Regulation 30-21

Beachfront Management Plan

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S.C. Department of Health and Environmental Control

2600 Bull Street | Columbia, SC 29201

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A. Introduction

(1) In July, 1988, the South Carolina Beachfront Management Act became law. The Act was subsequently amended in the 1990 session of the legislature. This law is a complex piece of legislation, requiring the use of scientific studies of coastal processes to establish precise building setback lines along the coast. In addition, the Act bans the future construction of seawalls, limits the size of buildings within the predicted erosion zone and adopts a policy of retreat away from the erosional beach.

The Act is intended to protect both life and property, protect unique habitats and preserve the beach for future use by all citizens. These visitors bring millions of dollars into the state's economy. A number of provisions in the Act address the preservation of a dry-sand beach and public access opportunities, measures to renourish eroding beaches, and the protection of natural vegetation within the beach/dune system. One important provision of the Act specifically requires the adoption of local beachfront management plans by local governments.

(2) Adoption of Local and State Management Plans

If a local government wishes to participate in the state bonding programs available for beach renourishment or other beach funding programs, the governing body must adopt and enforce a local beachfront management plan that is consistent with the Beachfront Management Act. Likewise, the State must also adopt a "long-range and comprehensive beach management plan" (Section 48-39-320A) specifically addressing the following items:

(a) Development of a data base necessary for maintaining and enhancing the beach/dune system.

(b) Development of guidelines and their coordination with appropriate agencies and local governments for the accomplishment of:

(i) Beach/dune restoration and renourishment.

(ii) A beach access program to ensure full and complete access to the beach.

(iii) Maintenance of a dry-sand and ecologically stable beach.

(iv) Protection of all sand dunes seaward of the setback line.

(v) Protection of endangered species.

(vi) Regulation of vehicular traffic upon the beaches and beach/dune system.

(vii) Development of a mitigation policy for construction occurring seaward of the setback line.

(c) Formulation of recommendations for funding programs to implement the goals of the plan.

(d) Development of a public education or an awareness program.

(e) Assistance to local governments in developing their local beachfront management plans.

(3) This document comprises the State's long-range beachfront management plan. Local beachfront management plans have been developed by local entities under guidance of the South Carolina Coastal Council. The local plans, once approved by the Council, become part of the state plan.

B. Goals, Objectives and Policies of the South Carolina Beachfront Management Plan

(1) Introduction

This section of the plan contains goals, objectives, and policies that will be used to guide the management of the State's beach during the future. The planning period is ten (10) years; every five (5) years the plan is to be reviewed and, if needed, revised. Revisions may include changes based on technical data gathered from the ongoing monitoring of the beachfront changes in the local beachfront management plans, or changes in State law.

The goals, objectives, and policies outlined in this document are organized in a hierarchical manner. First, broad goal statements derived from Section 48-39-260 of the Beachfront Management Act are listed. These goals are intended to be nonspecific and to represent broad courses of action or direction for the plan to follow. Second, the plan's objectives are defined to identify strategies that will be addressed to implement the goals. These objectives are more specific than a goal but do not describe the specific actions the Council will take in order to accomplish the objective. Lastly, a number of specific policy statements are listed under each objective to identify specific courses of action that will be used to implement the Beachfront Management Plan. These policy statements will be used in the Council's day-to-day actions which will implement the plan.

Following the section on goals, objectives and policies is a section describing plan implementation.

State Comprehensive Beach Plan

Goals: (References to the South Carolina Coastal Zone Management Act, as amended, are given in brackets):

Protect, Preserve, Restore and Enhance the Beach and Dune Systems. [48-39-260(1)(a)(b)]

Implement the Policy of Retreat. [48-39-260(2)]

Improve Public Access. [48-39-260(6)]

Protect Endangered Species Habitat. [48-39-260(1)(d)]

Develop an Organized Disaster Response Plan. [48-39-260(8)]

Improve Data Base of Coastal Processes. [48-39-260(7)]

Improve Public Awareness of Coastal Issues. [48-39-260(1)(c); 48-39-260(2)]

(2) Goal: Protect, Preserve, Restore and Enhance the Beach and Dune Systems

(a) Objective 1: Protect all sand dunes seaward of the setback line. [48-39-320(2)(D)]

(i) Policy: All beachfront lots proposed for development will be inspected by Council staff in order to identify sand dunes. Council staff will locate and flag all sand dunes on the lot. All sand dunes must be indicated on the plats. [48-39-310; 48-39-320(2)(D)]

(ii) Policy: Within the setback area, the disturbance of sand dunes must be avoided where possible. Sand dunes proposed for alteration must be indicated on the submitted permit drawings. The stated reason why alteration is required must be included. Consideration in the building and site design plans to relocate or redesign the building to avoid alteration of sand dunes and vegetation must be addressed. [48-39-320(B)(4); 48-39-310; 48-39-320(2)(D)]

(iii) Policy: Important dunes significant to the health of the beach will be protected even if the boundary of the dune extends landward of the setback line. These significant dunes will be identified by the Council staff from site visits and survey information. [48-39-320(2)(d)]

(iv) Policy: Within the setback area, mitigation in the form of constructing a new dune and replanting with beach vegetation where feasible, should be included for permitting an alteration of a dune. Off-site mitigation will be considered on a case-by-case basis. [48-39-310]

(b) Objective 2: Promote renourishment by providing funding and technical assistance where feasible. [48-39-260(5)]

(i) Policy: Use the state plan as a guide to fund renourishment projects based upon the state renourishment plan (adopted as a part of this plan). Renourishment projects will be funded based upon erosion rates, benefits to the community, improvement of public access and likelihood of success. [48-39-320(A)(2)(a)]

(ii) Policy: Technical assistance for renourishment projects is available from Council staff. Surveys developed as a part of coastal monitoring projects will be made available to local governments. Additional periodic surveys for proposed renourishment projects may be requested by a local government, and the Council will attempt to address these requests. [48-39-260(5)]

(c) Objective 3: Encourage the construction and planting of new sand dunes within the area between the active beach and the setback line. [48-39-310; 48-39-320(2)(D)]

(i) Policy: The construction of new sand dunes to provide erosion protection and wildlife habitat is encouraged on beachfront lots. In order to encourage this activity the Council has issued a general permit which enables local property owners to build these dunes without obtaining an individual Council permit. [48-39-320(2)(D)]

(ii) Policy: The construction of new sand dunes may be used as mitigation for other construction activity occurring within the setback area. The Council will assess each mitigative activity individually, based upon the extent of construction on the lot, nature and location of the proposed dune. (48-39-310)

(3) Goal: Implement the Policy of Retreat

(a) Objective 1: On erosional beaches, limit the size of structures within the setback area. [48-39-260(2); 48-39-350(A)(9); 48-39-280(A)]

(i) Policy: Within the 40-year setback area, buildings will be located as far landward as practicable. Local roadside setbacks will be the minimum necessary to allow development to occur while still allowing the construction of a building of a reasonable size for the intended use. The Council, in cooperation with local governments in developing their beachfront management plans, will determine the minimum roadside setbacks allowable within the setback area. Practical considerations such as the need for off-street parking spaces, drain fields, and storm water retention ponds will be considered during the review of these local plans. [48-39-350(A)(9); 48-39-260(2)]

(ii) Policy: In cooperation with local governments, the Council will attempt to develop a system to allow larger buildings within a portion of the setback area provided the buildings are located farther landward on the lot than they would normally be allowed by existing local or State regulations. Each proposal will be reviewed on a case-by-case basis.

(b) Objective 2: Implement a policy of retreat to move buildings away from active beach. [48-39-260(2); 48-39-350(A)(9)]

(i) Policy: Buildings seaward of the setback line that are destroyed beyond repair for any reason (whether by Act of God or man) can only be replaced by a structure no larger than that of the original building. [48-39-290(B)(iv)(a)]

(c) Objective 3: Implement mitigation guidelines/regulations.

(i) Policy: The Beachfront Management Act requires the Council to adopt mitigation guidelines for any construction activity occurring, as well as for any destruction of beach/dune vegetation, seaward of the setback line. (48-39-310; 48-39-320) In order to implement these guidelines the Council has determined that local mitigation programs, similar to impact fee programs would be the most efficient way to establish and implement this program. Accordingly, the Council has developed guidelines for mitigation programs and distributed these to local governments.

(4) Goal: Improve Public Access

(a) Objective 1: Develop programs to acquire public access improvements. [48-39-320(2)(b); 48-39-350(A)(2); 48-39-350(A)(10)]

(i) Policy: The Council has surveyed the coast of South Carolina and determined that several public access problems exist in some areas of the coast. Specifically, Georgetown County, Hilton Head Island, and southern Charleston County (Seabrook and Kiawah) have identified access problem areas. It is the policy of the Council that in these areas local governments, or the applicant, are encouraged to improve public access as permits to renourish the beach, relocate inlets, or undertake any alterations within the coastal waters or sand dunes are considered. [48-39-320(2)(b)]

(ii) Policy: The Council will request funding from the Federal government and the State to develop a source of funds to acquire beach property. [48-39-320(A)(g)]

(iii) Policy: The Council will use its permitting and certification authorities to encourage developers, homeowners' associations, or local governments to make efforts to provide public access onto beaches where access is limited or completely restricted. [48-39-320(2)(g)]

(b) Objective 2: Use public funds for renourishment projects only where full and complete access is provided. [48-39-320(3)]

(i) Policy: A community must demonstrate that the entire renourishment project area subject to State cost-shared funding has full and complete access existing as of the date of the award and that the entire project is a complete and viable project as defined in the Council's regulations for renourishment projects and adjusting baselines. The Council's public access guidelines will be used as the evaluating document in deciding if a beach has full and complete access and in designing public access improvement projects. [48-39-320(3); 48-39-120(D)]

(c) Objective 3: Coordinate with S. C. Department of Parks, Recreation and Tourism and local governments to develop new access sites. [48-39-320(2)(B)]

(i) Policy: The Council will coordinate with Parks, Recreation and Tourism and local governments to identify potential beach access sites. Regional, community, and neighborhood facilities should be considered. [48-39-320(2)(B); 48-39-350(A)(2); 48-39-350(A)(10)]

(ii) Policy: The Council will request funding from the Federal government and the State Legislature to develop a joint funding program to acquire and develop parks along with Parks, Recreation and Tourism. Joint use of funds will be explored when feasible. The inventory of need will be used as a key factor in selecting site locations for public access improvement projects. [48-39-320(3)]

(5) Goal: Protect Endangered Species Habitat

(a) Objective 1: Continue coordination with S. C. Wildlife and Marine Resources Department to better identify endangered species and habitat sites. [48-39-320(2)(E); 48-39-35(A)(4)]

(i) Policy: Local governments will be required through the local planning process to contact S. C. Wildlife and Marine Resources Department to identify endangered species habitat areas. The policies of the endangered species guidelines will be implemented by the local governments through their plans. [48-39-320(2)(E); 48-39-350(A)(4)]

(ii) Policy: The Council will coordinate with S. C. Wildlife and Marine Resources Department to prepare a list of endangered species habitat areas. The list will be updated annually and used by Council staff in the permitting and certification processes. A staff member will be assigned as coordinator. [48-39-320(2)(E); 48-39-350(A)(4)]

(b) Objective 2: Include an endangered species impact review as a part of the permit and certification processes administered by the Council and Council approval of local beachfront management plans. [48-39-320(2)(E)]

(i) Policy: All sites identified by S. C. Wildlife and Marine Resources Department will become Geographic Areas of Particular Concern (GAPC's) and be protected under the Coastal Zone Management Program. This list will be updated annually by the Wildlife Department. [48-39-90(D); 48-39-250(A)(4)]

(ii) Policy: In areas that do not have an approved local beachfront management plan, each individual permit or certification request located along the beachfront will be evaluated as to its impact on endangered species. If an impact is determined, the guidelines for protection of endangered species will be implemented through conditions placed upon the permit or certification. [48-39-350(B)]

(c) Objective 3: Limit man's impact to sea turtle nesting areas by use of ordinances at local and state government levels. [48-39-350(A)(4)]

(i) Policy: Local plans will be required to comply with the guidelines for endangered species in order to be approved by the Council. [48-39-350(A)(4)]

(ii) Policy: The Council staff will implement the intent of the lighting ordinances along the beachfront, for areas that do not have approved local beachfront management plans, through the enforcement provisions of the Coastal Zone Management Program and the review of individual permit applications. [48-39-350(B); 48-39-350(A)(4)]

(iii) Policy: Sand fencing and dune construction projects will be conducted in accordance with the adopted guidelines and regulations for the protection of sea turtle nesting areas. [48-39-350(A)(4)]

(d) Objective 4: Limit the destruction of dune systems from development activity to protect habitat. (48-39-310)

(i) Policy: The policies of protecting sand dunes from alteration will be implemented along the coast through the local beachfront management plan and staff review of individual projects in areas that do not adopt approved plans. (48-39-310)

(ii) Policy: If a dune is located in an area determined to be a habitat for an endangered species no alteration will be allowed. [48-39-350(A)(4)]

(6) Goal: Develop an Organized Disaster Response Plan

(a) Objective: The Council will develop and implement, as a part of this plan, a disaster response plan describing the actions that the Council will follow in preparing for a major disaster both before and after the storm event. [48-39-350(A)(8); 48-39-260(8)]

(i) Policy: The plan will be adopted by the Council and used as the agency's strategy for responding to disasters. [48-39-260(8)]

(ii) Policy: The plan will be reviewed and updated annually and changes made as needed. [48-39-260(8)]

(7) Goal: Improve Data Base of Coastal Processes

(a) Objective 1: Develop a method to collect information on beach erosion and accretion that is capable of collecting historical information and monitoring long-term trends. [48-39-320(A)(1)]

(i) Policy: A monitoring program must be developed to periodically survey beach profiles along the coast. Each station will be surveyed at least twice each year. [48-39-320(A)(1)]

(ii) Policy: A system for archiving the information will be developed. Information will be stored on computers in Council offices. [48-39-320(A)(1)]

(b) Objective 2: Use the information in developing setback lines, erosion rates, and renourishment projects. [48-39-320(A)(1); 48-39-280(A)]

(i) Policy: The Council will analyze all information for historic trends to determine erosion rates, setback lines, etc. Lines will be evaluated every eight years. Renourishment projects will be evaluated as to the success of the project. Baselines and setback lines can be adjusted in accordance with the adopted guidelines. [48-39-280(C)]

(c) Objective 3: Make the information available to engineers, planners and all interested parties along the coast. [48-39-320(A)(4)]

(i) Policy: All information will be released annually to local governmental planning departments. In addition, any engineering firms doing beach renourishment or coastal projects can receive copies of the monitoring results upon request. An annual "State of the Beach Report" identifying trends and erosion rates

along the coast will be prepared and made public in April of each year. [48-39-320(A)(2); 48-39-320(A)(5); 48-39-350(A)(1)]

(d) Objective 4: Fund monitoring projects to improve knowledge. [48-39-320(A)(3)]

(i) Policy: When feasible, the Council will fund hydrographic surveys, research projects, special studies, etc. to improve knowledge of coastal processes. The Council will work with the Sea Grant Consortium and other appropriate agencies to try to identify needed research projects. [48-39-320(A)(3)]

(8) Goal: Improve Public Awareness of Coastal Issues

(a) Objective: The Council will undertake a public education and public participation program in an effort to make the public more familiar with the methods used to manage the coast and the natural processes that are shaping the beach. [48-39-320(A)(4)]

(i) Policy: The staff will prepare brochures/pamphlets on coastal processes (the protection of sea turtles, building methods, dunes, etc.). [48-39-320(A)(4)]

(ii) Policy: The staff will utilize the media to explain coastal processes. [48-39-320(A)(4)]

(iii) Policy: The Council will release informative studies so that the general public can understand issues related to beach management. [48-39-320(A)(4)]

(iv) Policy: The Council will develop ways (advisory committees, etc.) for the public to become involved. [48-39-320(A)(4)]

C. Implementation of the Plan (A Summary of Measures to be Used to Implement the Beachfront Management Plan)

(1) The plan will be implemented through a variety of measures designed to promote beach renourishment, limit the size and location of construction allowed in erosion prone areas, promote public access opportunities, and control reconstruction after natural disasters.

The following procedures will be used to implement the policies of the Beachfront Management Act.

(a) The changing nature of the shoreline or long-term stability of beachfronts can now be documented by use of the monitoring and archival system now in place. Twice a year beachfront profile stations, established to third order survey accuracy, will be surveyed and the results recorded and stored. Comparing these surveys seasonally and over the years will provide a long-term view of what is happening at a particular point along the coast. This information will be the cornerstone for the development of a scientific method for locating baselines and establishing erosion rates.

(b) The Council will permit development within the setback zones by issuance of regular permits, a notification system in cooperation with local governments, and by issuance of "special permits" in the area seaward of the baseline. Each of these permits is subject to a number of conditions dealing with the size and location of new buildings, rebuilding, renovation, and the replacement of pools and seawalls. The goals, objectives, and policies, guidelines, and rules and regulations will be used as the basis for making the hundreds of individual permit decisions required to implement the plan.

(c) The Council does not have the authority to permit any new seawalls or other erosion control devices within the 40-year setback zone. This prohibition will limit the nature of development in these areas.

(d) The Council will review and approve all local beachfront management plans. The Council has prepared guidelines and sample maps to acquaint local governments with the minimum requirements of the Act. The review and approval of the local plans will be considered through the Council's Management Committee subject to the minimal elements required for each plan as specified by the South Carolina Coastal Zone Management Act, as amended.

(e) The long-range planning process required by the South Carolina Coastal Zone Management Act, as amended, will be implemented through the local beachfront management plans and through the state comprehensive plan. An attempt will be made to move development proposed within the 40-year setback line as far landward as practicable through the implementation of the policies during the permit review system.

(f) The policy of retreat will be promoted through the local beachfront plans, through the notification system, and the special permitting process. These processes will be designed to limit the size of new construction and move any construction as far landward as practicable as specified by the Act.

(g) The plan's public access provisions and requirements to protect sand dunes will be furthered by exempting all walkways less than six feet in width from permit or notification requirements. It is hoped that this will encourage the construction of more walkways to the beach over healthy sand dunes.

(h) The beach renourishment bond fund which provided more than $10 million for local renourishment programs has been used by many local governments to renourish beachfront areas following Hurricane Hugo. Hopefully, funds through this or other funding programs will become available in future years to renourish other areas.

(i) The Council has adopted guidelines for the relocating of baselines following a renourishment event. Rules and regulations addressing how renourishment projects will be permitted have been in place for a number of years as a part of the Council's Permitting Rules and Regulations.

(2) Specific Implementation of Goals

This section describes the specific methods that will be used to implement the goals, objectives, and policies established in the preceding section.

(a) Goal: Protect, Restore and Enhance Natural Beaches and Dunes

Policies can be implemented through the permitting and certification processes that are in use by the Council. The review and approval of the local beachfront management plans can also be used to implement these policies.

Several beachfront management guidelines, developed in accordance with Section 48-39-320, address renourishment programs and maintenance of a dry-sand beach. These guidelines are:

(i) The Guidelines for Beach Restoration and Renourishment.

(ii) Maintenance of a Dry- Sand and Ecologically Stable Beach.

(iii) Protection of Sand Dunes.

(iv) Guidelines for the Regulation of Vehicular Traffic.

The Permitting Rules and Regulations also address the maintenance of beach and dune systems. (Reference Section 30-13, Specific Project Standards for Beaches and Dunes.)

The local beachfront management plans will also be used to implement these goals, objectives, and policies. Each local beach management plan must be reviewed and approved by the Council based upon the guidelines provided by the Council and the requirements of the local beach management plans set forth in Section 48-39-350. (See Appendix 2 for these requirements.)

(b) Goal: Implement a Policy of Retreat

These policies will be implemented through the permitting and certification systems presently in effect. All permits and project notifications that are received by the Council, located within the 40-year setback line, will have to meet these policies. Local beachfront management plans can be required to implement Council policies within the setback area. Local plans must be approved by the Council.

Several beachfront management guidelines can be used to implement the policy of retreat during the Council's day-to-day review activities and the review of local beachfront management plans. These are (See Appendix 4 for Guidelines):

(i) The Guidelines for Maintaining a Dry-Sand Beach.

(ii) The Mitigation Guidelines for Construction Activity Occurring Seaward of the Setback Line.

The Permitting Rules and Regulations also address the implementation of a policy of retreat (see Section 30-13).

The local beachfront management plans will also be used to require local development ordinances to implement a policy of retreat within the 40-year setback area. (See Section 48-39-250, Appendix 5.)

(c) Goal: Improve Public Access

The Council will seek additional funds for access improvements through the annual grant request and recommendations for funding developed with S. C. Parks, Recreation and Tourism. Council funds could also be used to match funds acquired from Parks, Recreation and Tourism for the development of new beach access sites.

The mitigation guidelines will be used to provide a source of funds not matched by other state or federal funds to improve and create new public access sites. Local governments will be required to improve public access as a condition to local plan approval. Additional funds for public access should be requested from NOAA in the Council's annual grant request. The permitting and certification review procedures and local plan approval can be used to implement public access policies.

The guidelines that will be used to implement public access improvements are (see Appendix 4 for Guidelines):

(i) The Public Access Guidelines.

(ii) Beach Restoration and Nourishment (Beach Restoration Fund).

(iii) Mitigation Guidelines.

The Council's Permitting Rules and Regulations under Section 30-13, Specific Project Standards for Beaches and Dunes, can also be used to preserve some existing public access sites.

The development of a public access plan as part of this beachfront management plan will be used to identify areas where improvements are needed, to make recommendations on where new sites should be developed, and to identify recommendations for funding these new acquisitions. This plan is to be developed in consultation with the S. C. Department of Parks, Recreation and Tourism.

(d) Goal: Protect Endangered Species Habitat

These policies will be implemented through the review of the local beachfront management plans and through the Council's permitting and certification processes.

The following guidelines will be used to implement these goals, objectives and policies (see Appendix 4 for Guidelines):

(i) The Guidelines for Protecting Endangered Species.

(ii) Protection of Sand Dunes.

(iii) Guidelines for Maintenance of a Dry-Sand Beach.

(iv) Guidelines for Beach Restoration and Nourishment.

The Permitting Rules and Regulations also address the protection of endangered species and will be used to implement the policies during day to day review of requested activities within the setback.

All local beachfront management plans must contain an element designed to protect endangered species, and this element must be reviewed and approved by the Council in order for a community to have an approved plan.

(e) Goal: Develop an Organized Disaster Response Plan

The plan, adopted as an element to this beachfront management plan, will be implemented by the staff of the Council. The plan will be updated annually and changes made as needed. Each year the plan will be reviewed, procedures evaluated and corrections made as needed. This will be the Council's plan of action for making preparations before a major damage event and after the event has occurred.

(f) Goal: Improve Coastal Data Base

These policies will be implemented by Council staff who will conduct the beach surveys and enter the results of each survey into a computerized data base. This will be an ongoing activity that the staff of the Council will continually upgrade. The monitoring plan will provide the Council with a means to establish historic trends and to establish setback lines and better regulate development along the coastline. Data obtained from the monitoring program will be used to adjust the lines and evaluate the success of renourishment projects as required under Section 30-14 of the Administrative Procedures Section.

(g) Goal: Improve Public Awareness of Coastal Issues

These policies will be implemented by the staff of the Council as part of the long-term implementation of the Beachfront Management Act. These activities are ongoing and will continue to be met as the need arises.

D. Program Plans

The following section contains the component programs that will be used to implement strategies required by the State Beachfront Management Plan. These programs will be implemented through the goals, objectives, and policies and through the rules and regulations and guidelines that have been adopted by the Council to administer the South Carolina Coastal Zone Management Act, as amended.

The following program elements are addressed: Beach Monitoring Plan; Beach Erosion Analysis and Nourishment Plan; Public Access Plan; Disaster Response Plan; Public Education and Awareness Plan;

(1) Beach Monitoring Plan

The South Carolina Coastal Council's Beach Monitoring Program was established in 1985. At that time the purpose of the program was to study erosion and accretion along the state's beaches. The program was upgraded in 1987 in anticipation of the 1988 amendments to the South Carolina Coastal Zone Management Act, as amended. Except in areas designated as Unstabilized Inlet Zones under the amended Act, baselines and setback lines are formulated primarily on the basis of data collected at beach survey stations.

(2) Beach Profile Surveying System

Beach profile monitoring stations, marked by a survey monument, are located every 1,000 feet along developed beaches and every 2,000 feet along undeveloped beaches. These monuments consist of a brass cap on a 36 inch breakaway tube, surrounded by PVC pipe and concrete. The brass caps are at ground elevation and are inscribed with identifying information and a specific four-digit number. Sites for survey monuments are chosen for accessibility and the degree to which any given site represents the beach under study. In establishing the Council's network of beach profile monitoring stations an effort was made to recover survey points where data existed from previous studies. Nearly eighty percent (80%) of South Carolina's developed shoreline had been monitored at some time in the past and much of the data has been archived as part of the program.

The specifications for accuracy in the location and elevations of Council monuments were determined by the South Carolina Geodetic Survey. As they are key elements in the determination of setback lines the accuracy of these monuments must be above reproach in a court of law. Third-order control, a term referring to survey accuracy, was selected as meeting the necessary stringent requirements. As a result, the location and elevation of these monuments are more accurate than necessary for property boundary surveys or flood elevation determination. Monuments which were destroyed by Hurricane Hugo have been replaced by the National Geodetic Survey using a new technology, global positioning satellites (GPS). Monuments established with the GPS system are second order in some cases of first-order accuracy. In either case, Council monuments are more accurate than most other monuments used for measuring beach movement in any coastal region.

Beach profiles are developed to satisfy three levels of need:

The profiles are surveyed every six months, spring and fall, to insure regular information flow and to document the normal condition of the beaches.

The profiles are surveyed following a significant storm to assess erosion and recovery.

The profiles are surveyed site-specifically to facilitate Council permitting or planning.

Of course, the beach profile monitoring stations are also available for any other surveying or civil engineering purposes. Most houses in the coastal zone are within 500 feet of a survey monument making the monuments a convenient survey reference. In future years these monuments will provide an accurate system for measuring the changes taking place along the South Carolina coast.

(a) Location of Existing Monuments

The location of coastal survey monuments are depicted on a variety of maps at Council offices. Maps exist of monuments by Northern, Central and Southern beaches. Maps of monuments by island or municipality are also available and are the type most often used by independent surveyors. (See figures 1-30 for a general representation of the location of these monuments along the South Carolina coast.) The most accurate and useful maps for determining monument locations are the Council's orthophoto maps which are rectified to a scale of 100 feet per inch. These photographic maps are based on aerial photographs flown in July of 1988. The orthophoto maps are essential to the Council's Permitting, Planning and Enforcement divisions. Copies of the maps are available to the public at a modest price from Duncan-Parnell, Inc. of Charleston.

The above described maps will indicate to the user the locations of monument or monuments of interest. Data sheets are also available for each monument. The sheets are indexed by number and contain the following information: the four-digit identifying number; latitude; longitude; northing; easting; elevation; nearby monuments; a verbal description of, and to, the monuments; and a schematic map of the site. This information is contained as an appendix to this report, or is available upon request form the Council.

The Council has prepared a collection of data called Surveyor's Packages. These information packets are divided by island or community and contain maps, monument data, and baseline and setback line information. They are available upon request from the Council.

(b) Future Plans

The beach monitoring network is essentially complete as of July, 1990, with a total of approximately 400 beach profile monitoring stations installed. Over the years new stations will be needed for site specific needs or where currently unexpected shoreline changes develop. These types of shoreline changes are not common but can occur around large or dynamic inlets. The Beach Monitoring Program should account for 6-10 new monuments per year for this contingency. Another 6-10 monuments per year should be budgeted for those monuments lost in storms or to other causes. In the past, costs of installing new monuments have averaged about $300 per monument.

Beach monuments are presently surveyed twice a year to a depth of -5 MSL. The beach profile data gathered from these surveys is used to establish the location of the baseline and to determine the long-term erosion rate used to establish the setback line. The total annual cost for two surveys per year at all 400 monuments is presently about $35,000. It is planned to continue these beach surveys in the future and to use the data collected to generate an annual "state of the beaches" report which will document changes to the state's beaches on an island-by-island basis.

In addition to the twice yearly survey of beach profiles, the Beach Monitoring Program is intended to include two additional types of monitoring. Approximately every two years surveys of selected beach profiles will be extended seaward to -20 feet (MSL). This offshore data gives a better representation of

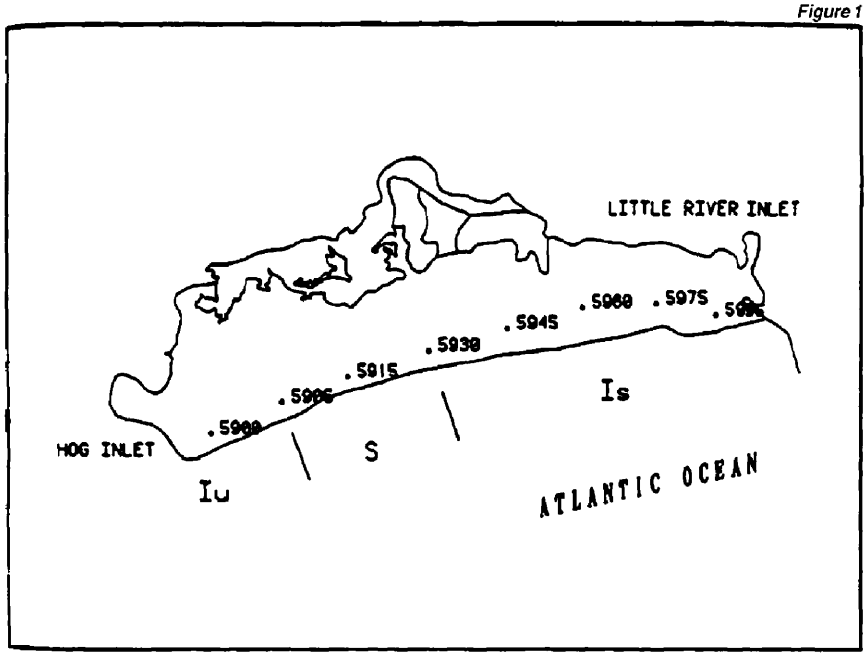
sediment movement within the entire littoral zone. Hydrographic surveys of selected inlet systems will be performed, ideally on a five-year cycle. This additional monitoring will fulfill our information needs regarding the presence, movement, and availability of sand and other sediment in the coastal waters.

The orthophotographs which are presently used to document the location of the survey monuments, baseline, setback line, and oceanfront structures were prepared in 1988. In areas impacted by Hurricane Hugo, many of the sand dunes, shore protection devices, and habitable structures which appear in the orthophotographs have been destroyed. As additional development occurs in the future these maps will become even more out of date. It is anticipated that new orthophotographs will become necessary for much of the State some time within the next 5-10 years, at an estimated cost of several hundred thousand dollars.

(3) Current Maps

Waites Island
Horry County

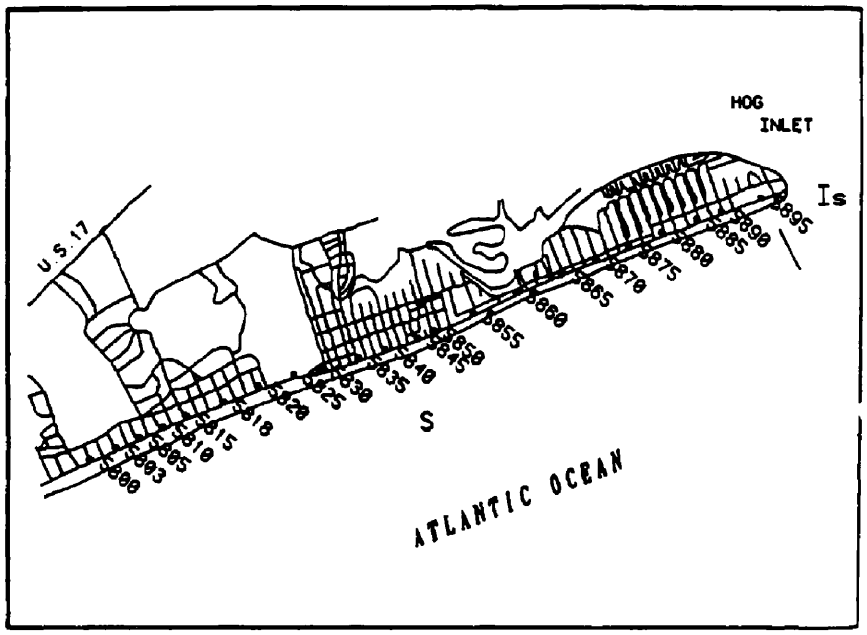
Figure 1



South Carolina beachfront jurisdictional lines approved - 4/20/90
reference orthophotographs: #433 through 439
monument numbers refer to the SCCC beachfront monument network
notes:

North Myrtle Beach
Horry County

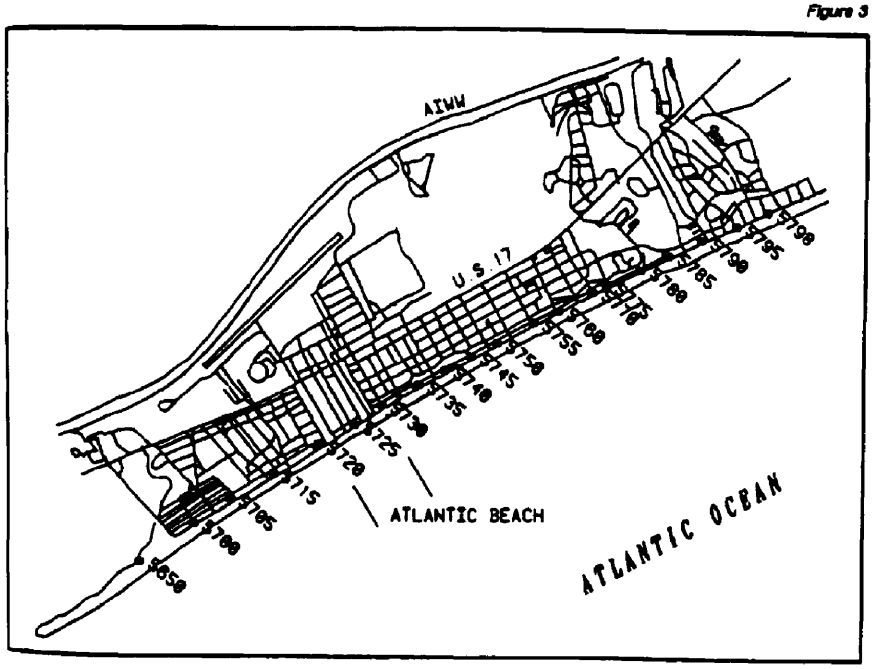
Figure 2



South Carolina beachfront jurisdictional lines approved - 2/16/90, 6/16/90,
reference orthophotographs: #412 through 432
monument numbers refer to the SCCC beachfront monument network
notes:

North Myrtle Beach, Atlantic Beach
Horry County

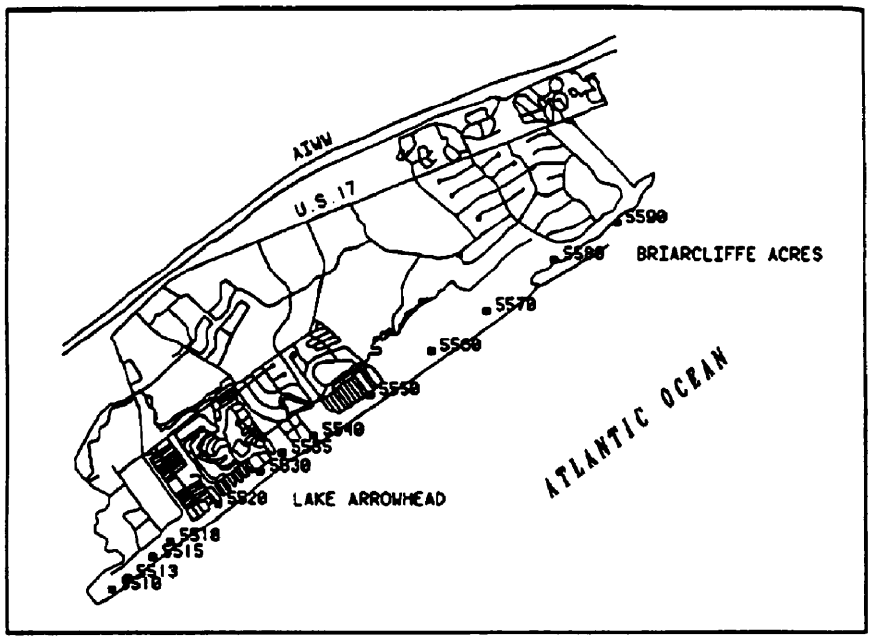
Figure 3



South Carolina beachfront jurisdictional lines approved - 2/16/90, 6/16/90,
reference orthophotographs: #412 through 432
monument numbers refer to the SCCC beachfront monument network
notes:

Lake Arrowhead, Briarcliffe Acres
Horry County

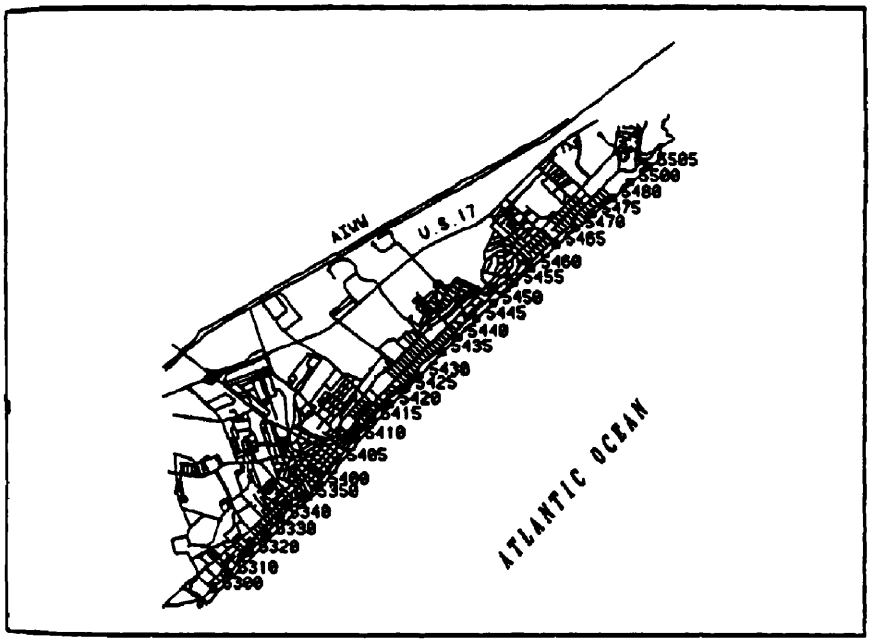
Figure 4



South Carolina beachfront jurisdictional lines approved - 2/16/90, 6/16/90
reference orthophotographs: #403 through 4111
monument numbers refer to the SCCC beachfront monument network
notes:

Myrtle Beach
Horry County

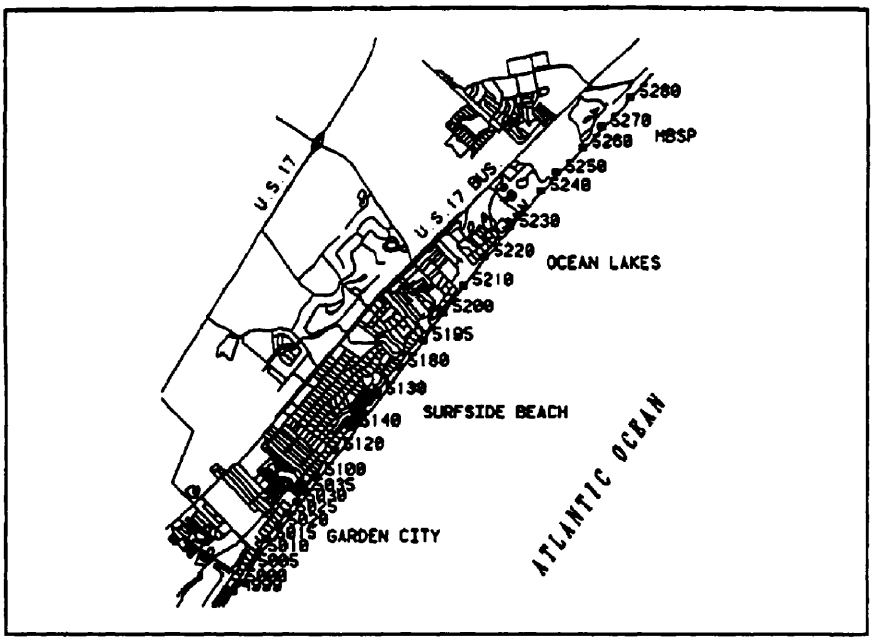
Figure 5



South Carolina beachfront jurisdictional lines approved - 2/16/90, 6/16/90
reference orthophotographs: #243 through 262; 400 through 402
monument numbers refer to the SCCC beachfront monument network
notes:

Garden City, Surfside Beach, Ocean Lakes
Horry County

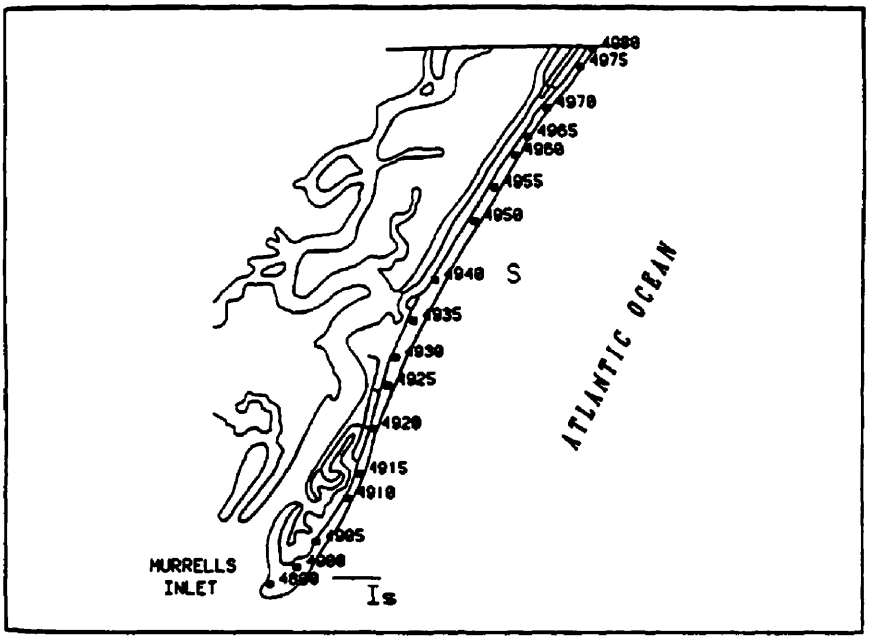
Figure 6



South Carolina beachfront jurisdictional lines approved - 2/16/90
reference orthophotographs: #224 through 242
monument numbers refer to the SCCC beachfront monument network
notes:

Garden City
Georgetown County

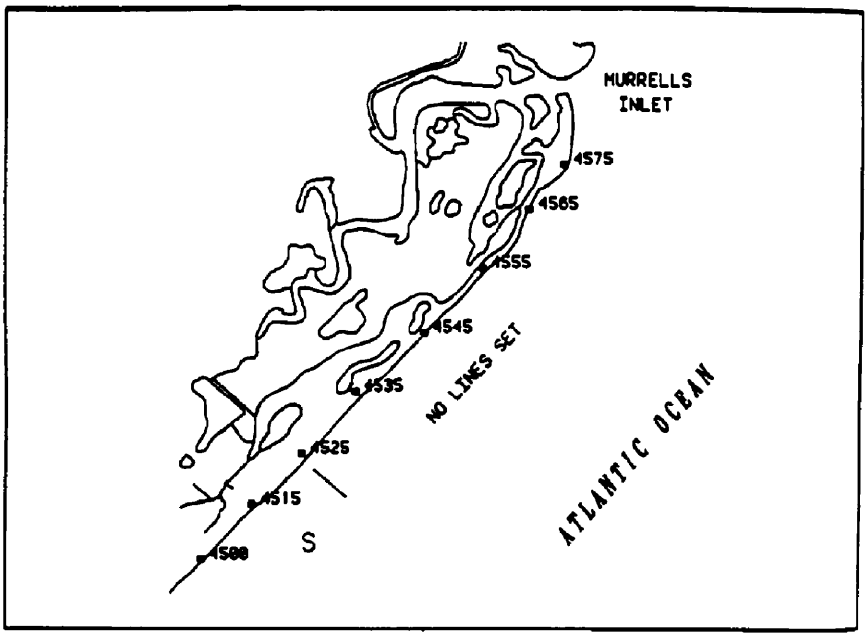
Figure 7



South Carolina beachfront jurisdictional lines approved - 12/16/90, 10/3/90, 2/16/90
reference orthophotographs: #216 through 224
monument numbers refer to the SCCC beachfront monument network
notes:

Huntington Beach
Georgetown County

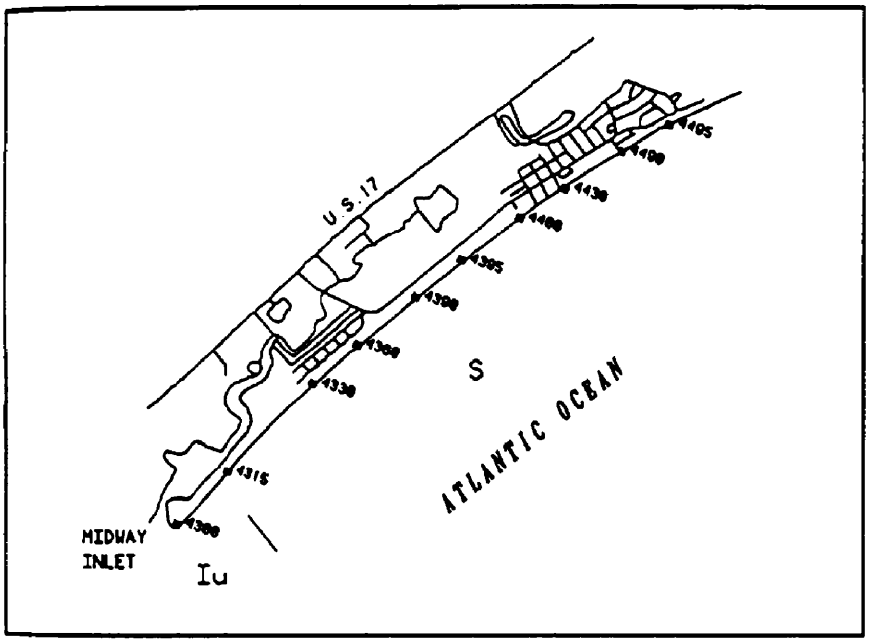
Figure 8



South Carolina beachfront jurisdictional lines approved - 1/19/90
reference orthophotographs: #207 through 210
monument numbers refer to the SCCC beachfront monument network
notes:

Litchfield Beach
Georgetown County

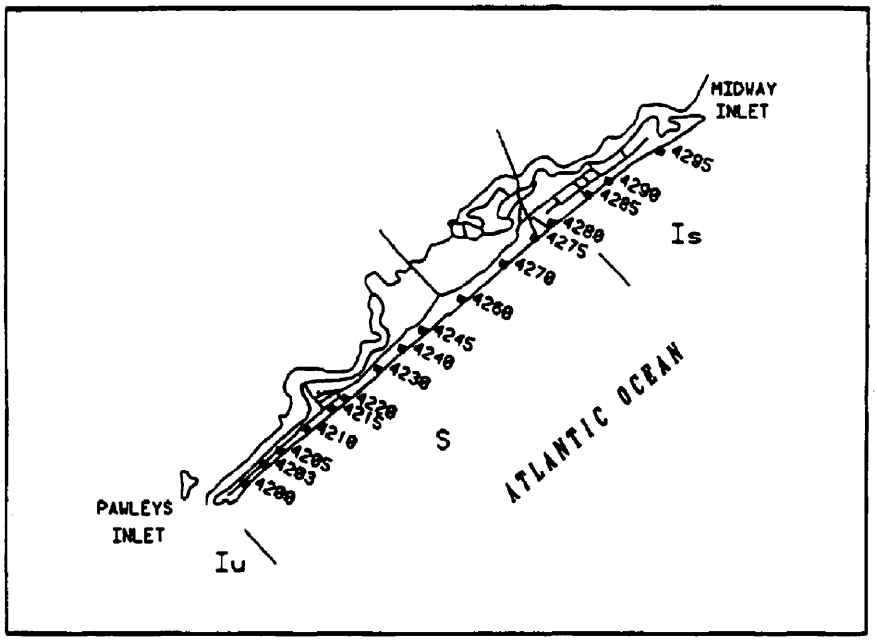
Figure 9



South Carolina beachfront jurisdictional lines approved - 1/19/90
reference orthophotographs: #198 through 207
monument numbers refer to the SCCC beachfront monument network
notes:

Pawleys Island
Georgetown County

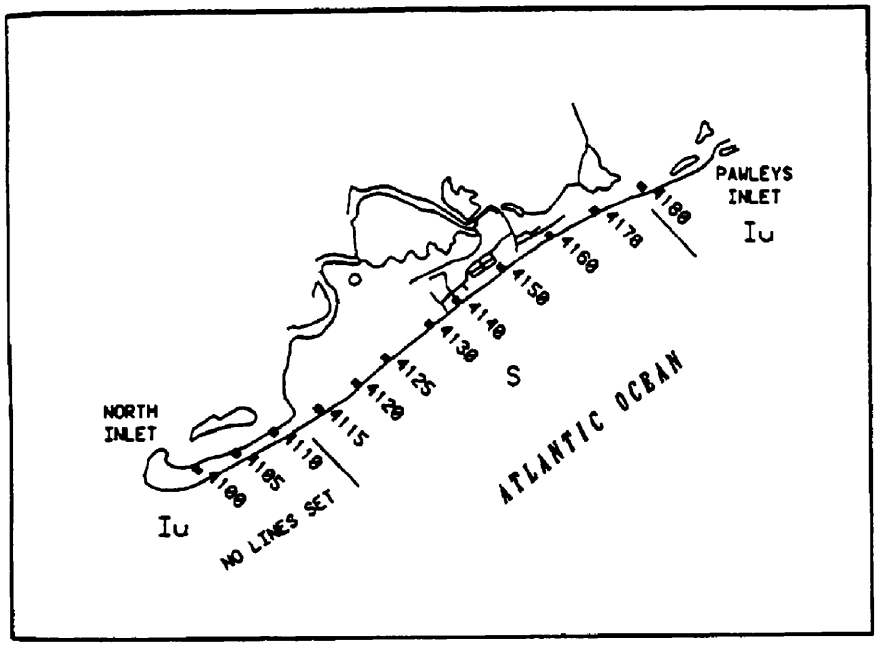
Figure 10



South Carolina beachfront jurisdictional lines approved - 1/19/90
reference orthophotographs: #189 through 196
monument numbers refer to the SCCC beachfront monument network
notes:

Debidue Beach
Georgetown County

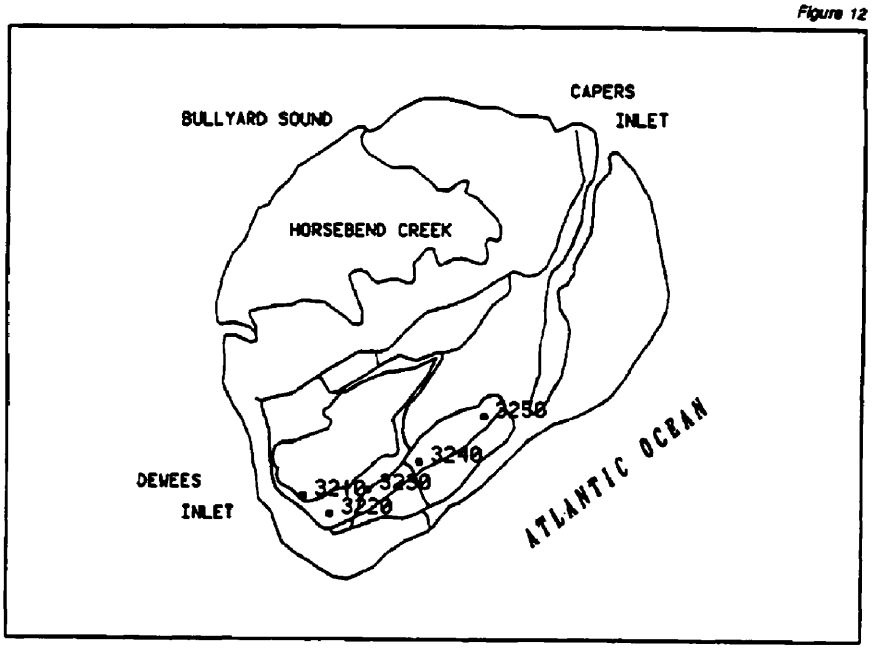
Figure 11



South Carolina beachfront jurisdictional lines approved -3/16/90, 1/19/90
reference orthophotographs: #180 through 189
monument numbers refer to the SCCC beachfront monument network
notes:

Dewees Island
Charleston County

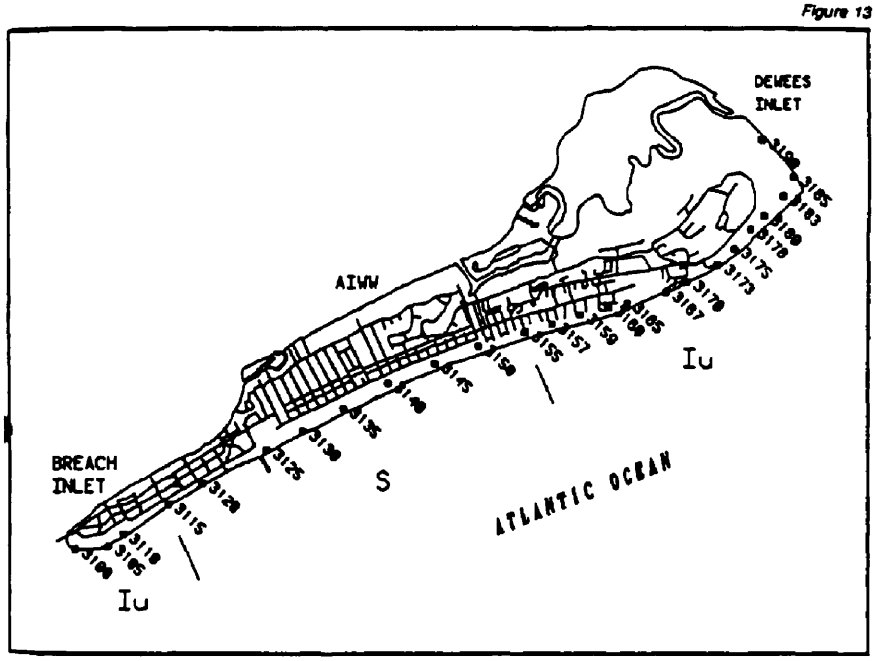
Figure 12



South Carolina beachfront jurisdictional lines approved -3/16/90
reference orthophotographs: #501-508
monument numbers refer to the SCCC beachfront monument network
notes:

Isle of Palms
Charleston County

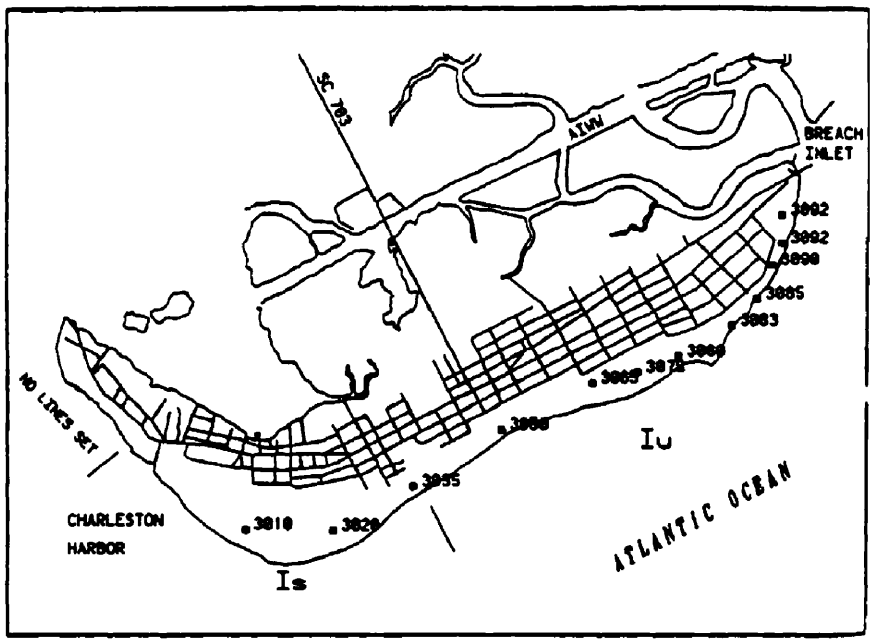
Figure 13



South Carolina beachfront jurisdictional lines approved - 11/18/90, 4/21/89, 2/17/89
reference orthophotographs: #163 through 179
monument numbers refer to the SCCC beachfront monument network
notes:

Sullivans Island
Charleston County

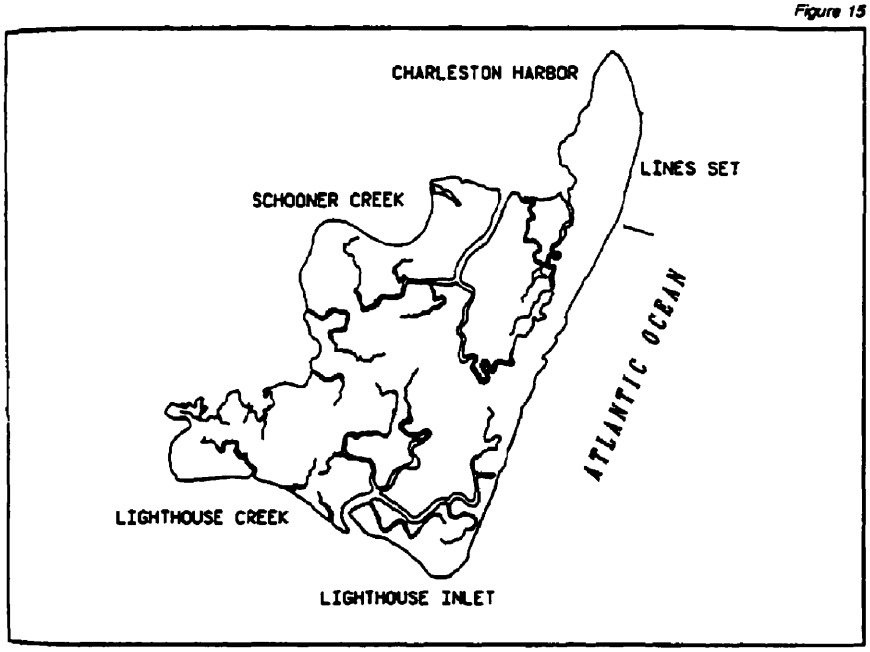
Figure 14



South Carolina beachfront jurisdictional lines approved - 3/17/90
reference orthophotographs: #154 through 162
monument numbers refer to the SCCC beachfront monument network
notes:

Morris Island
Charleston County

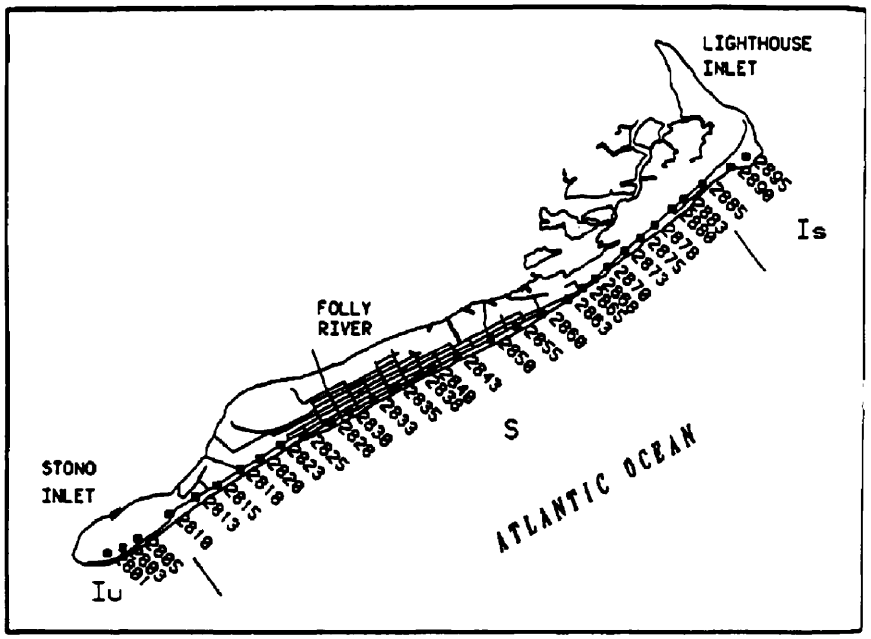
Figure 15



South Carolina beachfront jurisdictional lines approved - 4/20/90
reference orthophotographs: C.O.E map
monument numbers refer to the SCCC beachfront monument network
notes:

Folly Island
Charleston County

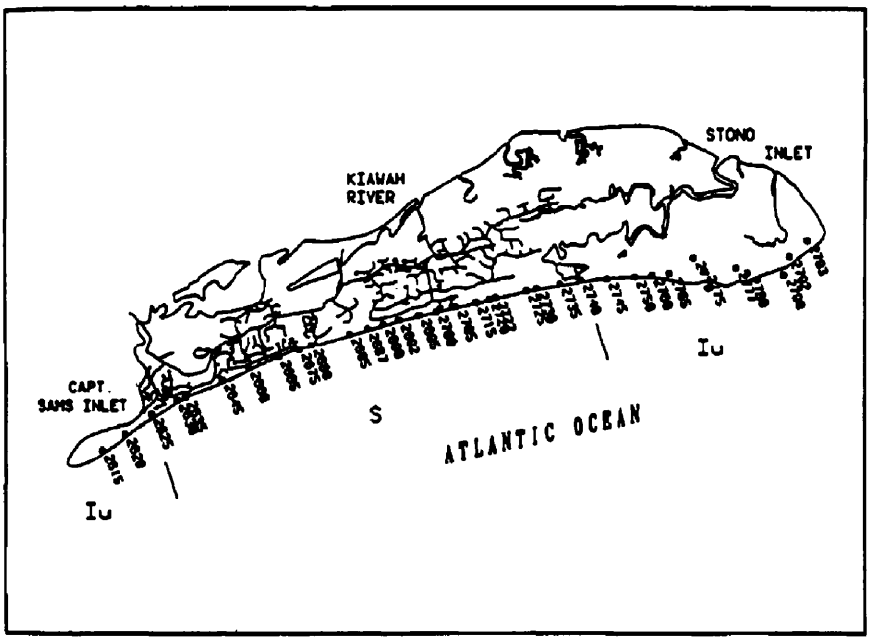
Figure 16



South Carolina beachfront jurisdictional lines approved - 1/19/90,
reference orthophotographs: #127 through 142
monument numbers refer to the SCCC beachfront monument network
notes:

Kiawah Island
Charleston County

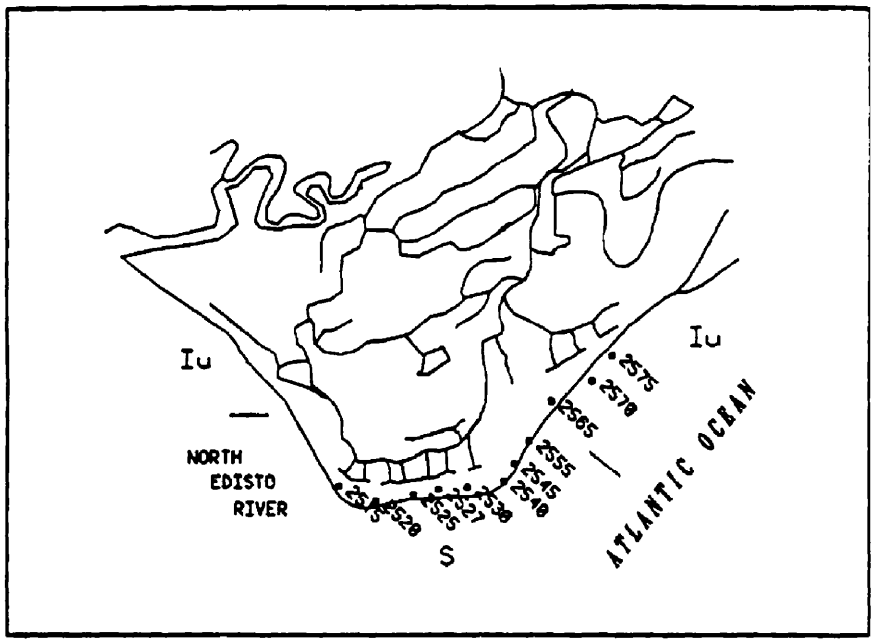
Figure 17



South Carolina beachfront jurisdictional lines approved - 7/21/89, 1/19/89
reference orthophotographs: #309 through 333
monument numbers refer to the SCCC beachfront monument network
notes:

Seabrook Island
Charleston County

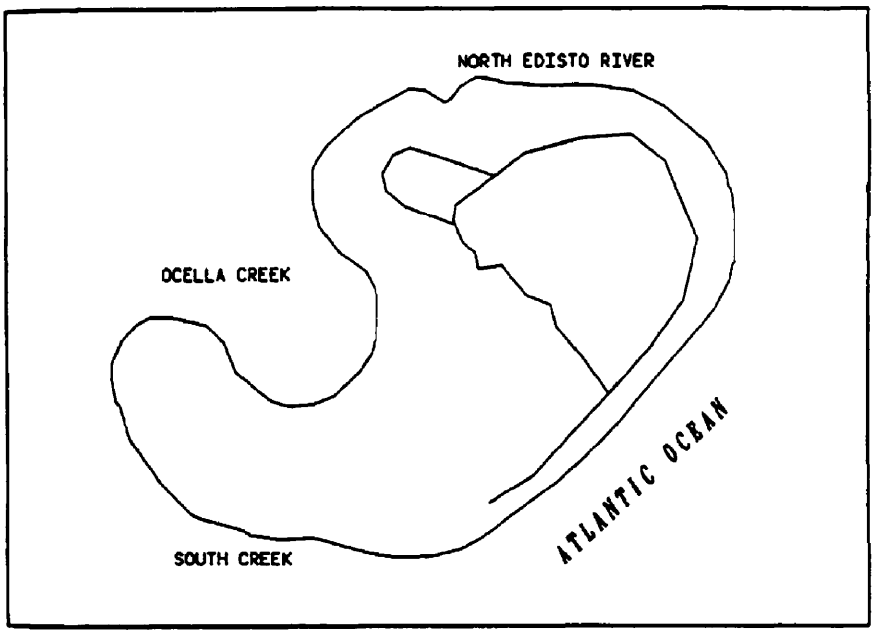
Figure 18



South Carolina beachfront jurisdictional lines approved - 2/16/90
reference orthophotographs: #300 through 308
monument numbers refer to the SCCC beachfront monument network
notes:

Botany Bay Island
Charleston County

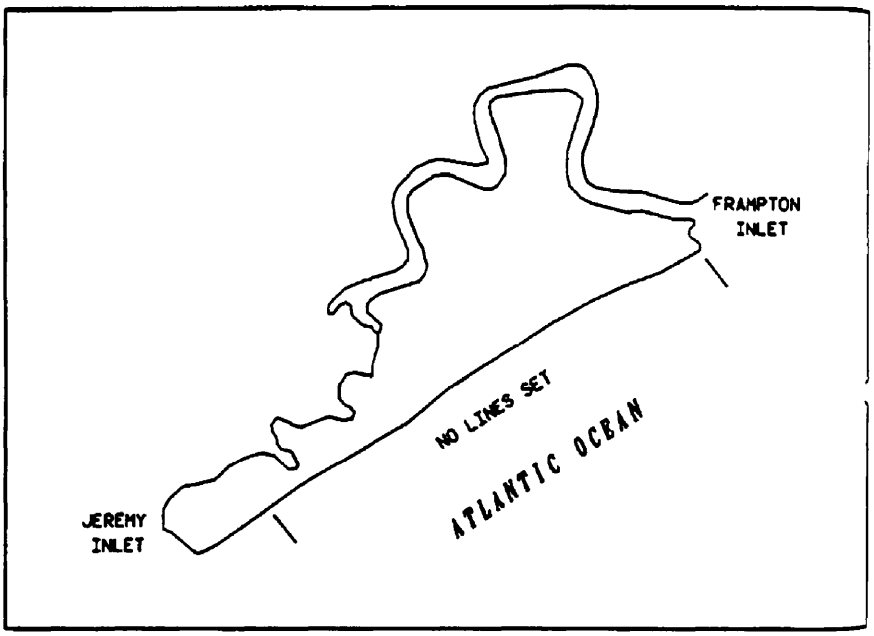
Figure 19



South Carolina beachfront jurisdictional lines approved - 4/20/90
reference orthophotographs: plat #1
monument numbers refer to the SCCC beachfront monument network
notes:

Eddingsville Beach
Colleton County

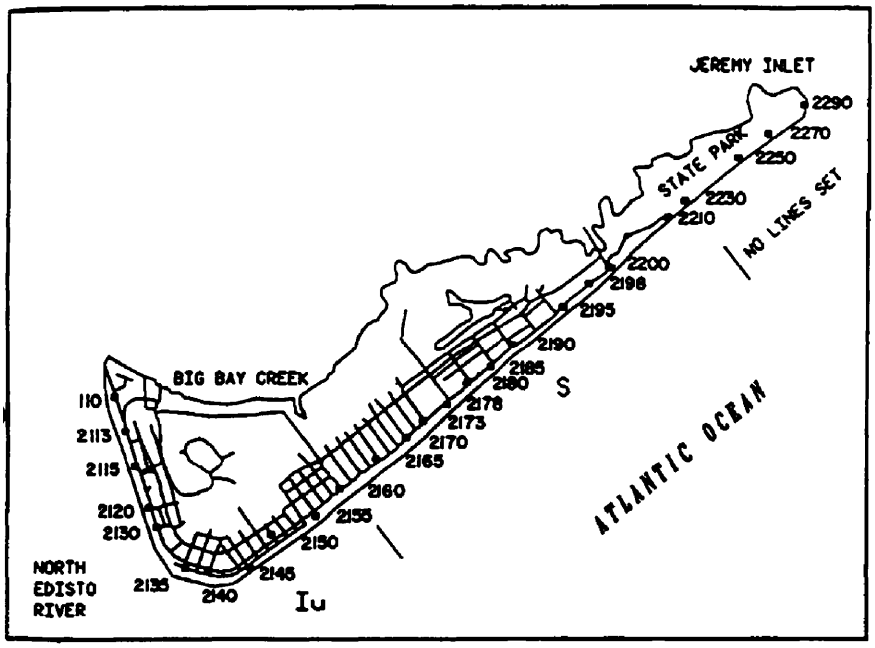
Figure 20



South Carolina beachfront jurisdictional lines approved - 6/16/89
reference orthophotographs: #95
monument numbers refer to the SCCC beachfront monument network
notes:

Edisto Beach
Colleton County

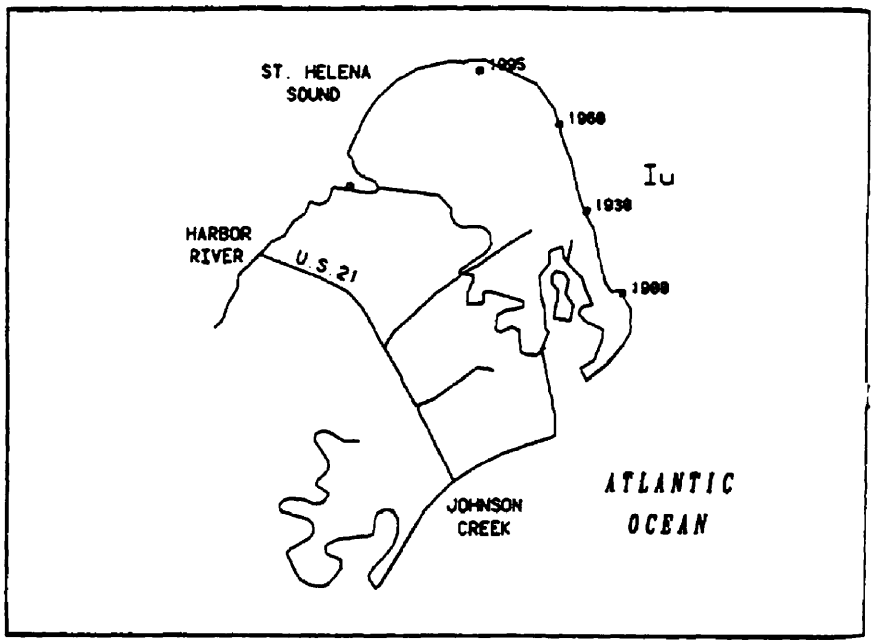
Figure 21



South Carolina beachfront jurisdictional lines approved - 8/18/89, 5/15/89, 11/17/89
reference orthophotographs: #81 through 92
monument numbers refer to the SCCC beachfront monument network
notes:

Harbor Island
Beaufort County

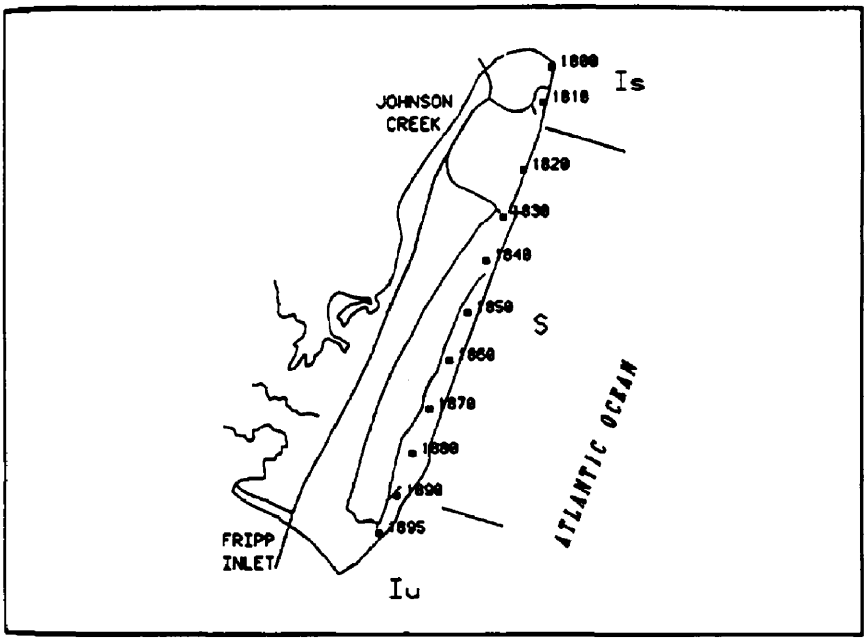
Figure 22



South Carolina beachfront jurisdictional lines approved - 9/15/89
reference orthophotographs: #77 through 80
monument numbers refer to the SCCC beachfront monument network
notes:

Hunting Island
Beaufort County

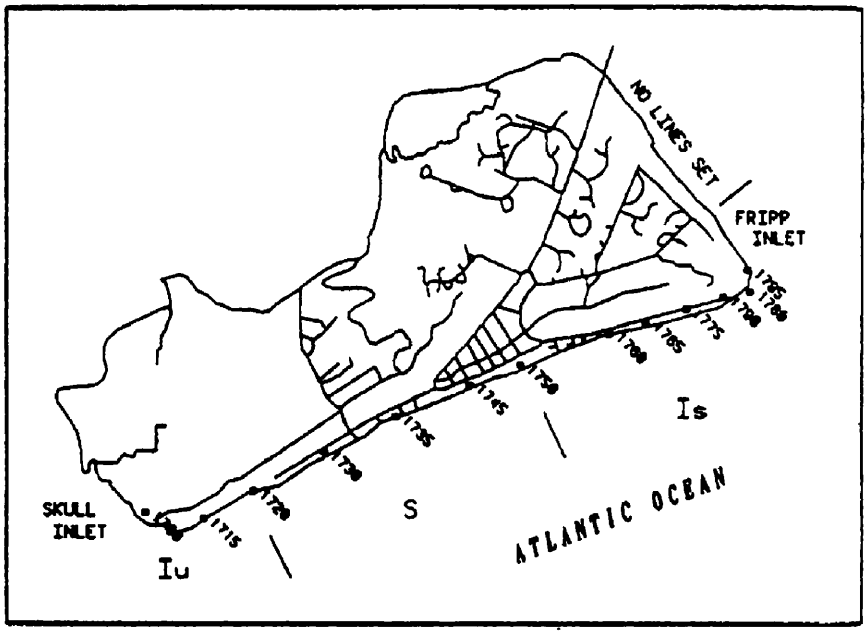
Figure 23



South Carolina beachfront jurisdictional lines approved - 3/16/90
reference orthophotographs: #122, 137, 152
monument numbers refer to the SCCC beachfront monument network
notes:

Fripp Island
Beaufort County

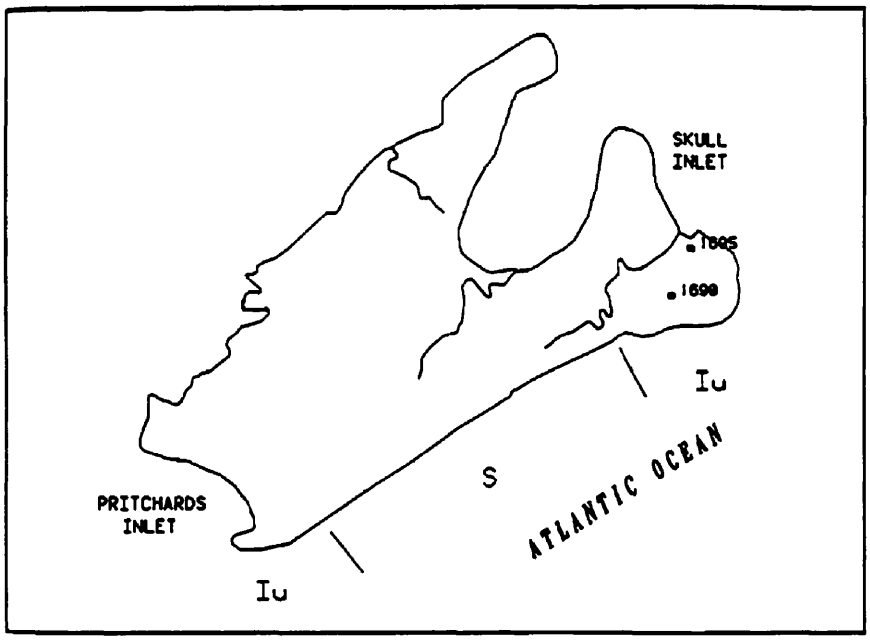
Figure 24



South Carolina beachfront jurisdictional lines approved -12/15/89
reference orthophotographs: #57 through 65
monument numbers refer to the SCCC beachfront monument network
notes:

Pritchards Island
Beaufort County

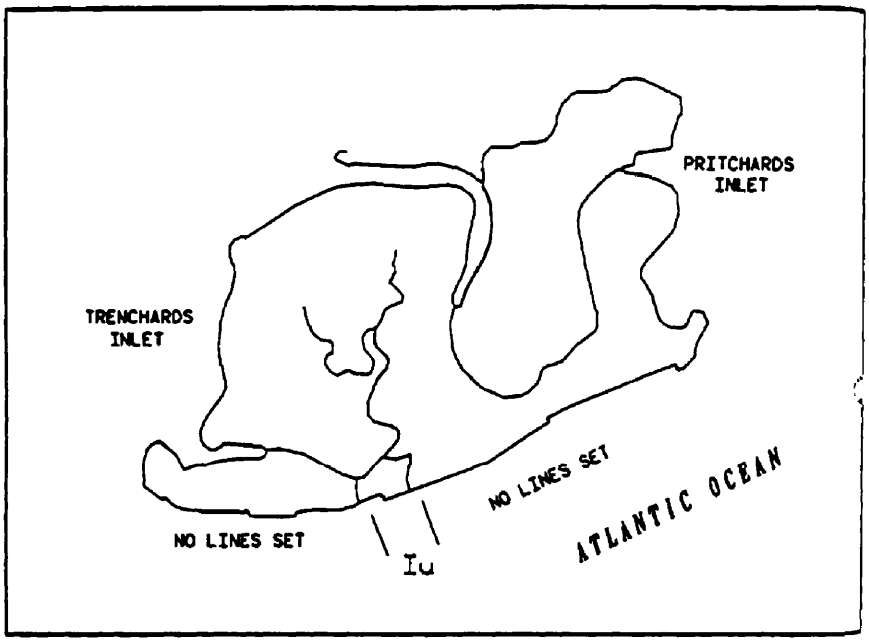
Figure 25



South Carolina beachfront jurisdictional lines approved - 3/16/90
reference orthophotographs: #167, 168, 185
monument numbers refer to the SCCC beachfront monument network
notes:

Little Capers Island
Beaufort County

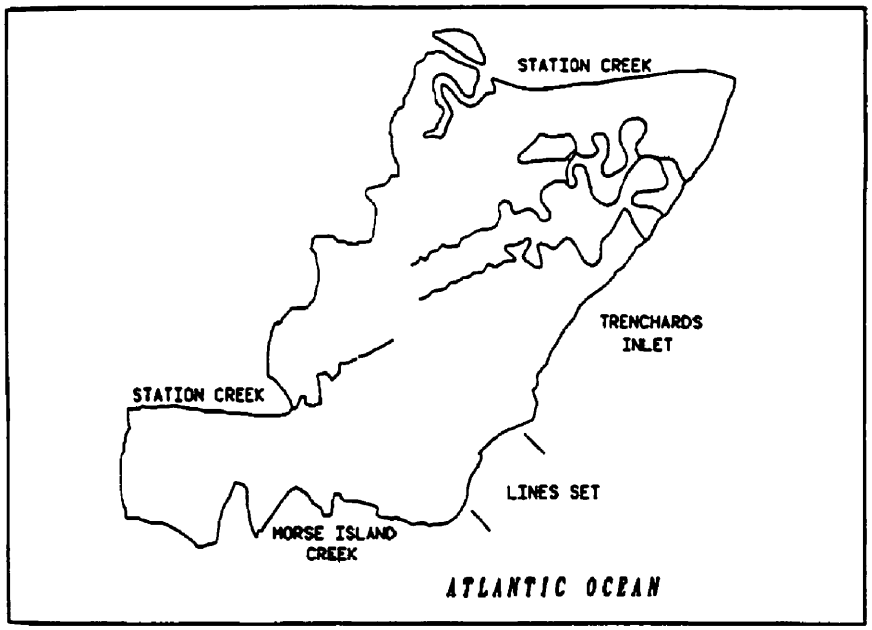
Figure 26



South Carolina beachfront jurisdictional lines approved - 3/16/90
reference Beaufort County orthophotographs: #189
monument numbers refer to the SCCC beachfront monument network
notes:

St. Phillips Island
Beaufort County

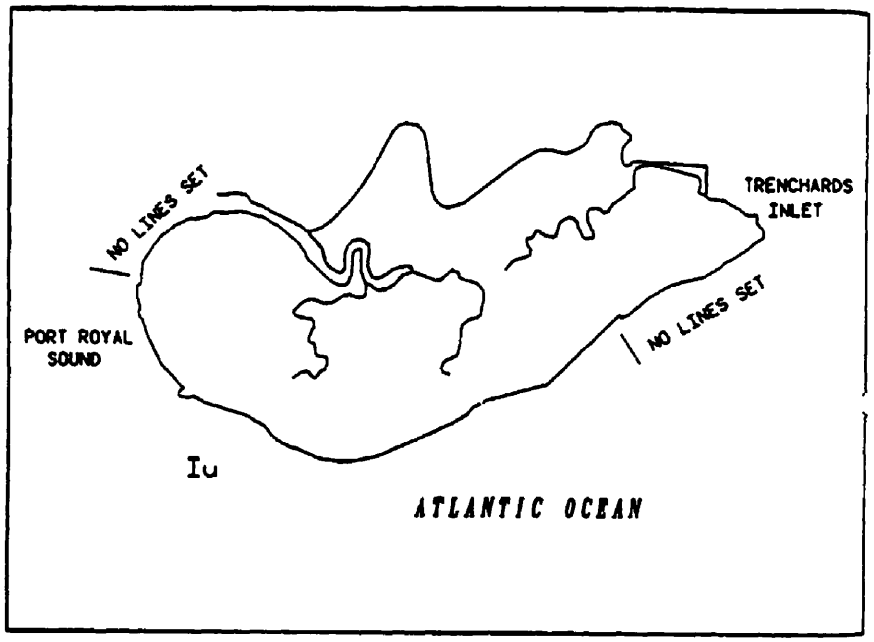
Figure 27



South Carolina beachfront jurisdictional lines approved - 3/16/90
reference orthophotographs: #183
monument numbers refer to the SCCC beachfront monument network
notes:

Bay Point Island
Beaufort County

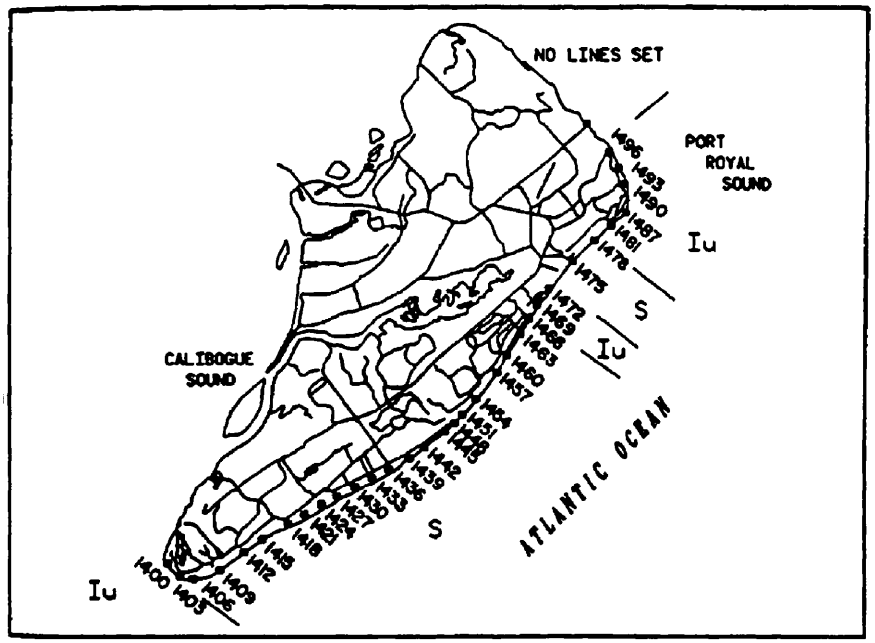
Figure 28



South Carolina beachfront jurisdictional lines approved - 3/16/90
reference Beaufort County orthophotographs: #199
monument numbers refer to the SCCC beachfront monument network
notes:

Hilton Head Island
Beaufort County

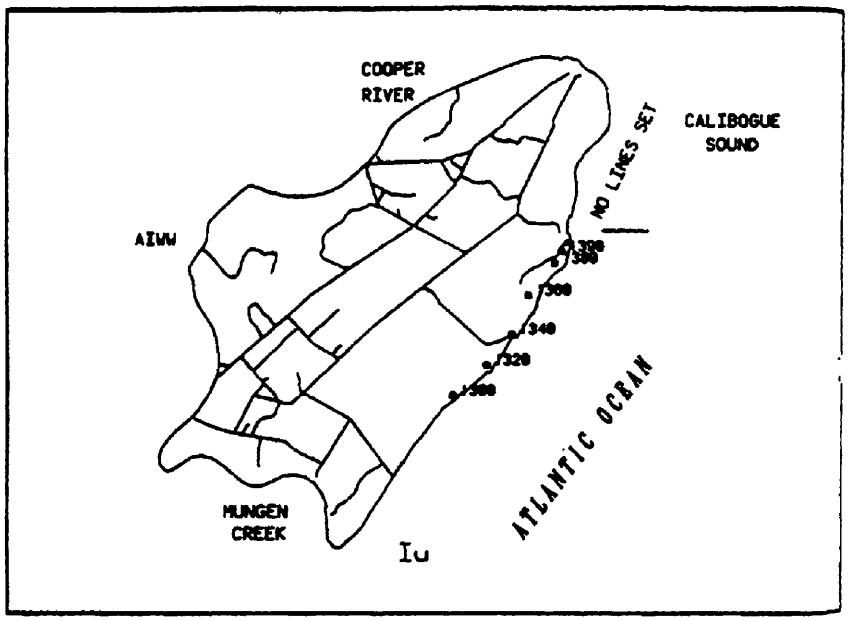
Figure 29



South Carolina beachfront jurisdictional lines approved - 6/16/90, 3/16/90, 4/21/89, 3/16/90, 4/21/90, 7/17/89
reference orthophotographs: #208-009; - #244-014
monument numbers refer to the SCCC beachfront monument network
notes:

Daufuskie Island
Beaufort County

Figure 30



South Carolina beachfront jurisdictional lines approved - 4/20/90
reference orthophotographs: #1 through #10
monument numbers refer to the SCCC beachfront monument network
notes:

(4) Beach Erosion Analysis and Nourishment Plan

The Beachfront Management Act established a state policy of promoting "carefully planned nourishment as a means of beach preservation and restoration where economically feasible." The planning process must consider the following factors: The condition of the beach; The threat presented by continued erosion; The technical feasibility of the project, including the source of fill material; The initial cost and maintenance of the project; The availability of adequate funding on a continuing basis;

(a) Beach Condition and Erosion Rate

A wide dry-sand beach and a well-formed vegetated sand dune offer protection to the land behind them. A history of accretion or very low erosion would tend to reduce the risk of erosion damage. Conversely, the lack of a dry-sand beach and protective dune leave the property vulnerable. A severe episode of erosion could then cause serious damage in a short time. A recent (1990) report by Coastal Science and Engineering (CS&E) to the Council identified 18 locations that are endangered by erosion (Table 1). These locations total 54 miles of coastline. The U. S. Army Corps of Engineers "National Shoreline Study," completed in 1973, identified 57 miles of South Carolina shoreline that were critically eroding. Although the methodologies were different, the two results are similar. For planning purposes, the CS&E report will be used as a guideline. This method selected areas that were deficient in sand volumes and needed nourishment to provide a 50-foot dry-sand berm. A ten-year reserve based on erosion rates was included.

Table 2 shows the sand deficits of South Carolina beaches.

(b) The Threat of Continued Erosion

In order to evaluate the benefits of a nourishment project, the value of projected losses needs to be determined. For developed beach communities, the assessed value of beachfront land and improvements provide a measure. For parks and public accesses the cost of purchasing replacement facilities could be used. Direct comparisons are difficult to make, but several published Corps of Engineers benefit/cost figures and an informal Council staff estimate, using unpublished data from several county tax offices, give the following range:

TABLE 1. South Carolina beach nourishment requirements--estimated 10-year project needs (1990s).

Locality	Length (ft)	Volume (cy)	Unit Cost	Total Cost	Cost/ft	Method (Source)
North Myrtle Beach	35,000	665,000	6.50	4,322,500	123.50	DR/TR (E/AS)
Briarcliff/Horry County	10,000	210,000	8.50	1,785,000	178.50	TR (E)
Myrtle Beach*	25,000	250,000	7.00	1,750,000	70.00	TR (E)
Surfside/Horry County	15,000	277,500	7.50	2,081,250	138.75	TR (E)
Garden City	13,500	513,000	5.00	2,565,000	190.00	DR/TR (E/AS)
Huntington Beach*	5,000	100,000	4.00	400,000	80.00	TR (AS)
Pawleys Island	15,000	570,000	3.50	1,995,000	133.00	TR (AS)
DeBordieu Island[1]**	8,000	356,000	5.00	1,780,000	222.50	TR (E)
Isle of Palms	4,000	120,000	2.50	300,000	75.00	TR (AS)
Sullivans Island	2,500	117,500	2.50	293,750	117.50	(TR (AS)
Folly Beach/FB Park**	20,000	1,840,000	5.00	9,200,000	460.00	DR (E/AS)
Seabrook Island[1] (south beach)	6,000	738,000	2.50	1,845,000	307.50	DR (E)
Seabrook Island (north beach)	12,000	168,000	3.00	504,000	42.00	Inlet Relocation
Edisto Beach	15,000	645,000	5.00	3,225,000	215.00	DR/TR (E)
Hunting Island**	16,500	3,300,000	2.50	8,250,000	500.00	DR/TR (E/AS)
Fripp Island[2]	12,000	1,000,000	2.50	2,700,000	225.00	DR/TR (E/AS)
Hilton Head Island**	35,000	2,940,000	4.50	13,230,000	378.00	DR (E)
Daufuskie**	9,000	594,000	2.50	1,485,000	165.00	TR (AS)
Contingency	26,500	1,516,000	4.80	7,288,500	275.04	
(54 mi)	285,000 ft	16,000,000 cy	$4.06/cy	$65,000,000	$228.07/ft	

DR = dredge. TR = trucks. E = external source. AS = accreted shoals. (Source: Coastal Science & Engineering, Inc., March 1990)

*Maintenance nourishment only; no initial requirement.

**High erosion rates in these areas suggest groins/breakwaters should be considered.

[1]In construction, March 1990.

[2]A larger scale dredging project involving 1,500,000 cy at a cost of $4.5 million has been proposed by CSE to develop a longer term solution.

Table 2. Sand Deficits at South Carolina Beaches

Beach	Deficit CY/FT	Annual Loss CY/FT
Seabrook, South Beach	123	0
Folly Beach/Folly Beach Park	65	3
Fripp Island	45	5
Hunting Island	38	18
Hilton Head	30	6
Daufuskie Island	30	4
Edisto Beach	25	2
DeBordieu	22	2.5
Sullivans Island (Breech Inlet)	20	3
Pawleys Island	20	2
Garden City	20	2
Briarclif	12	1
North Myrtle Beach	10	1
Surfside Beach	5	1.5
Huntington Beach	0	2
Myrtle Beach	0	1
Isle of Palms	0	3

Source: Coastal Science and Engineering Report, 1990
Note: The erosion rates shown in this table may differ slightly from the rates approved from each station by the S. C. Coastal Council.

Low (Folly Beach) $500/ft.

Medium (Edisto/Pawleys Island) $2,000/ft.

High (Grand Strand) $14,000/ft.

Specific project evaluations should require updated, standardized assessments from the county tax office. The total value of all beachfront lots within the project limits would be reviewed and adjusted as necessary if the date of assessment is not current. At the present time, standardized assessments are not available, and it would not be cost effective or practical to incorporate dollar figures in this plan. However, at the first five-year update of local plans, each community shall be required to report the value of beachfront property and improvements as indicated in the county tax records for use in evaluating nourishment projects.

(c) Technical Feasibility

In order for a project to be considered, it must be shown that the project can succeed using known, available technology. There must be a borrow source of suitable material and an economic means to move it. The suitability of borrow material includes grain size, distribution, and freedom of unwanted material. Also, the environmental effects of removing the material from its existing location should be considered. The project needs to be clearly permittable and there should be no legal or administrative problems that could bar it. Of the 18 potential projects, CS&E identified seven as private (Table 4). Those projects would not be eligible for state funding.

(d) Initial and Maintenance Costs

The cost listed by CS&E (Table 1) is an estimate that is not far different from the Corps' "National Shoreline Study" if the latter were adjusted for inflation. The numbers are also close to a 1980 South Carolina Coastal Council staff estimate similarly adjusted. The numbers are quite reasonable for planning purposes; however, it should be clearly understood that bid prices can vary.

(e) Funding Availability

At the present time there is no firm state source of funds for beach nourishment. There are federal projects in various planning states for Folly Beach, the Grand Strand and Edisto Beach (Table 3). The first three projects shown in the table have been combined as a Grand Strand project proposed to renourish the beach from Hog Inlet to Garden City Beach. Real estate acquisition could start in 1994 and construction in 1995. These dates are subject to the federal budget process. The Folly Beach project has reached the point where real estate acquisition can begin provided the non-federal funding share money is available. This project could start within a year; however, this also is not certain. The Seabrook Island private project has been completed; however, additional renourishment is needed. The Hilton Head Island project has also been completed. The Folly Beach Project is the furthest along the approval process and could take place within the next two years. The federal share is expected to be about 75% of the $5.6 million project, leaving a $1.4 million non-federal share. The state has provided money for erosion control to local governments, in the past, on a 60%/40% basis. This would result in a state cost of about $840,000. The Grand Strand project is not as far along the approval process, but an estimate of the project shows a $45.3 million project with the federal share at 65%. This leaves a $15.9 million non-federal cost and a $9.5 million state cost

using the 60%/40% state, local sharing method. The total state money for matching pending federal projects would total approximately $10.4 million. The remaining projects on Table 1, after eliminating the private projects and using the 60%/40% match (except for state parks), would cost about $10.2 million in state funds. Adding 10% for contingencies, the state total would be $23.1 million. A continuing requirement for maintenance will exist, estimated at about $1.5 million. This should be refined as information becomes available.

TABLE 3. Beach nourishment projects planned (circa 1988-1995).

Funding	Locality (Design Date) Source	Length (ft)	Volume (cy)	Total Cost	Cost/cy	Cost/ft	Method
Federal(65%)/state/local	North Myrtle Beach[1] (1987) USACE	42,768	1,776,000	17,311,000	9.75	404.77	TR (E)
Federal(65%)/state/local	Myrtle Beach[1] (1987) USACE	46,464	1,931,000	16,856,000	8.73	362.78	TR (E)
Federal(65%)/state/local	Surfside/Garden City[1] (1987) USACE	30,096	1,250,000	11,081,000	8.86	368.19	TR (E)
Federal(>75%)/local	Folly Beach[2] (1987) USACE	16,860	1,038,000	5,562,500	5.36	329.92	DR (E)
Private	Seabrook (1989) CSE	6,000	700,000	1,500,000	2.15	250.00	DR (E)
State/local	Hilton Head Island[3] (1988) Town OA	35,000	2,036,000	9,700,000 (est.)	4.76	277.14	DR (E)
	(33.5 mi)	177,188 ft	8,731,000 cy	$62,010,500	$7.10/cy	$349.97/ft	

TR = trucks. DR = dredge. E = external sand source. [1]Totals for the 5-year project - first costs only (USACE 50-year storm design criteria). [2]Totals for the 5-year project - first cost plus one 5-year renourishment (USACE 50-year storm design criteria). [3]Totals for an 8-year project - annual erosion rate criteria plus initial deficit for north Forest Beach. Sources: U.S. Army Corps of Engineers (USACE); Coastal Science & Engineering, Inc. (CSE); Olsen Associates (OA)

TABLE 4. Beach nourishment needs in the 1990s--private projects.*

Locality	Length (ft)	Volume (cy)	Cost/cy	Total Cost	Cost/ft	Method (Source)
DeBordieu Island	8,000	356,000	5.00	1,780,000	222.50	TR (E)
Wild Dunes (Isle of Palms)	4,000	120,000	2.50	300,000	75.00	TR (AS)
Seabrook Island	6,000	738,000	2.50	1,845,000	307.50	DR (E)
Seabrook Island	12,000	168,000	3.00	504,000	42.00	Inlet Relocation
Fripp Island	12,000	1,080,000	2.50	2,700,000	225.00	DR/TR (E/AS)
Palmetto Dunes (Hilton Head Island)**	35,000	2,940,000	4.50	13,230,000	378.00	DR (E)
Daufuskie	9,000	594,000	2.50	1,485,000	165.00	TR (AS)
Subtotal	66,000 ft	4,316,000 cy	$3.31/cy	$14,284,000	$216.00/ft	
(Percent total)	(23)	(27)		(22)		

DR = dredge. TR = truck. E = external source. AS = accreted shoals. [Source: Coastal Science & Engineering, Inc., March 1990]
*Defined as sites where beach access is restricted from the land side.
**Pro rata - Palmetto Dunes - 43 percent of total project.

(f) Recommended State Renourishment Plan

The state plan for beach renourishment is to accomplish the nourishment requirements of Table 1 by the year 2000. The sixty-five million dollar cost can be reduced provided planned federal projects are carried out. A revolving fund at the fifteen million dollar level would allow beach nourishment projects to be planned on a two to three year schedule.

Considering the preceding factors, the Council will have to allocate funds as they become available and comply with whatever restrictions or priorities the General Assembly attaches. Beyond that, the most effective allocation would be to help match federal projects that are already approved. The next choice would be for non-federal projects where expensive property is imminently threatened and all the technical conditions are favorable. It would be a mistake to undertake a project that does not have a high probability of success. A final goal is for the Council to seek a long-term funding source so that projects can be scheduled and designed on a rational basis.

(g) Financing For Beach Renourishment Projects

Beach renourishment projects may be financed through the following state, federal, local or private sources. Projects often include a combination of several financing sources. The following section describes some of the funding options that are available.

(h) Federal Funding Assistance

The existence of federal interest in protecting property and lives from flooding and storm damage reduction can qualify a project for federal funding assistance from the U. S. Army Corps of Engineers.

Under existing shore protection laws Congress has authorized federal participation in shore protection projects to prevent or reduce damages caused by wind and tide generated waves and currents along the Nation's coasts and shores.

The types of improvements that fall within the intent of the shore protection legislation are generally structural measures including such features as beach fill, groins, seawalls, revetments, breakwaters, and bulkheads. Nonstructural measures, within the generally accepted definition, such as property acquisition, also are appropriate shore protection measures when they prevent damage caused by storms or erosion. (See Table 5.)

Table 5. Shore Ownership and Levels of Federal Participation

Shore Ownership and Project Purpose	**Maximum Level of Maintenance**	**Federal Participation Construction**
Federally Owned		
Hurricane and Storm Damage Reduction	100%	100%
Loss of Land	100%	100%
Recreation (Separable Costs)	100%	100%
Publicly and Privately Owned (Protection Results in Public Benefits)		
Hurricane and Storm Damage Reduction	65%	None
Loss of Land	50%	None
Recreation (Separable Costs)	50%	None
Privately Owned, Use limited to private Interests		
Hurricane and Storm Damage Reduction	None	None
Loss of Land	None	None
Recreation	None	None

(i) State Funding Assistance

(i) General Obligation and Revenue Bond Funding

Funding can be provided through bonded indebtedness at the State level with bond sale proceeds going to beach renourishment project funding, with or without local matching requirements. The bonds can be retired and debt repaid through general appropriations or revenues earmarked from project user fees and returned to the State. General obligation bonds funded $10.0 million in 1988 for beach renourishment in South Carolina.

(ii) General Appropriations Funding

The General Assembly may appropriate funds on an annual basis for renourishment projects with funds to come from state tax revenues or other state income sources. Provisions of the General Appropriations Bill may specify repayment. This alternative is not commonly used for construction or permanent improvement projects. Supplemental appropriations and/or surplus revenues may be another source for funding at the end of the fiscal period.

(iii) State Low-Cost Infrastructure Loans

Although restricted at this time in South Carolina to public sewer projects, revolving loan funds for public infrastructure can be used for financing renourishment projects, as is done in other states. Legislative affirmation of this project purpose for South Carolina would be necessary.

(iv) State Grants

The State Division of Local Government also provides grants to local governments for public infrastructure projects. At this time, the priorities established for this program are for water and sewer projects, although other purposes could be funded depending upon public interest and need. The discretionary funds available to the State Budget and Control Board may also be another grant source.

(v) State Pooling of Local Indebtedness

The State Treasurer's Office can assist local governments by pooling local bond issues in order to gain more advantageous interest charges for the bonded debt.

(j) Local Government Financing Options

(i) Bond Issue

Local governments can issue general obligation or revenue bonds for funding renourishment projects with the debt to be repaid through general local tax revenues, user fees and special tax assessments on property taxes, or special tax districts for project beneficiaries.

(ii) General Appropriations

Local government annual budgets can appropriate tax revenues or other income to project financing on an annual basis.

(iii) Accommodations Tax Revenues

The local government share of the state accommodations tax revenues may be allocated to renourishment as a means of promoting tourism. These revenues can also be used to retire debt from loans or bond issues for the same purposes.

(iv) Special Tax Assessment District

Under proposed state law, special tax assessment districts can be enacted in order to finance and maintain renourishment projects and to assess beneficiaries within a project area for repayment purposes. Revenues can be gathered by the district by property tax assessment, direct bill to members, or other means. State legislation is needed to establish this process.

(v) User Fees

Local governments may finance renourishment project construction through a charge to the public for using the area through an admissions fee or other fees.

(vi) Private Funding

Renourishment projects can be paid for directly by the private sector through assessment of beneficiaries.

(5) Public Access Plan-

(a) An Inventory and Assessment of Access Problems and Potential Development Opportunities for South Carolina Beaches

There are areas of the South Carolina coast where the public has lost the ability to reach the beach. The people of South Carolina, through a legal principle known as the public trust doctrine, own all land below the mean high water mark and consequently most of the beach. The development of restricted access communities and towns prevents public access to areas which the public has traditionally used for recreational purposes. Many local governments, either because of financial constraints or the desire to keep beaches private, will not support or maintain facilities designed to provide access to the general public. The population of the coastal region is also increasing; many of the fastest growing sections of the state are located in the coastal zone. For these reasons there is a great need for the State of South Carolina to provide the direction to preserve existing public access sites by regulatory control and to require that development projects in beachfront areas allow the public the right to reach the beach. A great need also exists for the State to develop new state park facilities which will provide access opportunities to large numbers of residents and visitors. These facilities have been shown to be of importance for attracting visitors to beachfront communities. Additional funding sources to develop smaller day-use parks are also needed. The state in requiring local governments to provide public access sites in order to receive renourishment funds has linked renourishment to public access. Coastal property is expensive and a need exists for the State to assist in these improvements. Following is a beach-by-beach assessment, from north to south, of public access needs and opportunities.

(b) Assessment of Beach Access

Waites Island

At the North Carolina border is located one of the coast's last undeveloped, readily accessible barrier islands. This island is approximately two miles long, three-quarters of a mile wide and about 800 acres in

size. Waites Island is currently under private ownership and is presently tied up in an estate, pending final resolution of probate. Because of the island's size and location, it is obviously a very valuable piece of property. The South Carolina Department of Parks, Recreation and Tourism is interested in obtaining a portion of the property and has been in negotiations with the owners regarding the possibility of obtaining a portion of the estate for use as a park facility. Access to the island is achieved through use of an unpaved dirt road from the mainland. The island is presently protected under the Coastal Barriers Resources Act which will limit the development potential of the island. This classification, however, would not rule out the development of a park facility. Building would, however, be severely restricted by the classification, and federal funds for construction of buildings, roads, water and sewer lines, etc. could not be used.

Figure 31

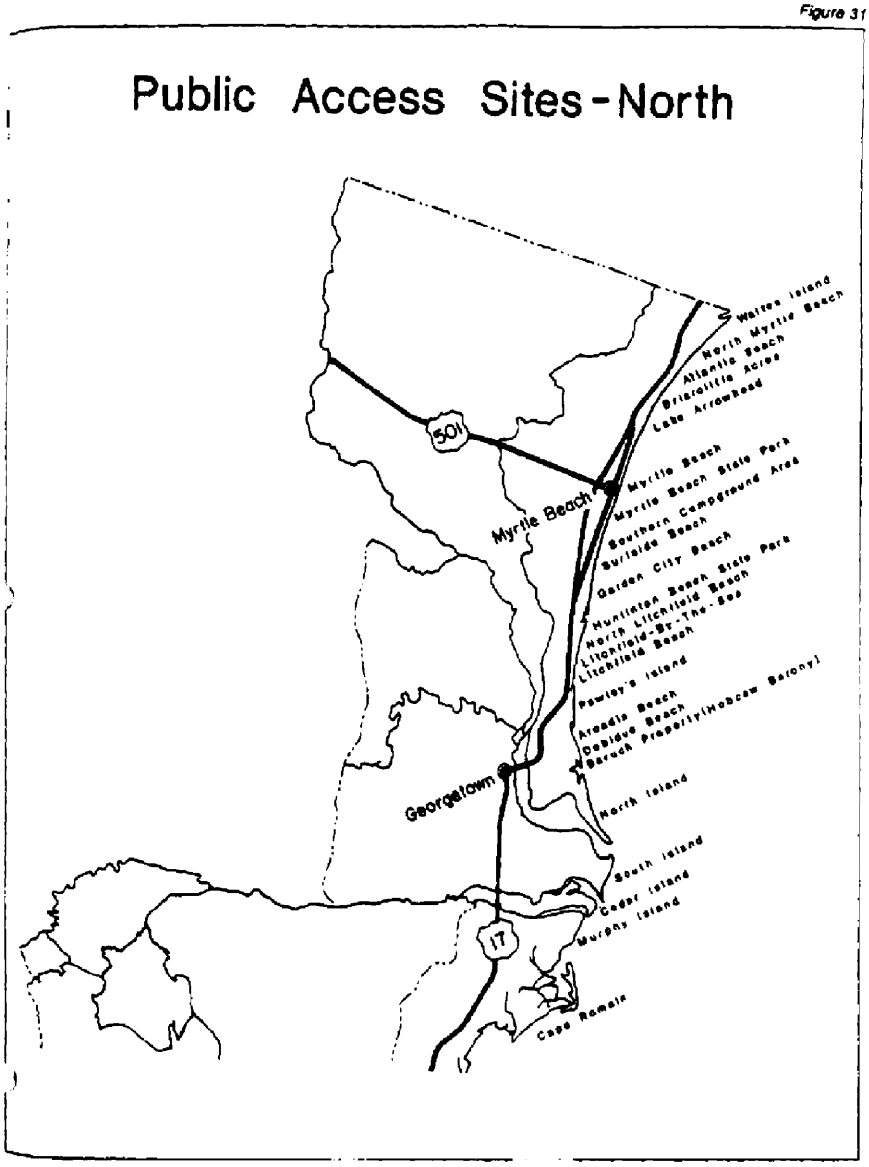
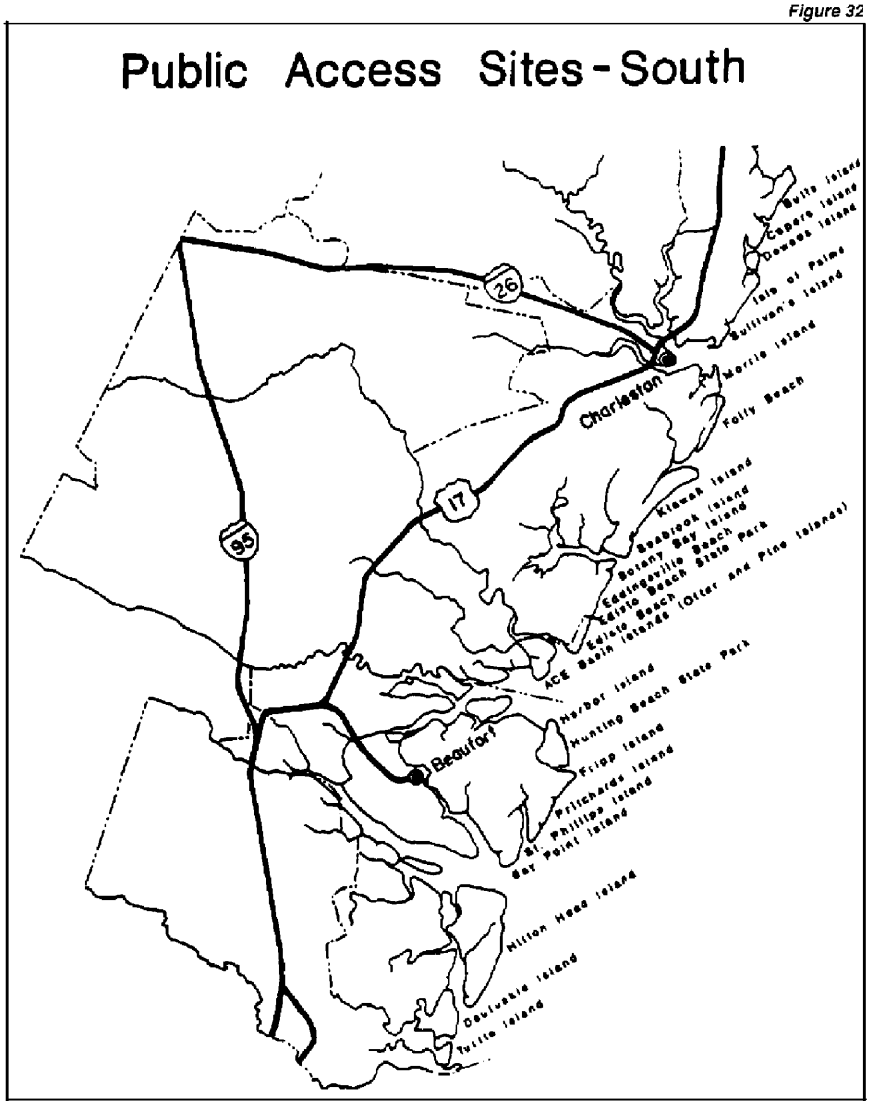

Public Access Sites - North
Waites Island
North Myrtle Beach
Atlantic Beach
Briarcliffe Acres
Lake Arrowhead
501
Myrtle Beach
Myrtle Beach State Park
Myrtle Beach Campground Area
Southern Campground Area
Surfside Beach
Garden City Beach
Huntington Beach State Park
North Litchfield Beach
Litchfield-By-The-Sea
Litchfield Beach
Pawley's Island
Arcadia Beach
Debidue Beach
Baruch Property(Hobcaw Barony)
Georgetown
North Island
South Island
Cedar Island
Murphy Island
17
Cape Romain

Figure 32



Waites Island is not located in the City of North Myrtle Beach, but is a part of Horry County.

Assessment. This island is an excellent opportunity for development of a park facility. Acquisition costs would be expensive because of the location. However, the restrictions of the Coastal Barriers Resources Act (COBRA) might work to reduce the value of the land. Development of facilities will also be limited by the COBRA, and if the beach is used at all it would have to be in a natural and unimproved building style.

North Myrtle Beach

North Myrtle Beach consists of four beach communities that consolidated and formed a city. The city limits begin at Hog Inlet, just south of Waites Island and run to Briarcliffe Acres on the south. Beginning at the northern boundary the communities are Cherry Grove Beach, Ocean Drive Beach, Crescent Beach, and Windy Hill Beach.

Public access to the beach in the City of North Myrtle Beach does not appear to be a problem. A majority of the people visiting this beach stay along the coast and use the parking provided by the hotels

and beach cottages. There is also some on-street parking located adjacent to street ends and along the roadside of Ocean Drive and the many streets that run perpendicular to the ocean. Hundreds of free or metered spaces are available and within easy walking distance of beach access points.

Beach access points are numerous. Pedestrian access in the Cherry Grove Section is excellent with access points usually at one-half block intervals. In the Cherry Grove Section alone there are seventy-one (71) access points, many with boardwalks and several designed for handicapped access. The Ocean Drive Section has access points at approximately one block intervals, many of which are improved with walkways and some handicapped facilities. Some access points also provide some limited amounts of on-site parking. In the Ocean Drive Section of North Myrtle Beach, forty-nine (49) different public access points are available. The Crescent Beach Section also contains many access points at spacings generally about a block apart. Most of the access points have been improved with walkways. Parking is on-street when available. The Windy Hill Section of North Myrtle Beach has fourteen (14) accessways, most with boardwalks. Several have on-site parking. However, parking, as with most places along the beach, must be acquired on the street at off-site locations.

The beaches in the North Myrtle Beach area are generally very wide and relatively stable. In most cases along the beachfront, beach widths are greater than 200 feet. Erosion rates in most cases are also well below a foot a year, so these beaches are considered some of the most stable along the coast.

In many sections of the City, facilities such as life guards, concessions, and other facilities are provided by the City. These facilities are not available at all sites, and there are probably areas which could be improved. Public restrooms, likewise, are not available over most of the beachfront, although many hotels and businesses make restroom facilities available.

Assessment. Public access along the City of North Myrtle Beach is in very good shape. The access points are plentiful and well-located. Parking is a problem along some areas and can be improved by marking on-street spaces and providing more off-site parking. Additional public restrooms need to be provided as well as minor improvements such as additional boardwalks or other facilities at the street-end access points.

Atlantic Beach

Atlantic Beach is a small city located between the Crescent Beach and Windy Hill Sections of North Myrtle Beach. The Town is only three (3) blocks in length, but a public access point is available at each street end. Parking is on-street with no spaces marked. Lifeguards are available along sections of the beach as are concessions. No public restrooms are available; however, plans are underway to develop these facilities.

Assessment. Public restrooms are needed as are additional public parking facilities. Signs and boardwalks are also missing from this beach and would improve access and use of the beachfront.

Briarcliffe Acres

Briarcliffe Acres is a small beachfront residential community that incorporated into a town. The Town of Briarcliffe Acres is located south of the Windy Hill Section of North Myrtle Beach above an unincorporated section of Horry County known as the Lake Arrowhead Campground area. The property owners association owns all property along the beachfront. There is no development along the beachfront except for several beach walkover structures owned by the property owners association. No public access facilities are provided and the Town is not interested in providing any public facilities.

Assessment. The Town of Briarcliffe Acres is not submitting a local beachfront management plan. Because of the undeveloped nature of the beach, very little of the Town is affected by the Beachfront Management Act. The Town is consequently not eligible to receive funds for renourishment. Opportunities for improving public access are very limited.

Lake Arrowhead

This section of beach is undeveloped but will be developing in the future as the campground changes over from the existing use to a more dense land use pattern. Public access is not presently provided although there are several walkovers through the campground.

Assessment. This area, because of its undeveloped nature, could provide opportunities for public access improvements, and measures to provide public access as the land use pattern changes should be included in the Horry County Beachfront Management Plan.

Myrtle Beach

Myrtle Beach is the Grand Strand's best known beach resort community. It is truly a destination resort serving as the vacation center for thousands of beach users each season which stretches from spring to fall. Along the beachfront there are many high-rise hotels, small "Mom and Pop" motels, condominiums, rental units, campgrounds, and dwellings occupied by permanent residents of the area. The city boundaries cover a prime piece of beachfront real estate, occupying approximately 10 miles of the Grand Strand. Tourism is the key industry of this community, and almost all of the community's economy derives from service industries related to tourism.

Myrtle Beach has recognized the need to provide access opportunities for people wishing to reach the beach. Accordingly, the City has approximately 150 public access points as well as hundreds of private access points from individual motels, condominiums and businesses. Many of the accessways provide boardwalks and small amounts of parking. Several provide landscaped areas for sitting and viewing. Some are associated with the central pavilion and amusement areas. Lifeguards and concession facilities are provided at many areas along the beach, especially those associated with the pavilion and hotel areas.

Parking for public and day use is limited in many areas, and the beach using public must compete for spaces with the business traffic. The City has provided public parking facilities in some areas, and there are several public parking garages along the beachfront.

Assessment. Public access in Myrtle Beach and the upper Grand Strand is much better than in most of the rest of the State. However, there remains a need to improve parking and some access areas along sections of the City. A shortage of public restroom facilities also exists, and this need also requires attention.

Myrtle Beach State Park

Myrtle Beach State Park is located at the southern boundary of the City of Myrtle Beach and provides 350 camping spaces, day use, and fishing (formerly from a 750-foot fishing pier destroyed by Hurricane Hugo). The Park is 312 acres in size and has a swimming pool, public restrooms and beach area and concession facilities. Approximately 400 public parking spaces are available for day-use visitors. The pier was destroyed September 1989 by Hurricane Hugo but is being rebuilt and scheduled for opening in early 1992.

Assessment. This park provides excellent access opportunities for the southern Myrtle Beach area. Improvements are not necessary.

Southern Campground Area

Between Myrtle Beach State Park and the Town of Surfside Beach are located several large undeveloped pieces of land that are presently used for campgrounds. One subdivision has also been built in the area. This area covers about 3 miles of beachfront. There are several pavilions and other structures associated with these campgrounds; however, the beachfront is mostly undeveloped.

Assessment. In the future this area will probably be developing into a hotel, condominium, high-rise type of land use pattern. As this development has not yet occurred, this would be a good area in which to investigate the possibility of acquiring a portion of land for a public access site.

Surfside Beach

Surfside Beach is an oceanfront community that, until a few years ago, consisted of mostly beachfront cottages. In recent years small condominiums and high-rise buildings have been built along the beachfront. Almost without exception most of the construction is well setback. Public access to the beachfront exists at each street end running perpendicular to the beachfront. There are 33 of these street ends. Parking is a problem; most parking is on-street with a few off-street areas available. There are no public restrooms.

Assessment. It is recommended that restroom facilities be pursued as well as the development of additional public parking areas.

Garden City Beach

A portion of Garden City Beach is located in Horry County, but most of it is located in Georgetown County. The Horry County beachfront section has developed into mostly high-rise hotel projects built on narrow pieces of land very close to the beach. The beach is very erosional and narrow. During Hurricane Hugo a great deal of damage took place at Garden City Beach, and one contributing factor was the lack of sand in front of the beach. Public access in this area is a problem. Parking and traffic circulation problems during the summer months are severe. Traffic moves very slowly down South Waccamaw Drive, the only street. Off-street parking for public day use is limited to only the area around the King Fisher Pier. There are 44 street-end access points along the Garden City area which the public can use to reach the beach. In the Georgetown County section, street-end access points are the only access for the public to reach the beachfront. There is no off-street parking available, and on-street parking is extremely limited by the development pattern.

Assessment. Because of the development pattern, major improvements to public access opportunities will be difficult. It is recommended that several lots be acquired for use as a park providing both an access site and parking area. Restrictions on building might make some of this land available in the future. Parking is very much needed as are several public restroom facilities.

Huntington Beach State Park

Huntington Beach State Park is a state park facility located just south of Murrells Inlet on the ocean. The park is about 2500 acres in size and provides 200 camp sites, wildlife observation, beach day use and fishing opportunities via a walkway constructed over the south jetty protecting Murrell's Inlet. A paved parking lot for 275 cars is available as are restrooms and concession facilities. The park is heavily used, especially during the summer months. The park is leased to the State from Brookgreen Gardens.

Assessment. The park has ample area to expand parking if need be. This is a very important resource to the State and it provides the only large-scale public access opportunity for the Waccamaw Neck and Grand Strand areas.

North Litchfield Beach

North Litchfield Beach is a residential area of mostly beachfront houses. There are seventeen public accesses and approximately 110 parking spaces along North Litchfield Beach. All parking is off-street. There are no restrooms.

Assessment. Improvements to on-street parking are needed. Off-street parking facilities are also needed. It is recommended that accessways be clearly marked at the beach and from Highway 17.

Litchfield-by-the-Sea

Litchfield-by-the-Sea is a private development. Access is controlled by a security gate. Public access does not exist at Litchfield-by-the-Sea. In order to use any of the community access facilities to the beach, residency or rental of one of the units is a requirement.

Assessment. Access opportunities, because of the developed nature of this community, are very limited.

Litchfield Beach

Litchfield Beach is a mixture of mid-rise condominiums and beach cottages. Beach access is limited. There are seven public access points and approximately 24 public parking spaces along Litchfield Beach. Access to the beach is reached via seven 10-foot wide walkways and one five-foot wide path. The southern end of Litchfield Beach, or Litchfield Spit, is under the COBRA and would be an excellent site for an unimproved access point with services provided by a shuttle system from the mainland.

Assessment. Recommended improvements for additional parking spaces and better marking of access points is needed. This area could also be an excellent opportunity for creation of an access point by improving access (with very limited facilities to the Litchfield Spit). It is recommended that the opportunities for expanding access into this area be further investigated.

Pawley's Island

Pawley's Island is an incorporated town located just south of the Litchfield Beach Area. In recent years, Georgetown County has made improvements to public access by providing a parking area on the southern tip of the island. This area contains parking for 101 cars. There is no access along the middle section of the island, a very narrow row of houses one lot wide. In the upper central section of the island a few small access points with several off-street spaces are available. There is no access on the northern end of the island. There are no public restroom facilities on the island.

Assessment. There are several areas where steps could be taken to improve access. Restrooms could be added to the park on the southern end. This facility could also be increased in size. A walkway to the beach should be acquired in the middle section of the island with parking provided at some interior location. Additional walkways along with on-and off-street parking facilities could be acquired especially in the middle and northern sections of the island.

Arcadia Beach

Arcadia is an undeveloped piece of land between Pawley's Island and Debidue.

Assessment. Arcadia is a very large undeveloped piece of land. Because of the growth rate taking place in the Waccamaw Neck area, this large piece of land will eventually be developed. It is recommended that some governmental unit, whether it is the State or County, acquire a portion of this land to develop a public beach facility.

Debidue Beach

Debidue is a private beach community. Access is controlled by a security gate. The entire beach is developed, and public access is nonexistent. The island is highly erosional in areas.

Assessment. Very little can be done to improve access to Debidue Beach because of its private and closed status.

Baruch Property (Hobcaw Barony)

The Baruch property is used for research purposes and has several miles of excellent beaches. The property is undeveloped with the exception of several laboratories and buildings remaining from the time when the Baruch family occupied the property. Public access to the beach is nonexistent.

Assessment. It might be possible to dedicate a certain portion of the property for public beach use and improvement under the authority of the University of South Carolina provided that the research goals and objectives of the property are not compromised. Any access improvements would have to be under those guidelines. Access would have to be provided by ferry because the beachfront tract is not accessible by land. It is recommended that this possibility be investigated.

North Island-South Island

These islands are known as the Yawkey Center and are dedicated to wildlife preservation and research. They are operated and managed by the South Carolina Wildlife and Marine Resources Department. Access is managed by the South Carolina Wildlife and Marine Resources Department.

Assessment. It is recommended that the South Carolina Wildlife and Marine Resources Department explore the possibility of increasing public beach access while keeping with the management objectives of the Wildlife Reserve.

Cedar Island-Murphy Island

These are undeveloped barrier islands owned by the State of South Carolina and controlled/managed by the South Carolina Wildlife and Marine Resources Department. Public access is managed by the South Carolina Wildlife and Marine Resources Department.

Assessment. It is recommended that the South Carolina Wildlife and Marine Resources Department explore the possibility of increasing public beach access while keeping with the management objectives of the Wildlife Reserve.

Cape Romain-Bulls Island

The Cape Romain National Wildlife Refuge consists of 34,000 acres of barrier islands, sand spits, and marshlands. Bulls Island, located on the southern end of the complex, is six miles long and 5400 acres in size. There are over twenty (20) miles of undeveloped beaches in this complex. The area is accessible by boat, and while access is allowed to private boats, there is only one concessionaire providing day-trip visitation to Bulls Island. Camping is generally not allowed except in specific areas on Bulls Island during designated times.

Assessment. Public access opportunities to Bulls Island and Cape Island and several other areas in the Cape Romain complex should be expanded. Chiefly, these improvements should involve improving the facilities on Bulls Island to accommodate new visitors and providing a means of transportation to enable visitors to reach these areas through the use of ferries and similar systems. The development of public access improvements should not be allowed to have a detrimental impact on the maintenance of the natural characteristics of this property. Any attempted improvements must carefully balance the need for improvements with the need to protect these islands and marshlands.

Capers Island

Capers Island is an undeveloped barrier island located south of Bulls Island. It is owned and managed by the South Carolina Wildlife and Marine Resources Department. The Wildlife Department operates the island as a wildlife preserve and recreational area. Access is limited; the island must be reached by private boat. Few facilities are available on the island.

Assessment. It is recommended that Parks, Recreation and Tourism and the Wildlife Department look into ways to improve access. By providing a regularly scheduled ferry (possibly from the Isle of Palms or Charleston Harbor area) and making additional improvements, such as restrooms and changing facilities, to accommodate day visitors to the beach, many more residents of the State could enjoy this resource. The area provides an excellent opportunity for improvements.

Dewees Island

Dewees Island is a private island of about three (3) miles in size located between Capers Island and the Isle of Palms. There is no bridge or ferry system; access must be reached by private boat. The island is mostly undeveloped with only a few houses on the northern end. There are plans to develop the island in large-lot, low-density houses.

Assessment. Because of the difficulty of reaching this island the development might not be successful. If the anticipated development does not occur, S. C. Parks, Recreation and Tourism should look into acquiring all or most of this island for the development of a beach access park. Access could be provided by shuttle ferry from Charleston Harbor or the Isle of Palms and could also service Capers Island. Additional facilities to accommodate day or possibly overnight visitors would need to be developed if the decision is made to acquire and develop the property.

Isle of Palms

The Isle of Palms provides a great deal of access for the Charleston area. Wild Dunes, a private resort development, covers the eastern end of the island. Public access to this section of the beach is nonexistent. The remaining portion of the island is about three (3) miles in length and is completely open to the public through forty-four beach access walkways, on-street parking and two very large public parking areas located in the central business district. The Town of the Isle of Palms and Charleston County are in the

process of constructing public restrooms in the central business district. Also a new county park is under development in this area.

Assessment. Public access along the Isle of Palms beaches with the exception of the Wild Dunes area is excellent. With the construction of the public restroom facilities, few if any improvements other than marking access points and parking areas are recommended.

Sullivan's Island

Sullivan's Island also provides some beach access for the Charleston area. Access to the beach is provided by twenty-four (24) access points located at every block and street-end along the beachfront. Parking is in short supply and most parking occurs on-street in unmarked spaces. No restrooms are provided other than those at Fort Moultrie.

Assessment. Access ways to the beach are sufficient to serve the day use demand. However, additional improvements are needed to improve parking facilities along the beachfront. It will be necessary in future years to provide additional on-street parking as well as some off-street lots. It is also recommended that public restrooms be provided.

Morris Island

Morris Island is an undeveloped barrier island located on the south side of the Charleston jetties. A large portion of the island is diked to form a disposal area for sediment dredged from the harbor channels. The remaining sections of the island are a small area of highland and a very erosional washover terrace/sandbar that changes shape seasonally. The entire area is located in the COBRA. Public access is nonexistent.

Assessment. It is recommended that the potential for acquiring this area by Parks, Recreation and Tourism or the Heritage Trust be investigated. A limited system of providing public access to the beach should be developed. While this area should remain in its natural state and facilities should not be constructed, it is recommended that it be acquired for public use purposes.

Folly Beach

Folly Beach is a barrier island located on the south side of the Charleston Harbor jetties. The island is very erosional. Public access is provided all over the island by twenty-eight (28) access ways located at street ends along the five miles of beachfront. A public park has been built on the southern end of the island.

Assessment. Public parking is very limited along most of the beachfront. Only on-street spaces are available in most areas and those are unmarked and difficult to use because of planting in the road right-of-way and the sandy surface of the roadway. Additional parking needs to be developed. There are no public restrooms on Folly with the exception of those located at the park. The Coast Guard Base at the northern end of the island is being abandoned. There is a possibility that this site could be acquired and developed into a regional beach access facility. This opportunity should be further pursued by Parks, Recreation and Tourism or Charleston County Parks and Recreation Commission.

Kiawah Island

Kiawah Island is a closed beachfront community. As a condition to the initial development approval, land for a county beachfront park was set aside for development. This park is managed by Charleston

County Parks and Recreation Commission and is open seasonally. There is no other public access on Kiawah Island.

Assessment. The Beachwalker Park on the end of the island needs to be expanded and opened more than seasonally. This area is providing the only access into this section of the county, and it is not presently meeting access needs. It is recommended that, if additional land cannot be acquired adjacent to the site, an off-site parking area with shuttle service should be established. This would enable more people to reach the beach.

Seabrook Island

This is a private resort community. There is no public access on Seabrook.

Assessment. There is very little likelihood that public access could be acquired on Seabrook unless Parks, Recreation and Tourism is given the power to use eminent domain to condemn land for public access purposes. The likelihood of any facilities developed here is low.

Botany Bay Island

Botany Bay Island is located just across the North Edisto River from Seabrook Island and is mostly undeveloped with the exception of a few large lots and scattered houses. The Nature Conservancy purchased the development rights to the island several years ago, and the island will remain undeveloped.

Assessment. Public access is limited and probably will not take place because of the protected nature of the property and the inaccessible location of the island.

Eddingsville Beach

This is a very erosional section of the coast where very little highland exists. It is under private ownership and difficult to reach. The South Carolina Department of Parks, Recreation and Tourism is interested in the possibility of acquiring this land and using it as an addition to the Edisto Beach State Park.

Assessment. Public access improvements within this area are a possibility. The Department of Parks, Recreation and Tourism is interested in acquiring this site.

Edisto Beach State Park

Edisto Beach State Park covers 1225 acres on Edisto Island and provides access to the beach for day visitors as well as camping, wildlife observation and many other activities. The park has 103 camp sites and five (5) cabins. The park provides about 250 parking spaces and can easily accommodate any overflow in other areas of the park. Restrooms and concessions are available.

Assessment. The park provides good access for day use visitors and campers. Any improvements needed are minor in nature.

Edisto Beach

The Town of Edisto Beach is a beach community characterized by one-and two-story beach houses. There is a lot of public access to the beach along Palmetto Boulevard, the main street parallel to the beach. There are many footpath access-ways to the beach, approximately one access-way for every 400 feet. Palmetto Boulevard is a very wide street, and on-street parking is available along the entire length. The

pier/pavilion area located adjacent to the State Park also provides some off-street parking. There are no restrooms available to the public along the beachfront.

Assessment. Only minor improvements to beach access are needed along Edisto Beach. These improvements would involve better marking of the access-ways and on-street parking areas. As demand increases in future years long-range planning measures should include the development of public restroom facilities and off-street parking lots.

ACE Basin Islands (Otter and Pine Islands)

These very remote islands are located in the ACE Basin and are designated to be part of the National Estuarine Reserve System.

Assessment. Because of the remote nature and protected status of this area, public access improvements are not needed or recommended in this area.

Harbor Island

Harbor Island is a private resort development. Public access to the island is not allowed. Access is controlled by a security gate.

Assessment. Because of the private nature of the island, the prospects of improving public access are very limited.

Hunting Island State Park

This island is owned by the State of South Carolina, and a park covers most of the island. Day-use beach access, camping, cabin rentals, wildlife observation, and a fishing pier are available to the public for use. The park has 200 campsites, fifteen (15) cabins, and provides parking for 400 plus cars. There are public restrooms and concession facilities. When the park was created in the 1930's, a tract of land on the south beachfront was divided into lots and leased for private beach homes. The private lots limit the potential for public beach access from the park. The Department of Parks, Recreation and Tourism is trying to purchase the homes and reclaim the lots for future use by the public. This park is heavily used. The beach has experienced severe erosion in past years, but in 1990 was renourished with sand dredged from offshore sources to create a wide, more stable beach.

Assessment. Hunting Island is one of the most important public beach access facilities for the State. Additional improvements are not needed at this time. However, a beach usable to the public should be maintained through continued renourishment and/or a gradual retreat and establishment of a natural beach. Also, the land to the south of the park should be gradually acquired to expand the park.

Fripp Island

Fripp Island is a private resort community. There is no public access to Fripp Island. The beach is very narrow because of extreme erosion.

Assessment. Opportunities for improving access onto Fripp Island are very limited. It is unlikely that these facilities will be provided.

Pritchards Island/St. Phillips Island/Bay Point Island

All three islands are owned by private individuals. Pritchards and St. Phillips Islands are protected from development and have been designated to the University of South Carolina for research purposes. Bay Point Island has been proposed to be developed under several different proposals, none of which has ever come to pass. All three are difficult to reach because of their remote location and lack of land access.

Assessment. The feasibility of acquiring some form of right to access Pritchards or St. Phillips should be looked into by the State. This would require a joint use arrangement with the University and development of a ferry system. Also, the Department of Parks, Recreation and Tourism or Beaufort County should look into acquiring Bay Point Island and the possibilities of developing a park on the island. This island has many historical and natural resource features and would make an excellent park facility.

Hilton Head Island

This island is 28,000 acres in size and contains more than thirteen (13) miles of beachfront area. Much of the island is private and accessible only by security gate. Sections of the beachfront are very erosional. The island attracts thousands of visitors each year as well as a growing resident population.

Assessment. While large sections of Hilton Head Island are restricted by security gates and cannot be reached by the public there have been many improvements made to provide day-use facilities, and there are many more improvements on the drawing board. Access points and public parking are problems. The development of the mid-island parks and creation of new access points will greatly increase access. However, this island is heavily used and concentrating all day-use visitors in one section of the island will create problems. It is recommended that new public access sites be developed and spread out as much as possible over the entire island.

Daufuskie Island

Daufuskie Island is a 5000 acre island separated from the mainland and Hilton Head by the Intracoastal Waterway and Calibogue Sound. Large scale resort development has recently begun on the island by several large development companies. Public access to the beachfront existed through access ways and easements to the beach and have been retained by the new development.

Assessment. As this island increases in population there will be a greater need to provide public access to the beachfront. Development projects located along the beachfront should be required to set aside land for public access purposes. There will be a need for additional access points, small parking areas, and restroom facilities in future years. Beaufort County or Parks, Recreation and Tourism should investigate the feasibility of building a park on part of the beachfront.

Turtle Island

Turtle Island is almost entirely marsh or spoil area. It is managed by the Wildlife and Marine Resources Department.

Assessment. Because of the location and nature of the island (marsh), this island does not offer any potential for increased public access opportunities.

Recommendations

The inventory of access sites identified several potential sites which, if the money to acquire and develop them were available, could be added to the coast's access areas. The S. C. Department of Parks, Recreation and Tourism has reviewed the list and has approved it as a good starting point. During the next year, 1991-1992, the Council and Parks, Recreation and Tourism will prioritize the list and try to develop an action plan for coastal public access improvements. This plan will examine each proposal more closely to determine cost estimates for the projects which might be undertaken during the next five-year period. Proposed funding methods will also be investigated.

State/Regional Parks

The following regional impact potential park site recommendations were identified:

Development of a park on Waites Island.

Improve access to North Island by a ferry system.

Improve access and facilities to Murphy Island.

Provide better day-use beach access to the Cape Romain area.

Provide access and improvements to Bulls and Capers Island.

Acquire public access sites on Dewees Island.

Acquire and develop access improvements on Morris Island.

Acquire and develop a park on the abandoned Coast Guard Base on Folly Island.

Acquire and develop a regional beach park on Bay Point Island.

Local Parks

The following are sites where smaller community-serving beach access facilities might be developed or existing facilities significantly improved:

North Myrtle Beach.

Myrtle Beach.

Surfside Beach.

Garden City Beach (new facilities needed).

Pawleys Island.

Litchfield Beach (new facilities needed).

Isle of Palms.

Sullivans Island.

Folly Beach.

Edisto Beach.

North Beaufort County (new facilities needed).

Hilton Head Island (new facilities needed).

Daufuskie Island (new facilities needed).

(c) Funding Alternatives

Federal Beach Access Programs

306-A Funds

Section 306-A of the Coastal Zone Management Act has been used in past years to improve public access opportunities throughout the coastal zone. While in past years all types of access projects have been funded, it would be possible to give priority to beach access projects. Types of facilities that are eligible are land acquisition costs, walkovers, parking lot improvements, development of restrooms, and so forth.

(d) Purchase of Damaged Property Under the National Flood Insurance Program

Under Section 1362 of the National Flood Insurance Program (NFIP), the Federal Emergency Management Agency (FEMA) can purchase previously damaged property to reduce loss of life and property in high flood risk areas. Under this program FEMA provides the money to buy the property and use the land for open space or nondevelopment purposes. The property owners can either agree to sell the land and buildings to FEMA for demolition and removal or they can transfer title to the property and retain ownership in the buildings to move them to another non-flooding property.

In administering the program, FEMA assigns an appraiser to determine a fair market value for the property and establishes a price that FEMA is willing to pay. If the property owner accepts, a real estate purchase agreement is executed. There are provisions in the law to provide additional appraisals to negotiate a fair sales price, and as much as possible, to satisfy the property owner. Participation in the process is completely voluntary. Benefits to the property owner are a fair compensation for his property and relief from land that is subject to flooding. Local governments are relieved of the costs of providing emergency services and are able to use the acquired property to provide land for public recreation. This program seems especially well-suited to acquiring oceanfront property that is located seaward of the baseline.

(e) State Programs For Improvement of Beach Access Facilities

South Carolina Parks, Recreation and Tourism (Three Programs)

Land and Water Conservation Fund.

This is a 50/50 matching grant program to acquire and develop outdoor recreation areas. It is available to state, local and special purpose districts.

This fund has provided over $88 million for development of facilities. The demand in recent years has far exceeded the amount of available money. The Department of Parks, Recreation and Tourism uses a ranking system to prioritize grant requests using a point system to compare applications. In 1990, South

Carolina had available approximately $300,000 in Land and Water Conservation fund money. Under the current regulations, no project can take more than 10% of the total available amount. All Grants are awarded annually.

(f) South Carolina Recreation Land Trust Fund.

This fund was created in 1976 to assist in acquiring state level recreational sites. Funds for local governments are limited to the costs of actually acquiring the property and cannot include incidental costs such as appraisals, surveys and legal fees. A maximum of $25,000 per project is available unless the project is of regional or statewide significance. Then the project is eligible for up to 50% of the total site acquisition costs.

(g) South Carolina Parks and Recreation Development Fund (PARD).

This program is a noncompetitive grant program providing funds to local governments for the planning and development of new parks and recreation facilities or for the renovation and improvement of existing facilities. Grant awards are made on a case-by-case basis at a rate of up to eighty percent of the total project costs. Each application must have the endorsement of a majority of the legislative delegation members of the county. All local match shares (20% non-funded share) must be in the form of cash, force account labor or equipment used in the construction of the park. Costs for administration, acquisition of real property, or interest on borrowed funds are not eligible to be used for matching PARD funds.

The following activities are eligible for PARD Funds.

(i) Planning activities for developing park and recreational facilities.

(1) Master planning for future park and recreational facilities and programs.

(2) Updating existing master plans.

(3) Evaluating specific portions of existing plans for future recreation facilities and programs to determine their current status.

(4) Environmental impact studies of existing or proposed recreational facilities.

(5) Site specific evaluations of existing facilities for purposes of handicapped accessibility, safety and management techniques.

(6) Surveys and marketing studies to determine the need for future recreational facilities and programs.

(ii) Development assistance for site-specific improvements on public land for recreational purposes. New construction of facilities which do not exist, including:

(1) Development of outdoor recreational facilities.

(2) Development of indoor recreational facilities.

(3) Development of roads, parking areas, support facilities and utilities for public recreation purposes.

(4) Improvement of natural resource features.

(iii) Renovation assistance for site-specific improvements on public lands for recreational purposes.

(1) Renovation of existing structures to make them accessible to the handicapped.

(2) Altering existing structures so as to increase their utility as recreational facilities.

(3) Modifying existing structures which are not currently used for recreational purposes such that after alteration their primary use will be for public recreation.

(4) Replacement of permanent improvements which have outlived a reasonable lifetime.

(5) Repairs to natural resource structures.

(h) Local Methods for Funding Access

(i) Tax Revenues

A local government can always utilize property tax revenues to finance renourishment projects, acquire property or improve public access sites.

(ii) Creation of Special Purpose Districts

Another method of financing a project is to establish special purpose districts along the beachfront to fund ongoing renourishment projects or to acquire and develop public access sites. Several areas along the coast presently have special purpose districts that have been used to fund and administer renourishment projects and erosion control projects. These special purpose districts have the authority to assess all property located within the district at the same rate to fund beach erosion prevention projects. However, under the present legislation, these districts do not have the authority to assess individual property at a rate in proportion to the benefits received from renourishment projects. For this purpose, a new special purpose district chartered through the general assembly can be used to issue and retain bonds, assign cost shares, and design and implement beach nourishment or improvement projects.

(iii) Local Option Sales Tax Revenues

The newly-passed local option sales tax provides another option for new funds which could be used for beach renourishment or access improvement projects. While a sizeable portion of these funds is required by law to be used to roll back property taxes, additional remaining revenues could be used to fund beach projects.

(iv) Accommodations Tax

Local governments in counties collecting more than $50,000 annually are required to spend a portion of the accommodations taxes collected on tourism-related expenditures. These expenditures include advertising and promotion of tourism, the arts, and cultural events; civic and cultural related construction activities; basic services when required to serve tourists (based on estimated percentage of cost directly related to tourists); public facilities; tourist transportation; beach renourishment; and visitor information centers.

(v) User Fees

Parking fees and fees to use beach access facilities could be used for underwriting operating expenses, improvements to existing facilities or the development of new facilities.

(i) Funding Methods

In order to develop access opportunities funding will always be needed. Beachfront property has for many years been one of the most expensive types of land to purchase. Governments at all levels face financial constraints which require other priorities such as landfills, jails, maintenance of police and fire services to be addressed before some of the less immediately demanding community needs. However, as history has indicated, unless beachfront access problems are addressed when opportunities present themselves, the land and access opportunities are frequently lost. Funding measures must be constantly pursued, and many times combined funding sources will be the only means available to provide the money needed to acquire and develop access sites. Several possibilities exist:

1. A portion of any renourishment grant could be earmarked to be used solely for access improvements.

2. A mitigation bank, similar to an impact fee, could be established. This bank would require any construction activity taking place within the Council's setback line to pay a fee that could be used for renourishment or access improvements.

3. The accommodations tax within coastal counties could be amended to provide a source of money that could be used to fund access improvements, renourishment or similar projects.

4. Other federal and state programs presently in existence could be used to purchase and develop new access sites. These include programs of the State Parks, Recreation and Tourism, funds from NOAA (administered by the Council), FEMA funds and local funds.

It should be noted that the programs presently in existence are not keeping up with the demand for access sites. Clearly there is a need to provide additional money to make these improvements.

(j) Conclusion

Priorities are difficult to establish because of financial considerations and opportunities to acquire land present themselves at different times. The Council has, through its policies for improving public access, committed to identifying problem areas, working with state and local governments to improve public access, and linking its funding programs for beach renourishment to insuring that the public has the means to reach any renourished beach. The Council is committed to working for new sources of money to acquire new access sites and funds that can be passed through to local governments which will allow them to acquire and improve new access sites. The Council is also committed to working with the South Carolina Department of Parks, Recreation and Tourism to develop programs for acquiring and improving new access facilities along the coast as opportunities present themselves.

(6) Disaster Response Plan

The most likely disaster to affect the South Carolina Coastal Council will be the landfall of a hurricane, such as occurred with Hurricane Hugo on September 21, 1989. Damage and destruction to buildings, pools, seawalls and roads located within the coastal setback can be extensive. At the same time, the Council's office facilities, equipment, vehicles and communications can be seriously degraded. Emergency orders

that cancel or modify some normal procedures will probably be issued by various officials. Many questions will be asked by citizens concerning what they can do to protect and restore their property.

(a) Priority Mission

The South Carolina Coastal Council will have to maintain open offices, available to the public, where the business of carrying out the State's Coastal Zone Management laws are accomplished. Staff members may be temporarily reassigned by the Executive Director to accomplish this.

A key provision of the State's beach management plan is the retreat policy. This is based on erosion and on destruction of various types of oceanfront structures. Obviously, a hurricane will be the cause of erosion and damage to structures and will therefore trigger the retreat provisions of the plan. With this in mind, the South Carolina Coastal Council will be faced with determining the amount of damage to seawalls, revetments, swimming pools, buildings and other structures. It will also be necessary to determine what work can or cannot be done either without a permit or under a general permit, a regular permit or an emergency permit. These determinations will have to be made rapidly, under adverse conditions, be accurate, well documented and reported to federal, state and local officials, as well as the owners.

(b) Readiness Conditions and Specific Tasks

The South Carolina Coastal Council will operate under four levels of hurricane readiness: Pre-Hurricane Season Activities, Condition Yellow, Condition Red and Post-Hurricane Activities. Each condition will be established by the Deputy Director or the Executive Director.

(i) Pre-Hurricane Season Activities

Within two weeks prior to the official commencement of hurricane season each year, the Deputy Director will oversee the following activities:

1. All supervisory staff and people assigned to administer the agency's hurricane plan will be notified by memorandum that hurricane season is commencing and directed to review the hurricane plan. A staff meeting of senior supervisory staff will be held as a follow-up to plan review to discuss and update the plan. Any revisions to the plan will be made and distributed to staff within two weeks of the commencement of hurricane season.

2. All contracts pertaining to post hurricane activities will be reviewed and updated, to include:

A. Structural engineering firm and/or appraisers to assist in damage assessment.

B. Aerial photography firm to assist in aerial documentation.

If necessary a meeting will be held with firms under contract to discuss procedures and coordination.

3. All emergency-related equipment will be inventoried, inspected, tested and put in good repair (generators, survey equipment, etc.). Additional equipment and supplies will be ordered if needed.

4. All emergency orders, post storm release letters, maps and survey forms for field damage assessment will be reviewed and updated as necessary.

5. A meeting will be held with all Field Office Coordinators, Senior Staff Coordinators and Disaster Management Team to discuss changes in the plan and possible office relocation in each area of the coast. This meeting will be followed-up by preliminary arrangements if at all possible.

6. A hurricane plotter and alternate will be named to plot and track hurricanes and tropical storms throughout the season and keep Executive Director and Deputy Director informed of the position of the hurricanes.

7. All employees will be issued photo-identification cards. Identification cards for new employees and replacement cards will be made at this time.

8. A safe storage location for cars and boats will be located for each office. All other offices are notified of the selected sites.

(ii) Condition Yellow

Condition Yellow will be established by the Executive Director or Deputy Director any time a hurricane or potential hurricane is within five days' striking distance of any portion of the South Carolina coast and shall remain in effect until a higher condition is set or the threat passes.

The following activities will take place under Condition Yellow:

1. Each office director will notify all employees that a heightened degree of hurricane awareness is in effect. A staff meeting will be called by the following work day to review general hurricane preparedness procedures with all staff.

2. The office director will meet with supervisory staff to identify specific tasks which must be completed immediately if the situation worsens. Supervisory staff will submit detailed plans of their needs. Supervisory staff will make necessary staff aware of activities which may be pending.

3. The office director will review all requests for leave and make all individuals aware of the possibility for recall from leave. All staff on leave will be notified of the Condition Yellow.

4. Each office and section will prepare a staff notification procedure, to include a backup procedure. Current telephone numbers and addresses will be verified and distributed to all staff.

5. Each office director will reinventory and evaluate all emergency supplies to make certain that they have not been removed.

6. The Damage Assessment Coordinator will reevaluate all survey forms, maps, etc. and contact each Field Office Director to make certain all maps and supplies are in place. Extra copies of the Beachfront Management Orthophotograph Maps and house address maps will be reproduced by the Cartography staff to be used during field evaluations. Copies of regulations, emergency orders and general permits will be distributed by the Permitting Section to all appropriate staff members so that consistent information will be passed on to the public.

7. The Senior Staff Coordinator will compile and confirm a list of local, state, and federal contacts.

8. Letters of identification for various state, federal and local agencies will be prepared by the Administrative Section listing all current employees and probable duties.

9. An administrative relocation "kit" will be compiled, inventoried, and made ready for rapid relocation. The "kit" will include all basic equipment and supplies to operate a temporary office, i.e. typewriter, computers, office supplies, tax/address maps, other photography, etc.

(ii) Condition Red

Condition Red will be set at the discretion of the Executive Director, preferably at least 48 hours or more before a hurricane has reasonable probability of striking South Carolina's coast.

1. The staff notification procedure will be implemented. Staff on leave will be given instructions as to when and where to report. If Condition Red is established during a weekend, a meeting time and place will be announced.

2. Each office director will establish and distribute a work schedule to best meet preparation duties, to include office shutdown, securing equipment and protection, if necessary, and to allow staff personal time for home and family preparation.

3. Final assignments and reassignments will be made by the Executive Director or Deputy Director for reorganization for disaster management (see Section IV).

4. To provide identification of staff for various state, local and federal agencies, the Administrative Section will prepare a signed letter listing all current employees. Sufficient copies should be prepared so that each staff member can carry one and copies can be given to any agency requiring one.

5. The list of local, state, and federal contacts will be distributed to all necessary staff.

6. All vehicles will be filled with gas and assigned as needed to specific individuals or removed to designated storage sites. Other necessary equipment will be inventoried and placed in good working order.

7. Each office director, after consulting with the Executive Director or Deputy Director, will give supervisory staff final detailed information for regrouping after the hurricane.

8. A final staff relocation list will be compiled and distributed which will identify the relocation destinations of each staff member in case of evacuation. If these destinations change prior to the hurricane, staff members must notify their supervisors as to their new location.

9. The administrative relocation kit, emergency supplies, computers, storage disks, etc. will be removed by the assigned persons. Each office manager must keep a list of which staff members have what pieces of equipment.

(iv) Post-Hurricane Activities

Post-Hurricane Recovery activities will begin as soon as possible after landfall of a hurricane. The Executive Director will notify the members of the Disaster Management Team that the post-hurricane recovery period has begun. It is inevitable that certain staff members will have personal responsibilities which they must deal with prior to reporting to their assigned work station. In these cases, the Executive Director or Deputy Director will make substitutions as necessary to fill gaps in staffing.

The short-term recovery period is expected to last from two to four weeks depending upon the extent of the damage caused by the storm.

1. Each staff member must check in with his or her supervisor as soon as possible after the hurricane for instructions and assignment, preferably within 24 hours. This is the responsibility of each individual staff member and is crucial.

2. Initial damage assessments will be made by the Executive Director or persons assigned by him to determine the degree and the extent of damage and areas which need specific or immediate attention.

3. Staff personnel may be assigned as needed to survey and document damage to both habitable structures, seawalls, revetments and erosion control structures. Coordination with local building officials will be made as necessary. Accurate locations should be determined (street address, tax map number, relation to baseline or setback line) and photographs taken of each structure thought to be damaged beyond repair in accordance with the provisions of the Act. Damage criteria used by local building officials, insurance companies, FEMA and the South Carolina Coastal Council are all different; it is important that this is recognized.

4. Assessments should be made according to Section 48-39-290. For purposes of administering the Beachfront Management Act only structures within the 40-year setback come under the Coastal Council's authority; therefore, priority should be given to identify damaged structures that are affected by the law and to release properties that are not affected within Coastal Council's jurisdiction as soon as possible. It is particularly important to determine the percentage of damage to erosion control structures and whether habitable structures are destroyed beyond repair. Photographs should be taken whenever possible.

5. Staff personnel may be assigned as needed to provide special processing of general permits and to provide information to the general public. In order to provide this informational service to the public, it may be necessary to postpone regular permitting and certification projects. Working hours will be extended if necessary, and weekend work may be required.

6. The Senior Staff Coordinator, On-site Coordinator, and Field Office Coordinators will make contact with the U. S. Army Corps of Engineers, local officials, FEMA and the Governor's Office of Emergency Preparedness and coordinate recovery projects as needed.

(v) Long-Term Recovery Period

The long-term recovery period will begin after the tasks described in the Post-hurricane Recovery Activities have been completed. It is likely that the phase-in period from the post-storm period to the long-term recovery period will be gradual and be conducted by reassigning individual staff members as their duties are completed. Some will be reassigned before others. It is likely that the long-term recovery will last from three to six months.

1. After the initial damage assessments and emergency procedures have been completed and the long-term recovery period has begun, staff members will be reassigned as needed to their regular duty stations. It is probable that during this transitional period work assignments will likely involve sharing duties between hurricane response tasks and regular work assignments.

2. Reassessments of buildings and seawalls will be done under procedures developed by the legal section in coordination with the Damage Assessment Director and Permitting Administrator.

3. The Local Office Director will continue to consult with local governments to assist and deal with any problem or special circumstances. Specific problems will be brought up to the Permitting Administrator, Deputy Director or Executive Director as appropriate.

4. Coordination and post-storm cleanup activities and rebuilding activities will be maintained with the local governments, FEMA and the Governor's Office of Emergency Preparedness. Specific issues identified during this period will be brought to the attention of the Deputy Director or the Executive Director.

5. Coordination with local governments and the implementation of the local beachfront management plan will be the responsibility of the Director of Planning and Certification. Specific items identified in the approved local plan dealing with rebuilding following a storm event will be reassessed and monitored to insure compliance with the approved plan.

6. Modification or amendments to the Agency's disaster plan should be made at this time.

7. Post-storm press releases listing number of seawalls damaged, number of homes destroyed, beaches renourished, recovery programs, etc. should be prepared and released as information becomes available. A post-storm report should be prepared for historical purposes.

(c) Disaster Management

The Executive Director and Deputy Director of the South Carolina Coastal Council will assign personnel and equipment to best handle the disaster situation. Figure 33 serves as a model disaster management organization based on the experiences gained from Hurricane Hugo and evaluations of the management structure. Following is a description of the personnel positions and responsibilities, to be modified as necessary by the Executive Director.

(i) Disaster Management Team

Develops strategies and establishes priorities for addressing the emergency situation. Provides external coordination with major disaster-management related agencies (State Disaster Preparedness, Federal Emergency Management Agency, Governor's Office, U.S. Corps of Engineers, S.C Wildlife and Marine Resources Department, and others as appropriate). The Disaster Management Team consists of the Executive Director, Deputy Director, Public Information Director, a member of the legal staff, the Senior Staff Coordinator, and other staff as appointed. The team assembles in and operates out of the Columbia office unless otherwise directed.

(ii) Senior Staff Coordinator.

Implements the decisions of the Executive Director and the Disaster Management Team and serves as a member of the team. Coordinates the operations of the individual Field Office Coordinators and the On-site Coordinator in addressing the disaster. Directs support functions and staff to where they are most needed. Addresses specific problems that come up during the emergency period as needed.

(iii) Field Office Coordinator.

Provides support to the On-site Coordinator as directed by the Senior Staff Coordinator. Oversees all staff and operations assigned to the field office. Maintains day-to-day operations of the field offices.

(iv) On-Site Coordinator.

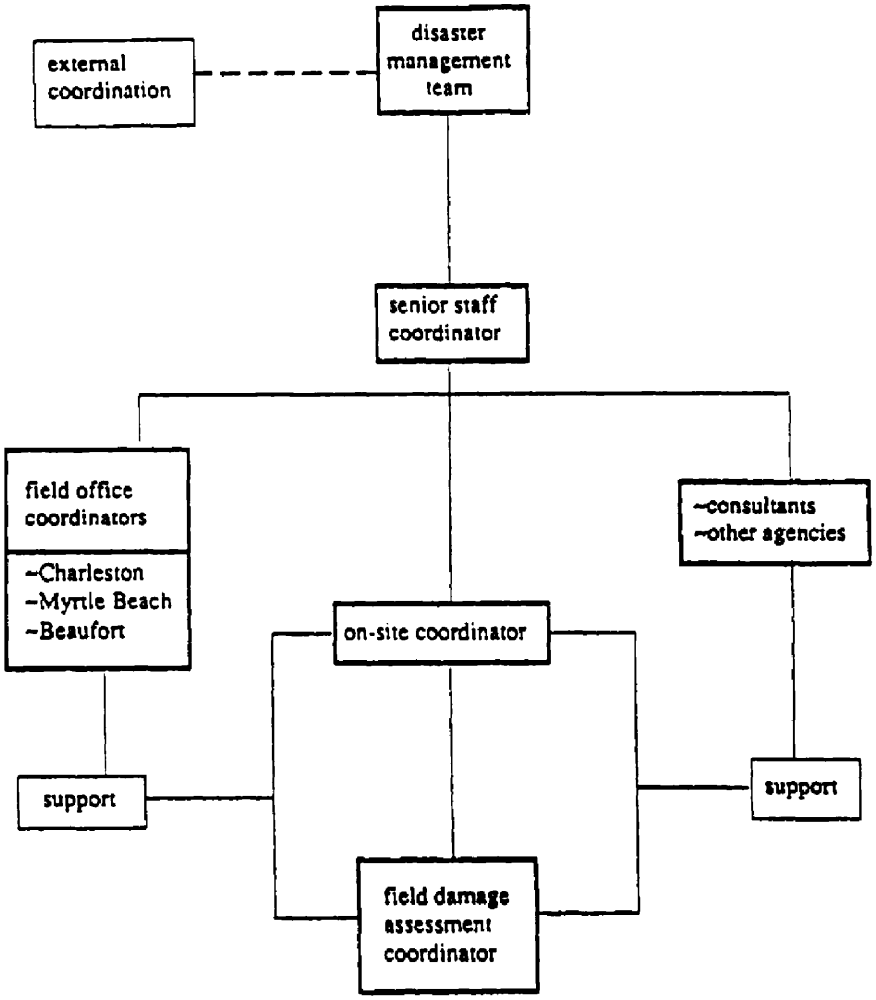
Responsible for all on-site disaster field operations to implement the Beachfront Management Act and recovery process. Recommends priorities and procedures to Senior Staff Coordinator. Coordinates with local government officials. May or may not be the Field Office Coordinator.

(v) Field Damage Assessment Coordinator.

Coordinates field survey of the beachfront area including seawalls and structures to determine which structures are damaged beyond repair in accordance with the Beachfront Management Act. Coordinates all field damage assessment staff. Ensures consistency in damage assessment procedures. Works with local building officials during damage appraisals and reports to the On- Site Coordinator.

Disaster Management Organization
South Carolina Coastal Council

Figure 33



(d) Forms

Coastal Council Hurricane Response Checklist

Personnel Assignments.

Hurricane Plotter _____
Office Coordinators _____
Columbia _____
Charleston _____
Beaufort _____
Myrtle Beach _____
Senior Staff Coordinator _____
On-site Coordinator _____
Field Damage Assessment Coordinator _____

Pre-Hurricane Season Activity Checklist.

1. Deputy Director notifies all supervisory staff and persons who have roles in the agency's hurricane response by memo that hurricane season has begun and requests them to review and update hurricane plan. _____

2. The Deputy Director will review all contracts relating to post-storm recovery and update meetings held with contractors, if needed. _____

3. Each Regional Permitting Director, the Charleston Office Manager and Deputy Director will inventory all emergency-related equipment, inspect and test all necessary supplies. _____ Additional supplies will be ordered, if needed.

4. The Field Damage Assessment Coordinator will review all maps, survey forms, post-storm release letters, and emergency orders and make any changes, as needed. Printed copies of each Address and Orthophoto Map will be made and copies sent to each field office and the Columbia office.

5. Meetings between Disaster Management Teams and others involved need to be held to discuss changes in plan and possible field office relocations.

6. A Hurricane Plotter and alternate are named. Plotting Maps and needed supplies are acquired.
_____

	Cola.	Chas.	MB	Beau.
7. Photo identification cards are issued or updated to all employees. New employees are issued cards.	____	____	____	____
8. Safe-storage location site for cars and boats are identified.	____	____	____	____

Condition Yellow Checklist.

1. Each office director will notify employees of Condition Yellow Status.	____	____	____	____

2A. Each office director holds a meeting to identify specific tasks, make assignments, request additional equipment, and man-power.

____ ____ ____ ____

2B. Staff meeting held to notify staff of assignments, agency plans.

____ ____ ____ ____

3. Requests for leave are reviewed. Staff on leave notified of Condition Yellow Status.

____ ____ ____ ____

4. Staff notification procedure is established; current telephone numbers and addresses are verified and distributed.

____ ____ ____ ____

5. Using the inventory under item 3 of the pre-hurricane checklist, each office manager will reinventory all emergency supplies on hand. Replacements are purchased.

____ ____ ____ ____

6. The Damage Assessment Coordinator will reinventory all survey forms, maps, etc. Each Field Office Director will be contacted to make certain that maps, supplies, etc. are intact and safeguarded against damage. Extra copies made as needed and distributed.

____ ____ ____ ____

7. The Senior Staff Coordinator will compile, confirm and distribute a list of all local, state and federal contacts.

____ ____ ____ ____

8. Letters of identification for staff are prepared and updated. Additional copies are made and stored. The Senior Staff Coordinator is responsible for this task.

____ ____ ____ ____

9. An administrative relocation kit is assembled. Equipment at this time does not have to be removed, but initial preparations should be started. All paper, pens and similar equipment are assembled.

____ ____ ____ ____

Condition Red Checklist.

1. Staff notification procedure is implemented. Staff on leave called back; all employees contacted.

____ ____ ____ ____

2. Office Directors establish work schedules and undertake final preparations for securing offices, removing equipment and releasing employees for personal preparations.

____ ____ ____ ____

3. Assignments made by Executive Director or Deputy Director for reorganization. Each office is notified.

____ ____ ____ ____

4. Letters of identification are distributed to all employees.

____ ____ ____ ____

5. List of all federal, state and local contacts will be distributed to all necessary staff.

____ ____ ____ ____

6. All vehicles filled with gas, assigned to appropriate people and removed to safe/storage as needed.

____ ____ ____ ____

7. Each Office Director after consulting with Executive Director will issue instructions for regrouping after storm.

____ ____ ____ ____

8. A final relocation list is compiled and distributed for employees. List to include addresses and phone numbers if possible.

____ ____ ____ ____

9. Administrative relocation kits, emergency supplies, records and necessary equipment are assigned and removed by staff members.

____ ____ ____ ____

(e) Public Education and Awareness Plan

More than one legislator called the Beachfront Management Act of 1988 "one of the most complicated pieces of legislation to come before the General Assembly in more than a decade." To ensure compliance and support, a massive communications effort was launched. The following steps were taken.

(i) Media

The most effective way to get a message heard is through the media. Getting heard, however, is only half the story. A more difficult task is to be understood.

The Coastal Council began the educational process early. In the spring of 1986, the Coastal Council held a media day called "The Beaches of South Carolina." Media representatives from throughout the state participated. Staff from the Coastal Council gave participants a look at then current beach policies and conditions and forecasted future problems.

Afterwards Council Chairman James M. Waddell, Jr., formed a Blue Ribbon Committee for Beachfront Management. The committee was to learn about erosion, current beach management policies, and the policies of other states. Their final recommendation was to become the framework from which new beach management policies were created.

Through press releases and personal invitations, the media became very involved with the Blue Ribbon Committee. As the committee struggled with ideas and proposals, so did the media and the public.

Interest continued as the legislation made its way through the General Assembly and continues as the Act is implemented. The Coastal Council employs a public information officer to keep the public informed through personal contact, newspapers, radio stations, wire services, magazines and television stations. The agency keeps a weekly record of all print stories related to coastal issues. The "Weekly News Summary" averages 30 articles per week. This material may be reviewed in the agency's library.

(ii) Written Materials

Several materials are available to help the public to understand coastal processes and coastal zone management. Agency brochures include "Understanding Our Coastal Environment," "The South Carolina Coastal Council," "Public Access Guide to the South Carolina Coast," and "How To Build A Dune." In addition, a brochure that explains the Beachfront Management Act in simple terms was produced. Over 7000 copies of "The New Coastal Zone Management Act" were distributed during 1988 and 1989.

The Coastal Zone Management Act of 1977, the Beachfront Management Act of 1988, administrative interpretations, and other implementing materials are also available. The agency's newsletter, "Carolina Currents," contains numerous articles related to beaches and coastal management.

(iii) South Carolina Educational Television

South Carolina's Educational Television produced a comprehensive documentary about coastal processes and the Beachfront Management Act. Copies of the one-hour show are available in the Coastal Council's Charleston office.

(iv) Presentations

Coastal Council staff average two speeches per week. These presentations are usually accompanied by slides and address coastal processes, the functions of the agency, and the Beachfront Management Act. Audiences range from one dozen people to more than 400; groups represented include civic clubs, professional organizations, schools, conference attendees, and homeowners associations.

Staff also invited officials from each coastal community to two Coastal Council sponsored seminars. The seminars defined the role of local government and the state in administering the Beachfront Management Act. Staff also went to each coastal community to meet with appropriate officials.

(v) Future Plans

The public information office will continue to utilize the media, video tapes, written materials, and personal contact to communicate the goals of the agency and the Beachfront Management Act to the public. This communication works both ways; the public information officer and staff will continue to relay the concerns of the public to the Board.

While it is impossible to predict the future, at this point it appears as if beach nourishment, the need for coastal setbacks, and the need to take greater responsibility for the condition of the coast will be the issues of the next five years. The Coastal Council will use every means at its disposal to get the facts behind these issues to the public.

E. Coordination with Local Plans

The Act is very specific in that the management of the beachfront area will be both a local and state responsibility. Local governments are encouraged to develop Beachfront Management Plans that are designed to complement and assist in implementing the policies of the Beachfront Management Act. The law states that in order for a local government to be eligible for beach renourishment bond funds, it must develop and implement a local beachfront management plan.

(1) Requirements of the Local Beachfront Management Plans

The Act specifically lists ten elements that each local plan must address:

a. An inventory of erosion rate data and processes.

b. An inventory of public access points, parking and a plan for improving access and parking.

c. An inventory of all structures located seaward of the setback line.

d. An inventory of turtle nesting and important habitats of the beach/dune system and protection plan.

e. A conventional zoning and land use plan consistent with the provisions of this act.

f. An analysis of erosion control alternatives.

g. A drainage plan for the area seaward of the setback zone.

h. A post-disaster plan consistent with the provisions of this act.

i. A detailed strategy for achieving the goals of this chapter by the end of the 40-year retreat period.

j. A detailed strategy for achieving the goal of preservation of public access to assure full and complete enjoyment by all residents of this state.

(2) Assistance Provided to Local Governments

(a) Guidelines

During 1989 and 1990, many meetings were held with local government officials and planning staffs to coordinate the development of the State Plan. The guidelines required to be developed as a part of the State Plan were all prepared to meet requirements of the local beachfront management plans and the State Beachfront Management Plan. All guidelines were developed through the public notice provisions of the Coastal Zone Management Act which seek comments from the general public and allow public comment during the meetings. These guidelines have been made available to all local governments as they were adopted.

(b) Mapping

Orthophotographic maps at a scale of 1 inch = 100 feet were purchased and mylar copies given to each local government. These photographic maps show the location of all baselines, setback lines and monitoring stations and are as accurate as any planning maps presently in use. The maps will be the basic unit for mapping and analyzing the elements required for complying with the planning sections of the Act.

(c) Guide Booklet

A guide booklet for development of the local comprehensive plan was prepared by the Council staff in January 1989, and distributed to all local governments. Additionally, a set of model maps based upon a representative orthophotographic map was prepared. This map was used as a sample inventory of structures, erosion control devices, access points, parking, drainage, zoning and endangered species which illustrates the techniques that could be used to inventory and map the different items that the Beachfront Management Act requires to be addressed during the planning processes. A number of follow up meetings have been held with local government planning staffs to coordinate the preparation of these plans.

(d) Plan Adoption

The plans will be prepared by the local governments. Some governments have planning staffs and are capable of producing the plans in-house. Others are in the process of hiring consultants or are working on plans through their regional planning agencies. Once the plans have been prepared and are adopted by their jurisdictional body, they will be submitted to the South Carolina Coastal Council for review and approval. Council staff will review each plan to determine if each of the items specified in the legislation have been addressed and prepare a report summarizing the actions the local government is proposing to take. This report along with the plan will be presented to the Council's Management Committee who will make the final decision as to whether or not the plan meets all of the requirements of the Beachfront Management Act. Approved plans will then be placed upon a 30-day public comment period and follow all procedures specified under R.30-14(A) (Administrative Procedures for Local Beach Management Plan Approval and Amendments.) All plans must be approved and implementation begun before July 1, 1992.

If a local government fails to develop and implement a local Beachfront Management Plan as required under Section 48-39-350, the procedures of R.30-4(B) will be followed.

The following is excerpted from the South Carolina Coastal Council's Regulations for Permitting in Critical Areas of the State's Coastal Zone:

(R.30-14 Administrative Procedures.

A. Procedures for Local Beach Management Plan Approval and Amendments [Section 48-39-350(A)].

(1) South Carolina local governments with jurisdiction fronting the Atlantic Ocean shall submit to Coastal Council by no later than July 1, 1990, a local beach management plan after the local government has afforded the opportunity for adequate public review.

(2) Upon receipt of the local plan, the Coastal Council shall:

(a) Afford the public a thirty day comment period;

(b) Afford the opportunity for a public hearing on the local beachfront management plan;

(c) After considering all comments, approve, modify or remand the local beachfront management plan.

(3) The Coastal Council shall issue a public notice of the approval of any local beach management plan or amendment thereto. The implementation date of the local beach management plan or amendment thereto will be specified in such public notice.

B. Procedures for State Implementation of Local Responsibilities [Section 48-39-350(B)].

(1) If a local government fails to develop and implement a local beach management plan as required by Section 48-39-350, the Coastal Council shall implement the local government's responsibilities by:

(a) Issuing public notice that the Coastal Council has found that the local government has failed to develop and implement a local beach management plan as required;

(b) Carrying out the task enumerated in Section 48-39-350(A)(1-10);

(c) Providing a thirty-day public comment period for public review of Coastal Council's proposed local beach management plan;

(d) Affording the opportunity for a public hearing;

(e) After reviewing all public comments, modify and/or adopt and implement the local plan.

(2) The Coastal Council may delegate responsibility for the implementation of the Coastal Council sponsored and approved local beach management plan to the local government, but the Coastal Council shall have the right to assume responsibility for administering and enforcing the plan if the local government fails to do so.)

F. Guidelines for the Implementation of the Beachfront Management Act

Along with regulations adopted by the legislature, a number of guidelines will be used by the Coastal Council to implement the various provisions of the Beachfront Management Act. The Act, as passed by the legislature, directs both the Council and the eighteen beachfront local government units to consider many issues related to beachfront development and management. These include beach access, protection of sand dunes, beach renourishment, protection of endangered species, and post-disaster planning. Seven specific

guidelines were developed by Coastal Council staff, distributed for public comment and adopted by the Council's Management Committee. These guidelines provide many of the procedures and administrative actions that the Council and local governments must act upon to implement a beachfront management strategy. Some of the guidelines provide specific standards for acceptability (such as minimum number of parking spaces for a beach access point); others direct local governments to adopt ordinances controlling one thing or another (such as vehicles on the beach, leash laws, lighting ordinance); still others are strategies which must be followed (such as the mitigation guidelines). All of these guidelines appear in the following sections.

(1) Beach/Dune Restoration and Nourishment

(a) R.30-20 Beach Restoration Fund Statutory Authority

The 1988 Bond Bill, Act 63B of the 1988 South Carolina General Assembly, includes authorization for $10,000,000 for a Beach Restoration Fund, to be administered by the South Carolina Coastal Council. The Act states that "no state capitol improvement bonds may be issued for beach renourishment projects in the absence of any provisions of law that establishes specific criteria for the distribution of bond proceeds for the projects."

(i) Beach restoration projects will follow a cyclical pattern that is conditioned by the availability of funds. The Council will make an initial announcement when applications are to be submitted. The announcement will specify the time of submission and the format to be used. There will be at least a 90-day period of receiving applications. Projects that are not funded during the initial cycle will be eligible for consideration at the next cycle which will start when additional funds become available. Communities will be given the opportunity to update their applications for subsequent cycles to show any changed conditions.

(ii) Applications for beach nourishment must be submitted to the Coastal Council. The applications will be reviewed by the staff for completeness and eligibility requirements. The applications will then be considered by the Administration and Finance Committee of the Coastal Council, where input from the applicant and the public will be solicited and considered. In evaluating the project applications the Council will be guided by the legislated criteria and guidelines and the following considerations:

1. Environmental impact of the project.

2. Public recreational benefit.

3. Expected useful life of project.

4. Protection benefit of project.

5. Extent of support for projects.

(iii) The Committee will rank the projects in priority sequence and will make a recommendation to the Council. Council approval of the Committee recommendation will establish project priorities and subsequent commitment of funds as funds become available.

(iv) Any eligible local government desiring to submit an application for Beach Restoration Funds should submit a completed permit application to the South Carolina Coastal Council. The following information should be submitted on or attached to the permit application form.

1. The name, address and telephone number of the local government making the application and the name and telephone number of the designated liaison agent.

2. The name, address and telephone number of the project consulting engineer or other agent.

3. A resolution adopted by the applicant's governing body approving the submittal of an application for beach restoration funds, and committing to the local funding requirements necessary to complete the project.

4. The Chief Executive Officer of the governing body should sign the application.

5. A narrative description of the project to include:

(a) Project limits.

(b) Quantity of fill.

(c) Borrow sites.

(d) Expected design life of project.

(e) Project construction duration and time of year.

(f) Estimated first cost and annual maintenance costs.

(g) A statement as to the source and availability of all local, state, and federal funds for the project.

(h) Benefits to be realized by the project.

(i) Environmental impacts.

(j) Public access to renourished area.

6. Map or maps showing:

(a) Project site plan and borrow area locations.

(b) Upland ownership of property, indicating federal, state, local or private ownership.

(c) Public access points.

(d) Public parking areas.

(e) Private parking areas.

(f) Baseline and setback line(s).

7. Any engineering studies that have been completed concerning the project, and plans for post-project monitoring.

8. Approved beach restoration plan for the community which includes an analysis of beach erosion control alternatives.

(v) All applications will be evaluated to determine if the project meets the minimum regulatory requirements and then ranked on a relative basis according to the five considerations listed in 20.F.

The minimum regulatory requirements are:

1. Prior to July 1, 1991:

(a) a state-approved shorefront management plan or a state-approved local nourishment plan, and

(b) a state and locally approved beach access plan with an implementation schedule. The plan must include an inventory of current access and parking, an analysis of current and future demand, and a strategy for enhancing public access and parking, and

(c) a complete application.

2. After July 1, 1991:

(a) a state-approved beach management plan developed in accordance with Section 48-39-350 of the South Carolina Coastal Zone Management Act, as amended, and

(b) a complete application.

(vi) If the project meets the minimum regulation requirements, the project is then evaluated and ranked using the following considerations:

1. Environmental impact of project.

2. Public recreational benefit.

3. Expected useful life of project.

4. Protection benefit of project.

5. Extent of support for project.

(vii) The execution and administration of the project will be coordinated by the Coastal Council according to regulations of the State Budget and Control Board regarding procurement of architectural/engineering services and for construction of permanent improvements project.

(2) Guidelines for Beach Access Programs

Section 48-39-320(2)(b) of the Beachfront Management Act requires the Council to develop guidelines for the "development of a beach access program to preserve existing public access and enhance public access to assure full enjoyment of the beach by all residents of the State." Section 48-39-350(2) of the Act further states that local beachfront management plans must contain "an inventory of public beach access and attendant parking along with a plan for enhancing public access and parking." This plan is to include a

"detailed strategy for achieving the goals of preservation of existing public access..." [Section 48-39-350(10)].

The South Carolina Coastal Zone Management Program provides additional guidance in pursuing the development of a public access plan. The Coastal Zone Management Program states that: "Public funds can only be expended for beach or shore erosion control in areas, communities, or on barrier islands to which the public has full and complete access." (P. IV-64) This policy is further strengthened in the 1988 Bond Bill which requires communities to provide "reasonable public access" in order to qualify for state funding for beach nourishment.

The Council has determined (Coastal Zone Management Program, p. IV-62) that a stretch of beach is accessible to the public if:

(1) Reasonable provision is made for transportation facilities, including automobile parking, boat landings, bicycle racks and/or public mass transit. Facilities must be available on a year-round basis, and fees, if charged, must be nominal and serve only to offset actual costs.

(2) Public walk-ways or access-points to the beach and lateral access to the dry-sand beach are open and readily apparent.

(3) Access to the area is actually sought by members of the general public with reasonable frequency.

The Coastal Zone Management Program further states that: "A 'stretch of beach' may be delineated by such factors as physical or geographical boundaries (an inlet or marsh, for example) as well as by jurisdictional borders (municipal limits, for instance). What constitutes "reasonable" for purposes of the preceding definition will be determined in part by the size and population of the surrounding area, the size of the stretch of beach itself, and the availability and nature of upland or marine rights-of-way to the general area of the beach." (P. IV-62)

(a) Goals

The goals of the South Carolina beach access program are:

(i) To preserve and enhance existing public access.

(ii) To increase public access

(iii) To define "full and complete" access for the purpose of state participation in erosion control and beach management project.

(b) Guidelines

(i) In order for a local beachfront management plan to be approved as consistent with the State Beachfront Management Plan, the community must demonstrate that the public has full and complete access to the beachfront and access facilities as defined in these guidelines.

(ii) In order to be eligible to apply for state funds for erosion control or renourishment or use of other public resources, the local government must demonstrate that: (a) the public has full and complete access to the stretch of beach receiving the benefits, or (b) the local government must demonstrate to the satisfaction of Council the means and commitment to provide such access.

(iii) Each community shall develop a public access plan in accordance with these guidelines and the Guidelines for the Development of Local Beachfront Management Plans.

(iv) Basic criteria for providing full and complete public access are contained in Table 1.

(v) All access points must possess a clear, legal means for demonstrating undisputed use for public access purposes. Prescriptive easements and unsure land claims will not be considered legal access.

(vi) Each access plan must address the provisions of public parking to serve beach access points. All parking must be within 500 feet of the landward most point of access and must be clearly marked. Consideration of parking beyond 500 feet will be made on a case-by-case basis.

(vii) All access points shall be clearly marked with an approved access sign.

(viii) However, in the event that access credit is limited by a physical barrier on either side of an access point, the Council at its discretion may adjust the access credit on the accessible side of the access point.

(ix) Complete and full public access must be obtained through a reasonable mix of access facilities and parking; for example, single access points every 1/4 mile will not be considered as fulfilling the intent of these guidelines.

(x) Some stretches of beach may possess attributes or constraints which require special consideration in terms of public safety or beach protection. Examples of such areas include dangerous swimming areas, historic or archaeological sites, productive bird nesting or roosting areas, or endangered species habitat. Such areas should be identified in the local beach access plan and special management considerations recommended.

(xi) Some communities may desire to develop certain access areas beyond the minimum requirements. In such cases, the Council will consider granting increased access credits for additional improvements. Each improvement will be evaluated individually on a case-by-case basis.

(xii) Communities may charge reasonable fees in accordance with the service provided for public access.

(xiii) Communities may include access points and public parking facilities provided by hotels and resorts provided they are protected by an undisputed right to public access and the procedures for insuring this right are submitted as a portion of this plan.

Table 1. TYPES OF BEACH PUBLIC ACCESS FACILITIES

TYPE OF FACILITY	DISTANCE ON EITHER SIDE OF ACCESS POINTS WHICH WILL BE CONSIDERED AS FULL AND COMPLETE ACCESS	MINIMUM FACILITIES

Public Access Point	1/8 mile	Trash receptical, walkover/improved surface access, signage, on-street parking for 6 vehicles
Local Public Access Park	1/4 mile	As above, parking for 10 vehicles
Neighborhood Public Access Park	1/2 mile	As above, parking for 25 vehicles
Community Public Access Park	3/4 mile	As above, showers, restrooms, handicapped access and parking for 75 vehicles
Regional Public Access Park	1 mile	As above, parking for 150 vehicles and greater

(3) Guidelines for Maintenance of a Dry Sand and Ecologically Stable Beach

Section 48-39-320(2)(c) of the Beachfront Management Act requires the S. C. Coastal Council to develop guidelines which provide for the "maintenance of a dry-sand and ecologically stable beach." A combination of measures is required to achieve this objective, to include land use controls, mitigation programs, and beach nourishment. Efforts must be made to prevent, limit and/or discourage the encroachment of development into the beachfront zone, to be combined with an active program to maintain a healthy beach profile through beach maintenance and management. These efforts require a joint state and local commitment.

(a) Land Use Controls

Beachfront communities shall develop a policy of limiting the size of buildings and encouraging building siting away from the beach front (consistent with 48-39-360 Section 1(11), and Section 48-39-360(2), Section 48-39-280(A) of the Beachfront Management Act).

(i) Local zoning ordinances, subdivision regulations and other development regulations must be reviewed with the intent of meeting the policy established in A above.

Land use plans, subdivision regulations and zoning ordinances submitted by local governments under Section 48-39-350(5) must identify means to reduce the front yard setback requirements and increase the rear yard (oceanfront) setback requirement.

Land Use Plans, subdivision regulation and zoning ordinances submitted by local governments under Section 48-39-350(5) must identify means to limit the size of structures in the setback zone. (Local regulations should be consistent with the Beachfront Management Act and limit the size of buildings to smaller than 5000 square feet in area.)

Land use plans, subdivision regulations and zoning ordinances submitted by local governments under Section 48-39-350(5) must identify means to reduce the lot area of impact (percentage of the lot covered by buildings) and provide measures to limit the size of a building footprint on the lot.

Land use plans, subdivision regulations and zoning ordinances submitted by local governments under Section 48-39-350(5) must identify means to restrict the use of impermeable surfaces covering the lot. The use of concrete, asphalt or other hard surfaces for parking areas, sidewalks, decks, patios, etc. is specifically to be discouraged and permitted only when other options are not feasible.

(ii) Local governments must include provisions in land use plans, zoning ordinances, building regulations and subdivision regulations which address structure abandonment and removal from the setback zone. At a minimum, these provisions should include procedures for abandoning existing lots of record, procedures to obtain permits to move buildings, and provisions in building codes requiring buildings to be designed so that they can be removed from existing piling foundations and moved to another location.

(b) Mitigation Measures

Several sections of the Beachfront Management Act require mitigation for unavoidable or allowable impacts to the setback zone. Mitigation may take several forms as defined by the Coastal Council's "Mitigation Policy for Construction Occurring Within the Setback Zone" (approved December 15, 1988). Local governments will examine the potential to use mitigation at the local level, to include:

(i) Use of the mitigation measures required by the State Comprehensive Beach Management Program (Section 48-39-320G) are an incentive to limit the size of buildings within the setback zone. For instance, a higher impact fee or larger scale compensatory mitigation project would be required to construct a large building within the setback zone. Reduced mitigation amounts (both rates and actual fees) could be established for smaller buildings within the setback zone. This would encourage smaller building sizes. These policies can be reflected in the Mitigation Guidelines of the State Comprehensive Beach Management Plan.

(ii) Many of the mitigation requirements of the Beachfront Management Act can be used to maintain a dry and sandy beach. These types of programs include:

Mitigation required for replacement of a habitable structure destroyed beyond repair. The Act requires that the owner of the property being replaced renourishes the beach on an annual basis of not less than one and one-half times the annual erosion rate (structures in an on-going state, local or federal renourishment area exempt). Section 48-39-290(B)(7).

Mitigation required for construction activity taking place within the Beachfront Setback Zone (Guidelines required to be developed by the Council under Section 48-39-320(g).

Mitigation required for dune destruction. Section 48-39-310 requires that any destruction of beach or dune vegetation seaward of the setback line is prohibited as a part of permit conditions. This mitigation can require new dune construction at a size larger than that which existed prior to development of the property. This type of mitigation can be used to replenish beach sand and provide new dune fields thus assisting in the maintenance of a dry and sandy beach.

Another measure identified in the mitigation policy involves the establishment of a local mitigation program or mitigation bank whereby a monetary value would be established for the impact and the funds would be directed toward a public entity which would utilize such funds for beachfront management and access.

Each beachfront community shall identify the potential and means for establishing such a program locally as a beach resource impact fee, to include authority, administration and management.

(c) Renourishment Programs

(i) It is anticipated that some form of a State renourishment funding program will be used to help maintain a dry and sandy beach. Matching grants will most likely be available to local communities for renourishment projects. A competitive system will be established evaluating the availability of public access, economic feasibility, costs/benefits and environmental effects of each project. The state program will be administered by the Coastal Council under the funding criteria presently being developed. A category awarding communities which promote retreat and limit building sizes to less than 5000 square feet could be established as one of the funding criteria in making grant award decisions.

(ii) Local nourishment programs developed and funded solely by local governments or private developments could be used to maintain dry sand beaches.

(d) Protection of Endangered Species

The Guidelines for Protection of Endangered Species approved by the Council will be used to insure that an ecologically stable beach is maintained. These guidelines will be used by both state and local governments in the review and approval of permitting and certification decisions on the beach front.

(4) Guidelines for the Protection and Restoration of Sand Dunes

Healthy sand dunes provide a buffer between wave attack and beachfront development. It is in the property owner's advantage to maintain healthy dunes, restore eroded or damaged dunes to their natural state and to build new sand dunes where feasible. Protection of this important buffer system is the responsibility of everyone who manages, visits, or owns property at the beach. Section 48-39-320(2)(d) of the Coastal Zone Management Act, as amended, directs the Coastal Council to develop guidelines for the "protection of all sand dunes seaward of the setback line."

Any activity that will disturb the beach or dune vegetation within the critical area requires a Coastal Council permit. However, under certain conditions permits may be obtained which may allow disturbance of the dunes within the setback zone (between the setback line and no construction line) provided the disturbance is mitigated. The following guidelines are established for dune protection.

(a) Sand dunes shall not be altered in any form unless there is no feasible alternative to construct projects otherwise allowed under the State Beach Management Program. In such cases, it must be demonstrated that the project to be constructed cannot avoid the sand dune by relocation or realignment on the property or by reduction in size of the construction or other changes to avoid or minimize the impacts.

(b) Where unavoidable infringement in the dune system occurs, the construction must be elevated at least two feet above grade where possible.

(c) Once construction is completed, dunes that were destroyed or damaged, and were not positioned in the footprint of the structure must be restored to their original contours and revegetated. This requirement does not preclude any mitigation specified by the mitigation guidelines.

(d) Sand dunes designated as critical habitat areas in the state or local beach management plan must not be altered for any reason except as allowed in the "Guidelines for the Protection of Endangered Species and Critical Habitat".

(e) All dune building, restoration, and revegetation must be done in accordance with the "How to Build a Dune" pamphlet provided by the Coastal Council.

(5) Guidelines for Protection of Endangered Species

Section 48-39-320(2)(e) of the Coastal Zone Management Act, as amended, required the Council to develop guidelines to accomplish "the protection of endangered species, threatened species and important habitats, such as nesting grounds." The guidelines must be coordinated with other state agencies which share a responsibility in the management of endangered species and with the local governments which bear a responsibility for managing many development activities along the beach. As the South Carolina Wildlife and Marine Resources Department and United States Fish and Wildlife Service have overall responsibility for the management of natural predators, relocating nests, artificial hatchery construction, turtle strandings and similar tasks, these management activities will not be addressed in these guidelines. Rather the focus of these guidelines will be on management actions which can be undertaken by the Coastal Council through its permitting and certification authority and actions which the local government can undertake through its local zoning and subdivision authority to protect these animal and plant species from development-related actions.

The Council has identified a number of plant and animal species which have been placed on either federal or state lists as being either endangered or threatened. Both lists use similar definitions to describe each classification. However the listing processes are separate and distinct regulatory processes. Some species listed on the State list might not be listed on the Federal list and vice versa. Under both systems the term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. In addition, several other species have been identified as being of special concern to the South Carolina Wildlife and Marine Resources Department because of diminished population, or loss of habitat, food sources or ranging area. Each of the species covered under these guidelines uses the beachfront for either nesting, feeding or habitat purposes. Many other marine species, some of which are classified as being endangered or threatened, also inhabit the offshore section of the coastal zone which extends to the three-mile limit. Because these species do not use the beachfront or come ashore to lay eggs or feed, they have not been listed in these guidelines. The following species have been listed:

Endangered, Threatened & Species of Special Concern Using Beachfront

Name	Status	Habitat/Activity
Loggerhead turtle	threatened, FS	Beaches (nesting)
Eastern brown pelican	species of special concern, S	beaches
Ipswich sparrow (or Savannah Sparrow)	endangered, S	beaches, dunes (wintering)
Least tern	threatened, S	beaches, dunes (nesting)
Wilson's plover	endangered, FS	beaches, dunes (nesting)
Piping plover	endangered, FS	beaches, dunes (wintering)
Island glass lizard	species of special concern, S	dunes
Seabeach Amaranth	species of special concern, S	dunes (plant)

F - Federally Protected Species
S - South Carolina Protected Species

Many of these plants and animals occupy different areas of the coast. Some populate the beaches on the southern part of the coast, others occupy the northern range of the coast. Periods of use also vary by species, some using the beach only during the summer months, others only in winter. Sill others occupy the beach all year long. These guidelines have tried to consider the ranges of occupation and periods of use and the recommendations have been shaped accordingly.

(a) Guidelines for the Management of Turtles Using the Beaches

(i) Loggerhead turtle-Caretta caretta

This animal is probably the most visibly threatened animal using the coast, the one with which the public is most familiar. It frequents our coast from spring through fall months, with the females coming ashore to lay their eggs along the front beach just above the high tide line. These large turtles, most averaging 200 pounds or more, are found along the entire east coast of Florida, however, areas of South Carolina are also used regularly and frequently.

A number of factors have contributed to the decline of the turtle population resulting in its listing on the threatened species list-the development along the coast, armoring of beaches with rock revetments, disorientation caused by lighting from shorefront urban development, shrimping and fishing trawling and natural predation by raccoons, oppossums and other small mammals. The United States' population is presently estimated to be 14,500 nesting females.

(ii) Site Identification

The frequency of beach use by turtles varies from beach to beach along the state's ocean shoreline. Generally, the undeveloped islands in the central portion of the state, contained within the Cape Romain/Santee Delta System have the most heavily used beaches in the state and contain the highest number of turtle nests. Other islands with heavily used beaches that are located outside of the Camp Romain Refuge are Otter, Pritchards and Bay Point Island in Beaufort County, north of Hilton Head, and South Island, Sand Island and Cedar Island near Georgetown.

The Management Policies and Guidelines for loggerhead turtles are proposed for developed or developing beaches only. Many undeveloped beaches have not been impacted by development activity and are held in either federal, state or private foundation holdings. The management of these beaches can and should continue being done by either federal or state wildlife agencies. Beach areas that have not yet been developed but which will be developed in the future are subject to these management guidelines.

Nesting activity in the Grand Strand along the beaches north of Murrells Inlet has been so infrequent that nesting figures have not been recorded and management actions for the protection of loggerhead turtles are not needed. The following communities are exempted from the management guidelines required for protecting loggerhead turtles due to the low probability of nesting: Horry County, North Myrtle Beach, Briarcliff Acres, Myrtle Beach, Atlantic Beach and Surfside Beach.

(iii) Guidelines

The following guidelines are to be enforced for all beaches south of Murrells Inlet:

1. All development projects proposed for construction along the beachfront within the 40-year setback line will be required to include measures eliminating or restricting the use of artificial lighting along the beachfront side of the buildings. Local governments will adopt and enforce the model beach lighting ordinance (See following Model Ordinance) or a similar model approved by the Council. For local governments not choosing to prepare beachfront management plans, the provisions of this ordinance will be enforced by the Coastal Council by requiring buildings and other structures proposed for construction within the 40-year setback line to be built in accordance with the provisions of this chapter. Developed beach areas not in compliance with the ordinance will be required to bring their lighting into compliance within 5 years.

2. The local government will prohibit vehicles from using the beach during the period of May 15 through October 31 with the exception of essential vehicles as designated by the local government. For areas choosing not to prepare local plans, all vehicles with the exception of essential vehicles (as designated by the Council) will be prohibited from using the beach.

3. Local governments and/or public service organizations are encouraged to coordinate the development of monitoring programs such as "turtle watch" to protect nests in place, count turtle crawls, etc. These programs must be coordinated with the South Carolina Wildlife and Marine Resources Department.

4. Local governments must adopt and enforce leash laws in effect for the period May 15 through October 31 to control and restrict free-roaming dogs and cats on the beachfront. During this period of the year all dogs or cats on the beach must be restricted to a leash and accompanied by a responsible individual.

5. To the extent feasible, renourishment programs will be limited to only the period of the year between November 1 through May 14. In review of renourishment permit applications, the suitability of the renourishment material for turtle nesting will be considered. If necessary, to promote renesting of turtles, provisions requiring tilling or modifications of the texture of the renourishment material will be included as permit conditions. Renourishment applications should include measures to rebuild eroded dunes and revegetate with native materials as needed.

6. Sand fencing must be installed in accordance with the provisions of Coastal Council General Permit number 88-J.

7. Sand spits and offshore sandbars will not be used as borrow sources for renourishment projects if designated as a critical habitat area for an endangered or threatened species.

(b) Guidelines for the Management of Other Endangered Species Using the Beaches (Birds, Reptiles, Plants)

Site Identification

These guidelines are to be implemented along all beachfront areas of the coastal zone by both Council and local governments.

(i) Birds

(1) Brown Pelican-Pelancus occidentialis

This bird is found along the eastern coast of the United States from North Carolina to Texas, throughout Mexico and the Caribbean. It is now designated as a species of special concern and in past years has been on the endangered list of both federal and state governments. The reduced population of the birds is due primarily to the ingestion of pesticides and chemicals, most particularly DDT and PCBs. Sand spits and offshore bars are used extensively by pelicans for daily loafing and nocturnal roosting. The preferred sites are isolated sand bars and sand islands which are protected from predatory small mammals. Brown pelicans nest mostly in colonies and during early spring or summer. There are approximately 8,100 breeding pairs in South Carolina.

(2) Ipswich Sparrow-Passerculus sandwichensis

This small bird uses the beachfront and sand dunes each winter from early November to May. It tends to frequent undeveloped beaches and dune fields. It is also known as the Savannah Sparrow and has been listed as an endangered species by the State Wildlife Department.

(3) Least tern-Sterna antillarum

Terns and gulls are closely related groups of birds, sharing many similar body features and behavioral characteristics. Terns tend to be lighter, faster and more active than gulls. Least terns, a species on the State threatened species list, prefer to nest along beaches covered with shell during the late spring and early summer periods. Competition for nesting space with people, vehicles and predatory animals resulted in their placement on the threatened list. During recent years least terns have begun to nest on gravel covered flat roof tops of large buildings to avoid conflict with competing beach users.

(4) Wilson's Plover-Charadrius wilsonia

This small bird inhabits the beaches along most of the Carolina coast from March through October. The Wilson's Plover nests along sparsely vegetated beaches and along islands along the coast. The Wilson's Plover is on the State's threatened species list.

(5) Piping Plover-Charadrius melodus

The Piping Plover is a winter inhabitant of the coastal zone from early August to late May. These birds tend to inhabit the dryer portions of the beach and mudflats. The birds nest in late April and continue into the early summer months usually in the high beach area adjacent to the primary dunes. Human activity can disrupt their nesting.

(ii) Reptiles

Island Glass Lizard-Ophisaurus compressus

This is a legless lizard that inhabits coastal pine and maritime forests adjacent to beaches. The lizards are found occasionally under wrack and washed up debris along the shoreline. The lizard is currently listed as a species of special concern by the State of South Carolina.

(iii) Plants

Seabeach Amaranth-Amaranthus pumilus

This plant is found only on barrier island beaches and sand dunes and is listed as a species of special concern by the South Carolina Wildlife and Marine Resources Department. It is found along the east coast in eight states from Massachusetts to South Carolina. Fifty-one (51) recorded sites have been identified, 25 are considered extirpated (destroyed), 7 are of undetermined status and only 19 are still present. It occurs on beaches, primary dunes, overwash flats and generally grows in the wrack zone below the spring tide line.

(iv) Guidelines

1. The South Carolina Wildlife and Marine Resources Department will periodically survey the coast for active nesting areas, active areas of critical food source, and specific areas of habitat for endangered and threatened species.

2. Such areas identified by South Carolina Wildlife and Marine Resources Department will be delineated on a 7 1/2 minute quadrangle. The South Carolina Coastal Council will be notified and provided with a copy of the delineation map and management recommendation necessary to protect the endangered or threatened species.

3. Postage of the designated area will be accomplished by local government in cooperation with the South Carolina Wildlife and Marine Resources Department with an appropriate buffer and at an appropriate spacing around the site. Signs will be one of two types, as appropriate:

a. Critical Habitat Area-Leash Law in effect beyond this point.

b. Critical Habitat Area-no trespassing beyond this point from April 1-September 1-Leash law in effect.

4. Local governments must adopt and enforce ordinances as needed to protect the species to:

a. Require all pets to be restricted by a leash in designated areas.

b. Allow no trespassing during critical seasons in designated areas.

c. Prohibit disturbance of vegetation.

5. South Carolina Wildlife and Marine Resources Department will re-inspect designated sites periodically for continued use. Sites no longer used will be delisted. South Carolina Wildlife and Marine Resources Department will notify the South Carolina Coastal Council of areas no longer designated as critical habitat.

6. South Carolina Wildlife and Marine Resources Department and South Carolina Coastal Council will assist local governments as appropriate in implementation of management policy.

7. Areas designated as critical habitat areas will become Geographic Areas of Particular Concern (GAPCs) under the Coastal Zone Management Program and be managed through the South Carolina Coastal Council's permitting and certification review process.

8. Renourishment projects will be designed so that endangered or threatened species critical habitat will not be impacted. To the extent feasible, renourishment projects will not be undertaken during the primary use period of endangered or threatened species and habitat areas will be restored after renourishment projects have been completed.

9. Sand spits and offshore sandbars will not be used as borrow sources for renourishment projects if designated as a critical habitat area for an endangered or threatened species.

(c) Model Ordinance

Beach Lighting Ordinance

An Ordinance Relating to the Protection of Sea Turtles Creating a New Section of the Code of Ordinances for (name of beach community); Restricting Outdoor Lighting in Beach Areas Named Herein; Providing for Enforcement, Penalty and Providing an Effective Date.

Whereas, the (name of beach community) beaches serve as nesting habitat for sea turtles; and

Whereas, coastal development threatens the survival of turtle hatchlings because the artificial light causes disorientation in young hatchlings; and

Whereas, the sea turtle is an essential member of the food chain and has been identified as a threatened and endangered species; and

Whereas, the protection of sea turtle hatchlings is of significant public interest; and

Whereas, this Ordinance is necessary to protect the natural reproductive cycle of the sea turtle during the nesting and hatching season which runs from May 1 through October 31 of each year.

Now, therefore, be it ordained by the (governing body) of (name of beach community), that:

Section 1. A section of the code of ordinances for (name of beach community), is hereby created to read as follows:

Section 1. Definitions. For the purpose of the Ordinance, the following terms shall have the meaning set forth in this Section.

A. Artificial light: Any source of light emanating from a manmade device, including but not limited to, incandescent mercury vapor, metal halide, or sodium lamps, flashlights, spotlights, street lights, vehicular lights, construction or security lights.

B. Beach: That area of unconsolidated material that extends landward from the mean low water line to the place where there is a marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of storm waves).

C. Floodlight: Reflector type light fixture which is attached directly to a building and which is unshielded.

D. Low Profile Luminaire: Light fixture set on a base which raises the source of the light no higher than forty-eight (48) inches off the ground, and designed in such a way that light is directed downward from a hooded light source.

E. New Development: Shall include new construction and remodeling of existing structures when such remodeling includes alteration of exterior lighting.

F. Person: Any individual, firm, association, joint venture, partnership, estate, trust, syndicate, fiduciary, corporation, group or unit or federal, state, county or municipal government.

G. Pole Lighting: Light fixture set on a base or pole which raises the source of the light higher than forty-eight (48) inches off the ground.

H. Solar Screen: Screens which are fixed installations and permanently project shade over the entire glass area of the window. The screens must be installed outside of the glass and must:

1. Have a shading coefficient of .45 or less, and

2. Carry a minimum five-year warranty, and

3. Must have performance claims supported by approved testing procedures and documentation.

I. Tinted or Filmed Glass: Window glass which has been covered with window tint or film such that the material has:

1. A shading coefficient of .45 or less, and

2. A minimum five-year warranty, and

3. Adhesive as an integral part, and

4. Performance claims which are supported by approved testing procedures and documentation.

J. Shading Coefficient: A coefficient expressing that percentage of the incident radiation which passes through the window as heat.

Section 2. Purpose. The purpose of this Ordinance is to protect the threatened and endangered sea turtles which nest along the beaches of (name of beach community), by safeguarding the hatchlings from sources of artificial light.

Section 3. New Development. It is the policy of the (name of beach community) (governing body) that no artificial light illuminate any area of the beaches of (name of beach community). To meet this intent, building and electrical plans for construction of single family or multi-family dwellings, commercial or other structures including electrical plans associated with parking lots, dune walkovers or other outdoor lighting for real property if lighting associated with such construction or development can be seen from the beach, shall be in compliance with the following:

A. Floodlights shall be prohibited. Wall-mounted light fixtures shall be fitted with hoods so that no light illuminates the beach.

B. Pole lighting shall be shielded in such a way that light will be contained within an arc of three (3) to seventy-three (73) degrees on the seaward side of the pole. Outdoor lighting shall be held to the minimum necessary for security and convenience.

C. Low profile luminaries shall be used in parking lots and such lighting shall be positioned so that no light illuminates the beach.

D. Dune crosswalks shall utilize low profile shielded luminaries.

E. Lights on balconies shall be fitted with hoods so that lights will not illuminate the beach.

F. Tinted or filmed glass shall be used in windows facing the ocean above the first floor of multi-story structures. Shade screens can be substituted for this requirement.

G. Temporary security lights at construction sites shall not be mounted more than fifteen (15) feet above the ground. Illumination from the lights shall not spread beyond the boundary of the property being developed, and in no case shall those lights illuminate the beach.

Section 4. Exemptions for New Development. The provisions of Section 3 of this Ordinance shall not apply to any structure for which a building permit has been issued by the (name of beach community) County Building Official, prior to the effective date of this Ordinance.

Section 5. Existing Development. It is the policy of the (name of beach community) (governing body) that no artificial light illuminate any area of the beaches of (name of beach community), South Carolina. To meet this intent, lighting of existing structures which can be seen from the beach shall be in compliance with the following within six (6) months of the effective date of this ordinance.

A. Lights illuminating buildings or associated grounds for decorative or recreational purposes shall be shielded or screened such that they are not visible from the beach, or turned off after 10:00 p.m. during the period of May 1 to October 31 of each year.

B. Lights illuminating dune crosswalks of any areas oceanward of the dune line shall be turned off after 10:00 p.m. during the period of May 1 to October 31 of each year.

C. Security lighting shall be permitted throughout the night so long as low profile luminaries are used and screened in such a way that those lights do not illuminate the beach.

D. Window treatments in windows facing the ocean above the first floor of multi-story structures are required so that interior lights do not illuminate the beach. The use of black-out draperies or shade screens are preferred. The addition of tint or film to windows or awnings is also encouraged, as is turning off unnecessary lights if the light illuminates the beach.

Section 6. Publicly Owned Lighting. Street lights and lighting at parks and other publicly owned beach access areas shall be subject to the following:

A. Whenever possible, street lights shall be located so that the bulk of their illumination will travel away from the beach. These lights shall be equipped with shades or shields that will prevent backlighting and render them not visible from the beach.

B. Lights at parks or other public beach access points shall be shielded or shaded or shall not be utilized during the period May 1 to October 31 of each year.

Section 7. Enforcement and Penalty. This Ordinance shall be enforced in accordance with the provisions of Article , Chapter of the Code Enforcement Board, with the penalties set forth in Section of the Code.

Section 8. Effective Date. This Ordinance shall take effect pursuant to law.

Attest:	(governing body) OF (name of beach community)
_____	_____

(6) Guidelines for the Regulation of Vehicular Traffic Upon the Beaches and the Beach/Dune System

Section 48-39-320(2)(f) of the Coastal Zone Management Act, as amended, requires the State to develop guidelines to accomplish the "regulation of vehicular traffic upon the beaches and the beach/dune system which includes the prohibition of vehicles upon public beaches for nonessential uses." The guidelines must be coordinated with appropriate agencies and local governments. The following basic guidelines are established:

(a) Vehicle shall be defined as any motorized vehicle with wheels or tracks.

(b) No vehicle will be allowed in the dune system or in any vegetated areas.

(c) Vehicles are prohibited upon public beaches for non-essential uses. Essential uses shall be defined by the local community.

(d) Access for essential uses is restricted to authorized access points designated by local government in the local beach access plan.

(e) No restrictions established herein or by local governments shall prohibit the use of motorized wheelchairs and similar transportation by handicapped individuals.

G. Mitigation Policy for Construction Occurring Within The Setback Line*

Section 310 of the legislation states that "the destruction of any beach or dune vegetation seaward of the setback line is prohibited, unless there is no feasible alternative. Where there is destruction of vegetation permitted seaward of the setback line, mitigation for the destruction is required as part of the permit conditions." In addition, Section 48-39-320(g) of the South Carolina Coastal Zone Management Act, as amended, requires the Coastal Council to develop "a mitigation policy for construction allowed seaward of the setback line, which must include dedication of public access ways, nourishment, vegetation, and other appropriate means."

(1) Guidelines

The Beachfront Management Act requires mitigation for destruction of vegetation and for construction taking place seaward of the setback line. The types of construction that require mitigation include the following:

(a) New construction of habitable structures.

(b) Replacement of habitable structures.

(c) Renovated structures where the footprint of the building is expanded beyond that which existed prior to July 1, 1988.

(d) Sidewalks/boardwalks.

(e) Decks, gazebos and similar structures.

(f) Drainage structures.

(g) Utility services lines and accessory features.

(h) Parking facilities.

(i) Septic tanks.

(j) Other construction activities as specified in Section 300 of the Beachfront Management Act.

The mitigation will, unless otherwise agreed to by the Coastal Council, take one of the following forms. The applicant may chose the form of mitigation provided the design is acceptable to the Council under the given conditions: Dedication of new public accessways or expanding and improving existing accessways; Additional beach nourishment; Dune enhancement or revegetation; Reservation of parking spaces for use by the general public; Participation in a state or Coastal Council approved local beach mitigation program; Participation in a state or local program to protect or enhance management of endangered or threatened species of plants and animals found along the beachfront.

(2) Destruction of Beach/Dune Vegetation

(a) Section 48-39-310

The destruction of any beach or dune vegetation seaward of the setback line is prohibited unless there is no feasible alternative. When there is destruction of vegetation permitted seaward of the setback line, mitigation for the destruction is required as a part of the permit conditions.

(b) Mitigation

Mitigation may take the form of creating new areas of beach or dune vegetation on-site or at a different oceanfront location in the general vicinity of the project. These areas approved for revegetation must be determined to be appropriate sites for the proposed revegetation and a plan must be submitted and approved by Council staff. A minimum mitigation ratio of 2 to 1 must be achieved by each project. Vegetated areas destroyed by construction within the setback line must be replaced by a vegetated area at least twice as large as the impacted area. Revegetation may only be used to mitigate dune or beach vegetation losses associated with unavoidable construction. Additional mitigation measures may be required for other forms of encroachment within the setback zone by the Council. Each application will be individually reviewed and evaluated.

(c) Mitigation Policy for Construction Seaward of the Setback Line

Section 48-39-320 requires that the Beach Management Plan include:

(2) development of guidelines and their coordination with appropriate agencies and local governments for the accomplishment of:

(g) development of a mitigation policy for construction allowed seaward of the setback line, which must include dedication of public accessways, nourishment, vegetation and other appropriate means.

(d) Determination of Policy Application

The Coastal Council will undertake the following steps in applying the mitigation policy:

(i) Step 1: The Council must make a determination that the construction activity will have a negative impact on one or more of the following beach processes: Public access; Beach movement; Sand budget; Beach vegetation; Dune fields; Endangered or threatened plants or animals.

If no negative impact is determined, mitigation will not be required.

(ii) Step 2: The applicant will be given the opportunity to suggest mitigation measures for the construction activity in accordance with the mitigation guidelines prepared by the Council and identify which measures will be complied with. Failure to receive approval for a mitigation plan for activities subject to permitting will result in denial of the permit.

(iii) Step 3: The Council staff will monitor the project through completion to determine that the mitigation requirements have been met.

(3) Mitigation Alternatives

(a) Dedication of Public Accessways.

A 10-foot wide beach access easement or right of way running from a public right-of-way to the mean high water line may be dedicated for public use. Beach accessways must be drawn on plats and recorded in the county land records office. All accessways must be posted with a sign or marker approved by the S. C. Coastal Council indicating the presence of a public access way. The individual property owner or local government will be responsible for maintaining the accessway and signage or marker. Maintenance responsibility will be determined and agreed to by all parties prior to acceptance of the accessway.

The Coastal Council's staff or permitting committee will evaluate the number of access points necessary as mitigation for each construction project negatively impacting the beach or its use seaward of the setback line. Larger scale projects with more extensive alterations seaward of the setback line may be required to designate more than one accessway.

(b) Beach Nourishment.

Mitigation may take the form of renourishing the beach or placing sand on the beachface in larger amounts than that which would be required by other provisions of the Beachfront Management Act. In these cases a minimum of two (2) cubic yards of sand per oceanfront foot of property may be accepted for mitigation. The Council's geologist and permitting committee will make the decisions on the appropriateness of each application. This type of mitigation will only be accepted on eroding beaches, and any renourishment material must be of a compatible sand material. Off-site mitigation may be considered by the Council if appropriate; however, mitigation will be accepted only in areas where it will be determined to be beneficial to the beach/dune system and will have a lasting effectiveness on protecting the beach. The beach profile must be maintained for a period of five (5) years.

(c) Dedication of Off-Street Parking Spaces.

The dedication of land for off-street public parking may be an acceptable form of mitigation for coastal construction within the setback zone. In all cases, parking areas must be within 1000 feet of the beachfront and be located in close proximity to existing or proposed beachfront accessways and must not negatively impact dunes or beach vegetation. The land to be dedicated for public parking areas must either be donated fee simple to a local government (or state agency such as Parks, Recreation and Tourism) or an easement providing for a certain number of parking spaces must be recorded in the county records office. Signs or other markings must be used to indicate that public parking is available. The local government must approve

that additional parking is needed and appropriate for the area. The amount of land required to be set aside to serve as mitigation will be ruled on individually by Coastal Council. Specific proposals will be made for each application.

(d) Dune Creation.

Mitigation may take the form of creating new dune fields in areas where a positive benefit may be achieved. These areas proposed for new dune field construction must be accompanied by a plan for constructing and revegetating and submitted to Council staff for approval. All created dunes must be of a height and width adequate for mitigation and typical for the area as determined by Council staff.

(e) State/Local Beach Mitigation Program

The applicant may participate in a state or local mitigation program, if such a program is available; whereas, a one-time fee would be assessed in lieu of mitigation on the property.

(i) Mitigation rates for construction seaward of the setback zone will be based upon a square foot price-in other words, each square foot of encroachment into the setback zone will require payment of a fee for impact of construction within the setback zone, for example $1.00 per square foot of impact. However, the specific amounts must be established by the unit of government administering the program.

(ii) The mitigation fee will be payable to the unit of government administering the program prior to issuance of the permit.

(iii) A local government, regional government, state agency, or branch of the federal government may petition the Coastal Council and request to be designated as the entity to be responsible for implementing, administering and maintaining the local beachfront mitigation program within a specific area. The governmental body must have a specific beach management or access program underway.

(iv) Funds collected through the state or local mitigation program may be used for: Community beach nourishment projects; Construction and revegetation of new dunes and dune fields; Acquisition of unbuildable lots for public access projects; Construction of dune walkovers, access ways, and emergency access points; Acquisition and development costs for construction or enhancement of beachfront parks, public accessways or similar facilities; Construction of buildings and facilities associated with beachfront parks; Acquisition of property for public parking lots; Services for the beachfront including lifeguards, police patrols, trash pick-up, etc; Construction and development of public oceanfront fishing piers.

(v) Coastal Council staff will monitor the beach mitigation programs and make periodic reports on the status of programs to the Administration and Finance Committee.

Table 6. Beachfront Community Management Plans

Community	Plans Developed
HORRY COUNTY	Yes
CHARLESTON COUNTY	No
PAWLEYS ISLAND	Yes
MYRTLE BEACH	Yes
SULLIVANS ISLAND	Yes
GEORGETOWN COUNTY	Yes
NORTH MYRTLE BEACH	Yes
ISLE OF PALMS	Yes

COLLETON COUNTY	No
SURFSIDE BEACH	Yes
EDISTO BEACH	Yes
BEAUFORT COUNTY	Yes
HILTON HEAD ISLAND	Yes
ATLANTIC BEACH	Yes
FOLLY BEACH	Yes
SEABROOK ISLAND	Yes
BRIARCLIFFE ACRES	No
KIAWAH ISLAND	Yes

H. Methodology and the Generation and Adoption of Baselines and Setback Lines

(1) The Beach Management Act defines three types of beach zones. Standard Erosion Zones are relatively straight shoreline segments resulting from uniform processes and sediment flow. Inlet Erosion Zones include beaches at or near inlets which are influenced by the erosion pattern of the inlet. These Inlet Erosion Zones are further divided into Unstabilized Inlet Erosion Zones and Stabilized Inlet Erosion Zones. Stabilized Inlet Erosion Zones have been armored or stabilized and are regulated as Standard Erosion Zones.

(2) In Standard Erosion Zones, the baseline is the crest line of the primary dune. If there is no natural primary dune then its location can be determined based on existing natural dunes in the area. Natural dunes are surveyed at Coastal Council monitoring stations. An average or "ideal" dune is calculated and superimposed on beaches without natural dunes. Baselines are determined the same way in Stabilized Inlet Erosion Zones. However, in Unstabilized Inlet Erosion Zones the baseline is simply the most landward position of the shoreline in the most recent 40 years. This is determined by the Coastal Council staff using representative aerial photography.

(3) The Coastal Council's permitting jurisdiction on beaches is determined by the location of the setback line. Measured landward from the baseline, the setback line is located at a distance 40 times the annual erosion rate (or at least 20 feet). For instance, if the erosion rate is two feet per year the setback line is eighty feet landward of the baseline.

(4) Erosion rates are determined by the historic trend. This is usually done by comparing shoreline location on aerial photography. However, for a variety of natural and man-made reasons, the long-term trend may change. The past forty years may not be indicative of the present condition of the beach. In these cases the results of the semi-annual beach surveys are more heavily relied upon to determine the erosion rate. Table 7 shows the erosion rates by S. C. Coastal Council stations that have been adopted for each community along the coast.

(5) Reports were generated for each beach and contain specific information regarding how and where lines were set, how zones were determined and how erosion rates were calculated. These reports were provided to all of the local governments along the beachfront to use in the preparation of their local shorefront management plans. Beachfront erosion rates are an integral part of each local shorefront management plan and, in turn, the State Comprehensive Management Plan. To satisfy this need for data at the local level, reports were sent by the Coastal Council staff to each government. These reports contained information regarding the following coastal processes: Beach Profiles, Hurricanes and Storms, Inlet Dynamics, Littoral Transport, Sediment Budget Analysis, Erosion Analysis and Shoreline Changes.

(6) In June of 1988, the Coastal Council adopted interim baselines and setback lines. These were based upon National Ocean Service Shoreline Change Maps and the best available data to date. In accordance

with the Beachfront Management Act, the staff of the Coastal Council had two years to redefine the lines and erosion rates for accuracy. On a staggered schedule, these line revisions were brought before the Council by island or beach community. As all line revisions were consistent and in accordance with Section 48-39-280 of the Beach Management Act, they were adopted as new interim lines. Effective July 2, 1990, all developed beaches had updated lines. Due to legislative changes, the date for adoption of final lines was changed from July 1990 to July 1991. The final lines must then be reset over a period not less than eight years and not more than ten years from the date of the last line approval.

(7) The above described effort by the Coastal Council results in a set of maps for each beach which depict line locations, erosion rates and other data. Also, the line reports which describe the procedural methods used to establish the location of the baseline and erosion rates for each beach are available upon request from the Coastal Council offices.

(8) This information will assist planners at the local government level in evaluating their coastal resources, anticipating the effects of long-term erosion and natural disasters and otherwise fulfilling their requirements in the local shorefront management plan. Local planning staffs and building officials were also provided with copies of orthophoto maps and are always notified of any changes in lines determined by the Council.

(9) Local shorefront management plans shall be updated every five years in accordance with the Act. Information which is subject to change, such as erosion trends, storm effects, etc., shall be provided to each local government by the Coastal Council in updated reports which document the changes or new information developed through ongoing surveys or additional studies. This information, which includes beach profile survey information, hydrographic studies or special surveys will be sent to local governments as it is compiled, verified for accuracy, and recorded.

Table 7

S.C. Coastal Council Adopted Erosion Rates/By Station/
Used to Establish Line Locations.

DAUFUSKIE ISLAND

MONUMENT	SHORELINE CHANGE RATE
1380	-0.7
1360	-5.2
1340	-9.0
1320	-11.1
1300	-10.1
1165	-5.0
1167	-4.2
1170	-4.2
1172	-3.7
1175	-3.8
1177	-4.0
1180	-4.2
1182	-4.8
1185	-5.8
1186	-6.2
1187	-7.1

1188	-7.6
1189	-8.4
1190	-7.8
1191	-6.6
1192	-6.2
1193	-5.7
1194	-5.0
1195	-4.3
1196	-3.1
1197	-1.4

HILTON HEAD ISLAND

MONUMENT	SHORELINE CHANGE RATE
1400	S/A
1403	S/A
1406	S/A
1409	S/A
1412	S/A
1415	S/A
1418	S/A
1421	S/A
1424	+1.7
1427	+4.3
1430	+0.6
1433	+0.7
1436	-0.6
1439	-1.6
1442	-2.7
1445	-4.1
1448	-4.3
1451	-5.3
1454	-5.4
1457	-5.9
1460	-6.0
1463	-5.8
1466	-5.5
1469	-1.3
1472	S/A
1475	+2.2
1478	+2.6
1481	S/A
1484	S/A
1487	S/A
1490	-5.75
1493	-5.75
1496	-5.75

BAY POINT ISLAND

The downcoast portion of the island is accretional. Along the upcoast portion of the island, the erosion rate varies from -18 to -25 ft/yr. Refer to orthophotograph sheet 199 for exact rates on Bay Point Island.

ST. PHILLIPS ISLAND

The erosion rate for St. Phillips Island is -4 ft/yr.

LITTLE CAPERS ISLAND

The erosion rate on Little Capers Island is -25 ft/yr.

FRIPP ISLAND

All of Fripp Island has been classified as stable or accretional.

PRITCHARDS ISLAND

The inlet zone at the southwest end of the island has an erosion rate of -11.54 ft/yr. Along the central portion of the island, the erosion rate ranges form -8.69 to -11.54 ft/yr. The inlet zone at the northeast end has an erosion rate ranging from -7.65 ft/yr. to accretional. Refer to orthophotograph sheets 167, 168, and 185 for exact rates on Prichards Island.

HUNTING ISLAND

MONUMENT	SHORELINE CHANGE RATE
1800	-7
1810	-7
1820	-12.3
1830	-15.5
1840	-14.5
1850	-13
1860	-12
1870	-10
1880	-6
1890	0.0
1895	+2.0

HARBOR ISLAND

All of Harbor Island is classified as stable or accretional.

EDISTO BEACH

MONUMENT	SHORELINE CHANGE RATE
2110	+3.0
2115	+3.0
2130	+3.0
2140	+3.0
2150	+3.0
2160	+3.0
2170	+0.4

2180	+0.4
2190	+0.4
2195	+0.4
2200	+0.4
2210	+0.4
2230	+0.4
2250	+0.4

EDDINGSVILLE BEACH

The erosion rate for Eddingsville Beach varies from -.13 to -9 ft/yr. Refer to orthophotograph sheet 95 for specific rates.

SEABROOK ISLAND

MONUMENT	SHORELINE CHANGE RATE
CSE 1	0
CSE 2505	-0.9
CSE 2A	-1.8
CSE 2510	-2.6
CSE 3	-2.6
CSE 4	-2.6
2520	-2.6
CSE 2523	-2.6
2525	-2.6
CSE 4A	-2.6
2527	-2.6
2530	-2.6
CSE 2532	-2.6
CSE 5A	-2.6
2545	0
2555	0
2565	0
2575	0

KIAWAH ISLAND

MONUMENT	SHORELINE CHANGE RATE
2625	+2.5
2630	+0.04
2635	-0.06
2640	-0.28
2645	-0.53
2660	-0.68
2662	-0.91
2665	-1.25
2675	-1.45

2680	-1.32
2682	-0.98
2685	-0.50
2687	-0.50
2690	-0.50
2692	-0.50
2695	-0.50
2700	-0.50
2705	-0.50
2715	-0.50
2720	-0.50
2722	-0.50
2725	-0.50
2730	-0.50
2735	-0.50
2740	-0.50
2745	-0.50
2750	-0.50
2760	-0.50
2765	-0.50
2770	-0.50
2775	-0.50
2777	-0.50
2780	-0.50
2785	-0.50
2790	-0.50
2792	-1.64
2793	-5.36
2795	-12.63

MORRIS ISLAND

The erosion rate on Morris Island varies from -6 to -19.5 ft/yr. Refer to the map of Morris Island for specific rates.

SULLIVANS ISLAND

MONUMENT	SHORELINE CHANGE RATE
3010	S/A
3020	S/A
3035	S/A
3050	S/A
3065	S/A
3080	S/A
3090	-2.6
3095	-2.6

ISLE OF PALMS

All of the Isle of Palms is classified as stable or accretional.

DEWEES ISLAND

The erosion rate along the central portion of Dewees Island is -10.3 ft/yr., tapering to -5.2 ft/yr. at each end. Refer to orthophotographs 502-504 for specific rates.

DEBIDUE BEACH

MONUMENT	SHORELINE CHANGE RATE
4105	-11.5
4110	-11.0
4115	-10.8
4120	-10.0
4125	-8.8
4130	-6.6
4140	-2.0
4150	+0.4
4160	+1.7
4170	+1.7
4180	+3.8

PAWLEYS ISLAND

MONUMENT	SHORELINE CHANGE RATE
4200	+0.7
4203	+0.7
4205	+0.7
4210	+0.7
4215	+1.2
4220	+1.2
4230	+1.2
4240	+1.2
4245	+1.2
4260	+1.2
4270	+1.2
4275	+1.2
4280	+1.0
4290	+1.0
4295	+1.0

LITCHFIELD BEACH AND HUNTINGTON BEACH STATE PARK

At Inlet Point South, at the southern end of Litchfield Beach, the erosion rate is -1.7 ft/yr. From monument 4320 to 4330, the erosion rate changes from -1.7 ft/yr. to stable. The area north of monument 4330, which includes all of North Litchfield and Huntington Beach State Park, is classified as stable.

GARDEN CITY

MONUMENT	SHORELINE CHANGE RATE
4800	0
4900	0
4905	-1.5

4910	-1.5
4915	-1.5
4920	-1.5
4925	-1.5
4030	-1.5
4935	-1.5
4940	-1.5
4950	-1.5
4955	-1.5
4965	-1.5
4970	-1.5
4975	-1.5
4980	-1.5
4999	-1.5
5000	-1.5
5005	-1.5
5010	-1.5
5015	-1.5
5020	-1.5
5025	-1.5
5030	-1.5
5035	-1.25

SURFSIDE BEACH

All of Surfside Beach, from monuments 5100 through 5195, has an erosion rate of -0.9 ft/yr.

OCEAN LAKES

All of unincorporated Horry County, form monuments 5200 through 5280, has an erosion rate of -0.9 ft/yr.

MYRTLE BEACH

All of Myrtle Beach, form monuments 5300 through 5480, has an erosion rate of -0.68 ft/yr.

DUNES/BRIARCLIFF

The region between monuments 5500 and 5590 has a uniform erosion rate of -0.6 ft/yr.

NORTH MYRTLE BEACH

All of North Myrtle Beach has an erosion rate of -0.4 ft/yr.

WAITES ISLAND

MONUMENT	SHORELINE CHANGE RATE
5900	S/A
5905	-3.2
5915	-7.0
5930	-9.5

5945	-9.4
5960	S/A

I. Methods for Reviewing the Plan

(1) The Beachfront Management Act requires that the State plan and local plans be reviewed and updated every five years.

The reviews can be done to take advantage of changes in the plan caused by:

(a) Natural events such as hurricanes, northeast storms and other weather events.

(b) Increases or decreases in erosion rates (after July 1, 1991, the lines can only be changed every 8-10 years).

(c) Man-made actions resulting in changes to the area seaward of the setback line.

(d) Opportunities to take advantage of situations or new information that did not exist when the plan was being prepared.

(2) The process for updating the State plan or any local plan will be the same as the process required for the initial adoption of the plan.

Editor's Note
The comprehensive Beachfront Management Plan sets forth the criteria for long-range and comprehensive beach management plan for the Atlantic Ocean shoreline in South Carolina. The plan includes all requirements set forth in Section 48-39-320.