

# **South Carolina Beach Preservation Stakeholder Workgroup**

## **Final Report**

January 2023



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# Introduction

South Carolina's beaches are dynamic places, with inherent variability. Some beachfront shorelines accrete or gain sand while other shorelines erode. These changes to the coastline occur over time and are due to ocean currents, fluctuating tides and sea levels, tropical and extratropical weather systems, as well as beach use and maintenance activities. Beaches and dunes have the capacity to protect life and property along the coast, and the protective value of the beach/dune system is identified in South Carolina statute.<sup>1</sup> These forms of natural infrastructure are the first line of defense against coastal hazards, including storms and King Tides.

South Carolina beaches also provide essential habitat for wildlife, including sea turtles and shorebirds. There are approximately 185 miles (~300 kilometers) of ocean-facing sandy beaches in South Carolina that provide suitable nesting habitat for sea turtles. To date, loggerhead, green, leatherback and, rarely, Kemp's ridley sea turtle nests have been recorded on South Carolina beaches.<sup>2</sup> Throughout the year, South Carolina beaches provide essential habitat for hundreds of thousands of shorebirds and seabirds. During the summer, beach nesting birds, including Least terns, Wilson's plovers, and American oystercatchers, congregate along the South Carolina coast to breed. The State's beaches are also important feeding and resting areas for migratory shorebirds. South Carolina provides important migration and wintering habitat for the federally threatened piping plover and red knot.<sup>3</sup>

South Carolina beaches are also vital to the State's coastal tourism industry. In 2019, domestic visitor spending in five coastal counties (Beaufort, Charleston, Colleton, Horry, Georgetown) totaled \$15.1 billion, accounting for 63% of all visitor spending in the state.<sup>4</sup> Spending in these five coastal counties has increased 77% since 2005 (\$8.5 billion).<sup>5</sup> In addition to supporting tourism and coastal economies, beaches provide space for a variety of outdoor recreation activities. Numerous studies have highlighted the health benefits of outdoor recreation, not only the physical health benefits, but also the emotional and social benefits. Outdoor recreation also provides opportunities to build stronger relationships and

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<sup>1</sup> S.C. Code of Laws § 48-39-250(1)(a)

<sup>2</sup> [South Carolina Department of Natural Resources, Marine Turtle Conservation Program.](#)

<sup>3</sup> ["Share the Beach with South Carolina's Coastal Birds" brochure by South Carolina Department of Natural Resources, et al.](#)

<sup>4</sup> "The Economic Impact of Travel on South Carolina Counties 2019" report by the US Travel Association, Washington DC.

<sup>5</sup> "The Economic Impact of Travel on South Carolina 2005" report by the Travel Industry Association of America, Washington DC.

bring families and communities together.<sup>6</sup> In 2021, beachgoing was listed as the top activity for in-state leisure travel (i.e., state residents who traveled at least 50 miles to a destination in South Carolina), with 42% of travel parties indicating that they traveled to a beach during their trip.<sup>7</sup>

Recognizing that the beach/dune system is extremely important to the State, the South Carolina General Assembly enacted the Beachfront Management Act in 1988 ([Act 634](#)) and amended it in 1990 ([Act 607](#)). The Beachfront Management Act states that the policy of the state of South Carolina is to protect, preserve, restore, and enhance the beach/dune system. The Beachfront Management Act calls for promoting wise use and development of the State's beachfront by implementing regulatory standards in the beachfront critical areas. The South Carolina Department of Health and Environmental Control Office of Ocean and Coastal Resource Management's (DHEC OCRM) beachfront authority is established under the Coastal Tidelands and Wetlands Act, which includes the Beachfront Management Act, and the State's Coastal Division Regulations. Over the past three decades, these laws and regulations have guided where and how areas along the State's beachfront can be utilized.

## Beachfront Management Reform Act

On May 3, 2018, [Act 173](#), the Beachfront Management Reform Act, was signed by Governor Henry McMaster. The Act established a new policy of beach preservation. In light of this change and the increasingly complex challenges faced by local and state governments, it is necessary to evaluate current and future beachfront management approaches.

## Beach Preservation Stakeholder Workgroup

### Charge

DHEC OCRM convened a South Carolina Beach Preservation Stakeholder Workgroup (Workgroup) to identify recommendations as the State implements a policy of beach preservation. In addition to defining beach preservation, the Workgroup examined several beach preservation topics including beach nourishment, pilot project processes, and the State's role in the beaches critical area, as well as issues associated with land management practices. Potential recommendations and actions related to these topics were discussed,

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<sup>6</sup> "South Carolina Statewide Comprehensive Outdoor Recreation Plan 2019" report by South Carolina Department of Parks, Recreation, and Tourism

<sup>7</sup> "In-State Leisure Travel in South Carolina 2021" report by South Carolina Department of Parks, Recreation, and Tourism and Omnitrak Group

and six final recommendations were identified by the Workgroup. These recommendations along with other key findings are outlined in this report, and will assist DHEC OCRM with identifying opportunities for internal process improvement, potential changes in law, and actions where additional partner involvement is necessary to provide more effective beachfront management.

## **Workgroup Members**

Seventeen members participated in the Workgroup representing various backgrounds and constituencies including federal, state, and local government representatives, community associations, the real estate community, academic and legal professionals, conservation organizations, private-sector consultants, industry representatives, and non-profit organizations. Workgroup participants and affiliations are provided below.

- Amy Armstrong, Executive Director, South Carolina Environmental Law Project
- Keith Bowers, President, Biohabitats
- Jenny Brennan, Science and Policy Analyst, Southern Environmental Law Center
- Blanche Brown, General Manager, DeBordieu Colony Community Association, Inc.
- Alex Butler, Resilience Planning Director, South Carolina Office of Resilience
- Emily Cedzo, Senior Program Director of Land, Water and Wildlife, Coastal Conservation League
- Melissa Chaplin, Biologist, U.S. Fish and Wildlife Service
- Nicole Elko, Executive Director, South Carolina Beach Advocates
- Paul Gayes, Executive Director of Burroughs and Chapin Center for Marine and Wetland Studies, Coastal Carolina University
- Justin Hancock, Director of Recreation, Grants and Policy, South Carolina Department of Parks, Recreation and Tourism
- Iris Hill, Town Administrator, Town of Edisto Beach
- Aaron Pope, City Administrator, City of Folly Beach
- Jack Smith, Attorney, Nelson Mullins
- Don Thomas, Managing Broker, Peace Sotheby's International Realty
- Steven Traynum, Vice President, Coastal Science and Engineering
- Rod Tyler, President, Green Horizons Environmental, LLC
- Robert Young, Director of Program for the Study of Developed Shorelines, Western Carolina University

## **Summary of Workgroup Activities**

A series of seven workgroup meetings were held between June and December 2022. All meetings were held from 9:30 a.m. to 2:30 p.m. at the Town of James Island Town Hall, except

for the final two meetings, which were held virtually via Microsoft Teams. Meetings were facilitated by DHEC staff from the Office of Environmental Affairs. Additional details including agendas, meeting notes, and presentation slides can be found for each meeting on the [Beach Preservation Stakeholder Workgroup](#) webpage.

## Background

### Beachfront Management

#### History

In 1977, the South Carolina General Assembly enacted the Coastal Tidelands and Wetlands Act, also known as the SC Coastal Zone Management Act, “[t]o protect and, where possible, to restore and enhance the resources of the State’s coastal zone for this and succeeding generations.” The Act created a new state agency, the South Carolina Coastal Council, and charged it with the responsibility of administering and enforcing the statute. This legislation, however, proved ineffective for managing the beach/dune system because regulatory authority over these areas given to the Coastal Council was insufficient. Lacking adequate authority, the Coastal Council was unable to prevent structures from being sited too close to the eroding shore, thus making them extremely vulnerable to the effects of storms and high tides.

In 1986, a Blue Ribbon Committee on Beachfront Management was convened by the former South Carolina Coastal Council (now DHEC OCRM) in response to the growing recognition that the existing law was inadequate to protect the fragile beach/dune resource. The Committee determined that the beach/dune system was in a state of crisis and concluded that “over fifty-seven miles of our beaches are critically eroding. This erosion is threatening the continued existence of our beach/dune system and thereby threatening life, property, the tourist industry, vital state and local revenue, marine habitat, and a national treasure”.<sup>8</sup> Recognizing the threats of chronic erosion, sea level rise, increased shoreline development, and a lack of comprehensive beachfront planning and management, the Committee developed recommendations that provided guidance to state regulators and legislators in developing state beach management policies.

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<sup>8</sup> S.C. Code Ann. Regs. 30-1(C)(3)

In 1988, in response to the Blue Ribbon Committee, the South Carolina Beachfront Management Act<sup>9</sup> was enacted by the South Carolina General Assembly. The Beachfront Management Act established a comprehensive statewide beachfront management program and included several key legislative findings, which are:

- the importance of the beach and dune system in protecting life and property from storms, providing significant economic revenue through tourism, providing habitat for important plants and animals, and providing a healthy environment for recreation and improved quality of life of all citizens;
- unwise development has been sited too close to and has jeopardized the stability of the beach/dune system;
- the use of armoring in the form of hard erosion control devices such as seawalls, bulkheads, and rip-rap to protect erosion-threatened structures has not proven effective, has given a false sense of security, and in many instances, has increased the vulnerability of beachfront property to damage from wind and waves while contributing to the deterioration and loss of the dry sand beach;
- inlet and harbor management practices, including the construction of jetties which have not been designed to accommodate the longshore transport of sand, may deprive downdrift beach/dune systems of their natural sand supply;
- it is in the state's best interest to protect and promote increased public access to beaches for visitors and South Carolina residents alike;
- a coordinated state policy for post-storm management of the beach and dunes did not exist and that a comprehensive beach management plan was needed to prevent unwise development and minimize adverse impacts.

The Beachfront Management Act then established eight state policies to guide the management of ocean beaches:

1. Protect, preserve, restore, and enhance the beach/dune system;
2. Create a comprehensive, long-range beach management plan and require local beach management plans for the protection, preservation, restoration, and enhancement of the beach/dune system, each promoting wise use of the state's beachfront to include a gradual retreat from the system over a forty-year period<sup>10</sup>;

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<sup>9</sup> S.C. Code of Laws § 48-39-250 et seq.

<sup>10</sup> As discussed throughout this report, the policy of retreat has been replaced with a policy of beach preservation.

3. Severely restrict the use of hard erosion control devices and encourage the replacement of hard erosion control devices with soft technologies which will provide for the protection of the shoreline without long-term adverse effects;
4. Encourage the use of erosion-inhibiting techniques which do not adversely impact the long-term well-being of the beach/dune system;
5. Promote carefully planned nourishment as a means of beach preservation and restoration where economically feasible;
6. Preserve existing public access and promote the enhancement of public access for all citizens including the handicapped and encourage the purchase of lands adjacent to the Atlantic Ocean to enhance public access;
7. Involve local governments in long-range comprehensive planning and management of the beach/dune system in which they have a vested interest; and
8. Establish procedures and guidelines for the emergency management of the beach/dune system following a significant storm event.

DHEC OCRM is responsible for implementing these policies through a comprehensive management program that includes state and local planning, regulation and enforcement, data development and technical support, and outreach and education activities.

### **Policy of Retreat**

The 1986 Blue Ribbon Committee referenced above found that it was in both the public and private interest to plan a gradual retreat from the beach/dune system by discouraging new construction in close proximity to the beach/dune system and encouraging those who have erected structures too close to retreat. The Committee concluded:

- “a retreat from the beaches over a 30-year transition period, in combination with selective beach nourishment, is the only practical approach to our coastal erosion problems”
- “retreat implemented over 30 years will allow owners of structures sited too close to the beach to realize the economic life of their structures and adjust their plans over a reasonable 30 year time period”
- “retreat must be based on sound state and local comprehensive beach management plans, which, when implemented, will result in the preservation, protection, restoration, and enhancement of our beach/dune system for the enjoyment of this and future generations”



Most of the Committee's recommendations were adopted into law through the Beachfront Management Act of 1988, including establishing "a forty-year policy of retreat from the shoreline."

## Policy of Beach Preservation

In the two decades following the passage of the 1988 Beachfront Management Act and associated regulations, hard stabilization of the beachfront was reduced yet development in high hazard areas persisted. Planning and regulatory efforts outlined in the Beachfront Management Act endeavored to balance economic development and private property rights with public access and conservation of valuable public trust resources. However, the challenges addressed by the 1986 Blue Ribbon Committee persisted, and new challenges began to emerge along the beachfront.

In 2007, in response to these challenges, DHEC OCRM established a Shoreline Change Initiative to organize existing data collection and research efforts, identify additional research needs, and formulate policy options to guide the management of South Carolina's beachfront and estuarine shorelines. DHEC OCRM established the Shoreline Change Advisory Committee (SCAC), comprised of representatives from various stakeholder groups, to discuss the past two decades of experiences under the SC Beachfront Management Act. The SCAC released a final report, [Adapting to Shoreline Change: A Foundation for Improved Management and Planning in South Carolina](#), in April 2010.

Based on the findings and recommendations of the SCAC, the DHEC Board appointed a new [Blue Ribbon Committee on Shoreline Management](#) in October 2010 and charged the Committee with developing specific statutory and regulatory recommendations to help guide the stewardship of South Carolina's beachfront and estuarine shorelines.

With respect to beach preservation, the Committee concluded:

- "Ultimately, the committee recommends that the policy of the state should emphasize the preservation of the beach and beach/dune system rather than promote a policy of retreat that is vague and often impracticable or unattainable."
- "For the purpose of this recommendation, the term 'preservation' includes the implementation of coastal management techniques such as beach nourishment, the landward movement and/or removal of habitable structures whenever necessary and feasible, the conservation of undeveloped shorelines and sand dune creation and stabilization using sand fencing and native vegetation."

On May 3, 2018, [Act 173](#), the Beachfront Management Reform Act, was signed by Governor Henry McMaster. The Act replaced the 40-year policy of retreat and established a new policy of beach preservation. Although the State has been utilizing beach preservation approaches, like beach nourishment, to manage the beaches and beach/dune system since the 1980s, this Workgroup provides an opportunity to formalize the definition of beach preservation and clarify beach preservation approaches. The findings and final recommendations of the Workgroup are outlined in the following section.

A timeline of significant legislation and Committee or Workgroup efforts is shown below in Figure 1.

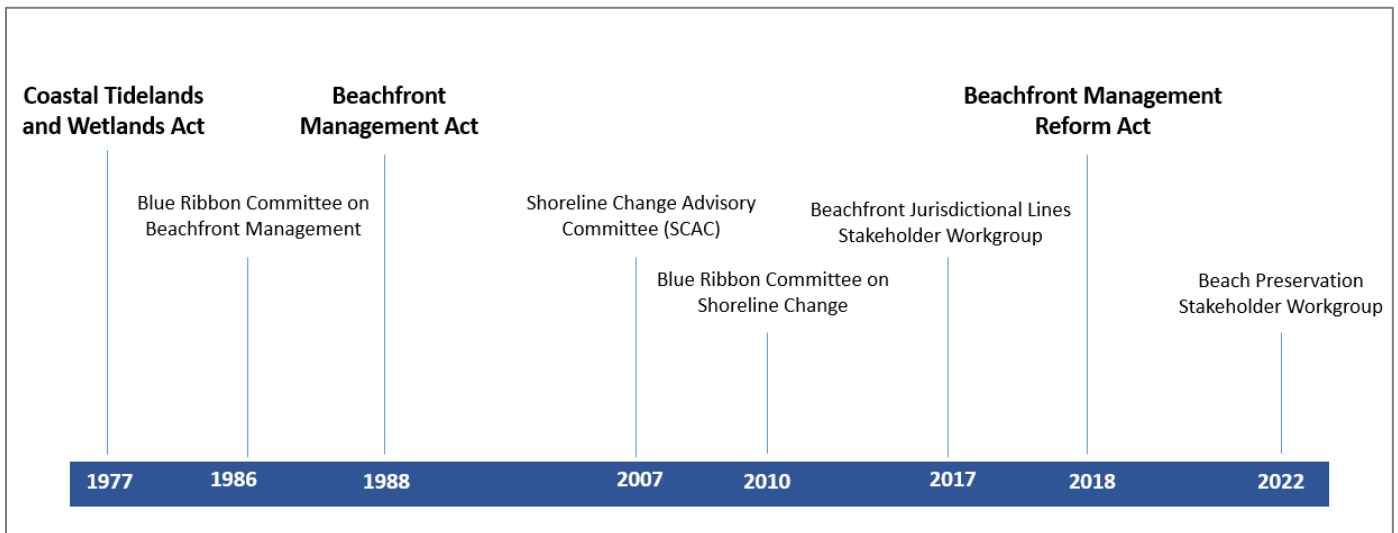


Figure 1: South Carolina Beachfront Management Timeline

## Workgroup Findings

The Workgroup was convened to identify recommendations as the State implements a policy of beach preservation. In addition to defining beach preservation, the Workgroup examined several beach preservation topics including beach nourishment, pilot project processes, and the State's role in the beaches critical area, as well as issues associated with land management practices. Potential recommendations and actions related to these topics were discussed, and six recommendations were identified by the Workgroup. These recommendations, outlined below, will assist DHEC OCRM with identifying opportunities for internal process improvement, potential changes in law, and actions where additional partner involvement is necessary to provide more effective beachfront management.

In discussing the topics outlined in this report, the Workgroup identified groups of stakeholders that may be impacted by these issues. These stakeholders, identified in Table 1, were considered during the discussion and the development of the final recommendations.

Academics	Business Owners	Conservationists	Coastal Engineers	Developers
Elected Officials	Future Generations	General Public	Industry	Local Governments
Infrastructure	Natural Resources	Non-human species	Property Owners	Public Beach Users
Realtors	Regulatory Agencies	Resource Agencies	Tourists	Utilities

Table 1: Stakeholders that may be impacted by these topics.

## Beach Preservation

The State’s Beachfront Management Act of 1988 established a policy of retreat from the beach/dune system in order to protect natural resources and reduce impacts to development. However, in practice, retreat did not occur at a large scale, and in 2018, the Beachfront Management Reform Act transitioned the policy of retreat to a policy of beach preservation based on recommendations from the 2010 Blue Ribbon Committee.

Although the State has been utilizing beach preservation approaches, like beach nourishment, to manage the beaches and beach/dune system since the 1980s, this Workgroup provides an opportunity to formalize a definition and clarify the approaches included in beach preservation.

### Definition

As a first step toward clarifying the policy of beach preservation, the Workgroup considered the need to formalize a definition. Discussions focused on various components of the policy including the location (beach) and the function (preservation). The Workgroup agreed that the location subject to this policy was identified within the State’s statute and included ‘beaches’ and the ‘beach/dune system’ critical areas. The State’s beaches critical area is defined as “those lands subject to periodic inundation by tidal and wave action so that no

nonlittoral vegetation is established".<sup>11</sup> This definition encompasses several beachfront environments, including the wet sand beach down to the low tide mark, the dry sand beach, and the vegetated beach seaward of any nonlittoral vegetation. The beaches critical area frequently overlaps with the beach/dune system critical area which is defined as "the area from the mean high water mark to the setback line as determined in S.C. Code of Laws § 48-39-280."<sup>12</sup>

The priority functions of the beach and beach/dune system were discussed, including supporting natural coastal processes and habitat, the opportunity for beach recreation and tourism, and the protection of life and property in the adjacent beachfront communities. The Workgroup agreed that the State's priority is to protect, preserve, restore, and enhance the beaches and beach/dune system using a variety of beach preservation approaches.

Through these discussions, the Workgroup acknowledged that not all beaches are the same and may have different challenges depending on the local geomorphology and level of beachfront development. They recognized the challenge along developed shorelines of balancing coastal development with protecting the natural processes associated with the beach and beach/dune environments and indicated that there needs to be a variety of beach preservation approaches available to address these challenges.

The Workgroup also acknowledged that maintaining the current 'status quo' along many developed beaches would require consistent planned renourishment to maintain the beaches and beach/dune systems as well as protect landward development. In addition, multiple lines of evidence indicate that the rate of rising seas is accelerating<sup>13</sup>, thus making nourishment as an approach for preservation more challenging. Long-term planning and coordination within and between agencies and organizations will be critical to the continuation of beach preservation.

The Workgroup considered the 2010 Blue Ribbon Committee on Shoreline Management's definition of "preservation" which states:

"the term "preservation" includes the implementation of coastal management techniques such as beach nourishment, the landward movement and/or removal of habitable structures whenever necessary and feasible, the conservation of undeveloped shorelines and sand dune creation and stabilization using sand fencing and native vegetation."

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<sup>11</sup> S.C. Code of Laws § 48-39-10(H)

<sup>12</sup> S.C. Code of Laws § 48-39-10(J)(4)

<sup>13</sup> ["NASA Study: Rising Sea Level Could Exceed Estimates for U.S. Coasts" news release November 15, 2022.](#)

After discussing location and function of beach preservation, recognizing the challenges in the beachfront environment, considering the dynamic nature of the coast, and acknowledging various stakeholders, the Workgroup determined that the following key guiding principles should be utilized in the development of the definition of beach preservation:

- Protect, preserve, and enhance priority natural beach functions, including supporting natural coastal processes and habitat, the opportunity for beach recreation and tourism, and the protection of life and property in the adjacent beachfront communities;
- Protect the highly dynamic ecological processes and functions that shape, form and maintain the beach, dunes and nearshore habitat; and
- Balance habitat and environmental concerns with consideration for existing development.

Based on these principles, the Workgroup developed a recommendation for the definition of beach preservation.

***Recommendation 1: Definition of Beach Preservation***

The Workgroup recommends that the term “Beach Preservation” be defined as:

“maintaining the natural processes and functionality and benefits of the beaches and the beach/dune system critical areas to support storm protection, habitat, tourism, public access, recreation opportunities, and aesthetics”

## **Beach Preservation Approaches**

During discussion of the beach preservation definition, the Workgroup indicated that a variety of preservation approaches would be needed to address various scenarios along the South Carolina coastline.

The Workgroup considered specific approaches that may be utilized to balance preserving both the location and function of the beach and beach/dune system. The Workgroup further discussed the Blue Ribbon Committee on Shoreline Management’s recommendations and reached agreement that beach nourishment, inlet management, sand dune restoration (including sand fencing and native vegetation), and the conservation of undeveloped shorelines are coastal management approaches that should be used for beach preservation.

The Workgroup also discussed several other approaches, including the landward movement and/or removal of structures wherever necessary or feasible, the maintenance of existing

groins, and projects designed to increase the amount of sand or provide for the natural migration and dispersion of sand within the nearshore system. While there was not consensus, some Workgroup members thought these approaches should be considered by the Department for beach preservation under specific circumstances and should be evaluated on a project-by-project basis. Despite lack of consensus on all approaches, the Workgroup agreed that shore-parallel erosion control structures do not support beach preservation.

### *Beach Nourishment*

While the Workgroup identified a number of beach preservation approaches, the discussion focused primarily on beach nourishment.

Beach nourishment is defined as “the artificial establishment and periodic renourishment of a beach with sand that is compatible with the existing beach in a way so as to create a dry sand beach at all stages of the tide”.<sup>14</sup>

Large-scale beach nourishment projects replace or add sand to the beach that has been lost due to erosion or longshore drift. This engineered process widens the beach and shifts the high-water mark seaward. Successful nourishment projects provide a measure of storm protection for the beach and beach/dune system, thereby providing protection of beachfront structures. Beaches with dry sand beach and a healthy beach/dune system also provide habitat for flora and fauna, and space for citizens and visitors to recreate.

The Workgroup reviewed the current statutory definition of “beach nourishment”<sup>15</sup>, and discussed the benefits that these projects can provide. The Workgroup agreed that nourishment is a valid preservation technique but expressed concerns over the challenges associated with these efforts. The Workgroup identified issues and challenges associated with large-scale nourishment projects including planning and project-level specifications. Beach nourishment requires long-range planning to ensure funding is available and all necessary authorizations are in hand prior to project commencement. This level of planning can be a challenge and requires an understanding of coastal processes in order to effectively anticipate when a nourishment project will be needed and determine what volume of sand is necessary to provide sufficient protection. Identifying nearshore borrow areas with the necessary quantity of sand and locating beach quality sand sources that meet project standards is not only challenging, but costly.

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<sup>14</sup> S.C. Code of Laws § 48-39-270(4)

<sup>15</sup> S.C. Code of Laws § 48-39-270

Additionally, regional scale approaches where multiple communities coordinate nourishment efforts can be beneficial because they combine assets and resources; however, these coordinated efforts can also pose challenges related to the size of the projects and varied goals of participating communities. These partner efforts often extend the timeframe needed for project completion which adds additional complexity. Project timing windows must be considered to protect and avoid critically important and federally listed species such as sea turtles, shorebirds, right whales, and other marine mammal migration and nesting seasons. Unforeseen issues may arise which make utilizing such windows challenging, especially for larger scale projects that require a longer window to accomplish the project.

The Workgroup identified the need for flexibility with respect to some project specifications, while recognizing the need to strengthen and clarify guidelines for other standards. The Workgroup recommends additional expert discussions with state and federal resource agencies, to further clarify where there may be flexibility on project specifications. They recommended assembling an expert technical advisory committee to review specifications such as sand quality, timing windows, use of specific dredge technology, flexibility in project footprint and borrow areas, requiring a bond for potential downdrift impacts, long-term monitoring, and impacts to flora and fauna (at both the beach and borrow sites) including beach, benthic, and threatened and endangered species.

***Recommendation 2: Establish a Beach Nourishment Technical Advisory Committee***

The Workgroup recommends that a technical advisory committee be established to further investigate beach nourishment project specifications, including:

- Sand quality
- Timing windows
- Dredge type
- Project footprint and borrow area flexibility
- Long-term monitoring
- Downdrift impact analysis
- Bond requirement
- Impacts to flora/fauna at beach and borrow sites (beach, benthic, threatened & endangered species)

## **South Carolina Beach Preservation Fund**

The Workgroup also discussed the need for adequate and reliable funding for beach preservation efforts. They acknowledged that 1) establishing and funding a South Carolina Beach Preservation Fund is necessary for the State to implement a more effective beach

preservation program, and 2) consistent and reliable funding is necessary for beachfront communities to effectively plan for beach preservation at the local level. The Workgroup considered various aspects of beach preservation funding including estimating cost, identifying a dedicated funding source, determining funding responsibility, and eligibility requirements. Eligibility requirements included both beach preservation approaches that would be eligible for funding as well as applicant eligibility criteria.

### *Estimating Cost*

When analyzing beach preservation costs, the Workgroup determined that the State should take a proactive approach and consider long-range planning (20-30 years). Additional cost-benefit analysis is needed, as well, and could be integrated into funding eligibility requirements.

### *Identifying a Funding Source*

In addition to identifying funding for short-term beach preservation projects, funds should be set aside for long-range beach preservation efforts. When discussing funding sources, it was suggested the State research how other states support similar funds. Specific funding source suggestions offered by Workgroup members included the expanded use of state and local accommodations taxes, beachfront real-estate transaction fees, as well as funds from offshore renewable energy. The Workgroup acknowledged that local governments should be given more support to increase assessments and taxes and more flexibility in how those accrued funds can be used. Without the identification of a specific funding source(s), some Workgroup members noted that the source of the funding would influence their opinion of how the funds should be utilized.

### *Funding Responsibility*

Workgroup discussions also touched on funding responsibility. It was concluded that oceanfront residents who benefit the most from beach nourishment and other preservation approaches need to bear some percentage of the funding responsibility for beach preservation projects. The Workgroup identified the importance and need to establish a tiered level of funding responsibility based on location (beachfront & community).

### *Eligible Beach Preservation Approaches*

The Workgroup concluded that beach nourishment can be an effective approach for implementing beach preservation. However, sand resources are finite, and as other factors, including sea-level rise, become more prevalent, having consistent planned funding for beach nourishment will become even more important. The eligibility of additional approaches was discussed. Some Workgroup members felt removal of hazardous structures



and property buyouts should be eligible approaches, while others felt maintenance and repair of existing groins should be eligible for funding. Consensus was not reached on which approaches should be eligible for funding under the Beach Preservation Fund.

### *Applicant Eligibility Criteria*

The Workgroup also discussed eligibility criteria for applicants to receive funding. The Workgroup proposed that the South Carolina Department of Parks, Recreation & Tourism codify formal criteria and requirements for state funding assistance, closely aligning with those required under their [Beach Renourishment Funding Assistance Grant Program](#).

The Workgroup agreed that the following criteria should be included for eligibility.

- State-approved Local Comprehensive Beach Management Plan (LCBMP),
- Local Comprehensive Plans that include a section on beachfront management and resilience planning,
- Requirement that local oceanfront residents contribute a percentage of match, in addition to local accommodations taxes, and
- Approved project permits

In addition, while many Workgroup members were in support of communities demonstrating “full and complete” public access, as outlined under the State’s Beach Management Plan<sup>16</sup>, in order to receive state funding, other members felt some percentage of funds should be available for use by private communities.

It was noted that there is a need for additional preservation planning and coordination between the State and local governments. However, it was acknowledged that additional funding and/or capacity at the State level would be required to assist with additional planning mandates. It was noted that support for community planning assistance could be built into the fund.

Acknowledging that limited funding availability will result in increased competition, additional discussion around eligibility criteria and prioritization of projects should occur in coordination with the South Carolina Department of Parks, Recreation, and Tourism.

While there was general agreement from the Workgroup on the importance and need for a Beach Preservation Fund, a number of members were not in support of formally

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<sup>16</sup> S.C. Code Ann. Regs. 30-21.F(2)

recommending establishment of the Fund without including specific eligibility requirements that would apply.

## Planning and Coordination

### Local Government Coordination

Local, state and federal entities play a role in regulating activities along the South Carolina beachfront. The State's authorities are based in State statute and regulations which guide activities coastwide. Likewise, federal agencies are directed by national policies and rules. Local governments develop ordinances that are specific to meeting the goals and needs of their individual beaches.

In some places, local entities have taken the initiative to create ordinances which further guide activities, landward and seaward of the State's beachfront jurisdictional lines. These ordinances are designed to guide development away from high hazard areas and to protect coastal resources.

The Workgroup discussed scenarios in which the State issues permits for activities within its beachfront permitting jurisdiction that are inconsistent with stricter requirements at the local level. These situations can be time consuming and costly for the State, the local entities, and the applicant.

While the State currently provides local entities with notice of general and major permit applications, Workgroup members discussed modifying the process to avoid the State approving what a local entity would not. They discussed the State confirming that the applicant has received approval from any local governing bodies that have jurisdiction prior to issuing any DHEC OCRM authorization or acknowledgment seaward of the setback line.

The Workgroup was made aware that if a project meets the conditions outlined in statute and regulation, the Department is currently required to move forward with permit issuance, even if the project does not meet the requirements of the local entities with jurisdiction.

To change the order of permit review, there may need to be modifications made at the local and state levels to ordinances, statutes, and regulations.

While no formal recommendation was reached, several Workgroup members indicated interest and support for this pathway.

## Long-Term Planning

There are a variety of planning documents that are created and maintained by local entities and state government, including comprehensive plans, inlet management plans, marsh management plans, groundwater plans, sea level rise plans, resilience plans, local comprehensive beach management plans, and others. The Workgroup discussed the need for plans to be more comprehensive and interconnected in order to better encompass whole ecosystems. The Workgroup considered whether these plans could include topics such as habitat management and ecosystem functions and discussed the possibility of combining plans to streamline efforts. Coordinating and expanding these plans would present opportunities to create shared terminology, prioritize topics and funding, improve timing, reduce duplication of effort, increase the utility of the plans, and increase awareness to stakeholders.

The Workgroup also discussed the need for long term planning to be able to address the various challenges facing the beachfront, including sea level rise, increased coastal storms, erosion, and tidal flooding. Members suggested that developing robust adaptation and resilience plans will be critical to meet these types of challenges in the future. Developing and implementing these types of plans will allow communities to be proactive, rather than reactive when responding to emergency situations. The Workgroup acknowledged that developing, expanding, and coordinating these types of plans would require additional resources.

## Pilot Projects

The Workgroup was additionally charged with examining pilot project processes, as part of a broad examination of beach preservation approaches. Since 1977, State statute has provided a permitting exception for research activities conducted by State agencies and educational institutions provided that the research activities cause no material harm to the flora, fauna, physical or aesthetic resources of the area<sup>17</sup>.

In 2014, [Act 219](#) allowed pilot projects on the beachfront to address erosional issues. Specifically, the language states:

Notwithstanding any other provision of law contained in this chapter, the board, or the Office of Ocean and Coastal Resource Management, may allow the use in a pilot project of any technology, methodology, or structure, whether or not referenced in this chapter, if it is reasonably anticipated that the use will be successful in addressing an erosional issue in a

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<sup>17</sup> S.C. Code of Laws § 48-39-130(D)(2)

beach or dune area. If success is demonstrated, the board, or the Office of Ocean and Coastal Resource Management, may allow the continued use of the technology, methodology, or structure used in the pilot project location and additional locations.<sup>18</sup>

While the original statute language associated with research activities provides some guidance in terms of sponsor and limitations (e.g., no material harm), both sections of law are limited in project standards and specifications. S.C. Code of Laws § 48-39-320(C) does not identify the type of erosional issue, specific success criteria, or provide a process for assessing a pilot project proposal.

The Department has received several requests to conduct pilot projects in the past eight years for both beachfront and non-beachfront areas, highlighting a need for clarity in terms of project standards, specifications, and process.

The Workgroup considered current processes and project-level specifications and identified opportunities for process improvement, refinement, and the overall need for additional project specificity. Tables 2 and 3 summarize the Workgroup’s suggestions for pilot project process and requirements.

### **Pilot Project Review and Acknowledgement Process**

<b>Process</b>	<b>Current</b>	<b>Workgroup Suggestion</b>
<b>Submittal of Study Proposal</b>	Internal Review	Internal Review; Ad Hoc Technical Committee Review
<b>Public Notice</b>	No Public Notice	Provide opportunity for public comment; Separate notification to adjacent property owners and local government
<b>Resource Agency Coordination</b>	Discretionary	Resource Agency Coordination; Participation on Ad Hoc Technical Committee
<b>Authorization</b>	DHEC OCRM Written Acknowledgement	Align Authorization with Permitting Process
<b>Appeal</b>	Request for Review to DHEC Board	At a minimum maintain current process

Table 2: Pilot project submittal and review process current and recommended.

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<sup>18</sup> S.C. Code of Laws § 48-39-320(C)

### Specific Requirements for Pilot Project Study Proposal and Findings

Specifics	Current	Workgroup Suggestion
<b>Sponsor</b>	State Agency or State Educational Institution	Undetermined
<b>Study Design Specifics</b>	Undefined	Study hypotheses, timeline, expected outcomes, monitoring, reporting, and other details should be required in the proposal.
<b>Bonding</b>	Required if considered a Pilot Project under 48-39-320(C); Cost of removal	Require for removal, and restoration of any damages as a result of the pilot project
<b>Project Standards</b>	Minimum requirements: No material harm to flora, fauna, physical or aesthetic resources; Reasonably anticipated that the use will be successful in addressing an erosional issue	Proposal reviewed by Ad Hoc Technical Committee to provide recommendations to DHEC OCRM. Require criteria for monitoring and reporting, established control site and comparisons analysis. No adverse impacts to the study site, adjacent areas, flora, or fauna. No introduction of invasive or non-native species.
<b>Success Criteria</b>	Undefined	Demonstration of how study/project addresses an erosional issue and how success will be determined should be required in the proposal and final report.
<b>Reporting / Determination of Meeting Success Criteria</b>	DHEC OCRM review and determination; resource agency input	All data and study report(s) should be sent to DHEC OCRM and the Ad Hoc Technical Review Committee for a determination of meeting success criteria
<b>Public Comment on Final Results and Department Determinations</b>	Undefined	Notice on DHEC OCRM website; gather public comment at end of study timeframe

Table 3: Pilot project proposal and project requirements current and recommended.

The Workgroup discussed the need to better understand the following as it relates to pilot projects seeking to address an erosional issue:

- What specific erosional issue is being addressed?
- How is the erosional issue defined?
- What criteria are used to determine if the pilot project is successful?
- When should it be determined if a pilot project has been successful?

When demonstrating how a research study or pilot project addresses an erosional issue, the Workgroup agreed that the primary objective should be the preservation of the dry sand

beach and beach/dune system. As a secondary benefit, preservation of the dry sand beach and beach/dune system may result in enhanced protection of properties or habitat adjacent to or landward of these critical areas. As noted above, the Workgroup agreed that shore-parallel erosion control structures do not result in preservation of the dry sand beach.

The Workgroup discussed the need for a clear set of guidelines and criteria that will be required when submitting pilot project proposals. Suggested guidelines and criteria included:

- Providing evidence and previous findings of any existing or similar technology that has been implemented or studied in other areas/states;
- Providing clearly stated proposal descriptions of purpose, hypothesis, methodology, target goals, anticipated and reasonable level of success, and timeframe;
- Providing sufficient proof of concept and supporting data;
- Providing details on control sites for study comparison;
- Providing a plan for monitoring all study locations and areas adjacent to and neighboring the technology being deployed;
- Providing a summary of anticipated impacts to flora, fauna, and adjacent properties;
- Providing a plan for local government coordination; and
- Providing documentation of federal resource agency coordination, including threatened and endangered species.

The Workgroup also discussed the current statutory language, specifically the initial wording of the statute: “Notwithstanding any other provision of law contained in this chapter”. There is a need to better understand the intent and implications of this language. There was concern among Workgroup members that this language in the statute would allow a pilot project to employ a technology or approach that would be in direct conflict with or violate current statute or regulation. They concluded that these pilot projects should be reviewed for potential impacts and should not be allowed to pose a material harm to the beach environment, flora, or fauna. In addition, the current statutory language does not specifically reference *new* technology. The Workgroup was concerned that the omission of this word could result in the use of previously studied technologies shown to have negative outcomes.

***Recommendation 3: Establish A Pilot Project Ad Hoc Technical Advisory Committee***

The Workgroup recommends establishing an Ad Hoc Technical Advisory Committee to evaluate pilot project study proposals, provide written comments and recommendations on project standards and success criteria, and evaluate the findings of such studies. Appointed by DHEC OCRM based on recommendations from stakeholders, this 7-member committee would be comprised of unbiased technical and scientific coastal experts from academia, state and federal resource agencies, coastal engineers, and other subject matter experts. The review and approval process should be rigorous and thorough.

***Recommendation 4: Enhance the Pilot Project Authorization Process***

The Workgroup recommends that pilot project applications undergo a formal, prescribed process similar to other activities within the State's critical area. This process would include internal and committee review, an opportunity for public comment, resource agency coordination, and an appeals process. The Workgroup recommends that process requirements include detailed study design, timeline, monitoring, demonstration of how the project will address the erosional issue, criteria for success, bonding for removal and restoration, and no material harm to the beach environment, flora, or fauna.

***Recommendation 5: Modify Pilot Project Statutory Language***

The Workgroup recommends that the statutory language under SC Code of Laws Section 48-39-320(C) be amended to remove the wording: *"Notwithstanding any other provision of law contained in this chapter"* and include language in the statute to ensure that pilot projects do not cause material harm to the beach environment, flora, or fauna.

The Workgroup also recommends revising the language from *'the board, or the Office of Ocean and Coastal Resource Management'* to *"the Department"*.

## Beaches Critical Area

South Carolina has two beachfront critical areas, beaches and the beach/dune system. The State's beaches critical area is defined as "those lands subject to periodic inundation by tidal and wave action so that no nonlittoral vegetation is established".<sup>19</sup> This definition encompasses several beachfront environments, including the wet sand beach down to the low tide mark, the dry sand beach, and the vegetated beach seaward of any nonlittoral vegetation. The beaches critical area frequently overlaps with the beach/dune system critical area which is defined as "the area from the mean high water mark to the setback line as determined in S.C. Code of Laws § 48-39-280."<sup>20</sup> However, there are areas along the South Carolina coast where the setback line is either located on the dry sand beach or below the high tide mark, and the beaches critical area is landward of the beach/dune system in these areas.

DHEC OCRM's regulatory authority over the beach/dune system and the beaches critical areas is established in Coastal Division Regulations.<sup>21</sup> However, specific project standards and regulations within S.C. Code Ann. Regs. 30-13 focus primarily on the beach/dune system and do not adequately address activities in the beaches critical area.

Per statute, the Department is required to "Provide a regulatory system which the department shall use in providing for the orderly and beneficial use of the critical areas."<sup>22</sup>

The Workgroup discussed several scenarios (Maps 1 and 2) where the beaches critical area is landward of the beach/dune system. They also reviewed relevant statutory<sup>23,24</sup> and regulatory<sup>25,26</sup> definitions and guidance related to beachfront critical areas. The Workgroup discussed the State's regulatory authority and role within the beaches critical area, including what types of activities the Department should regulate within the beaches critical area.

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<sup>19</sup> S.C. Code of Laws § 48-39-10(H)

<sup>20</sup> S.C. Code of Laws § 48-39-10(J)(4)

<sup>21</sup> S.C. Code Ann. Regs. 30-10

<sup>22</sup> S.C. Code of Laws § 48-39-80

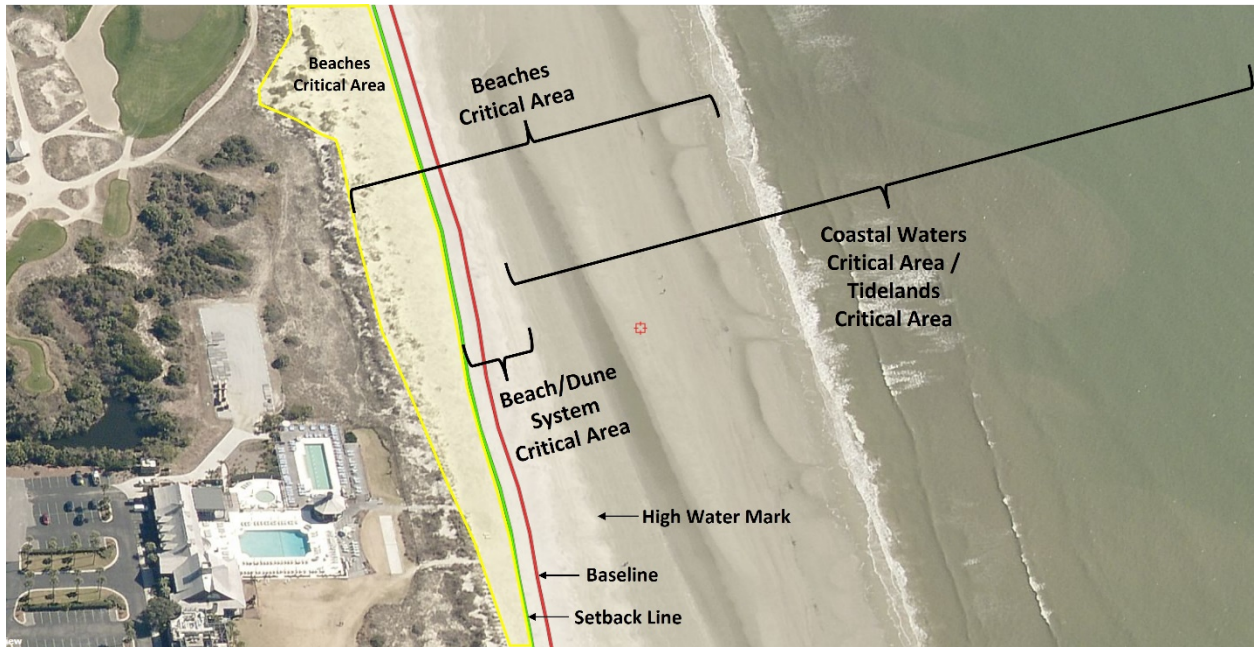
<sup>23</sup> S.C. Code of Laws § 48-39-10

<sup>24</sup> S.C. Code of Laws § 48-39-80

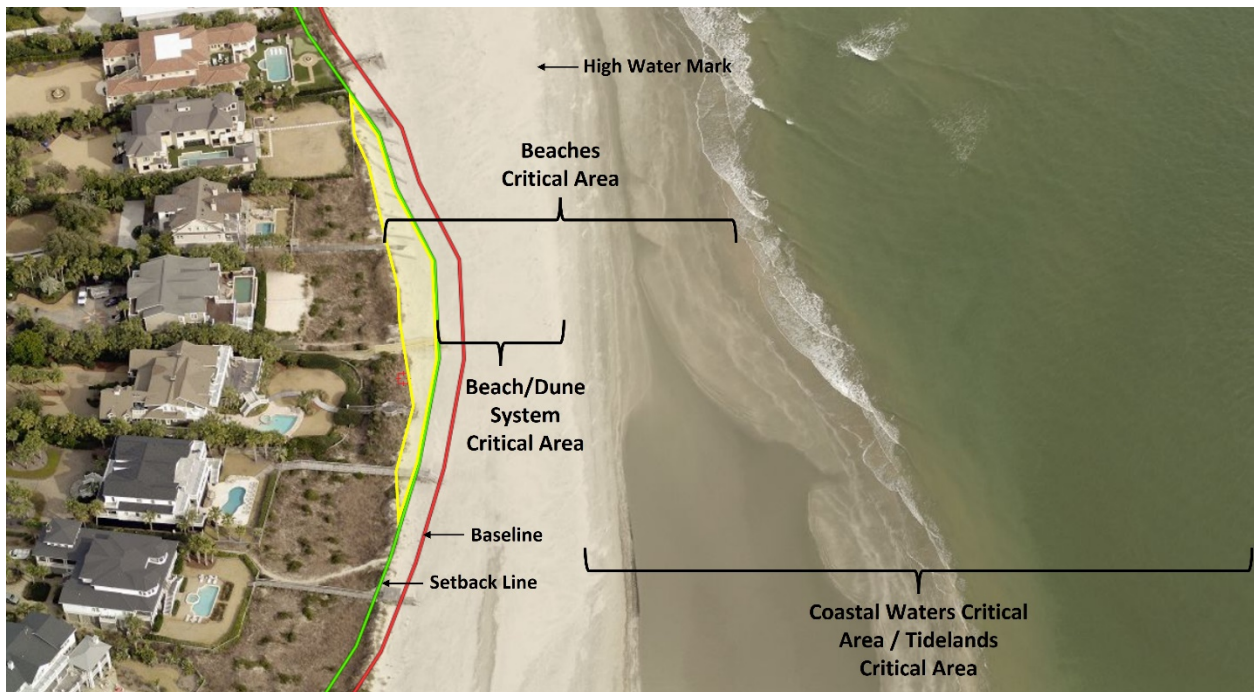
<sup>25</sup> S.C. Code Ann. Regs. 30-10

<sup>26</sup> S.C. Code Ann. Regs. 30-13





Map 1: Depicts the State's critical areas, including the beach/dune system and beaches critical areas. Identifies beaches critical area landward of the State's setback line.



Map 2: Depicts the State's critical areas, including the beach/dune system and beaches critical areas. Identifies beaches critical area landward of the State's setback line.

The Workgroup agreed that DHEC OCRM should assert jurisdiction in the beaches critical area and that additional detail and specificity is needed in the regulations to support this authority.

The Workgroup considered the following activities within the beaches critical area: erosion control structures, habitable structures, and pools. They discussed new construction, repair of structures, and impacts to structures post-storm. The Workgroup reviewed scenarios depicting these types of structures being located within the beaches critical area.

### **Erosion Control Structures**

In the Beachfront Management Act, the General Assembly found that “The use of armoring in the form of hard erosion control devices such as seawalls, bulkheads, and rip-rap to protect erosion threatened structures adjacent to the beach has not proven effective. These armoring devices have given a false sense of security to beachfront property owners. In reality, these hard structures, in many instances, have increased the vulnerability of beachfront property to damage from wind and waves while contributing to the deterioration and loss of the dry sand beach which is so important to the tourism industry.”<sup>27</sup>

Current statute prohibits new erosion control structures from being constructed within the beach/dune system (seaward of the State’s jurisdictional setback line). Existing erosion control structures seaward of the setback line that are destroyed more than 50% (above grade) cannot be repaired and must be removed. However, regulatory standards related to erosion control structures in the beaches critical area landward of the beach/dune system critical area are unclear. While the title of S.C. Code Ann. Regs. 30-13 includes both beaches and beach/dune system critical areas, the language within that regulation primarily focuses on the beach/dune system critical area, making it uncertain if erosion control structures are also prohibited in beaches critical areas.

The Workgroup discussed multiple scenarios of erosion control structures within the beaches and beach/dune system critical areas and agreed that provisions that apply to erosion control structures within the beach/dune system should apply to those structures within the beaches critical area. This provides consistency within beachfront critical areas for implementing the beach preservation policy. There was consensus that shore-parallel erosion control structures do not support beach preservation, and they agreed that new

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<sup>27</sup> S.C. Code of Laws § 48-39-250

erosion control structures should be prohibited within the beaches critical area, including areas landward of the beach/dune system.

The Workgroup further agreed that additional discussion is needed regarding repair of existing erosion control structures within the beaches critical area, but that the priority of focus should remain on prohibiting new erosion control structures within this environment.

In addition to these beachfront critical areas, many of South Carolina's beaches have substantial dunes which stretch landward from the defined critical areas. These dunes are a valuable environment, providing additional habitat and protection from coastal hazards like tidal flooding, sea level rise, and storms. While the beach/dune system critical area typically encompasses some of the dune system, portions of this ecosystem are frequently excluded from regulatory jurisdiction. The Workgroup acknowledged the importance of these dune fields, especially when considering the stressors South Carolina beaches will likely continue to face in the next 20-30 years. As sea levels rise and coastal storms become more frequent, these dune fields could act as a buffer for coastal development, preventing damage from hazards, and provide the space for the dry sand beach to migrate. Having established that shore-parallel erosion control structures do not support beach preservation, the Workgroup discussed the possibility of excluding erosion control structures from this dune environment, as well as the defined critical areas. The Workgroup concluded that additional discussion is needed on the spatial extent of excluding erosion control structures.

## **Habitable Structures and Pools**

In the Beachfront Management Act, the General Assembly found that, prior to 1988, "without adequate controls, development unwisely has been sited too close to the [beach/dune] system. This type of development has jeopardized the stability of the beach/dune system, accelerated erosion, and endangered adjacent property. It is in both the public and private interests to protect this system from this unwise development."<sup>28</sup>

Current statute prohibits new habitable structures or pools from being constructed on the primary oceanfront sand dune or on active beach seaward of baseline. If a habitable structure is built seaward of the baseline via a Special Permit and becomes located on the active beach, the Department will monitor the beach for a minimum of one year. If the Department determines that the structure is permanently on active beach, then the structure must be removed or moved landward by the owner.<sup>29</sup> Similar to erosion control

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<sup>28</sup> S.C. Code of Laws § 48-39-250(4)

<sup>29</sup> S.C. Code Ann. Regs. 30-14(l)

structures, regulatory standards regarding habitable structures or pools within the beaches critical area landward of the beach/dune system critical area are unclear.

The Workgroup reviewed habitable structure and pool scenarios in the beachfront critical areas landward of the baseline and setback line. They discussed new construction, repairs, and situations where structures become situated within the beaches critical area following a storm event. The Workgroup did not come to consensus on how to address these structures but indicated that additional internal DHEC OCRM discussion and consideration is needed regarding habitable structures and pools within the beaches critical area, landward of the beach/dune system.

***Recommendation 6: Prohibit New Erosion Control Structures within the Beaches Critical Area***

The Workgroup recommends that new erosion control structures should be prohibited within the beaches critical area landward of the setback line. The same provisions that apply to new erosion control structures within the beach/dune system (seaward of the State's jurisdictional setback line) should also apply to those within the beaches critical area.

## **Real Estate Disclosures & Education**

South Carolina's beaches are dynamic places, changing over time with the tides and currents, and sometimes changing dramatically with coastal storms. Some areas along the coast are more vulnerable to change than others due to the nature of the coastline and the environment.

Real estate disclosures, which are required to inform buyers of potential hazards associated with structures and/or properties, are found under multiple titles within South Carolina law. The majority of the disclosure requirements are located under SC Code of Laws Section 27-50-10 et seq.

The State prescribes disclosures specific to the beachfront under SC Code of Laws Section 48-39-330. These disclosure requirements are designed to inform potential buyers to possible hazards associated with oceanfront property. This statute requires that sellers of beachfront property disclose whether the property may be affected by the beachfront jurisdictional lines (baseline and setback line) if any part of the property is located seaward

of the setback line. Sellers are also required to include the local erosion rate most recently made available by the Department and the seaward corners of all habitable structures.<sup>30</sup>

Despite these disclosure requirements, beachfront property owners or those looking to purchase beachfront homes are often unaware of, or misunderstand the hazards associated with these properties.

The Workgroup discussed the limitations with the current real estate disclosures and expressed the need to increase public awareness of coastal hazards associated with beachfront properties and to make information about coastal hazards, including flooding and erosion, more readily available. The Department provided an overview on the types of data available, including erosion rates, erosion control structures, emergency orders, renourishment projects, and special permit projects. DHEC OCRM is currently developing a web-based outreach tool, which will feature these datasets and serve as a coastwide Beach Atlas.

The Workgroup discussed the development of more robust real estate disclosures, in combination with education and outreach, to increase public awareness of the hazards associated with beachfront property and the most vulnerable locations along the coast. Changes to real estate disclosures will involve additional and continued input and coordination from stakeholders, including the SC Realtors Association, Real Estate Commission, and attorneys.

## Summary and Next Steps

The South Carolina Beach Preservation Stakeholder Workgroup efforts described herein resulted in six recommendations. In addition to these recommendations, there were several notable Workgroup findings. A summary of recommendations, notable findings, and next steps is provided below.

### Recommendations

The South Carolina Beach Preservation Stakeholder Workgroup efforts resulted in the following formal recommendations as detailed in this report.

1. Define Beach Preservation
2. Establish a Beach Nourishment Technical Advisory Committee
3. Establish a Pilot Project Ad Hoc Technical Advisory Committee

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<sup>30</sup> S.C. Code of Laws § 48-39-330

4. Enhance the Pilot Project Authorization Process
5. Modify the Pilot Project Statutory Language
6. Prohibit New Erosion Control Structures within the Beaches Critical Area

## Notable Findings

Although the Workgroup did not make formal recommendations regarding the following points, there was agreement among members that the State should:

- Consider beach nourishment, inlet management, sand dune restoration (including sand fencing and native vegetation), and the conservation of undeveloped shorelines as appropriate beach preservation approaches. Shore-parallel erosion control structures do not support beach preservation.
- Seek opportunities for greater coordination between state and local governments including coordination on permitting requirements, as well as short- and long-range planning for beach preservation efforts.
- Pursue forward-thinking, comprehensive approaches to beach preservation and planning in light of sea level rise, specifically resilience and ecosystem-based approaches to create a more adaptable and resilient South Carolina coast.
- Increase public awareness of coastal hazards associated with beachfront properties and make information about coastal hazards, including flooding and erosion, more readily available.

The Workgroup discussed other pertinent topics and considered the following as issues of importance that needed additional dialogue and further engagement to address:

- The Workgroup discussed several other beach preservation approaches, including the landward movement and/or removal of structures wherever necessary or feasible, the maintenance of existing groins, and projects designed to increase the amount of sand or provide for the natural migration and dispersion of sand within the nearshore system. While there was not consensus, some Workgroup members thought these approaches should be considered by the Department for beach preservation under specific circumstances and should be evaluated on a project-by-project basis.
- There was general agreement from the Workgroup on the importance and need for a South Carolina Beach Preservation Fund; however, consensus was not reached on the specific activities that would be eligible for funding or applicant eligibility requirements.

## Next Steps

The Workgroup evaluated the State's policy of beach preservation, examined topics including implementation approaches, pilot projects and authority within the beaches critical area, and worked toward consensus on many issues related to beach preservation. The resulting six recommendations, outlined in this report, will assist DHEC OCRM with improving internal processes, and identifies opportunities to provide clarity and guidance through potential changes in state law.

The Workgroup also highlighted actions where additional discussion and partner involvement is necessary to provide more effective beachfront management. These topics include eligibility criteria associated with the South Carolina Beach Preservation Fund, coordination related to differing beachfront permitting requirements between state and local authorities, and changes to real estate disclosures.

## Acknowledgments

The Beach Preservation Stakeholder Workgroup process would not have been possible without the dedication of time and energy from the Workgroup members and DHEC staff. DHEC recognizes and appreciates the effort required to organize, attend, and document all the meetings.

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