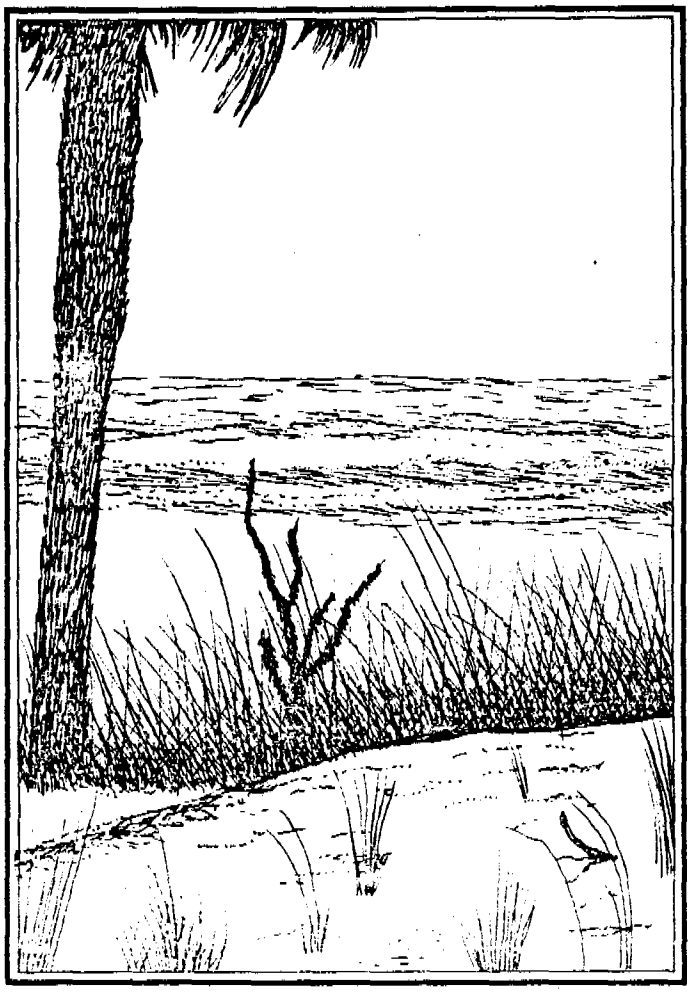
Report of

South Carolina Blue Ribbon Committee on Beachfront Management



South Carolina Blue Ribbon Committee on Beachfront Management

Dear Friends of the South Carolina Coast,

The Blue Ribbon Committee on Beachfront Management was appointed by Senator James M. Waddell, Jr. and the South Carolina Coastal Council last October. The Committee was asked to investigate the problems of beach erosion along the South Carolina coast and determine how the beaches and dunes should best be managed by the State for its citizens. We were further asked to propose long-term solutions to the identified problems.

This report of the Blue Ribbon Committee represents our findings and makes specific recommendations to assure the long-term preservation of the beaches and dunes along the coast of South Carolina. The Committee worked long and hard in developing this report, agonizing over how to balance the interests of the private property owner with that of the public--all of the citizens of South Carolina.

The coastline obviously plays a vital role in the economy of our State. The Blue Ribbon Committee believes that positive action must be taken by the General Assembly in line with the recommendations included in this report if we are to preserve, restore, and enhance this most important natural resource. On behalf of the membership of the Blue Ribbon Committee, I am pleased to submit this report.

Respectfully,

Erick B. Ficken
Chairman

mcb

March, 1987

1601 Oak Street, Suite 208 Myrtle Offices, Myrtle Beach, SC 29577 Telephone: 626-7217

SOUTH CAROLINA BLUE RIBBON COMMITTEE
ON BEACHFRONT MANAGEMENT

Erick B. Ficken, Chairman	Myrtle Beach
Alan S. Altman	Pawleys Island
Richard L. Beck	Folly Beach
Frank W. Brumley	Charleston
Johnny B. Byrd	Atlantic Beach
Frances Close-Hart	Columbia
Richard D'Amato	North Myrtle Beach
Richard F. Davis	Columbia
John M. Dean	Columbia
Palmer Freeman	Columbia
Virginia Guerard	Edisto Beach
Betsy Haskin	Georgetown
J. Randall Lee	Columbia
William Marscher	Hilton Head Island
Robert Marvin	Walterboro
Laura McIntosh	Bluffton
John N. McMillan, Sr.	Columbia
Earle Morris, Jr.	Columbia
F. Page Morris	Columbia
Wim Pastoor	Charleston
Jim Self	Greenwood
Charles Sweatt	Sullivan's Island
Charles S. Way, Jr.	Charleston
Neil D. Wright	Surfside Beach
Hubert E. Yarborough, III	Greenville

TABLE OF CONTENTS

I N T R O D U C T I O N

The state of South Carolina is blessed with 198 miles of Atlantic Ocean shoreline which is generally characterized by beautiful dry sand beaches and rolling sand dunes. This shoreline is a resource which is vitally important to the citizens of this state and to the state's economy as it annually attracts millions of visitors and generates approximately two-thirds of the state's annual $3.75 billion dollar tourist industry.

The shoreline, with a healthy beach/dune system in place, also provides the first line of defense in protecting life and property against the ravages of storms and shoreline erosion. In addition, the beach/dune system serves as a habitat and nesting area for many species of plants and animals.

The South Carolina beach/dune system is now in a state of crisis. Over 57 miles of our beaches are critically eroding. This erosion is threatening the continued existence of the beach/dune system and thereby threatening life, property, the tourist industry, vital state and local revenue, marine habitat, and a national treasure.

The primary causes of this crisis include a persistent rise in sea level, poorly planned development which encroaches upon the beach/dune system and a lack of comprehensive beach management planning. This crisis will continue unabated unless the State makes a firm commitment to protect, preserve, restore, and enhance our beach/dune system. This resource is now in desperate need of the State's stewardship.

In 1977, the State enacted the Coastal Tidelands and Wetlands Act (Coastal Zone Management Act) which was intended to prevent poorly planned development and to protect, preserve, restore and enhance the beach/dune system. This legislation has been ineffective because too little authority over the beach/dune system was given to the Coastal Council which is responsible for administering the Act.

The result of this limited authority is that the Coastal Council has been unable to prevent structures from being sited unwisely close to the eroding beach and the impact area of storms and high tides. The owners of these structures, in most instances, have quickly sought permits from the Coastal Council to construct erosion control devices in order to protect their erosion threatened structures. Unfortunately, most erosion control devices result in increased erosion, a drastic lowering of the beach profile (thereby reducing the beach/dune system's tourist and recreational value) and a decrease in the ability of the beach/dune system to protect upland property from storms and high tides. The result of attempting to protect upland property utilizing hard erosion control structures is that dry sand beaches are rapidly disappearing thereby placing many millions of tourist dollars in jeopardy.

Sea level rise in this century is a scientifically documented fact. Our shoreline is suffering from its effects today. Moreover, a recent study conducted by the U. S. Environmental Protection Agency (EPA, 1983) predicts a possible one foot rise in sea level over the next thirty to forty years and approximately three feet over the next hundred years. It must be accepted that regardless of attempts to forestall the process, the Atlantic Ocean, as a result of sea level rise and periodic storms, is ultimately going to force those who have built too near the beach front to retreat.

If we had the opportunity to step back in time and plan the development of South Carolina's beaches with today's knowledge, we would most certainly chart a different course from that of the past. We would not allow development in close proximity to the beach/dune system. Unfortunately we are not afforded that luxury, for much of South Carolina's coast is heavily developed today. Any new rational beach management policy must recognize the existence of such development and the vast differences which exist between

various sections of our coast with regard to the degree and pattern of development and the monetary investment involved.

The storm and high tides of January 1, 1987, have made everyone painfully aware of the dynamic nature of our coastline. A relatively minor storm in early December, 1986, closely followed by the January 1, 1987, storm inflicted substantial damage to upland property ($20 million) and left the coast of South Carolina severely damaged and highly vulnerable to future storms. The present condition of the South Carolina shoreline has raised the awareness level of the citizens of South Carolina to a point where almost everyone agrees that improved beach management is absolutely necessary.

There are three possible approaches upon which to base a beach management policy:

1) Armor the beach with erosion control devices,

2) Nourish the beach with sand; and,

3) Retreat from the beach.

We believe that combinations of the three approaches, depending upon site specific factors, may be the most realistic policy.

We have already tried armoring the shoreline. While armoring the shoreline has temporarily offered protection to private property, it has caused damage to the public beach. Carefully planned nourishment of the beach/dune system is certainly a more desirable approach to forestalling the effects of the encroaching sea upon existing development. Nourishment is expensive but can be effectively utilized at locations where the benefits justify the cost. Furthermore, it is anticipated that the cost of nourishment will rise as the sea level rises and could ultimately become extremely expensive.

The Blue Ribbon Committee therefore concludes that a retreat from the beaches over a thirty year transition period, in combination with selective

beach nourishment, is the only practical approach to our coastal erosion problems. A 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. This 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.

I. FINDINGS OF FACT

A. The beach/dune system along the coast of South Carolina is extremely important to the people of South Carolina and serves the following functions:

1. Protects life and property by serving as a storm barrier which dissipates wave energy and contributes to shoreline stability in an economical and effective manner.

2. Provides the basis for a tourist industry that generates approximately two-thirds of South Carolina's $3.75 billion annual tourist industry revenue which is a significant portion of the State's economy. The tourists who come to the South Carolina coast to enjoy the ocean and dry sand beach also contribute approximately $100 million annually in State tax revenues and $20 million annually in local tax revenues.

3. Provides critical habitat for numerous species of plants and animals, several of which are threatened or endangered. Waters adjacent to the beach/dune system also provide a habitat for many other marine species.

4. Provides a natural healthy environment for the citizens of South Carolina to spend leisure and tranquil moments that serve their physical and mental well being.

B. Beach/dune system vegetation is unique and extremely important to the vitality and preservation of the beach/dune system.

C. Approximately fifty-seven miles of South Carolina's beaches have been identified as critically eroding.

D. The Coastal Tidelands and Wetlands Act of 1977 (Coastal Zone Management Act) does not provide adequate jurisdiction to the South Carolina Coastal Council to enable it to effectively

protect the beach/dune system. Consequently, uncontrolled and unwise development sited too close to the beach/dune system has jeopardized the stability of the beach/dune system, accelerated erosion, and endangered adjacent property. It is in both the public and private interest to preserve and protect the beach/dune system from such unwise development.

E. The use of armoring, in the form of hard erosion control devices such as seawalls, bulkheads, rip-rap, etc., to protect erosion threatened structures adjacent to the beach has not proven effective. These armoring devices have in many instances, increased the vulnerability of upland property to storm damage and have contributed to the deterioration or loss of the dry sand beach.

F. Erosion is a natural process which becomes a significant problem when structures are erected in close proximity to the beach/dune system. Therefore, it is 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 the beach/dune system to retreat from the beach/dune system.

G. Inlet and harbor management practices, including the construction of jetties which interrupt the natural long shore transport of sand, thereby depriving down drift beach/dune systems of their natural sand supply, and dredging practices which frequently include disposal of large quantities of beach quality sand at sea, have resulted in accelerated erosion of down drift beach/dune systems.

H. It is in the State's interest to protect and to promote increased public access to South Carolina's beaches for tourists and South Carolina residents alike.

I. Present funding for the protection and management of the beach/dune system is inadequate.

J. There is no coordinated statewide policy for post storm emergency management of the beach/dune system.

K. A long-range comprehensive beach management plan is needed for the entire coast of South Carolina to protect and effectively manage the beach/dune system, prevent unwise development, and to minimize man's adverse impact on the beach/dune system.

II. POLICIES

A. In recognition of its stewardship responsibilities, the policy of the State of South Carolina shall be:

1. To protect, preserve, restore, and enhance the beach/dune system, the highest and best uses of which are to provide:

   a. A barrier and buffer from high tides, storm surge, hurricanes, and normal erosion.

   b. A public and private recreation area which serves as a major source of revenue.

   c. A habitat for flora and fauna.

   d. A place of natural beauty.

2. To assure a stable source of funds to provide research, planning, public education, aquisition, and proper management of one of the state's most valuable resources--the beach/dune system.

3. To create a comprehensive, long-range beach management plan and require local comprehensive beach management plans for the protection, preservation, restoration, and enhancement of the beach/dune system. These plans shall promote wise land use, responsible construction techniques, and facilitate a gradual 30 year retreat from the beach/dune system.

4. To discourage continued armoring of the beach/dune system.

5. To encourage the use of erosion inhibiting techniques which do not adversely impact the long-term well being of the beach/dune system.

6. To promote carefully planned nourishment as a means of beach preservation and restoration where economically feasible.

7. To preserve existing public access and to promote increased availability of public access to assure full enjoyment of the beach.
8. To involve local governments in long-range comprehensive planning and management of the beach/dune system.
9. To establish procedures and guidelines for the emergency management of the beach/dune system following a significant storm.

III. IMPLEMENTATION GUIDELINES

A. The Thirty-Year Retreat Policy: The Thirty Year Retreat Policy shall be implemented based on the following:

1. Definition of Shoreline Zones: Two shoreline types are defined for purposes of implementing these regulations.

a. Primary Geomorphological Reach (PGR): Shoreline of a given area subject to essentially the same set of coastal processes; having a fairly constant profile shape and sediment characteristics; and not directly influenced by tidal inlets or their associated offshore shoals.

b. Inlet Management Zones (IMZ): Shorelines along or adjacent to tidal inlets which are, or potentially will be, directly influenced by the inlet and its associated offshore shoals during the next thirty years.

2. The BASE LINE

a. The Base Line for each PGR is the location of the crest of a typical (for the PGR) primary ocean front dune. Where the shoreline has been artificially altered, the Base Line is the line where the crest of the typical primary ocean front dune would be located if the shoreline had not been artificially altered.

b. The Base Line within IMZ's is determined as the most landward point of dune erosion associated with shoreline changes around the inlet using the recent 30 year shoreline trends for each area.

3. The SETBACK LINE

a. For PGR's undergoing erosion, the Setback Line is the location of the Base Line based on a 30-year landward

projection as determined by historical erosion rate and not influenced by erosion control structures or nourishment.

b. For PGR's which have experienced 30 year accretion, the Setback Line is the Base Line is projected landward by a distance equivalent to the predicted short-term dune erosion during a 50-year return period wave and water level event.

c. For IMZ's which have experienced net erosion over 30 years, the Setback Line is the Base Line projected landward by a distance equivalent to the average erosion rate for the entire IMZ.

d. For IMZ's which have experienced net accretion over 30 years, the Base Line is projected landward by a distance equivalent to the predicted short-term dune erosion during a 50-year return period wave and water level event.

4. Both the Base Line and the Setback Line will be reset at least every five years.

B. Existing Structures (Upon effective date of legislation):

1. Habitable Structures: If a habitable structure is substantially damaged or rendered uninhabitable, it must be removed by owner. It can be replaced by a habitable structure no larger than 4500 total square feet, inclusive of porches, decks, patios, garages, etc. If a habitable structure is removed or destroyed,it can be replaced by a habitable structure no larger than 4500 total square feet. All new habitable structures must be