STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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**To:** Board of Environmental Protection

**From:** Rob Wood, Director, Bureau of Land Resources
Naomi Kirk-Lawlor, Policy Development Specialist, Office of the Commissioner

**Date:** November 7, 2024

**Re:** Proposed revisions to Chapter 305, Natural Resources Protection Act - Permit by Rule Standards and Chapter 310, Wetlands and Waterbodies Protection Rules

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## 1. Synopsis

The Department is proposing routine technical rulemaking in response to increased interest in shoreline stabilization activities requiring a Natural Resources Protection Act (NRPA) permit and to ensure conformity with recently passed legislation. The proposed rulemaking package outlined in this memo would amend the Department's Chapter 305 NRPA Permit by Rule Standards and the Department's Chapter 310 Wetlands and Waterbodies Protection rules. The goals of the rulemaking are to:

- encourage nature-based shoreline stabilization methods using vegetation and biodegradable stabilization materials;
- place appropriate limits on the use of hardened stabilization structures like riprap and seawalls to ensure project impacts are reasonable and to address cumulative impacts; and
- simplify and speed up the permitting process for applicants and the Department.

The proposed rule changes would also implement two laws passed by the 131st Legislature, which allowed the use of biodegradable stabilization methods for sand dune restoration[1] and allowed for increasing the height of piers, wharves and docks when these structures are replaced through permit by rule (PBR).[2] Other proposed changes include expanding the non-development activities allowed through PBR in coastal sand dune systems, increasing the time limit for processing NRPA PBR applications to the statutory timeline of 20 working days, and updating erosion and sedimentation control standards throughout Chapter 305 to reflect current best

[1] P.L. 2023 ch. 97, An Act to Improve Coastal Sand Dune Restoration Projects
[2] P.L. 2023 ch. 531, An Act to Amend the Natural Resources Protection Act to Enhance the State's Ability to Respond to and Prepare for Significant Flood Events and Storm Surge

practices. Other non-substantive corrections to text and formatting are also incorporated throughout the proposed rules.

## 2. Introduction

### 2.1. Climate Resilience

As Maine confronts the reality of a changing climate, one of our tasks is to increase the state's climate resiliency. Resiliency comes in many forms, including social, economic, infrastructure, and environmental, all of which were focuses of the 2020 *Maine Won't Wait* Climate Action Plan. One of the Climate Council recommendations for promoting climate resiliency is to encourage nature-based solutions whenever they are feasible.[3,4,5] This rulemaking supports climate resiliency by encouraging nature-based solutions to shoreline stabilization and coastal restoration and by expanding opportunities to use NRPA PBR for coastal resilience projects.

### 2.2. Erosion, shoreline stabilization and nature-based solutions

Erosion is often perceived as a harmful process that must be prevented. When land is disturbed for development, agriculture or other reasons, uncontrolled erosion can transport sediment into waterbodies, causing turbidity. This is harmful for aquatic life and therefore the Department's regulations are designed to minimize unnatural sedimentation of waterbodies.

However, in the absence of human intervention, erosion and deposition are natural processes that occur, to some degree, everywhere on Earth. Erosion is easy to identify along shorelines, an area of natural topographic relief where the water meets the land. Rivers meander, banks and bluffs slump, coastal shorelines retreat, and sand moves through beach systems. These processes support natural ecosystems, for example, by providing necessary sediment to mudflats and saltmarshes. The NRPA standards recognize the importance of natural erosion in 38 M.R.S. §480-D(2), which requires that a proposed activity "will not cause unreasonable erosion of soil or sediment *nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment*." (emphasis added).

The Department receives many applications from property owners seeking to stabilize shorelines and halt naturally occurring erosion. Applicants typically propose hardened stabilization structures, such as riprap and seawalls. However, these methods pose significant downsides for the environment. They can reflect wave energy, causing increased erosion adjacent to the structure; harm important littoral habitat; result in the loss of nearshore vegetation leading to increased water temperatures; and decrease natural sediment transport into the waterbody, in addition to causing scenic and aesthetic changes to the shoreline. By contrast, nature-based shoreline stabilization techniques using native plants and

[3] Maine Won't Wait Maine Climate Action Plan, 2020, Strategy F, pg. 87 and Strategy G, pg. 95
[4] Coastal & Marine Working Group Report, Maine Climate Council, 2020, Strategy 4, pgs. 5, A-41, and A-42
[5] Scientific and Technical Subcommittee Report, Maine Climate Council, 2024, pgs. 15, 124, 166

biodegradable stabilization materials, such as coir logs, natural fiber filter fabrics, tree root wads, logs, and/or wooden stakes, can result in lesser (or no) impacts and impacts that are less permanent. The Maine Climate Council identifies living shoreline stabilization projects as nature-based solutions that should be encouraged, when appropriate.[3,4,5]

This proposed rulemaking would encourage the use of living shoreline stabilization techniques and place appropriate limits on the use of hardened stabilization structures outside of coastal sand dune systems.[6] The proposed rule changes would result in the following practical outcomes:

- Most applicants who propose to use vegetation and/or biodegradable stabilization materials to stabilize a shoreline will be eligible for PBR.
- More applicants than today who propose to install a hardened stabilization structure (or modify an existing structure) will be eligible for PBR, but projects will generally be subject to higher standards than today.
- When applicants propose to install a hardened stabilization structure (or modify an existing structure) that does not qualify for PBR, there will be clearer requirements in the Department's Chapter 310 rules governing application requirements and standards for such projects.
- In certain, relatively few cases, hardened stabilization structures that are not-PBR eligible will also be explicitly ineligible for an individual permit because the benefit of the proposed project is not significant enough to outweigh the impact. In other words, the rules will clarify instances when a project will be found to have an unreasonable impact. Specifically, if a hardened stabilization structure is not eligible for PBR, it must provide the benefit of protecting one of the following: 1) a water-dependent structure, 2) an existing non-water-dependent structure located close to the shoreline (within 100 feet) that cannot be moved back, 3) open space used by the public, 4) farmland, or 5) public health or safety.

## 3. Proposed amendments to Chapter 305, NRPA Permit by Rule

The proposed rule revisions would make additional activities eligible for PBR to streamline permitting for low-impact coastal resilience projects. The proposed rule would only add eligible activities and would not remove any currently allowed activities from PBR. The proposed rule would also update the standards for some activities.

### 3.1. Shoreline stabilization

The proposed Chapter 305, Section 8 (shoreline stabilization) has been re-written to such an extent that it became impractical to show insertions and deletions for this section. Therefore, Section 8 of the proposed rule is presented without track changes.

[6] The Department's Ch. 355 rules prohibit new seawalls and similar structures in coastal sand dune systems.

### 3.1.1. *Biodegradable stabilization materials*

Current PBR standards for shoreline stabilization are focused almost entirely on projects that use riprap. The proposed revisions would explicitly allow for the use of biodegradable stabilization materials for coastal and inland shoreline stabilization projects, both within and adjacent to the waterbody, with certain standards and limitations on wetland fill. In the past, these techniques were sometimes permitted under Section 13 (habitat creation or enhancement and water quality improvement activities), when they were sponsored by a public natural resource agency. This change would allow nature-based, living shoreline stabilization projects to be eligible for PBR in many more cases. Biodegradable stabilization materials are defined in the proposed rule as follows:

> **Biodegradable stabilization materials.** Natural, plant-based biodegradable or compostable fabrics, erosion control blankets, and logs or rolls made from coir, jute, straw, or other similar materials, including materials that contain or use gravel or cobble; discarded holiday trees and other trees fallen or washed up in proximity to the site; tree root wads; and wooden stakes. Metal anchors or cables may be used to secure those materials. Anchors may also include cobbles or small boulders that are not obtained from the shoreline or below the normal high water line or highest astronomical tide line.

The goal of a living shoreline project is for vegetation to establish and take hold, ultimately stabilizing the shoreline. Vegetative establishment standards in the proposed rule would limit plantings to only native species. In time, the biodegradable stabilization materials will decompose, and metal cables and anchors will weather, rusting away. The proposed rule would not allow cables and anchors made of stainless steel because it takes much longer to degrade than bright steel or galvanized steel.

### 3.1.2. *Linear limits*

Under the current rule, shoreline stabilization projects along the shoreline of certain freshwater waterbodies affecting up to 100 linear feet of shoreline are eligible for permit by rule. (Coastal shoreline stabilization projects and shoreline stabilization projects on rivers[7] are not currently PBR-eligible). To date, these projects have relied almost exclusively on riprap. The way the current rule is structured, some property owners have interpreted the language to allow for multiple successive permits by rule for riprap stabilization projects, increasing the hardened shoreline on their property in 100-foot increments. This can ultimately result in a larger linear impact to the shoreline that, in total, may not meet the "no significant impact" statutory standard for permit by rule.[8] In the proposed rule, shoreline stabilization projects would only be eligible for PBR if they do not cause the total linear feet of riprap-stabilized shoreline on the lot to exceed 100 linear feet. For example, if an applicant already had 50 feet of the shoreline on their property stabilized with riprap, they could apply for a PBR for up to an additional 50

[7] As defined by 38 M.R.S. §436 A(11)
[8] 38 M.R.S. §344(7)

linear feet of riprap stabilization. No such eligibility limits are placed on the length of shoreline stabilization projects using biodegradable stabilization methods and/or vegetation. Proposed riprap projects that exceed the 100-foot linear maximum allowed under the proposed rule would need to be reviewed through the individual NRPA permitting process.

The proposed rule would also place limits on the use of riprap for shoreline stabilization near a property boundary. Specifically, riprap must not be placed within 5 feet of a property boundary unless the applicant owns the abutting property, the abutting property contains riprap up to the property line, or the abutting property owner agrees in writing that the riprap may be extended closer to the property line. Increased erosive energy and scouring can occur where a seawall or riprap stabilization terminates, and this standard would work to prevent increased erosion on neighboring properties.

**3.1.3.** *Toe protection*

Some shoreline stabilization projects are designed to be completely outside of the waterbody, adjacent to the protected natural resource. Others need to be within the waterbody, or straddling the boundary of the protected natural resource, to be effective. In some cases, the base or "toe" of the bank has been undermined and needs to be stabilized for the project to be effective. Currently, Chapter 305 does not place limits on the amount of riprap that can be placed within a great pond, stream or brook, or freshwater wetland with over 20,000 square feet of open water.

The proposed Chapter 305 revisions would limit eligibility for PBR to projects that would result in a total of no more than 200 square feet of fill below the normal high water line or the highest astronomical tide line on the property. This includes both fill placed as part of the current project and any pre-existing fill from shoreline stabilization activities on the lot. Additionally, the proposed rule would limit how far into the resource fill may be placed. To be eligible, fill must not extend into the resource more than two feet horizontally from the change in slope at the toe of the bank and must not cover any saltmarsh or eelgrass vegetation.

These standards would apply to all shoreline stabilization projects that place material within the protected natural resource, whether they use riprap or biodegradable stabilization materials, both of which meet the definition of 'fill.' However, biodegradable stabilization materials eventually decompose, after which they would no longer count towards the total square footage of fill on the property.

**3.1.4.** *Shoreline stabilization in coastal wetlands*

Prior to Department rule changes in 2009, shoreline stabilization projects in coastal wetlands were allowed through permit by rule, subject to certain limitations. Today, however, all coastal shoreline stabilization projects must be reviewed through the individual NRPA permitting process. This proposed rule revision would allow a limited subset of coastal shoreline stabilization projects to once again be eligible for permit by

rule. Coastal stabilization projects *using riprap* would only be allowed through PBR if they are intended to protect certain structures or places. These include:

- a legally existing water-dependent structure;
- publicly owned open space such as a municipal park;
- a subsurface wastewater disposal system that is located 25 feet or less from the upland edge of an eroding bank; or
- a residential dwelling, commercial or public building or facility, or road (not including a driveway) that legally existed on the parcel prior to January 1, 2025, or that is part of the permitted redevelopment of impervious area that existed on the parcel prior to that date, and that is located 100 feet or less from the upland edge of an eroding bank if the bank:
    - is classified as an unstable or highly unstable bluff by the Maine Geological Survey, or
    - has been eroding at least one foot landward per year, on average, over multiple years.

This approach is broadly consistent with the previous eligibility requirements in the pre-2009 version of Chapter 305, which also limited coastal shoreline stabilization projects to parcels that contained a structure within 100 feet of an eroding bank or to the protection of agricultural land.[9]

In addition to these limitations on project purpose, coastal shoreline stabilization projects that use riprap would not be eligible for PBR within 25 feet of a coastal sand dune system or in or seaward of a coastal barrier resources system unit.[10] The height of coastal riprap stabilization projects would be limited to the base flood elevation mapped by FEMA, and the design of the project must be approved by a design professional such as a Maine Registered Professional Engineer or a contractor with demonstrated experience designing coastal shoreline stabilization projects (the latter requirement could be waived if the area is not mapped by FEMA as a high-velocity flood zone). No such limitations would be placed on projects that use only biodegradable stabilization materials and/or vegetation.

Since this past winter, the Department has experienced an approximately 50% increase in permit application volume, largely driven by coastal shoreline stabilization projects. When the Department receives individual NRPA applications for projects that meet the above criteria, those applications are consistently approved. Allowing this limited subset of coastal shoreline stabilization projects to once again be permitted by rule would help

[9] The Department is not proposing to make riprap stabilization for protection of agricultural land adjacent to a coastal wetland eligible for PBR, due to the complexity in determining whether a parcel qualifies as agricultural land/farmland.

[10] Coastal barrier resources system units are federally designated coastal barriers that are relatively undeveloped, highly dynamic coastal systems.

reduce the number of individual permit applications Department staff must evaluate without impacting environmental outcomes.

3.1.5 *Additional standards*

The proposed Chapter 305, Section 8 revisions also include additional eligibility requirements and standards for all projects that would be more protective of the environment than current requirements in multiple ways. Most notably, projects would not be eligible for PBR if they are located in significant wildlife habitat or if they propose to remove trees larger than 4 inches diameter at breast height (with certain exceptions).

**3.2. Piers, wharves, docks and sea level rise**

This past spring, the Legislature enacted and the Governor signed P.L. 2023 ch. 531, *An Act to Amend the Natural Resources Protection Act to Enhance the State's Ability to Respond to and Prepare for Significant Flood Events and Storm Surge*. The law allows the Department to issue a NRPA permit by rule to increase the height of a pier, wharf or dock in a coastal wetland up to 4 feet above the base flood elevation during reconstruction or replacement. Additionally, the law allows the Department to issue a NRPA permit by rule for the reconstruction and replacement of a pier, wharf or dock in a coastal sand dune system. To make Chapter 305 consistent with this new law, changes are proposed to Section 4 (replacement of structures) and Section 16 (development activities in coastal sand dunes) in the proposed rule.

**3.3. Seawalls, retaining walls and sea level rise**

Currently, Chapter 305 does not allow someone to receive a NRPA permit by rule to raise the height of a seawall or retaining wall in, or adjacent to, a coastal wetland. Repairs can be made to seawalls and retaining walls using the statutory exemption for maintenance and repair, if the existing dimensions are maintained. Likewise, seawalls and retaining walls in a coastal wetland can be replaced through a permit by rule under Section 4 (replacement of structures), if the original dimensions, including height, are maintained.

In some cases, sea level rise combined with the recent winter storms have caused erosion behind existing seawalls and retaining walls. Property owners would like to be able to raise the height of these existing walls through PBR. Department staff agree that, if there is active erosion or damage to structures occurring behind the seawall or retaining wall and it is not in a coastal sand dune system, increasing the height up to the base flood elevation mapped by FEMA is an appropriate activity to permit by rule. The proposed rule would include a new section to govern this activity, Section 8-A (increasing the height of a vertical seawall or retaining wall in a coastal wetland). This proposed section would require that new portions of the wall must be made of similar materials, that the height of the wall may not be increased within 5 feet of the property boundary, except in certain cases, and that adding fill behind the wall or increasing the elevation of the property behind the wall is not allowed, among other standards.

The proposed rule would also contain changes to Section 4 (replacement of structures) to clarify that the replacement of a seawall or retaining wall is eligible for PBR regardless of whether it is in the coastal wetland or directly adjacent to the coastal wetland.

### 3.4. Restoring natural areas using nature-based solutions

During informal discussions with contractors who specialize in saltmarsh restoration projects, it became clear that there are nature-based methods for restoring saltmarsh vegetation that do not fit into the Department's current regulatory framework for permit by rule. Specifically, biodegradable stabilization materials can help newly planted saltmarsh vegetation from eroding until the plants become well-established. The proposed rule would include changes to Section 12 (restoration of natural areas) to allow for the use of biodegradable stabilization materials to support the planting and establishment of native saltmarsh vegetation, provided no more than 200 square feet of biodegradable stabilization materials are installed below the highest astronomical tide line. This change would support the use of nature-based solutions for climate resilience by streamlining the permitting process for such saltmarsh restoration projects that proposed limited fill in the wetland.

### 3.5. Non-development activities in coastal sand dunes

Proposed revisions to Section 16-A (non-development activities in coastal sand dunes) would make the emergency rules adopted by the Board in February of 2024 permanent and allow two additional activities to be permitted by rule. The changes would allow the following projects to be PBR-eligible in coastal sand dune systems: dune restoration and beach nourishment using dredged material, enhanced dune restoration using biodegradable stabilization materials, beach scraping, and removal of seaweed.

#### **3.5.1.** *Dune restoration using biodegradable stabilization materials*

Public Law 2023 ch. 97, passed in 2023, directed the Department to undertake rulemaking to amend Chapter 305 to allow for the use of biodegradable stabilization materials in dune restoration projects. This past February, after the severe winter storms, the Board adopted emergency rules that carried out the intent of this law. Those emergency rule changes expired automatically after 90 days, in May of this year. The proposed rule would make the emergency rule changes to Section 16-A (non-development activities in coastal sand dunes) permanent, allowing coastal property owners to use biodegradable stabilization materials for dune restoration projects.

The proposed rule would include standards, all of which come from statute and were included in the emergency rulemaking, relating to dune restoration projects that use biodegradable stabilization materials. These standards include that the restored dunes be similar in slope to the existing dunes, that cobbles and gravel may only be used in gravel or cobble dune systems, that biodegradable stabilization materials be restricted to above the highest astronomical tide line, and that no metal or materials made from polylactic acid polymers are used.

#### **3.5.2.** *Dune restoration and beach nourishment using dredged materials*

In addition to changes related to biodegradable stabilization materials, the February 2024 emergency rulemaking also allowed the use of dredged materials for dune restoration and beach nourishment through PBR. Currently, because the emergency rule has expired, dune restoration and beach nourishment projects are not PBR-eligible if they will use dredged materials. The proposed rule would allow dredged materials to be used. Existing standards mandate that sand or gravel used for dune restoration or beach nourishment must be consistent with the texture and color of the natural system. Whether the material comes from an upland source or a dredged source is not an important consideration when determining whether the material is appropriate to use for dune restoration or beach nourishment. However, projects using dredged sources may need a permit from the Department for the beneficial use of solid wastes. The proposed rule would include a note alerting applicants to that possibility.

**3.5.3.** *Beach scraping*

After major erosion events, one way to begin restoring the dune system is to scrape sand off the beach and push it up against the dune. This is something that the Department has been allowing informally as a *de minimis* activity in consultation with municipalities, property owners, and the Maine Geological Survey (MGS). The proposed rule would add beach scraping to the list of activities that can be permitted by rule in a coastal sand dune system.

Shifting the activity to the PBR category allows the Department to set appropriate standards for beach scraping and to receive notice of the activity. The proposed standards limit the material removed from the beach to a maximum of 12 inches in elevation, specify that the underlying ravinement surface must not be disturbed, and prohibit scraping seaward of the lower of the two daily high tide lines, unless the applicant has obtained approval from MGS based on site-specific conditions. To protect threatened and endangered sea birds, beach scraping activities would not be allowed between May 15 and September 15 unless the applicant obtained approval from the Department of Inland Fisheries and Wildlife. Additionally, the proposed standards limit scraping to twice per year at any location.

**3.5.4.** *Removal of seaweed*

In Chapter 355, *Coastal Sand Dune Rules*, removal of seaweed from the beach is considered a *de minimis* activity, provided the seaweed remains within the coastal sand dune system. However, in some cases there is no available place within the coastal sand dune system to put seaweed that has been raked off the beach. The proposed rule would allow municipalities to receive a permit by rule to remove seaweed from the beach, store it at an off-site location during the summer, and return it to the sand dune system in the fall. The proposed standards would limit seaweed removal to a 10-week period and require seaweed to be stockpiled and returned to the coastal sand dune system by October 1 of the same year. Returned seaweed would be spread out to a maximum depth of 6

inches near the base of the dune. The decomposing seaweed would help capture sand and provide nutrients for the dune vegetation.

### 3.6. Erosion and sedimentation control

The proposed rule would include uniform updates to erosion and sedimentation control standards across all applicable sections (some sections do not include erosion and sedimentation control standards). The proposed rule would reference some current best management practices that are not included in the current rule, such as erosion control mix berms and anchored erosion control socks. A new standard requiring surface flows upslope of the disturbed area to be diverted and managed to prevent erosion is also proposed. The proposed rule would also require that disturbed soils be temporarily or permanently stabilized within 1 calendar day of the completion of soil disturbance. This is a reduction from the 7 calendar days of the current rule. These changes to erosion and sedimentation control standards would improve outcomes and allow for a larger variety of erosion control methods to be used, reflecting current best practices.

### 3.7. Review times for NRPA permit by rule

Currently, PBR applications become effective 14 days after they are submitted to the Department, unless the Department approves or denies the permit prior to that time. The volume of PBR applications is so high that many PBR applications are not reviewed within the 14-day window. In 2023, the Department received 2,481 PBR applications; so far in 2024, the Department has received 2,838 PBR applications. As a result, some projects that clearly do not meet Chapter 305 standards have been permitted and constructed. The proposed rule would extend the review time from 14 days to 20 working days (weekdays, not including holidays), as allowed by statute.[11] This change would effectively double the time that Department staff have to review PBR applications before they become effective. Unfortunately, applicants would have to wait longer to receive their permits by rule. However, at present, the NRPA permit by rule program is not able to consistently meet the statutory standard of 'no significant impact' to the environment,[12] since not all PBRs are getting reviewed before they become effective, resulting in negative impacts to protected natural resources. Extending the review time to 20 working days would help to alleviate this problem, allowing the program to consistently uphold the statutory standard.

## 4. Proposed amendments to Chapter 310, Wetlands and Waterbodies Protection

The proposed revisions to Chapter 310 of the Department's rules would set clearer standards for shoreline stabilization projects that are not eligible for PBR and that propose to use structural stabilization materials like riprap. The rule would set appropriate limits and standards consistent with the underlying NRPA standards at 38 M.R.S. § 480-D and provide more predictability for applicants and direction for Department staff. More specifically, the proposed rule would establish how the 'no unreasonable impact' threshold in the NRPA will be evaluated and how the

[11] 38 M.R.S. §344(2-A)(B)
[12] 38 M.R.S. §344(7)

benefits of a shoreline stabilization project are weighted against the impacts. The proposed changes would ensure that riprap and other hardened structures are appropriately used at higher energy sites where active erosion is threatening structures and land uses. The proposed rule would also incorporate definitions for biodegradable stabilization materials and shoreline stabilization and clarifies the Department's existing interpretation that Chapter 310 applies to activities adjacent to a protected natural resource if the activity requires an individual NRPA permit.

### 4.1. Shoreline stabilization – balancing benefits and impacts

A project cannot receive a NRPA permit under Chapter 310 if it will have an unreasonable impact on the wetland. Section 5(D) of Chapter 310 lists some of the factors the Department considers when assessing 'reasonableness' and states, in part:

> When considering whether a single activity is reasonable in relation to the direct and cumulative impacts on the resource, the department considers factors such as the degree of harm or benefit to the resource; the frequency of similar impacts; the duration of the activity and ability of the resource to recover; the proximity of the activity to protected or highly developed areas; traditional uses; the ability of the activity to perform as intended; public health or safety concerns addressed by the activity; and the type and degree of benefit from the activity (public, commercial or personal).

Importantly, the Department must weigh the degree of harm to the resource against the type and degree of benefit from the stabilization activity to determine if, on balance, the impact is reasonable.

#### 4.1.1. *Impacts of stabilization structures*

As described in the Introduction, hardened stabilization structures such as riprap and seawalls have significant downsides. They can reflect wave energy, causing increased erosion adjacent to the structure, harm important littoral habitat, result in the loss of nearshore vegetation leading to increased water temperatures, and decrease natural sediment transport into the waterbody, in addition to causing scenic and aesthetic changes to the shoreline. They also have longer-duration impacts to wetlands compared with using vegetation or biodegradable stabilization materials as these materials eventually decompose.

In coastal systems, armoring bluffs starves the marine environment of sediment, which can result in degradation of aquatic habitat. This impact is especially harmful to saltmarsh, shellfish, and shorebird habitats. Bluff erosion allows intertidal areas to gain sediment and increase elevation to keep pace with rising sea levels. Over longer time periods the stabilization of a coastal bluff may result in the loss of intertidal habitat as sea levels rise.

In fluvial systems, bank stabilization prevents a river from meandering naturally. This promotes channelization, which has ecological costs including habitat loss, increased flow velocity at high flows and associated flooding risks, and higher water temperatures.

Counterintuitively, armoring the bank of a river often leads to increased erosion of the bed of the river as well as upstream and downstream from the riprap.

In lacustrine systems, riprap bank stabilization can impede the movement of species between the water and the land and decrease the diversity of nearshore habitats for both aquatic and land species. For example, many aquatic animals take refuge in vegetation either in or overhanging the water and riprap prevents these plants from growing. Unshaded riprap can also soak up energy from the sun and increase lake temperatures, creating a less healthy aquatic environment.

Generally, projects that rely on living shoreline solutions, such as vegetative plantings or vegetation secured with biodegradable stabilization materials, have fewer impacts, less severe impacts, and shorter-duration impacts on the wetland compared with hardened stabilization structures. Therefore, living shorelines methods should be prioritized where they are feasible. Riprap, seawalls, and other hard structures are appropriate for high-energy sites where significant erosion is occurring and structures and land uses are threatened.

**4.1.2.** *Benefit of shoreline stabilization project*

The proposed rule would lay out a metric for valuing the degree of benefit from a proposed shoreline stabilization project that uses hard materials like riprap. The primary consideration is the proximity of threatened structures to the shoreline. A stabilization activity designed to protect an existing structure that is threatened by an actively eroding shoreline results in a more substantial benefit than a stabilization activity that protects a property without threatened structures near the shoreline.

In addition to the distance between the eroding shoreline and the structure, the proposed rule would also consider the type of structure in determining the benefit of a proposed project. If the structure is not necessary for maintaining the current use of the property or accessing the water from the property, or if the structure can be practicably moved away from the shoreline, the degree of benefit from stabilizing the shoreline is lower.

For shoreline stabilization projects using structural materials, such as riprap, the proposed rule would require that the project be necessary for public health or safety or designed to protect one of the following (quoted directly from the proposed rule):

(1) A legally existing water-dependent structure such as a pier, wharf, dock, boat ramp, stormwater outfall, perimeter drain outfall or stairway to the water;

(2) A subsurface wastewater disposal system that is located 25 feet or less from the upland edge of an eroding bank, or that is more than 25 feet from the upland edge of an eroding bank if the Department determines the system is at risk of effluent breakout without immediate shoreline stabilization;

(3) A structure located 100 feet or less from the upland edge of an eroding bank that is essential for the current use of the property, that legally existed on the parcel prior to January 1, 2025, or that is part of the permitted redevelopment of impervious area that

existed on the parcel prior to January 1, 2025, and that cannot be practicably relocated farther back on the parcel;

(4) An open space that serves the public, such as a municipal park or concert venue; or

(5) Farmland as defined in 36 M.R.S. § 1102(4).

The above requirements would provide a predictable process for determining the degree of benefit from a planned project and weighing it against the established impacts of shoreline stabilization that uses structural materials like riprap. No such limits on project purpose are included in the proposed rule for projects using vegetative planting and/or biodegradable stabilization materials due to the lower environmental impacts of those methods.

**4.2. Shoreline stabilization – alternatives analysis**

The proposed rule would also elaborate on the required contents of the alternatives analysis that is already required for all applicants applying for an individual NRPA permit. If an applicant proposes a structural shoreline stabilization project, they must show that the project purpose cannot be practicably achieved by the use of vegetation and/or biodegradable stabilization materials. "Practicable" is defined in Chapter 310 as, "Available and feasible considering cost, existing technology and logistics based on the overall purpose of the project." The proposed rule would establish a rebuttable presumption that vegetation and/or biodegradable stabilization materials can practicably stabilize 1) a shoreline in a low-energy environment such as an open-water freshwater wetland, great pond, marshland, protected cove, or area of extensive mudflats, and 2) a shoreline that is classified as a stable bluff by MGS or that is only classified as an unstable bluff due to upland sources of erosion (such as stormwater runoff or groundwater seepage). This presumption can be rebutted if an applicant shows that vegetation and/or biodegradable stabilization materials will not be effective based on the site-specific conditions (for example because their property on a great pond is subject to substantial fetch and wave action), or that vegetation and/or biodegradable materials are not practicable due to cost or availability. This will require applicants to fully explore these options before determining they are impracticable.

**4.3. Shoreline stabilization – standards to limit impacts**

The proposed rule revisions would also include more specific standards and application submission requirements for shoreline stabilization projects that propose structural stabilization materials. The proposed standards are intended to limit the impacts to the protected natural resource. The project would be limited to the area that is actively eroding from wave action, currents, ice scouring or changes in water levels. Stabilization structures would not be allowed in areas that are not actively eroding, or in situations where the erosion is caused by runoff from the upland, rather than the erosive energy of the waterbody.

The proposed rule places initial limits on the height of the structure, which vary depending on the type of wetland or waterbody. If an applicant shows it is necessary to build higher, the Department would retain discretion to approve a higher structure. The proposed rule would

also require the length of the structure to conform with the permitted project purpose; for example, if the project is designed to protect a dwelling near the shoreline, it could only be as long as necessary to protect the dwelling. In addition, the proposed rule would require the establishment of a vegetative buffer at least 10 feet wide at the upland edge of the stabilization structure, while allowing for the buffer to be reduced in certain circumstances. As part of a stabilization project, a lawn or yard could not be extended closer to the shore from its present location. When sediment is excavated to allow for stabilization in or adjacent to a coastal wetland, the permittee must place the excavated sediment evenly across the stabilization structure to allow for it to slowly return to the waterbody over time, in order to mimic the natural transfer of sediment from the terrestrial to the marine environment.

These proposed standards would apply to stabilization projects that use hard materials such as riprap, concrete, or stone alone the shoreline of a wetland or waterbody. They would not apply to projects that use only vegetative plantings and/or biodegradable stabilization materials.

**5. Department Recommendation**

The proposed changes to Chapter 305 and Chapter 310 would support climate resilience by encouraging nature-based solutions to shoreline stabilization, adding predictability and appropriate limitations and standards for stabilization projects that require an individual NRPA permit, and expanding opportunities to use NRPA permit by rule for resilience projects with appropriately strong standards. The Department recommends that the Board post the attached proposed Chapter 305 and Chapter 310 rule revisions for public comment and to schedule consecutive public hearings on both proposed rules.[13]

**Estimated Time of Agenda Item:**

120 minutes

**Attachments:**

- Chapter 305 Proposed Rule Revision showing insertions and deletions in red
- Chapter 310 Proposed Rule Revision showing insertions and deletions
- P.L. 2023 ch. 97, *An Act to Improve Coastal Sand Dune Restoration Projects*
- P.L. 2023 ch. 531, *An Act to Amend the Natural Resources Protection Act to Enhance the State's Ability to Respond to and Prepare for Significant Flood Events and Storm Surge*

[13] The proposed revisions to Chapters 305 and 310 are routine technical rulemaking actions for which a hearing is not mandatory. However, the Department staff recommend that the Board conduct a hearing on both proposed rules due to the anticipated public interest in these particular rulemaking proposals.