Tidelands, Water and Beaches: Regulations & Rebuilding

Jacquie Adams, Section Manager
Critical Area Permitting

Matt Oswald, Section Manager
Beachfront Management

SC DES BCM
Charleston, SC

SCCIN
Calling the Coast Home

SC DEPARTMENT of ENVIRONMENTAL SERVICES

Calling the Coast Home

Course Series:

- Living with Water
- The Land Water Connection
- Coastal Lifestyle for Clean Water
- Tidelands, Water, and Beaches: Regulations and Rebuilding
- Understanding Property with Freshwater Wetlands

Instruction and Information Provided by:

- S.C. Department of Environmental Services
- S.C. Dept. of Natural Resources
- S.C. Sea Grant Consortium
- Clemson University
- North-Inlet Winyah Bay National Estuarine Research Reserve
- ACE Basin National Estuarine Research Reserve
- University of South Carolina

SCCIN
Calling the Coast Home
www.sccoastalinfo.org

SCCIN
Calling the Coast Home

South Carolina Coastal Information Network

https://www.sccoastalinfo.org/

GOALS AND OBJECTIVES

- Increase Knowledge of SC's Coastal Program
- Understanding why the program exists
- Enhance your knowledge of the coastal resources and their importance

SCDES Bureau of Coastal Management (BCM) History

Federal

- Coastal Zone Management Act (1972) established guidelines for state Coastal Management Programs.

State

- SC Coastal Tidelands and Wetlands Act was passed in 1977; amended in 1988

Goal

- Protect the quality of the coastal environment and to promote the economic and social improvement of the coastal zone and of all the people of the State

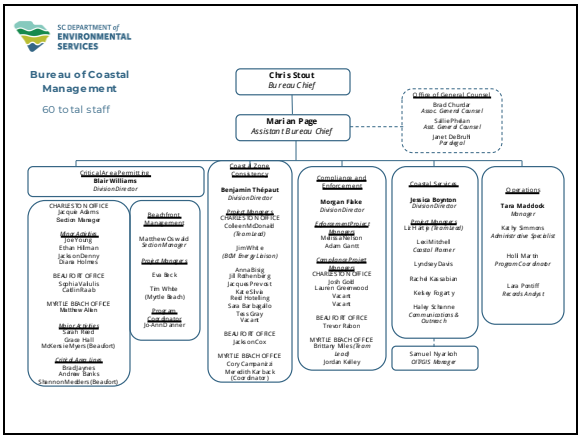
Bureau of Coastal Management (BCM)

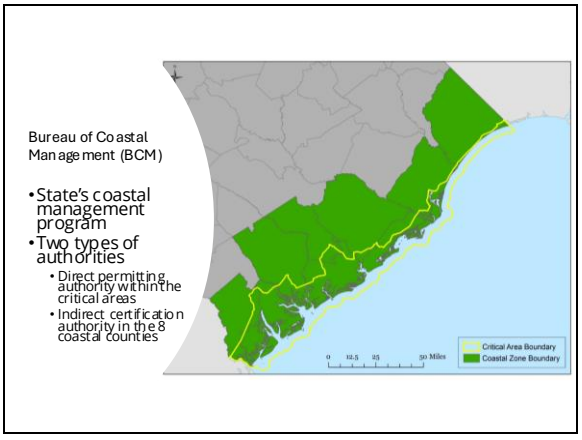
Regulatory Sections

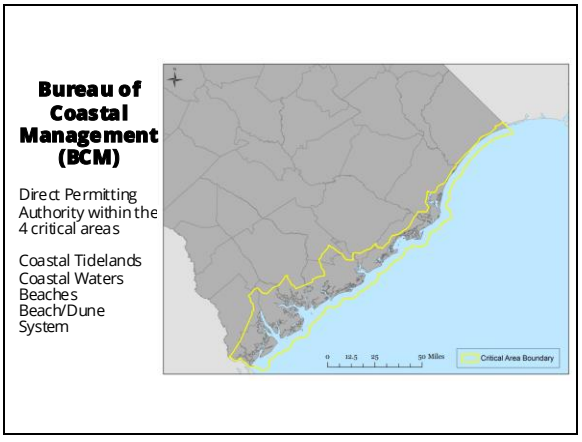
- **Critical Area Permitting**
- **Beachfront Management**
- Federal & State Consistency Certification
- Compliance & Enforcement

Coastal Services

- Data Analysis & Management
- Outreach & Stakeholder Engagement
- Project and Contract Management
- Program Enhancements

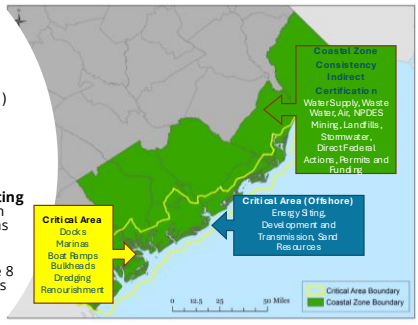

SC DEPARTMENT of ENVIRONMENTAL SERVICES
Bureau of Coastal Management
60 total staff
Chris Stout
Bureau Chief
Marian Page
Assistant Bureau Chief
Office of General Counsel
Brad Churda
Assoc. General Counsel
Sallie Phelan
Asst. General Counsel
Janet DeBruhl
Paralegal
Critical Area Permitting
Blair Williams
Division Director
Coast & Zone Consistency
Benjamin Thépaut
Division Director
Compliance and Enforcement
Morgan Fike
Division Director
Coastal Services
Jessica Boynton
Division Director
Outreach
Tara Maddock
Manager
Kathy Simmons
Administrative Specialist
Holl Marth
Program Coordinator
Lara Pezoff
Records Analyst
Samuel Nyarkoh
GIS/GIS Manager


Bureau of Coastal Management (BCM)
• State's coastal management program
• Two types of authorities
• Direct permitting authority within the critical areas
• Indirect certification authority in the 8 coastal counties
0 12.5 25 50 Miles
Critical Area Boundary
Coastal Zone Boundary


Bureau of Coastal Management (BCM)
Direct Permitting Authority within the 4 critical areas
Coastal Tidelands
Coastal Waters
Beaches
Beach/Dune System
0 12.5 25 50 Miles
Critical Area Boundary

Bureau of Coastal Management (BCM)

- Two types of authorities
  - **Direct permitting** authority within the critical areas
  - **Indirect certification** authority in the 8 coastal counties



Coastal Tidelands

Coastal Waters

Purpose of coastal regulations

Types of critical area activities reviewed by Critical Area Permitting Section

- Docks
- Bulkheads, revetments
- Marinas and Mooring fields
- Boat ramps
- Living shorelines
- Mariculture
- Water Treatment systems
- Piers, Cables, Pipelines, Transmission lines
- Dredging and Access to coastal island

17 activities are managed by BCM

Types of service requests

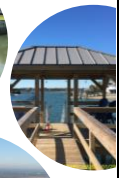
6 types of service requests

- Critical Area Lines
- Maintenance & Repair
- Dock Master Plans
- Letter of Authorization
- Permit transfers
- Permit extensions

Importance of Critical Area Lines

- Required for specific state and local permits.
- Local and state requirements **guide development away from the critical area, protecting the resource, and reducing risk to development** from hazards including tidal flooding and storm surge.

When is a Certified Critical Area Line Required?



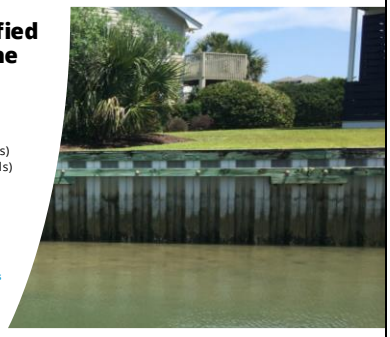
DES BCM

1. Private docks exceeding 900 linear feet
2. Private erosion control structures (bulkheads and revetments)
3. Public Infrastructure (e.g. SCDOT roadway projects)
4. Port projects (e.g. new or expansion of shipping wharfs)

DES Stormwater and Septic

1. Stormwater permits on properties adjacent to the marsh.
2. Septic permits on properties adjacent to the marsh.

When is a Certified Critical Area Line Required?



Local Permits

- Erosion control structures (bulkheads and revetments)
- Construction (houses, pools)
- Buffers and setbacks
- Planning
- Subdivisions
- Real estate transactions

Remember! Certified Critical Area Lines are valid for 5 years (unless there are significant changes to the shoreline)

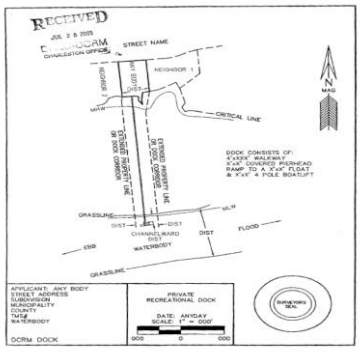
Dock Permitting

- Waterfront definition
- Dock alignment
- Dock size tied to creek size
- Dock length

Community Docks and Marinas

Commercial/Industrial Docks and Wharfs

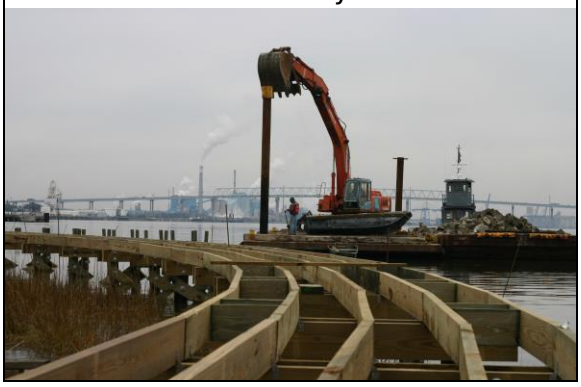
Dock Drawing



Barge Moving Equipment

Bulkheads and Revetments

Public Riverfront Walkway



Dredging Activities

- Comm/Industrial approaches & channels
- Public and Private Marinas slips and basins
- Disposal of dredged material

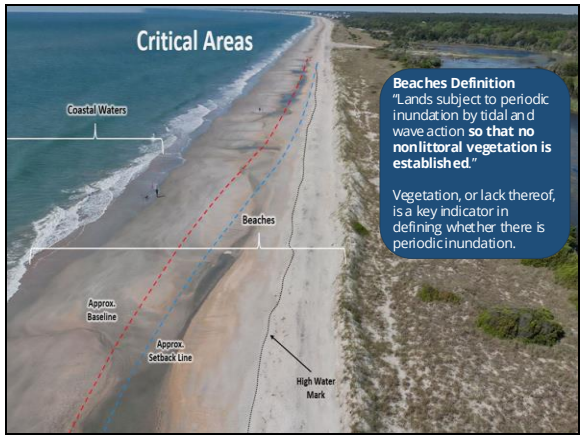
How does SC manage the beachfront?

Jurisdictional lines enable BCM to implement laws and regulations that protect coastal resources and help manage development near dynamic shorelines.

critical area:

- **Baseline** is the **more seaward line**
- **Setback Line** is the **more landward line**

Beaches critical area can exist landward of the setback line.



Beachfront Jurisdictional Lines
(beach/dune system critical area)

Baselines Set by **Beach Zones**

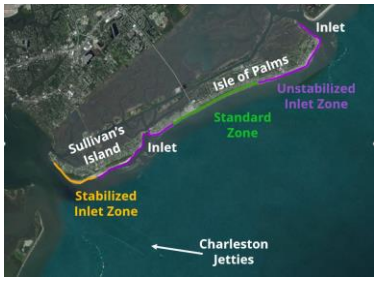
At a glance:

There are three beach zones:

- **Unstabilized inlet erosion zone**
- **Stabilized inlet erosion zone**
- **Standard erosion zone**

Beachfront Jurisdictional Lines

- Updated every 7-10 years; next review cycle kicking off now (2024)
- Baseline updated according to methods for zone type
- Setback line is landward of baseline, distance of 40x the long-term shoreline change rate



Baseline - Standard Erosion Zones and Stabilized Inlet Erosion Zones

The baseline is set at the crest of the primary oceanfront sand dune.

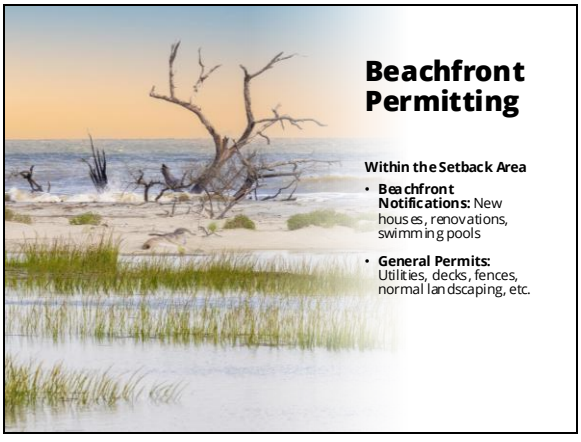
The Primary Oceanfront Sand Dune is defined as a dune that is 3' high and 500' long.

Baseline - Unstabilized Inlet Erosion Zones

The baseline is the most landward point of erosion at any time during the past 40 years.

Setback Line

- Accretional areas- set at a minimum distance of 20 feet offset from the Baseline
- Erosional area- set at 40 times the long-term shoreline change rate for that section of beach



Beachfront Permitting

Within the Setback Area

- **Beachfront Notifications:** New houses, renovations, swimming pools
- **General Permits:** Utilities, decks, fences, normal landscaping, etc.

Beachfront Permitting

Seaward of the Baseline

- **Major Permits:** Beach renourishment, groins, ocean outfalls, emergency vehicle access, houses, etc.
- **General Permit** for sand fencing, dune vegetation, and minor renourishment
- **General Permit** for beach access mats

Beachfront Permitting

Dune walkover structures are an exception to an BCM permit provided that the regulatory requirements in S.C. Code Ann. Regs. 30-13.C(1) are adhered to.

- Wood or wood-like material
- Max width of 6 feet
- 2-ft vertical clearance
- Shore-perpendicular, except as necessary for handicapped access
- Wider deck section would require BCM General Permit

Disclosure Requirement

- SC Code Section 48-39-330
  - Property is or may be affected by the setback line, baseline, and the seaward corners of all habitable structures.
  - Include local erosion rate.

Beachfront Management Act

Legislative Findings on Dry Sand Beach and Tourism

- S.C. Code of Law 48-39-250(8), (1)
  - "It is in the state's best interest to protect and to promote increased public access to South Carolina's beaches for out-of-state tourists and South Carolina residents alike."
  - "The tourists who come to the South Carolina coast to enjoy the ocean and dry sand beach contribute significantly to state and local tax revenues."

Erosion Control Structures (ECS)

- Seawalls, bulkheads, revetments:
  - Construction of new ECS is prohibited.
  - Existing, grandfathered ECS can be maintained and repaired if damaged less than 50% above grade.
  - If damage exceeds 50%, the ECS is "destroyed beyond repair" and cannot be rebuilt.

Beachfront Management Act

Legislative Findings on Erosion Control Structures

- S.C. Code of Laws 48-39-250(5)
  - "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."

Issues with Erosion Control Structures

- Interrupt natural coastal processes such as sand migration and dune formation.
- Loss of dry sand beach, which is critical for **habitat**, **public access**, and **tourism**.

Issues with Erosion Control Structures

- Scouring occurs at the base of the structure.
- Accelerated erosion of the beach and adjacent properties.

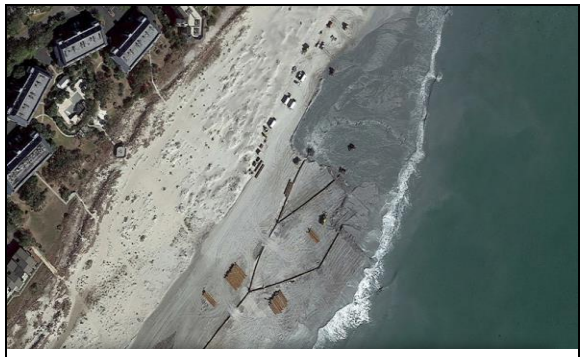
Beachfront Management Act

Policy Statements

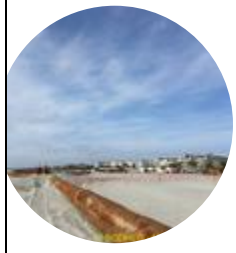
- S.C. Code of Law 48-39-260(4), (5): "In recognition of its stewardship responsibilities, the policy of South Carolina is to:

  (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."



Beach Renourishment

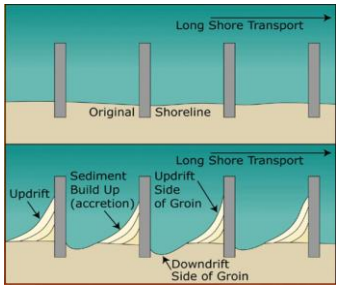


Major Beach/Inlet Project Considerations

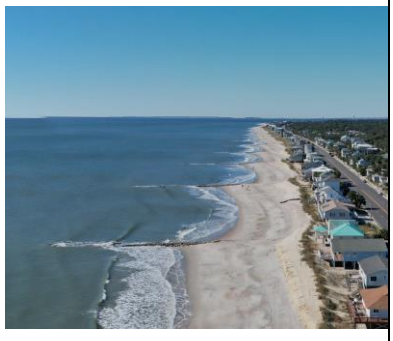
- Sediment compatibility
  - Grain size, color, quality
- Selection of offshore borrow areas
- Pre- and post-project monitoring
  - Beach and borrow area topography/bathymetry
  - Compaction
  - Escarpments
- T&E Species: Dredging & sand placement windows: typically November 1 – April 30

Groin

Effects of groins on beachfront

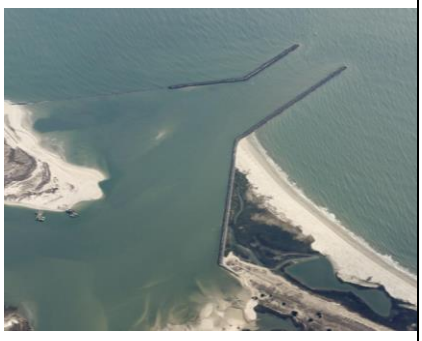


Groin Field



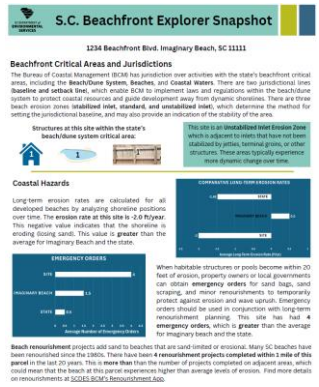
Groin at inlet end of barrier Island

Jetties at an inlet



Morris Island Lighthouse in surf

Experimental efforts along the beachfront


S.C. Beachfront Explorer Snapshot

1234 Beachfront Blvd. Imaginary Beach, SC 11111

Beachfront Critical Areas and Jurisdictions

The Bureau of Coastal Management (BCM) has jurisdiction over activities with the state's beachfront critical areas, including the **Beach/Dune System**, **Beaches**, and **Coastal Waters**. There are two jurisdictional lines (**baseline and setback line**), which enable BCM to implement laws and regulations within the beach/dune system to protect coastal resources and guide development away from dynamic shorelines. There are three beach erosion zones (**stabilized inlet, standard, and unstabilized inlet**), which determine the method for setting the jurisdictional baseline, and may also provide an indication of the stability of the area.

Structures at this site within the state's beach/dune system critical area:

This site is an **Unstabilized Inlet Erosion Zone** which is adjacent to inlets that have not been stabilized by jetties, terminal groins, or other structures. These areas typically experience more dynamic change over time.

Coastal Hazards

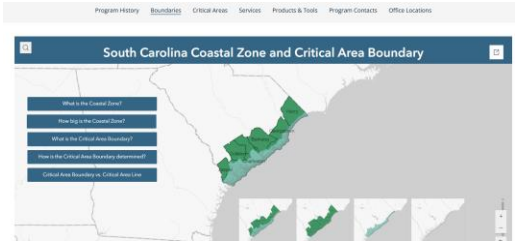
Long-term erosion rates are calculated for all developed beaches by analyzing shoreline positions over time. The **erosion rate at this site is -2.0 ft/year**. This negative value indicates that the shoreline is eroding (losing sand). This value is **greater** than the average for Imaginary Beach and the state.

COMPARATIVE LONG-TERM EROSION RATES

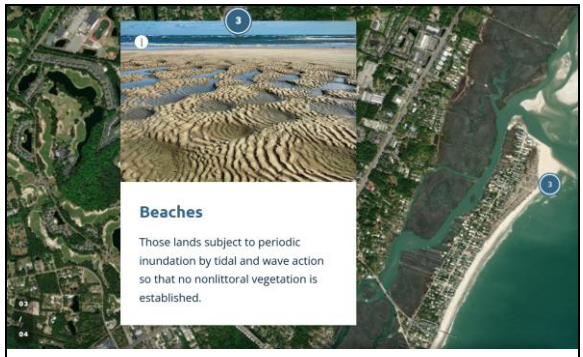
EMERGENCY ORDERS

When habitable structures or pools become within 20 feet of erosion, property owners or local governments can obtain **emergency orders** for sand bags, sand scraping, and minor renourishments to temporarily protect against erosion and wave uprush. Emergency orders should be used in conjunction with long-term renourishment planning. This site has had **4 emergency orders**, which is **greater** than the average for imaginary beach and the state.

Beach renourishment projects add sand to beaches that are sand-limited or erosional. Many SC beaches have been renourished since the 1980s. There have been **4 renourishment projects completed within 1 mile of this parcel** in the last 20 years. This is **more than** than the number of projects completed on adjacent areas, which could mean that the beach at this parcel experiences higher than average levels of erosion. Find more details on renourishments at SCDES BCM's Renourishment App.

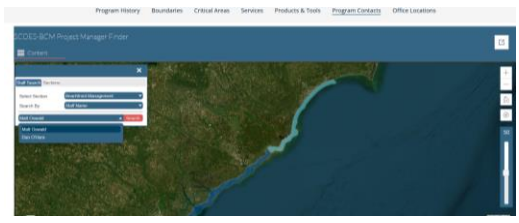


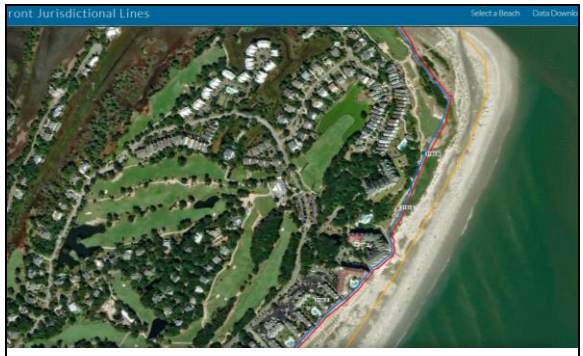
Coastal Atlas



Coastal Atlas

Coastal Atlas





Beachfront Jurisdictional Lines

B.E.R.M. Explorer

Beach Renourishment Projects

BCM Beachfront Data Viewers

- Beachfront Jurisdictional Lines (beach/dune system critical area)
  https://gis.dhec.sc.gov/shoreline/
- Beach Topographic Survey Profile Data (B.E.R.M. Explorer)
  https://gis.dhec.sc.gov/bermexplorer/
- Beach Renourishment Projects
  https://gis.dhec.sc.gov/renourishment/
- Coastal Atlas Story Map
  South Carolina Coastal Atlas
- S.C. Beachfront Explorer Snapshot (In process)

Other Useful Coastal Products

https://mycoast.org/sc

https://gis.dhec.sc.gov/beachaccess/

https://gis.dhec.sc.gov/staffapp/

Contact us:

- SCDES Bureau of Coastal Management (BCM)
- 1362 McMillan Avenue, Suite 400
- Charleston, SC 29405
- (843) 953-0200

Jacquie Adams
Jacqueline.Adams@des.sc.gov
Matt Oswald
Matthew.Oswald@des.sc.gov

SC DEPARTMENT of ENVIRONMENTAL SERVICES