of, Chapter 173-26 State Master Program Approval/Amendment Procedures and Master Program Guidelines	http://apps.leg.wa.gov/wac/default.aspx?cite=173-26

Wisconsin

Wisconsin Statutes	http://www.legis.state.wi.us/rsb/stats.html
• Functions and Government of Municipalities; Chapter 59 Counties; Subchapter VII Land Use, Information and Regulation, Environmental Protection, Surveys, Planning and Zoning; Section 692 Zoning of Shorelands on Navigable Waters	https://docs.legis.wisconsin.gov/statutes/statutes/59/VII/692
Wisconsin Administrative Code	http://www.legis.state.wi.us/rsb/code.htm
• Natural Resources, Environmental Protection, Chapter 115 Wisconsin's Shoreland Protection Program	Direct link not available

Appendix C: Contact Information

Alabama
Roy Collins
Alabama Department of Environmental Management
4171 Commanders Drive
Mobile, AL 36615
(251) 432-6533
rhc@adem.state.al.us

American Samoa
Sean Morrison
American Samoa Department of Commerce
American Samoa Coastal Management Program
Executive Office Building
Pago Pago, AS 96799
(684) 633-5155
sean.morrison@doc.as

California
Michelle Jesperson
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105
(415) 904-5297
mjesperson@coastal.ca.gov

Commonwealth of the Northern Mariana Islands
Rita Chong Dela Cruz
Coastal Resources Management Office
PO Box 10007
Saipan, MP 96950
(670) 664-8306
rita.chong@crm.gov.mp

Connecticut
Brian Thompson
Department of Environmental Protection
Office of Long Island Sound Programs
79 Elm Street, Hartford CT 06106-5127
(860) 424-3034
brian.thompson@ct.gov

Delaware
Maria Sadler
Department of Natural Resources and Environmental Control
Division of Soil and Water Conservation
Shoreline and Waterway Management Section
89 Kings Highway
Dover, DE 19901
(302) 739-9921
Maria.Sadler@state.de.us

Florida
Gene Chalecki
Florida Department of Environmental Protection
Bureau of Beaches and Coastal Systems
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
(850) 488-7813
gene.chalecki@dep.state.fl.us

Georgia
Brad Gane
Georgia Department of Natural Resources
Coastal Resources Division
One Conservation Way
Brunswick, GA 31520
(912) 264-7218
brad_gane@dnr.state.ga.us

Guam
Victor Torres
Guam Bureau of Statistics and Plans
POB 2950
513 W Marine Corps Drive
Hagatna, GU 96932
(671) 472-4201
victor.torres@bsp.guam.gov

Hawaii
Leo Asuncion
Hawaii Coastal Zone Management Program
State of Hawaii Office of Planning
PO Box 2359
Honolulu, HI 96803-2359
(808) 587-2875
leo.asuncion@dbedt.hawaii.gov

Indiana
Sergio Mendoza
Indiana Department of Natural Resources
Lake Michigan Coastal Program
1600 North 25 East
Chesterton, IN 46304
(219) 926-9757
smendoza@dnr.in.gov

Louisiana
Linda Pace
Louisiana Department of Natural Resources
Office of Coastal Management
Interagency Affairs and Field Services Division
617 North Third Street
Baton Rouge, LA 70802
(225) 342-7936
linda.pace@la.gov

Maine
Peter Slovinsky
Maine Geological Survey
22 State House Station
Augusta, ME 04333
(207) 287-7173
peter.a.slovinsky@maine.gov

Deirdre Schneider
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017
(207) 557-0353
deirdre.schneider@maine.gov

Maryland
Jordan Loran
Maryland Department of Natural Resources
580 Taylor Avenue
Annapolis, MD 21401
(410) 260-8907
JLORAN@dnr.state.md.us

Massachusetts
Bruce Carlisle
Massachusetts Office of Coastal Zone Management
251 Causeway Street, 8th floor
Boston, MA 02114
(617) 626-1205
bruce.carlisle@state.ma.us

Michigan
Matt Warner
Michigan Coastal Management Program
Office of the Great Lakes
PO Box 30473
Lansing, MI 48909-7973
(517) 335-3449
warnerm1@michigan.gov

Minnesota
Cliff Bentley
Minnesota Department of Natural Resources
Shorelands Program/Minnesota Lake Superior
Coastal Program
1568 Hwy 2
Two Harbors, MN 55616
(218) 834-1441
cliff.bentley@dnr.state.mn.us

Mississippi
Jan Boyd
Mississippi Department of Marine Resources
Mississippi Coastal Program
1141 Bayview Avenue, Suite 101
Biloxi, MS 39530
(228) 523-4102
jan.boyd@dmr.ms.gov

New Hampshire

Jason Aube
New Hampshire Department of Environmental
Services
Wetlands Bureau, Shoreland Program
(603) 271-8176
jason.aube@des.nh.gov

New Jersey
Dorina Frizzera
New Jersey Department of Environmental Protection
Coastal Management Office
401-07D P.O. Box 420
401 East State Street
Trenton, NJ 08625-0420
(609) 777-3251
dorina.frizzera@dep.state.nj.us

New York
Barry Pendergrass
New York State Department of State
Office of Coastal, Local Government, and Community Sustainability
99 Washington Avenue, 10th floor
Albany, NY 12231
(518) 486-3277
barry.pendergrass@dos.state.ny.us

North Carolina
Braxton Davis
North Carolina Division of Coastal Management
400 Commerce Avenue
Moorehead City, NC 28557
(252) 808-2808
Braxton.Davis@ncdenr.gov

Ohio
Deborah Beck
Ohio Department of Natural Resources
Office of Coastal Management
105 West Shoreline Drive
Sandusky, Ohio 44870
(419) 626-7980
deborah.beck@dnr.state.oh.us

Oregon
Laren Woolley
Oregon Department of Land Conservation and Development
Coastal Management Program – Coastal Services Center
810 SE Alder Street, Suite B
Newport, Oregon 97365
(503) 801-1370
laren.woolley@state.or.us

Pennsylvania
Matt Walderon
Pennsylvania Department of Environmental Protection
Pennsylvania Coastal Resources Management Program
PO Box 2063
Harrisburg, PA 17105-2063
(717) 772-2196
mwalderon@state.pa.us

Puerto Rico
Ernesto L. Diaz
Department of Natural and Environmental Resources
Puerto Rico Coastal Management Program
PO Box 366147
San Juan, PR 00936
(787) 999-2200 x2729
ediaz@drna.gobierno.pr

Rhode Island
Janet Freedman
Rhode Island Coastal Resources Management Council
4808 Tower Hill Road
Wakefield, RI 02879-1900
(401) 783-3370
jfreedman@crmc.ri.gov

South Carolina
Barbara Neale
South Carolina Department of Health and Environmental Control
Office of Ocean and Coastal Resource Management
1362 McMillan Avenue, Suite 400
Charleston, SC 29405
(843) 953-0254
nealeb@dhec.sc.gov

Texas
Angie Sunley
Texas General Land Office
1700 North Congress Avenue
PO Box 12873
Austin, TX 78711-2873
(512) 475-0773
angela.sunley@glo.state.tx.us

U.S. Virgin Islands
Jean-Pierre L. Oriol
Department of Planning and Natural Resources
Virgin Islands Coastal Zone Management Program
8100 Lindberg Bay, Suite 61
Cyril E King Airport, Terminal Building, 2nd Floor
St. Thomas, VI 00802
(340) 774-3320
jp.oriol@dpnr.gov.vi

Virginia
Shepard Moon, Jr.
Virginia Coastal Zone Management Program
PO Box 1105
Richmond, VA 23218
(804) 698-4527
shep.moon@deq.virginia.gov

Washington
Brian Lynn/Peter Skowlund
Washington State Department of Ecology
Shorelands and Environmental Assistance Program
PO Box 47600
Olympia, WA 98504-7600
(360) 407-6224 (Lynn), (360) 407-6522 (Skowlund)
blyn461@ecy.wa.gov, psko461@ecy.wa.gov

Wisconsin
Kate Angel
Wisconsin Coastal Management Program
101 East Wilson St, 10th Floor
Madison, WI 53708
(608) 267-7988
kathleen.angel@wisconsin.gov

Resources

Bernd-Cohen, T. and M. Gordon. 1998. State Coastal Management Effectiveness in Protecting Beaches, Dunes, Bluffs, Rocky Shores: A National Overview. Technical Report Submitted to National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resources Management. http://www.ikzm-oder.de/pl/download.php?fileid=272

Blake, E.S., C.W. Landsea, and E.J. Gibney. 2011. The Deadliest, Costliest, and Most Intense United States Tropical Cyclones from 1851 to 2010 (And Other Frequently Requested Hurricane Facts). NOAA Technical Memorandum NWS NHC-6. National Oceanic and Atmospheric Administration, National Weather Service, National Hurricane Center. http://www.nhc.noaa.gov/pdf/nws-nhc-6.pdf

Burby, R.J., R.E. Deyle, D.R. Godschalk, and R.B. Olshansky. 2000. Creating Hazard Resilient Communities through Land-Use Planning. *Natural Hazards Review*. 1, no. 2 (May 2000): 99-106.

Coastal Zone Management Act. 1972. 16 U.S.C. § 1451 et seq. http://coastalmanagement.noaa.gov/czm/czm_act.html

H. John Heinz III Center for Science, Economics, and the Environment (Heinz Center). 2000. Evaluation of Erosion Hazards. Federal Emergency Management Agency. http://www.fema.gov/pdf/library/erosion.pdf

Hazard Mitigation Technical Assistance Partnership, Inc. (HMTAP) and French & Associates, Ltd. 2000. Evaluation of CRS Credited Activities during Hurricane Floyd. Federal Emergency Management Agency. http://www.ncfloodmaps.com/pubdocs/pfloydrpt.pdf

National Oceanic and Atmospheric Administration (NOAA). 2011. Billion Dollar U.S. Weather Disasters, 1980-2010. NOAA National Climatic Data Center. http://www.ncdc.noaa.gov/oa/reports/billionz.html

National Research Council, Committee on Coastal Erosion Zone Management. 1990. *Managing Coastal Erosion*. National Academies Press. http://books.nap.edu/catalog.php?record_id=1446

Surfrider Foundation's State of the Beach: http://www.beachapedia.org/State_of_the_Beach

Titus, J.G. 1998. Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches without Hurting Property Owners. *Maryland Law Review*. 57, no. 4 (1998): 1279-399. http://epa.gov/climatechange/effects/coastal/SLRTakings.html

Titus, J.G. 2011. Rolling Easements. U.S. Environmental Protection Agency, Climate Ready Estuaries Program. http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf