TOWN OF HILTON HEAD ISLAND BEACH MANAGEMENT PLAN

Adopted November 5, 2008

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EXECUTIVE SUMMARY

The purpose of the Town of Hilton Head Island's Beach Management Plan is to:

- Fulfill the State-mandated requirement for a local beach management plan;
- Provide guidance for ordinances and actions that protect and preserve the beach and dunes;
- Provide guidance for ordinances and actions that regulate development near the beach and dunes;
- Provide guidance and goals for future beach access;
- Provide guidance for beach management and maintenance; and
- Provide goals for future protection, preservation and regulation of the beach and dunes system.

This Beach Management Plan was prepared in compliance with the 1990 South Carolina Beachfront Management Act. Section 48-39-350 of the South Carolina Code of Laws required local governments to prepare a local beach management plan by July 1, 1991. This plan is to be updated at least every five years following its approval by the state of South Carolina. At a minimum, the Plan must contain all of the following:

- an inventory of beach profile data and historic erosion rate data for each standard erosion zone and inlet erosion zone;
- an inventory of public beach access and attendant parking along with a plan for enhancing public access and parking;
- an inventory of all structures located in the areas seaward of the setback line;
- an inventory of turtle nesting and important habitats of the beach/dune system and a protection and restoration plan if necessary;
- a conventional zoning and land use plan for the area seaward of the setback line;
- an analysis of beach erosion control alternatives, including renourishment;
- a drainage plan for the area seaward of the setback;
- a post disaster plan including provisions for cleanup, maintaining essential services, protecting public health, emergency building ordinances, and the establishment of priorities;
- a detailed strategy for achieving the goals of this chapter by the end of the forty-year retreat period, which shall consider relocating buildings, removal of erosion control structures, and relocation of utilities;
- a detailed strategy for achieving the goals of preserving existing public access and the enhancement of public access to assure full enjoyment of the beach by all residents of the State of South Carolina.

The Town's first Beach Management Plan was approved by the South Carolina Coastal Council (SCCC; now known as South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management—SCDHEC OCRM) and was adopted by Town Council on June 17, 1991. In 1992, the Plan was amended by Town Council and approved by the State to include a 40 Year Retreat Policy. Additional Plan modifications were adopted by Town Council including amendments to the public access improvement section, changing the number of beach access parking spaces and the implementation schedule of the Plan. The Beach Management Plan was also

adopted as part of the Town's Comprehensive Plan in 2004. Since initial adoption, the Plan has been reviewed by DHEC OCRM in 1992, 1995, 1998, and 2001. This document constitutes a complete revision and update of the previous 1991 Plan as amended, and is to be adopted as an appendix to the Town's Comprehensive Plan. Through this plan the following shoreline retreat policies and beach management needs, goals and implementation strategies are adopted:

Shoreline Retreat Policy

The State's Beach Management Act requires local plans to include a 40 year retreat policy that should consider relocation of buildings, removal of erosion control structures and relocation of utilities. When the Town's Beach Management Plan was first adopted in 1991, the State was in the process of drafting their own policy, so very little direction was received at that time. In 1992, the Town amended its original Beach Management Plan to include a 40 Year Retreat Policy which stated:

- Locate development landward of the Setback line to the extent possible;
- Adopt various growth management techniques and procedures to reduce development levels;
- Retain open space seaward of the Setback line to the extent possible;
- Utilize land acquisition; and
- Address retreat during redevelopment scenarios after a disaster.

With the adoption of this 2008 Beach Management Plan, this Policy continues to be in effect. The Town's zoning, density and design standards help fulfill this policy along with other techniques mentioned in the next Section.

To accompany the above Retreat Policy, this Plan details an additional Policy on beach renourishment as part of the 40 Year Retreat Policy. Beginning in 1990, the Town embarked on an ambitious renourishment program with an ongoing maintenance program of sand fencing and native plantings. As a result of these beach renourishment and maintenance projects, portions of the beach and dunes system have been enhanced, thereby resulting in expanded areas that are subject to development pressures by construction that is not in the public interest and would not be in accordance with retreat policies and goals of the State of South Carolina and the Town of Hilton Head Island. In a few instances, the DHEC OCRM has designated a newly formed embryonic dune as the new primary dune, allowing development on the landward, and sometimes larger, dune. There have been petitions to the state administrative law judges to move the DHEC OCRM Baseline further seaward, in accordance with SC. Code Section 48-39-280 (A) (4) increasing the number of areas for loss of the larger dunes system. In addition, DHEC OCRM is also required under Section 48-39-280 (C) to revise the Baseline every eight to ten years, which could possibly result in moving the line seaward. This would further encourage development on top of the larger dunes system.

It is not and has not been the intent of the Town to encourage or permit development to move seaward as a result of the Town's beach renourishment projects and efforts, or to support any effort to move the DHEC OCRM baseline established by the DHEC OCRM seaward, where such effort to relocate the baseline is based in whole or in part on the

existence of new dunes and/or new beach areas formed as a result of the Town's beach renourishment projects and efforts, or by other private efforts. The Town's intent in pursuing the renourishment program is:

- To protect, preserve, restore, stabilize and enhance the beach/dune system through beach renourishment and other appropriate means, to provide for the protection of life and property, and to act as a buffer from high tides, storm surge, hurricanes, and erosion;
- To prohibit development from moving seaward onto new dunes or beach areas formed as a result of the Town's beach renourishment projects and efforts;
- To provide an important basis for a tourism industry that generates annual revenue for the State of South Carolina and the Town;
- To provide habitat for numerous species of plants and animals which are threatened or endangered, or which may become threatened or endangered as a result of the loss of the beach/dune system;
- To provide habitat for beach/dune system vegetation that is unique and extremely important to the vitality and preservation of the system; and
- To create a recreational beach at high tide.

Beach Management Needs, Goals and Implementation Strategies

1. Shoreline Retreat

Need 1: *The Town should investigate methods to continue to protect from the development and redevelopment pressures, the existing beach/dune features and those features resulting from renourishment projects.*

Goal 1.1: Have a well maintained beach and dunes system that helps to preserve and protect the Island's manmade and natural resources and provides for a sound economic base; the Town does not support movement of the baseline or any other action that would result in encroachment of development into the dunes system or seaward of the existing baseline that was established in 1999.

Goal 1.2: Extend the Town's Critical Storm Protection and Dune Accretion Area to other areas of the Island.

Implementation Strategies:

A. The Town should continue to implement its Capital Improvement Program and Land Acquisition Program to develop, renovate, or expand its beach parks.

B. Continue to hold densities along the beachfront to their current levels or below.

C. Continue to amend and enforce the LMO and Municipal Code to protect the established dunes systems on our beach front, to provide for re-establishment of the dunes systems during redevelopment, and to provide for redevelopment scenarios after a natural disaster.

D. Work with DHEC OCRM during the update of the Town's Local Comprehensive Beach Management Plan when designated by the State and to review, as requested, public petitions to move the Baseline on individual properties to ensure compatibility with this Plan. It is the policy of the Town of Hilton Head Island that the baseline not be moved seaward.

E. Continue to promote environmental education programs and standards that stress protection of fragile areas and wildlife.

F. Coordinate with the Chamber of Commerce in tourism efforts to promote our beach.

G. Work to revise state legislation for enhanced protection of the beach and dunes system which should include an effective retreat policy in addition to considering renourishment efforts when determining baseline locations to prevent movement of the baseline further seaward as a result of renourishment.

H. Provide input to DHEC OCRM during the update of the State's Beach Management Plan to help ensure that the DHEC OCRM Baseline does not move further seaward along the Town of Hilton Head Island shoreline.

I. Work with the State to receive beach nourishment funds in the event the Town does not have local funding to renourish.

2. Beach Access

Need 2: *With the large majority of oceanfront land under private ownership, the Town should seek ways to work with developers to allow for public beach access in redeveloped sites, and to work with Property Owners Associations to protect accesses that currently exist.*

Goal 2.1: Have adequate public beach access at Town-owned sites and seek innovative solutions to provide additional beach access for the public in privately-owned neighborhoods and commercial areas.

Implementation Strategies:

A. The Town should continue to implement its 10 year Capital Improvement Program to develop, renovate, or expand its beach parks.

B. Continue to work with oceanfront developments to provide public access to the beach during redevelopment. Also work with neighborhood associations to protect neighborhood access points.

C. Develop methods of increasing public awareness concerning beach access points through better access signage, informational kiosks, directional signage and brochures.

INTRODUCTION

1. Local Comprehensive Beach Management Plan

Purpose

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- Provide guidance for ordinances and actions that protect and preserve the beach and dunes;
- Provide guidance for local ordinances and actions that regulate development near the beach and dunes;
- Provide guidance and goals for future beach access;
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- Provide goals for future protection, preservation and regulation of the beach and dunes system.

History

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- an inventory of turtle nesting and important habitats of the beach/dune system and a protection and restoration plan if necessary;
- a conventional zoning and land use plan for the area seaward of the setback line;
- an analysis of beach erosion control alternatives, including renourishment;
- a drainage plan for the area seaward of the setback zones;
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- a detailed strategy for achieving the goals of this chapter by the end of the forty-year retreat period, which shall consider relocating buildings, removal of erosion control structures, and relocation of utilities;
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2. Description of Hilton Head Island

Hilton Head Island is located along the Atlantic Coast in Beaufort County, South Carolina. The Island is located about 22 miles northeast of Savannah, Georgia, and 15 miles south of Beaufort, South Carolina. It occupies a land area of approximately 23,000 acres or 54 square miles and is approximately 12 miles long and 5 miles wide, making it the largest oceanfront island on the Atlantic seaboard between New York and Florida. It is bounded on the northeast by Port Royal Sound, Calibogue Sound to the southwest, and Skull Creek, part of the Atlantic Intracoastal Waterway, to the north. The average tidal range along the island can be between six and thirteen feet. A seven mile tidal inlet, Broad Creek, runs diagonally across the Island and opens into Calibogue Sound. The island is relatively flat with a maximum elevation of twenty-four feet in limited places.

Access to the Island is provided by U.S. 278 over two toll-free bridges, Graves Bridge and Karl Bowers Bridge. William Hilton Parkway (US 278 Business) and the Cross Island Parkway (US 278) serve as the Island's primary roadways. The Fraser Bridge spans across Broad Creek to connect the Cross Island Parkway with William Hilton Parkway on the south end of the Island. All other roads connect these roads, making them the life line connecting area residents and visitors to local residential, business and recreational areas. (See Figure 1 - Hilton Head Island Location Map.)

The Island's southeast shoreline faces the Atlantic Ocean and has a beach that stretches 19 miles from Braddock Cove in the south to Fish Haul Creek in the north. The beach runs uninterrupted except for a small inlet located mid-island, called the Folly. Historically, the Island has had a wide, sandy beach to the north and south and a narrow, recreational beach mid-island at low tide. This situation has continually been improved by beach renourishment projects.

From its beginnings as a rich and abundant agrarian community to its current status as a distinguished resort and retirement community, Hilton Head Island has become known for its unique island character which integrates high quality design in the built environment with the superior natural beauty of the Island's beaches, extensive wetlands, diverse wildlife and natural landscape. Currently, approximately 70 % of the Island has been developed as a part of master planned communities, also referred to as Planned Unit Developments (PUDs), which contribute significantly to the unique character and demographic composition of the Island. These PUDs reflect a land-use


Port Royal Sound
Town Limits
Fish Haul Creek
Northern Extent of Beach
Karl Bowers Bridge
J. Wilton Graves Bridge
Port Royal
Folly Field Neighborhood
Burkes/Bradley Beach Neighborhood
Folly Creek
William Hilton Parkway
Cross Island Parkway
Broad Creek
Charles Fraser Toll Bridge
Palmetto Dunes Resort
Atlantic Ocean
Shipyard
Palmetto Bay RD
Pope Avenue
North Forest Beach Neighborhood
Gaskin Banks
Calibogue Sound
Sea Pines
South Forest Beach Neighborhood
Braddock Cove
Southern Extent of Beach
South Beach
Barrett Shoal
Gherardi Shoal
Beachfront Planned Developments
Coastal Region Location
Hampton County
Jasper County
Beaufort County
Hilton Head Island
Effingham County
Chatham County
TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S.C. 29928
PHONE (843) 341-4600
2008
Beach Management Plan
Town of Hilton Head Island Location Map
1 0.5 0 1 Miles
1 inch equals 1.090425 miles
FIGURE 1

tradition of planned street patterns, dwelling sites, and locations for public and institutional activities adapted to a modern resort concept that has become unique to Hilton Head Island.

The Island is currently home to approximately 39,000 permanent residents, with an anticipated population of over 53,000 by the year 2020. (*Southern Beaufort County Regional Plan, 2006*) U.S. Census results from the year 2000 indicate that the Island's population consists of a higher percentage of older adults and retirees with a median age of 46 and average income of $60,438. The racial composition of Island residents is predominately white, 85.3% with an average household size of 2.53 people. The beach and associated amenities drive the Island's economy and contribute significantly to the economic vitality of the region supported by the Island's tourism industry.

3. Description of Local Beach Management Issues

Development Issues

One of the most significant threats to the shoreline of Hilton Head Island is from continuous development pressure to construct as closely to the dunes system as possible, and in some cases, to build on older, more well-established dunes that are located outside of any required setbacks. With the Island approaching buildout, older developments are renovating or redeveloping with larger building footprints that push ever closer to the dunes system and beach. Some recent development and redevelopment projects have even petitioned the State to move the DHEC OCRM line further seaward in order to create more land on which to build.

There are also several vacant parcels of land seaward of existing developments that usually encompass the dunes system, known as strand blocks. These parcels have historically been owned by property owners' associations. Some of these have been sold to developers who wish to develop the parcels. This endangers the existing dunes system and causes the landward parcels, which were marketed as oceanfront, to no longer have a view of or direct access to the beach. Furthermore, the economic, societal and safety risks that result from such development are of great concern to the Town.

Environmental Issues

The Town also faces various environmental concerns in relationship to the management of its shoreline. Erosion of the beach is ongoing at some locations and has prompted a very ambitious and expensive renourishment program by the Town. The Town of Hilton Head Island has spent over $37,000,000 in beach renourishment projects from 1990-2007 resulting in a wider, higher and more robust beach configuration suitable for both active and passive use opportunities at all stages of the tide. Constant monitoring is undertaken and a continuous local funding source has been established for renourishment. The potential for negative impacts from global warming and rising sea levels will require the Town to continue to evaluate the feasibility of renourishment as its primary shoreline management technique and plan accordingly.

In addition to beach renourishment, shoreline stabilization has also been performed in six locations through the use of hard structures, such as groins, revetments and bulkheads. Some of these efforts were undertaken by homeowners, developers, hotels

or property owners associations; however, the Town must evaluate issues such as liability, ownership, maintenance, cost and permit matters to determine the future role of the Town and public's interest in these structures in relationship to overall shoreline management.

The protection and enhancement of the dunes system and its vegetation, as a part of an overall approach to beach management, is an extremely important issue for the Town. This area helps to protect life and property by serving as a storm barrier and habitat for numerous species of plants and animals, some of which are threatened or endangered. As the number of beachgoers and activities on the beach increases, more demand will be placed on these important resources. Additionally, the protection of critical habitats, such as tidal inlets and creeks, like the Folly, as well as Fish Haul Creek, are also concerns.

Beach Access

There are very few undeveloped beachfront parcels remaining on the Island. This makes preservation and enhancement of any current beach parking and access location critical. Redevelopment projects also offer the opportunity to secure additional easements open to the general public. Prior to the incorporation of the Town in 1983, public access to the beach was provided by more informal access areas. People often parked along the sides of roadways or on undeveloped properties to access the beach. As the Island has continued to develop, additional parking and access areas have been developed by the Town and the other beach front developments for visitors and residents of the Island. The Town has constructed eight public beach parks. Other private developments contain a total of seven beach parks that serve thousands of visitors and residents of the Island.

Water Quality

It is important to maintain a high level of beach water quality to protect the natural functions (i.e. chemical, biological and physical) and recreational opportunities (i.e. swimming, fishing, wading, boating). To support this, the Town of Hilton Head Island directs all drainage away from the beach area. Moreover, beach water quality is monitored at 16 locations twice a month on Hilton Head Island at locations throughout the recreational swimming season, designated as April 15 through October 15. The Town of Hilton Head Island has documented less than 5 advisories in the past two years; overall, beach water quality is very good. In order to ensure that this does not change, the Town must continue to monitor water quality and make any necessary changes as a result of test indications.

Hurricane and Storm Damage

As a coastal community, the potential for hurricanes and the associated impacts must be considered. In addition to the Town's efforts to maintain adequate storm protection through the continuation of beach renourishment, dune refurbishment and maintenance of selected shoreline protection structures, disaster recovery and response are being addressed. In 2003, the Town adopted a post-disaster recovery plan that will be implemented after experiencing the effects of a major storm event. In relationship to

beach management recovery efforts, issues for the Town include the recovery and disposition of overwash sand, damage assessment of structures and the permitting process for oceanfront properties. A later chapter will discuss planning efforts currently underway in regard to these issues.

Social Issues

The increasing popularity of the beach has resulted in more intense use of the beach for recreational and commercial purposes. In addition to the increasing numbers of beach goers, commercial companies are marketing the beach as a location for special events, such as weddings, parties, fitness programs, animal training, racing events, religious services, and even movies. The Town must ensure that these events do not interfere with any other franchise agreements that currently exist for beach areas and that other codes are not violated. This requires increased efforts of Town staff and other enforcement agencies.

INVENTORY OF EXISTING CONDITIONS

1. Hilton Head Island Beaches

Existing Conditions:

Hilton Head Island is a compound barrier island formed by the advancing and falling sea during which sediment was deposited and leveled a number of times. The northern portion is a core of marine sediments deposited during periods of higher sea level caused by melting of continental ice sheets in the early Pleistocene epoch (1 million-10,000 years ago). This area generally extends from Skull Creek, east to Port Royal Sound and Fish Haul Creek, and west to Brams Point following the western bank of Broad Creek. Much of the land area east and southeast of Broad Creek is a "fringe" of marine sediments. Fine sand was pushed inland by the rising sea level, caused by another time of warming and thawing of ice during the Holocene Period of the Pleistocene Epoch. The approximate foot shape of Hilton Head Island is typical of barrier islands on the "mesotidal" shoreline, in the interior of the Georgia Bight. Islands in this area are wider than other barriers, strongly influenced by tides (2-4 meters in range), shaped by waves and currents, and develop ebb-tidal deltas such as Joiner Bank (Port Royal Sound) and Barrett Shoals (Calibogue Sound).

The existing conditions along the shoreline of Hilton Head Island are the result of natural erosion patterns and various shoreline stabilization efforts. Historically, wide, sandy beach areas generally occur along portions of the Island's shoreline, indicating areas of accretion. Accretion is the gradual buildup of sediment that results in an increase in the size of the beach. Other areas of the Island's shoreline have been more vulnerable to erosion and have a narrower beach area. Typically a wide, sandy beach occurs on the northern and southern ends of the Island with a narrower beach occurring mid-island. Ongoing erosion has been continually mitigated by beach renourishment projects.

According to Section 8-1-112 of the Town's Municipal Code, the beach extends from Fish Haul Creek to Braddock Cove, from the first property line into the water 75 yards from the low water mark (Figure 1 - Hilton Head Island Location Map.) The surface material of the beach contains a mix of silica sand, or quartz sand and shell fragments, which is typical of other shorelines along this area of the coast and has a light brown appearance. The native sand is approximately 0.16mm in size.

Along the shoreline, the existing dunes system varies in depth and height. This system is defined by the Town of Hilton Head Island's Municipal Code as "one or a series of hills or ridges of wind-blown sand or one or a series of hills or ridges of sand resulting directly or indirectly from restoration or beach renourishment, all of which may or may not be anchored by vegetation and is in the vicinity of the beach." The average dune height is approximately six feet, with heights ranging from three to twelve feet.

Shoreline Change:

The main portion of the Island that was formed approximately 4,000 years ago was large enough to accommodate a beach, vegetated sand dunes, shrubs, and a maritime forest. This type of island is called a beach-ridge barrier island or a prograding barrier island.

The portion of the Island located on the southern side of Folly Creek was not a part of the original formation of the Island. It was formed as the sand from offshore islands began to shift inland. Such shifting sands are referred to as trangressive barrier islands. Because Hilton Head Island was formed from two distinct island types, it is referred to as a compound barrier island.

The portion of Hilton Head Island between Calibogue Sound and the Folly was deposited approximately 100,000 years ago. Sea level was higher than today's elevation as a result of the deglaciation associated with the cycle of Ice Ages. As polar ice caps began to reform, world sea levels lowered and the shorelines slowly migrated seaward. Eventually, sea level reached a low point with the shoreline at or near the continental shelf. When these ice sheets began to melt, world sea levels rose quickly, inundating 50-60 miles of the coastal plains in about 10,000 years.

When shorelines accrete over thousands of years, they are characterized by a series of prograding dune ridges. These emerging dune ridges become stranded as more-or-less permanent features of the islands until sea level begins to rise again. As the sea rises, stranded barriers become islands once again and eventually migrating shorelines consume these ridge barrier islands entirely.

Sea level has risen slowly over the last 2,000 to 4,000 years since the formation of the relatively new half of Hilton Head Island, north of the Folly. Hilton Head Island is known as a transgressive barrier island, which is defined as an island lacking heavy vegetation that is extremely vulnerable to erosion. The portion of the Island near the Folly has migrated landward to its present location keeping pace with an earlier, higher rate of sea level rise. It now forms the entire segment of Hilton Head Island along the shore of Port Royal Sound.

As one of the two largest inlets in South Carolina, Port Royal Sound is an area of extensive salt marsh formed by the drainage of the Broad, Colleton, Chechessee, Beaufort, and Coosawatchie Rivers. Of these rivers, only the Coosawatchie River brings fresh water to the Sound. As has been predicted and as should be expected, the dynamic nature of inlets and their ebb tidal shoals in this instance has resulted in an erosional signature along the Hilton Head Island shoreline which is currently being analyzed by the Town. The Port Royal Sound inlet, is the largest non-stabilized inlet along the east coast, it is inherently dynamic and complex. Of consequence are the interrelationships that exist between the main ebb tidal channel, the marginal channels, the swash and attachment bars, some of which have been previously emergent and the down-drift barrier island (Hilton Head Island) as manipulated by winds, waves and tides. (See Figure 2 - Shoreline Changes, Port Royal Sound 1898-1977.)

Calibogue Sound lies between Hilton Head Island to the west and Bull Island and Daufuskie Island to the east. It is the southernmost embayment in South Carolina. This Sound floods and drains extensive salt marshes landward of Hilton Head and Daufuskie Islands. A large intertidal shoal, Grenadier Shoal, has remained stable on the west side of Calibogue Sound for all of the 20th century. It lies seaward of Daufuskie Island and to the southwest of the main channel (See Figure 3 - Shoreline Changes, Calibogue Sound 1898-1977). Eastward of this channel the shoals are more short-lived. They result from the littoral transport of sediment eroded from the central portion of Hilton Head Island.

Figure 2 - Shoreline Changes, Port Royal Sound 1898-1977

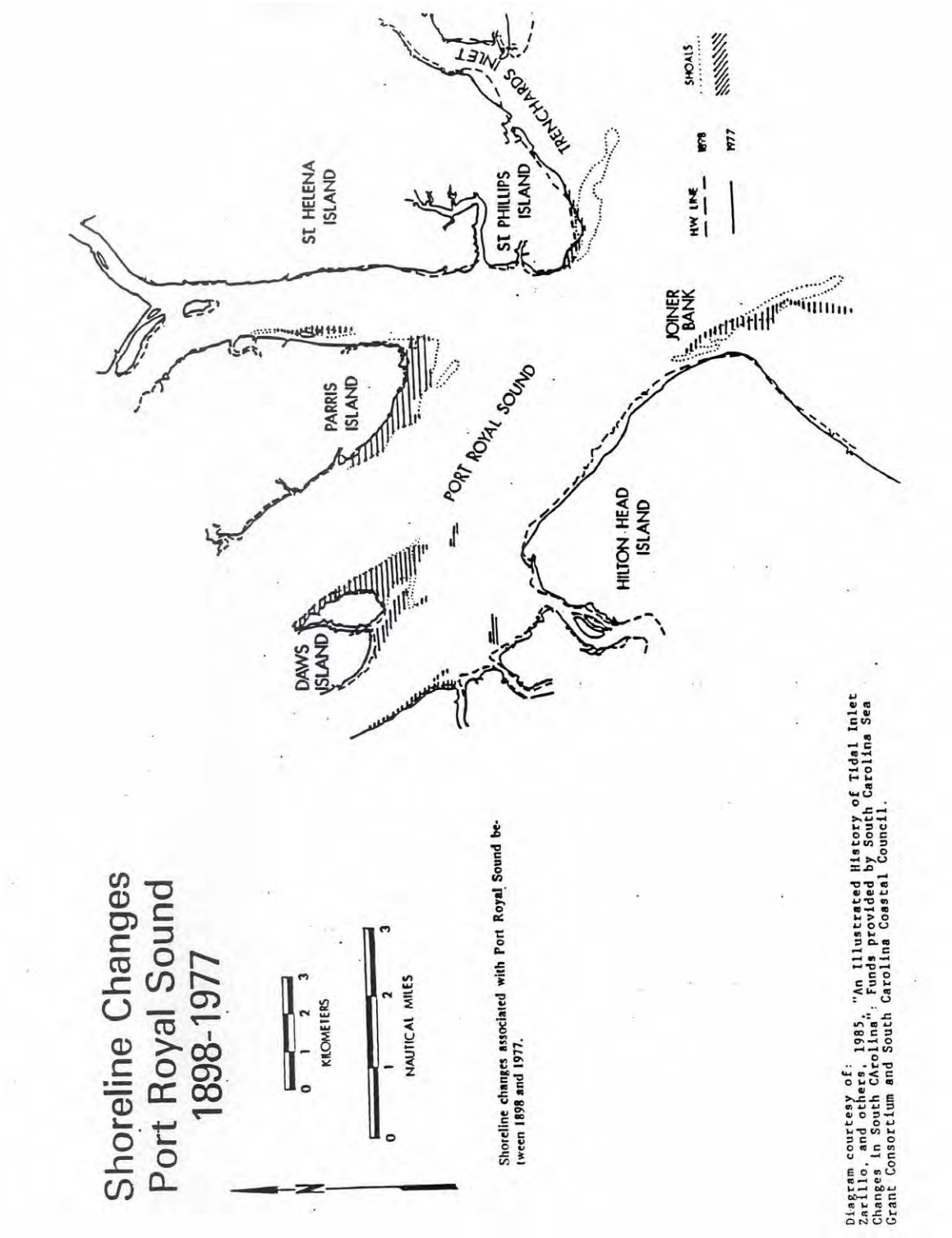
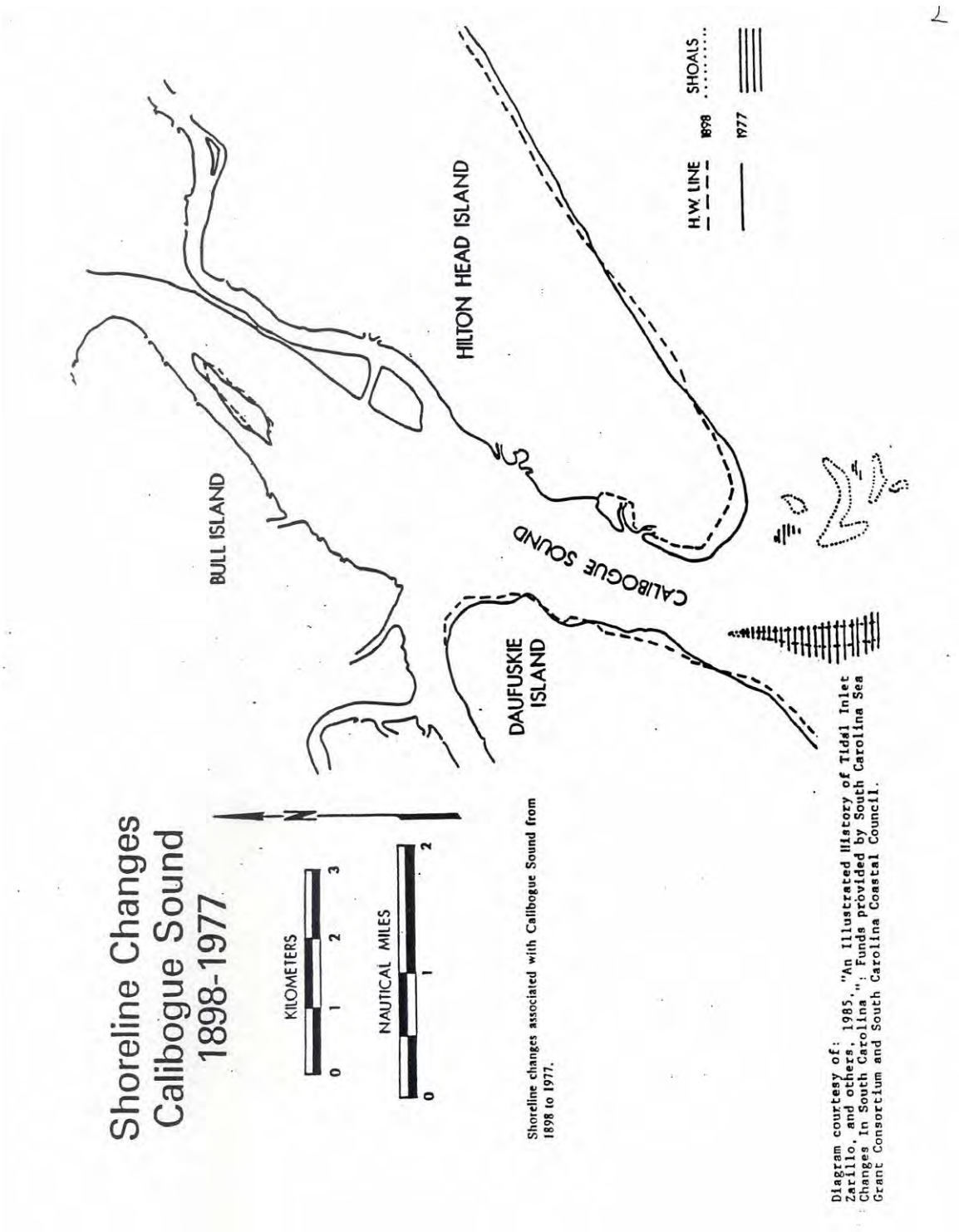


Figure 3 - Shoreline Changes, Calibogue Sound 1898-1977



The accumulation of these shoals at the southwest corner of Hilton Head Island is the first step in forming the ebb tidal delta of Calibogue Sound.

Beach Uses

In the past 20 years, the beach at Hilton Head Island has gone from an area where only a few beach walkers, sunbathers, and swimmers frequented, to an area with more varied activities. The primary uses of the beach include the traditional uses of walking, wading, swimming and sunbathing. The Town contracts with a private company, Shore Beach Services, to provide life guard services during certain times of the year. This service also includes litter patrol and beach rental items. Other activities that have become popular are fishing, surfing, kiting, volleyball, sailing, bocce ball and other beach games. The beach is also used for special events such as weddings, parties, fitness program locations, animal training locations, racing events, religious services, and even movies. See a later section on Regulated Uses of and Activities on the Beach.

2. Benefits and Value of Beach

Natural habitats and resources are also recognized for the economic benefits that they provide. Protection of natural resources is identified in the Town's Comprehensive Plan as essential to maintaining the high quality of life on Hilton Head Island. Residents indicate that the attributes of coastal ecosystems, including marshes, mature trees, marine waters, and sandy beaches influenced their decision to purchase property on Hilton Head Island. In addition, the accessible ocean beach is a predominant factor in the local tourism and vacation rental economy. Eco-tourism has also increased as an economic market around Beaufort and on Hilton Head Island.

Hilton Head Island's shoreline is a diverse and productive ecosystem that serves as a critical link between the water and the land. The sandy beach and dunes system serves as the Island's first line of protection from the high winds and waves associated with storm activities and turbulent seas. This area also supports a rich web of life including animals like worms, clams, shrimp and crabs that in turn attract predators such as seabirds, which depend on sandy beaches for their foraging activities. The beach provides critical nesting habitat for several species of birds and animals, particularly the threatened loggerhead sea turtle. Recreational opportunities such as fishing, swimming, beachcombing, bird-watching, and sunbathing are also provided by the beach and contribute significantly to the success of the multi-million dollar tourism industry on the island.

According to the Hilton Head Island-Bluffton Chamber of Commerce, the Island hosts approximately 2.2 million annual visitors and over 85% of these tourists take advantage of the beach and its associated amenities (Hilton Head Island Visitor Profile and Conversion Study, 2006). According to this same study, travel parties reported spending an average of $2,400 during week-long trips to the Island. In order to help maintain the recreational quality of the beach associated with this industry, the Town of Hilton Head Island exercises beach nourishment as its primary means of shoreline management, which is anticipated to be needed every seven years.

The primary source of funding for these renourishments is a 2% local Accommodations Tax levied on short term rentals, hotels and motel accommodations, providing $4.4

million each year in funding dedicated to beach renourishment and related monitoring, dune refurbishment, maintenance and operations, and new beach parks and beach access facilities. It is anticipated that this source of funding will remain a viable option in future years. This document contemplates this and other issues surrounding the continuation of the Town's Beach Management Program and other alternatives for shoreline management, including shoreline retreat.

The economic impact of the coastal areas has also been recognized by DHEC OCRM in a report that was issued in October of 2002. According to this report, 22% of the state's economy is a result of the output of revenues from coastal areas. This report also indicated that a quarter of the state's population growth in the last 10 years has occurred in the eight coastal counties. One in every three new private jobs during the past decade has been created along the coast and when compared to other areas of the State the average income in coastal areas is higher. (Henry, M.S. & Barkley, D.L. 2002. The Contribution of the Coast to the South Carolina Economy. Clemson University Regional Economic Development Research Laboratory.)

3. Beachfront Developments

Hilton Head Island is known for its incredible natural beauty, and a sense of harmony between the natural and built environment. Over 70% of Hilton Head Island has been developed with master planned communities, which occupy the majority of the Island's shoreline. These beachfront planned developments include Sea Pines, Palmetto Dunes, Port Royal, and a small portion of Shipyard. In general, these developments are largely single family developments with some multi-family and resort areas along the beach. Other beachfront areas include South and North Forest Beach, Folly Field, Singleton, and Bradley Neighborhoods. (See Figure 1 - Hilton Head Island Location Map.)

Some of these developments have performed shoreline stabilization in the past; however, they currently leave the management and stabilization of the beach to the Town. Table 1 summarizes the densities and land uses associated with these major beach-front developments.

Zoning regulations for beachfront areas adjacent to these PUD's are based on their individual master plans as part of the Planned Development Mixed Use Zoning District (PD-1) within the Town. In addition to these regulations, the Town's Land Management Ordinance requires an average buffer of 40 feet adjacent to the DHEC OCRM Baseline, with a minimum setback at any point of 20 feet. Single family structures are only required to have a 20 foot setback from the DHEC OCRM Baseline.

Table 1 – Major Beachfront Planned Developments

Sea Pines Plantation: 4,694 acres 5,890 residential units maximum permitted (includes both single family and multi-family)
Shipyard: 726.3 acres 279 single family lots 1,588 multi-family/hotel units 1,867 units total
Palmetto Dunes: 1839 acres 1,231 single family 3,653 multi-family 4,884 total units
Port Royal: 1,254 acres 1,021 single family lots/homes 1,032 multi-family 2,053 total units

The following is a summary of the private covenants and restrictions that apply to each of the beach-front planned developments moving south to north along the Island's shore.

Sea Pines

Setbacks and other restrictions for properties in this PUD are outlined in the "Guidelines and Procedures for Design and Construction of Single Family Residences" (November 1991).

Owners of oceanfront lots are strongly encouraged to locate new homes as far from the beach as possible. Thus, the Sea Pines Architectural Review Board (ARB) has established a setback from the oceanfront property line for all vertical construction of 50 feet or 25 percent of the lot depth, whichever is greater. The ARB reserves the right, depending on special circumstances on a case-by-case basis, to approve variances from this setback guideline. The ARB also applies several aesthetic and natural setting considerations as it reviews proposed beachfront projects.

Setback requirements for pools and spas are also outlined in the guidelines for beachfront lots, the decks of "in-ground" and "above-ground" pool and spa units, including decking are considered "vertical" structures and are thus subject to the minimum 50 foot setback from the beachfront property line.

Persons who believe these regulations are unfair, inconsistent with past practices, or fail to consider all relevant facts and information may formally request the matter be reviewed and reconsidered again by the ARB via an appeal or variance. The Guidelines and Procedures outline the process for such appeals or variances.

Shipyard

This development has very limited beach front area, which is currently developed with a hotel and beach club for visitors and residents of the development. Beachfront setbacks for the development are not mentioned within the Shipyard ARB guidelines or restrictive covenants, so the Town's minimum setbacks apply.

Palmetto Dunes

Setback requirements for this development are outlined in its "Architectural Review Board Policies, Procedures and New Construction Guidelines" (March 2005). This outlines the beachfront setback requirements as generally being 50 feet from the beachfront. Pools and their surrounding decks have a setback of 20 feet. Variances from these setbacks may also be sought from the Architectural Review Board.

Port Royal

Setbacks in this PUD are outlined in the "Port Royal Plantation Plans Approval Board Guidelines and Procedures" (November, 2005). Property line setback regulations require that no vertical construction shall be closer than 50 feet from a property line adjoining a golf course, lagoon, ocean, dune area or marsh. Variances and appeal procedures area also included.

4. Species and Ecological Habitats

A main concern in managing South Carolina's ocean beaches is the protection and conservation of coastal natural resources and ecological habitats. As part of a coastal barrier island, the Hilton Head Island beachfront exhibits a variety of natural resources due to the diversity of ecotypes and habitats that occur. The interaction between shifting terrestrial sand dune and beach habitats, shallow coastal waters, and the open ocean result in a dynamic landscape that is used by various organisms.

Three terrestrial habitats are found around the Hilton Head Island beachfront, namely the beach community, maritime shrub thickets, and maritime forest. Maritime forests are upland communities typified by live oak, cabbage palmetto, and loblolly pine. Small remnant patches of this habitat are scattered throughout the island. Maritime shrub thicket communities commonly grow in older dunes, behind the primary dunes, and include salt tolerant shrubs such as wax myrtle, yaupon holly, and red cedar. Finally, the beach community generally includes the open beach and dune habitats, as well as the foreshore zone that is frequently inundated by the tides. Each ecological community provides benefits to plants and animals that use the habitat to forage, as shelter for nesting or for a combination of these uses.

The zone of dunes extends from the seaward edge of the beach berm to the seaward edge of the maritime forest tree line. Dunes on Hilton Head Island are relatively small

due to the lack of strong, direct winds. Dunes form when wind blown sand lodges against an obstacle. Native plants- including sea rocket, seaside pennywort, morning-glory species, beach pea, dune sandbur, sea oats, seaside panicum, camphorweed, yucca species, wax myrtle and yaupon – are resistant to blowing salt and stabilize the dunes with their roots. The typical "dune field" has five zones:

- Sea wrack: Debris, primarily dead spartina grass, deposited by high tides.
- Embryo dune: Sand that collects in the sea wrack.
- Foredune: The seaward dune that is stabilized by plants.
- Interdune troughs: Low areas between dune ridges.
- Back dunes: One or more dunes landward of the foredune, populated by common seaside grasses, shrubs and stunted trees.

The importance of barrier islands as habitat for plants and animals is significant. Many animals are dependent on smaller prey available on open beach habitats as part of complex food webs. Some animals also require the sands of primary dunes on barrier islands, such as at Hilton Head Island, for nesting sites and are unable to successfully reproduce without access to this habitat. In the water, nearshore subtidal bars and sand flats can support large numbers and species of marine invertebrates and fish that cannot thrive in the open ocean. Long-term or permanent alteration to these habitats can affect the type, health, and vitality of the marine plants and animals.

Natural habitats and resources are also recognized for the social and economic benefits that they provide. Protection of natural resources is identified in the Town's Comprehensive Plan as essential to maintaining the high quality of life on Hilton Head Island. Residents indicate that the attributes of coastal ecosystems, including marshes, mature trees, marine waters, and sandy beaches influenced their decision to purchase property on Hilton Head Island. In addition, the accessible ocean beach is a predominant factor in the local tourism and vacation rental economy. Eco-tourism has also increased as an economic market around Beaufort and on Hilton Head Island.

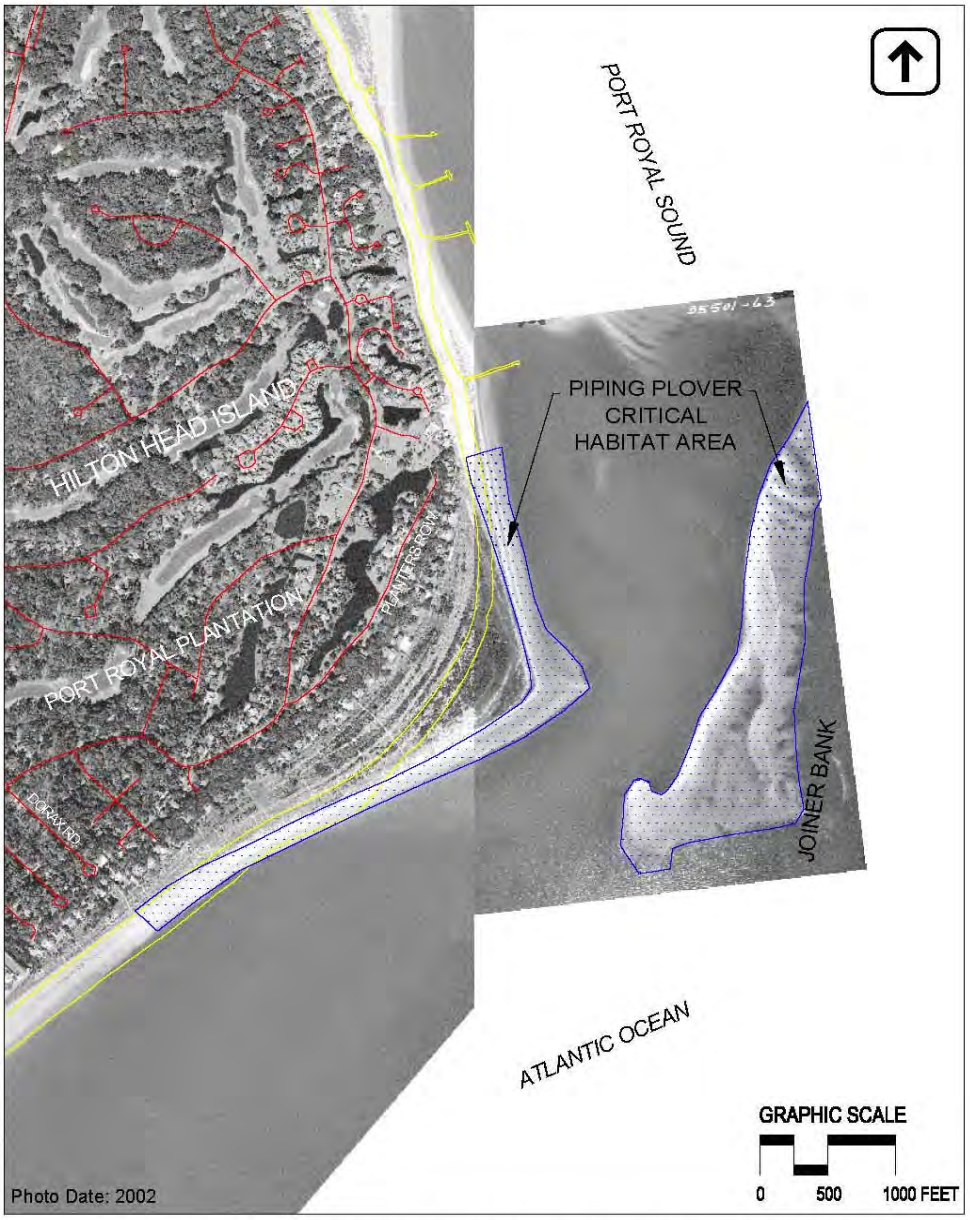
The following is a listing of Endangered and Threatened Species, and species of Special Concern that use the beachfront, followed by a map (Figure 4—Piping Plover Critical Habitat) of the only known beachfront critical habitat on the Island for the piping plover.

Table 2: Endangered and Threatened Species, and
Species of Special Concern Using Hilton Head Island Beach

Name	***Status***	***Habitat/Activity***
Loggerhead Sea Turtle	Threatened, FS	Beaches (nesting)
Green Sea Turtle	Threatened, FS	Beaches (nesting)
Kemps-Ridley Sea Turtle	Endangered, FS	Beaches (nesting)
Leatherback Sea Turtle	Endangered, FS	Beaches (nesting)
Eastern Brown Pelican	Species of Special Concern, S	Beaches
Least Tern	Threatened, S	Beaches, Dunes (nesting)
Wilson's Plover	Threatened, S	Beaches, Dunes (nesting)
Piping Plover	Threatened, F Threatened, S	Beaches, Dunes (Wintering)
Island Glass Lizard	Species of Special Concern, S	Dunes
Seabeach Amaranth	Species of Special Threatened, F Threatened, S	Dunes (Plant)

F—Federally Protected Species Source: SCDHEC, 2001
S— State Protected Species

Figure 4: Piping Plover Critical Habitat.



Approximate location and extent of Piping Plover Critical Habitat at
Hilton Head Island, South Carolina

Ref: US Fish and Wildlife Service (Unit SC-15)

olsen associates, inc.

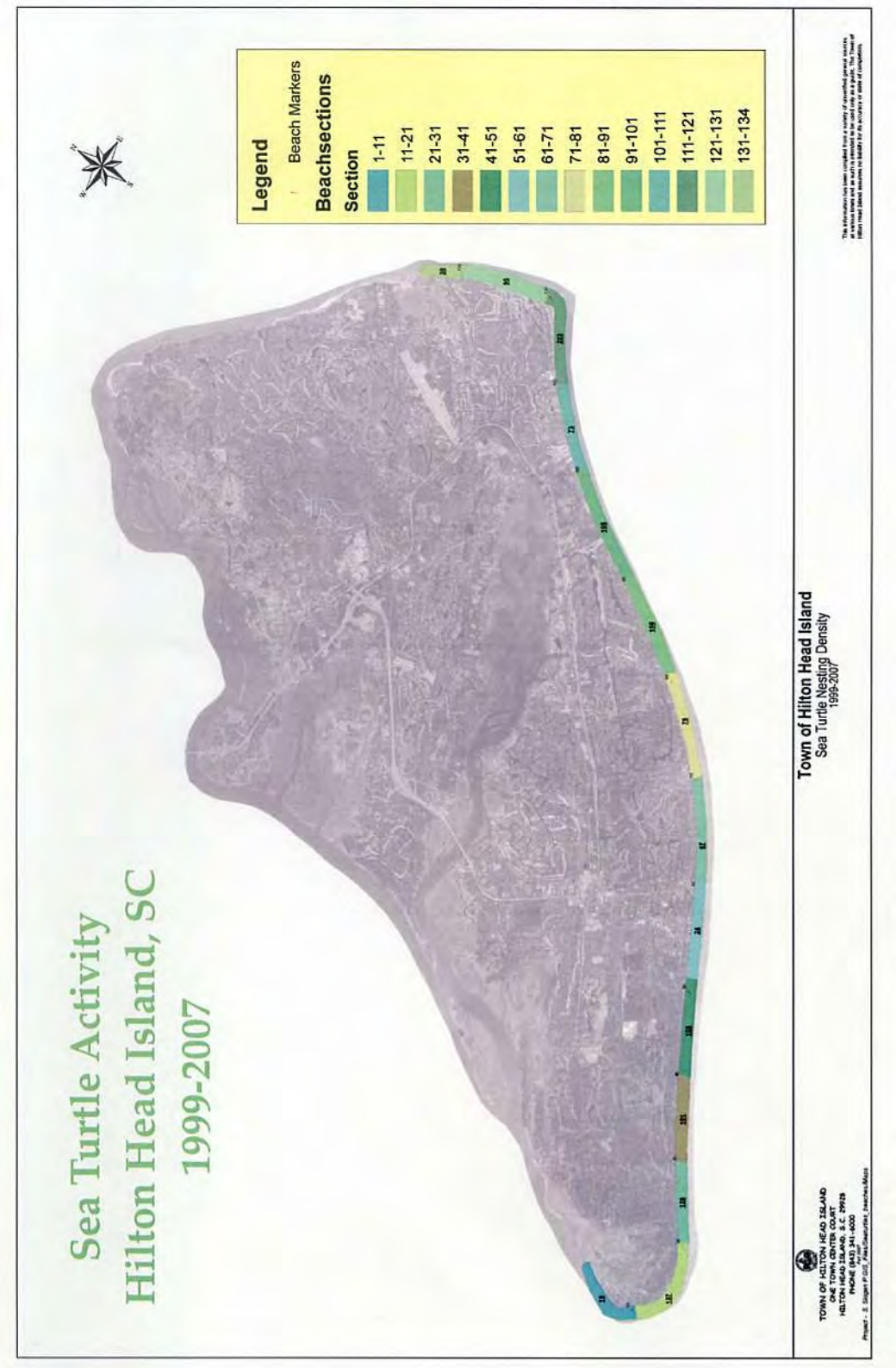
Several natural resource protection efforts have been achieved and continue for the Town of Hilton Head Island.

- **Beach nourishment:** Conducted in 1990, 1997, 1999 (emergency work at South Beach) and 2006. This created a suitable nesting habitat for sea turtles along miles of previously eroded and/or reveted beach. It protects the sand dune habitat, promotes native plant and animal species that depend upon it and protects the shoreline from destruction by erosion. Approximately 6-8 miles of beach have been renourished.
- **Dune rebuilding/revegetation:** Sand fencing and native beach plants are routinely installed to help enhance the restoration of dune habitat previously destroyed by erosion.
- **Sea Turtle Protection Ordinance:** Established in 1990, this ordinance helps protect nesting sea turtles and emerging hatchlings by reducing disorientation caused by artificial lights shining onto the nesting beach. Prior to each season, the Town and the Coastal Discovery Museum use the media and informational brochures to advertise the ordinance. Town Code Enforcement Officers patrol the beaches regularly at night throughout the season to ensure compliance.
- **Sea turtle monitoring**: This has been an ongoing program of the Coastal Discovery Museum since 1984 (funded by the Town since 1989) that surveys and inventories sea turtle nests which provides information on nesting activity and hatchling success rate. The Town has been accurately mapping the nests since 1999 using GPS technology. Educational benefits are afforded to the general public through opportunities for participation in the program, staff lectures and the distribution of a brochure written by the Town that gives information on sea turtle life history, states the regulations protecting them and gives contact numbers to report violations. (See Figure 5: Sea Turtle Nesting Densities.)
- **Tree protection ordinance:** Established in 1986, this ordinance protects native vegetation. Through the tree approval process, parcels are examined prior to development for specimen trees. Applicants are also encouraged to protect non-tree understory plants and are required to replant native trees similar to those removed if the post-development site no longer meets ordinance standards.
- **Wetland protection ordinance:** Established in 1986, this protects both salt and freshwater wetlands through the use of setbacks and buffers. Mitigation in-kind and on-site or in the same watershed is required for any fill allowed. Monitoring the success of the mitigation is required for three years, with written reports required every six months and corrective action taken as necessary.
- **Design Review Board:** Established in 1987, this board reviews development projects along major roads, conservation districts, and waterfront areas (including beaches). It requires vegetated buffers (natural preferred) along waterfronts; reviews landscape plans to insure that a post-development site is adequately vegetated and encourages the use of native plant materials.
- **Land Acquisition Program:** Established in 1990, this program allows the Town to purchase properties for a variety of reasons, including beachfront and environmentally sensitive lands. The Town now owns over 1,100 acres. Most undeveloped beachfront property outside of the gated communities is now owned by the Town.
- **Town Staff:** A Natural Resource Associate and an extra Codes Enforcement Officer have been hired since the initial adoption of the Town's Beach Management Plan. The Natural Resources Associate reviews site plans

(including beachfront), prepares educational material such as brochures, manages the Town's stormwater monitoring program, analyzes the resulting data and writes yearly reports and performs other natural resources functions for the Town. The Codes Enforcement Officer is responsible for tree and wetland protection, including beachfront codes enforcement.

- **Water Quality Monitoring:** The Town is entering its second season of managing the water quality monitoring program for the Island's monitoring and testing of the beachfront for enteroccocus bacteria.

Figure 5: Sea Turtle Nesting Densities



5. Existing Public Access and Map

In 1989, the Town of Hilton Head Island received a $6,200,000 grant from the State of South Carolina (of which $2,500,000 was received from SCCC) for a beach renourishment project. As part of this agreement, the Town committed to providing between 2,000-3,000 beach parking spaces on the Island, with all of the facilities being within 1,000 feet of public beach access points.

The Town's original 1991 Beach Management Plan detailed public access parks, undesignated private parking areas, privately-owned beach access points (hotels, condominiums and beach clubs), neighborhood access points, future public beach parks and facilities, and emergency vehicular access points. This was approved by the State and included a commitment of 2,000-2,500 parking spaces.

In 1998, the Beach Management Plan was amended by the Town and approved by South Carolina Department of Health and Environmental Control to include a Beach Access Plan, which outlined a plan to construct a total of 1,400 public parking spaces by December 2008, reducing the previous 2,000-2,500 parking spaces in the earlier plan. Currently, the Town has met this revised obligation.

Figure 6 - Town-owned Beach Parks and Parking, shows the location of Town-owned beach access and parking areas. Table 3 details the existing number of public parks owned by the Town of Hilton Head Island with their facilities.

Figure 7: Neighborhood Beach Access and Parking, shows the location of neighborhood beach access and parking. These facilities are provided by the PUD's and neighborhood associations and are used by thousands of Island residents and visitors. There are a total of 107 neighborhood beach access locations, eight of which have parking areas, which are used predominately by visitors and residents within the gated community in which they are located.

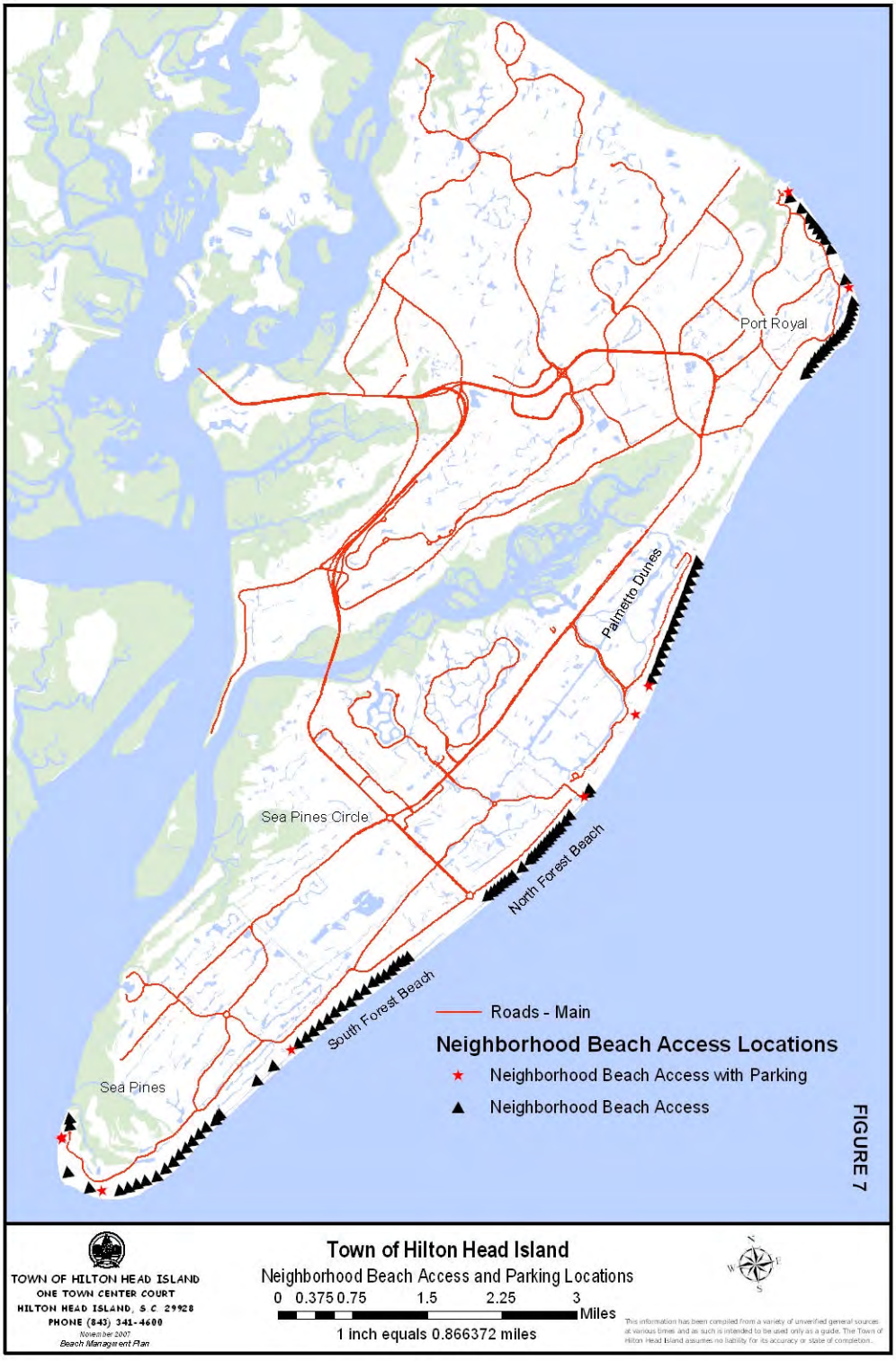
Figure 8: Private Beach Access and Parking, shows the location of private and multifamily beach access points and parking locations. These facilities are provided by hotels and condominium complexes. There are a total of 59 private access locations with parking on the Island.

Table 3: Existing Town-Owned Beach Parks and Parking

	Handicapped access	Boardwalk	Restrooms	Trash receptacles	Showers	Bike Racks	Drinking Fountain	Vending machines	Life guards/ rentals	Picnic pavilion	Natural trails	Sitting Deck	Viewing scope	Office attendant	Emergency Access	Historical Marker	Parking spaces	Within 1000' of access	Zoning District	Notes
Alder Lane Access	ü	ü	ü	ü	ü	ü	ü	ü	ü								23	ü	CFB	
Coligny Area*	ü		ü	ü	ü	ü	ü	ü	ü			ü		ü	ü		467	ü	CFB	Parking breakdown Coligny Lot: 424 Beach entry: 31 On Street: 12
Chaplin Park & Burkes Beach Road			ü	ü	ü	ü	ü		ü		ü				ü		258	See notes	PR	Parking breakdown: Burkes Beach:13 w/in 1000' Chaplin Park: 110 w/in 1000' Castnet: 135 via shuttle
Driessen Beach Park	ü	ü	ü	ü	ü	ü	ü	ü	ü	ü				ü			207	ü	PR	
Folly Field Park	ü	ü	ü	ü	ü	ü	ü	ü	ü								54	ü	RD	
Islanders Beach Park	ü	ü	ü	ü	ü	ü	ü		ü	ü		ü			ü		156	ü	RD	
Fish Haul Park	ü		ü	ü	ü	ü	ü			ü	ü	ü			ü		50	ü	PR	
Mitchelville Beach Park & Barker Field	ü	ü	ü	ü								ü	ü			ü	186	ü	WMU	
Total																	**1,401**			1,400 goal accomplished.

* The Coligny Area is currently under redesign. The number of parking spaces is anticipated to increase from 467 to 558 spaces.


Mitchelville Beach Park
Fish Haul Park
Port Royal
Islander's Beach Park
Folly Field
Driessen Beach Park
Chaplin Park and Burkes Beach Road
Palmetto Dunes
Sea Pines Circle
Coligny Circle
Coligny Beach Park
Sea Pines
Alder Lane
FIGURE 6
TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S.C. 29928
PHONE (843) 341-4600
November 2007
Beach Management Plan
Town of Hilton Head Island
Town-owned Beach Access and Parking
0 0.375 0.75 1.5 2.25 3
Miles
1 inch equals 0.869554 miles
This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.


Port Royal
Palmetto Dunes
Sea Pines Circle
North Forest Beach
South Forest Beach
Sea Pines
Roads - Main
Neighborhood Beach Access Locations
Neighborhood Beach Access with Parking
Neighborhood Beach Access
FIGURE 7
TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S.C. 29928
PHONE (843) 341-4600
November 2007
Beach Management Plan
Town of Hilton Head Island
Neighborhood Beach Access and Parking Locations
0 0.375 0.75 1.5 2.25 3
Miles
1 inch equals 0.866372 miles
This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.


Port Royal
Palmetto Dunes
Sea Pines Circle
South Forest Beach
Sea Pines
FIGURE 8
TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S C 29928
PHONE (843) 341-4600
November 2007
Beach Management Plan
Town of Hilton Head Island
Private Beach Access and Parking Locations
0 0.4 0.8 1.6 2.4 3.2
Miles
1 inch equals 0.874923 miles
This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.

Full and Complete Public Access

The number and distribution of public access points are excellent. Sufficient access points, signage, facilities and parking exist to classify approximately 27% of the Hilton Head Island beach as having full and complete access per the State guidelines (SCCC, 1995; see Table 4). DHEC OCRM recognizes that full and complete public access is provided in three main areas along approximately 5.25 miles of the 19-mile beach (see Figures 9, 10, and 11):

- from a point ½ mile (2,640 feet) northwest of the public beach access at Mitchelville Park, to a point ½ mile (2,640 feet) southeast of the public beach access at Fish Haul Park;

- from a point 1 mile (5,280 feet) northeast of the public beach access at Islander's Beach Park to a point ¾ mile (3,960 feet) southwest of the public beach access at Chaplin Park; and

- from a point 1 mile (5,280 feet) northeast of the public access point at Coligny Beach park to a point ¼ mile (1,320 feet) southwest of the public beach access at Alder Lane.

Signage indicating the public access points, as well as local beach regulations is located at each of the Town's public beach access points. In addition, dog waste collection and disposal containers are located at many of the public access points.

The majority of public parking associated with the Town-owned public beach access points is located within 1,000 feet of the accesses. Only one beach parking location is in excess of 1,000 feet. Shuttle service is available for this location if the need arises. Establishing public parking closer to the beach would be infeasible due to infrastructure and development constraints. Based on these considerations, DHEC OCRM has agreed to allow public parking located greater than 500 feet away from the sand beach to be a factor in classifying these sections of Hilton Head Island's beach as achieving "full and complete" public access in accordance with the guidelines established in the State Beachfront Management Plan.

TABLE 4
DHEC OCRM Public Beach Access Facility Classification (SCCC, 1995).

Type of Facility	Distance on Either Side of Access Point Which Will be Considered as Having Full and Complete Access	Minimum Facilities
Public Access Point	1/8 mile	Trash receptacle, 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, showers, restrooms, parking for 25 vehicles
Community Public Access Park	3/4 mile	As above, showers, handicapped access; parking for 75 vehicles
Regional Public Access Park	1 mile	As above, parking for 150 vehicles and greater

Figure 9: Alder Lane and Coligny-Full and Complete Access Area

Figure 10: Chaplin to Islander's-Full and Complete Access Area

Figure 11: Mitchelville and Fish Haul Full and Complete Access Area

6. Beachfront Structural Inventory

Section 48-39-350(A)(3) of the Beachfront Management Act requires all communities to include an inventory of all structures located seaward of the DHEC OCRM setback line as part of their local beach management plan. Specific guidelines, supplied by the South Carolina Coastal Council staff in 1991, indicate that all structures located within tax parcels that are 50 feet landward of the DHEC OCRM setback line should be inventoried; therefore, the structure inventory undertaken for this plan consists of the zones illustrated in Tables 5 through 8. There were no habitable structures that existed seaward of the DHEC OCRM Baseline. This inventory was conducted using the Town's GIS system.

- Zone 1 is located seaward of the baseline;
- Zone 2 is located between the baseline and setback line;
- Zone 3 is located within 50 feet of the landward side of the setback line; and
- Zone 4 is located within tax parcels of which a portion of is located within Zones 1, 2 or 3, and is more than 50 feet landward of the setback line.

Structural inventory guidelines required by the state are as follows:

- If any portion of a structure touches a line (baseline, setback line or 50 foot line), include the structure in the seaward-most category;
- In estimating the size of structures, include the area of attached decks, porches and garages;
- Commercial structures are considered habitable structures;
- Count all detached structures as separate buildings (decks, boardwalks, pools, etc.); and
- An erosion control structure which covers more than one tax parcel should be counted as a separate structure for each parcel.

Table 5: Zone 1—Seaward of DHEC OCRM Baseline

Structure Type	***Total #***	***Condition***			***Zoning District***						
		Good	*Needs Repair*	*Dilapidated*	*PD-1*	*RS-4*	*RS-5*	*RM-8*	*CFB*	*RD*	*PR*
Habitable Structures:											
less than or = 5000 sq ft	0										
greater than 5000 sq ft	0										
Recreational Amenities:											
Pools	4	4			1			2	1		
Hot Tubs	2	2			2						
Golf Courses	0										
Tennis Courts	0										
Basketball Courts	1	1			1						
Play Houses	0										
Parking Lots	1	1			1						
Ancillary Buildings:											
Concession Buildings	1	1			1						
Decks	77	77			40		29	5	2	1	
Garages	0										
Gazebos	7	7			6		1				
Pool Houses	0										
Restrooms	1	1			1						
Walkways	348	348			246	5	60	21	6	8	2
Storage Sheds	0										
Recreation Buildings	2	2			2						
Guard Houses	0										
Vacant Lots	49	49			14		17	10	3	3	2
Erosion Control Structures:											
Groins	2	2			1						1
Revetments	25	22	3		6		19				
Sea Walls	12	12			3		9				

Table 6: Zone 2—Between DHEC OCRM Baseline and DHEC OCRM Setback Line

Structure Type	***Total #***	***Condition***			***Zoning District***						
		Good	*Needs Repair*	*Dilapidated*	*PD-1*	*RS-4*	*RS-5*	*RM-8*	*CFB*	*RD*	*PR*
Habitable Structures:											
less than or = 5000 sq ft	103	103			62		37	4			
greater than 5000 sq ft	169	169			125		31	13			
Recreational Amenities:											
Pools	216	216			143		57	13	2		1
Hot Tubs	122	122			81		37	3	1		
Golf Courses	1	1			1						
Tennis Courts	1	1			1						
Basketball Courts	0										
Play Houses	1	1			1						
Parking Lots	14	14			14						
Ancillary Buildings:											
Concession Buildings	3	3			2				1		
Decks	215	215			137		57	16	2	2	1
Garages	0										
Gazebos	14	14			8		5		1		
Pool Houses	8	8			7		1				
Restrooms	9	9			9						
Walkways	68	67	1		40	1	21		4	2	
Storage Sheds	2	2			2						
Recreation Buildings	5	5			5						
Guard Houses	0										
Vacant Lots	29	29			8		20	1			
Erosion Control Structures:											
Groins	0										
Revetments	0										
Sea Walls	1	1			1						

Table 7: Zone 3—Within 50 Feet of the Landward Side of the DHCE OCRM Setback Line

Structure Type	***Total #***	***Condition***			***Zoning District***						
		Good	*Needs Repair*	*Dilapidated*	*PD-1*	*RS-4*	*RS-5*	*RM-8*	*CFB*	*RD*	*PR*
Habitable Structures:											
less than or = 5000 sq ft	83	83			54		29				
greater than 5000 sq ft	83	83			64		14	3	1	1	
Recreational Amenities:											
Pools	120	120			93		19	4		4	
Hot Tubs	53	53			37		12	3	1		
Golf Courses	1	1			1						
Tennis Courts	0										
Basketball Courts	0										
Play Houses	1	1			1						
Parking Lots	19	19			17				1	1	
Ancillary Buildings:											
Concession Buildings	4	4			1				2	1	
Decks	110	110			82	1	22	1	2	2	
Garages	0										
Gazebos	6	6			3					2	1
Pool Houses	1	1			1						
Restrooms	2	2							2		
Walkways	47	47			39	1	2		3	2	
Storage Sheds	1	1					1				
Recreation Buildings	1	1								1	
Guard Houses	0										
Vacant Lots	9	9			4		5				
Erosion Control Structures:											
Groins	0										
Revetments	0										
Sea Walls	1	1						1			

Table 8: Zone 4—More than 50 Feet Landward of the DHEC OCRM Setback Line on Qualifying Parcels

Structure Type	***Total #***	***Condition***			***Zoning District***						
		Good	*Needs Repair*	*Dilapidated*	*PD-1*	*RS-4*	*RS-5*	*RM-8*	*CFB*	*RD*	*PR*
Habitable Structures:											
less than or = 5000 sq ft	89	89			79		9		1		
greater than 5000 sq ft	124	124			102		4	1	7	10	
Recreational Amenities:											
Pools	94	94			76		8	1	4	5	
Hot Tubs	43	43			31		8		3	1	
Golf Courses	0										
Tennis Courts	6	6								2	4
Basketball Courts	2	2									2
Play Houses	0										
Parking Lots	60	60			45	1			5	6	3
Ancillary Buildings:											
Concession Buildings	2	2									2
Decks	78	78			53	1	7	1	12	4	
Garages	3	3			3						
Gazebos	5	5			1		2		1		1
Pool Houses	3	3			3						
Restrooms	15	15			4	1	1		2	4	3
Walkways	40	40			28		3		5	3	1
Storage Sheds	3	3			2		1				
Recreation Buildings	0										
Guard Houses	1	1			1						
Vacant Lots	10	10			10						
Erosion Control Structures:											
Groins	0										
Revetments	0										
Sea Walls	1	1			1						

7. Beachfront Drainage

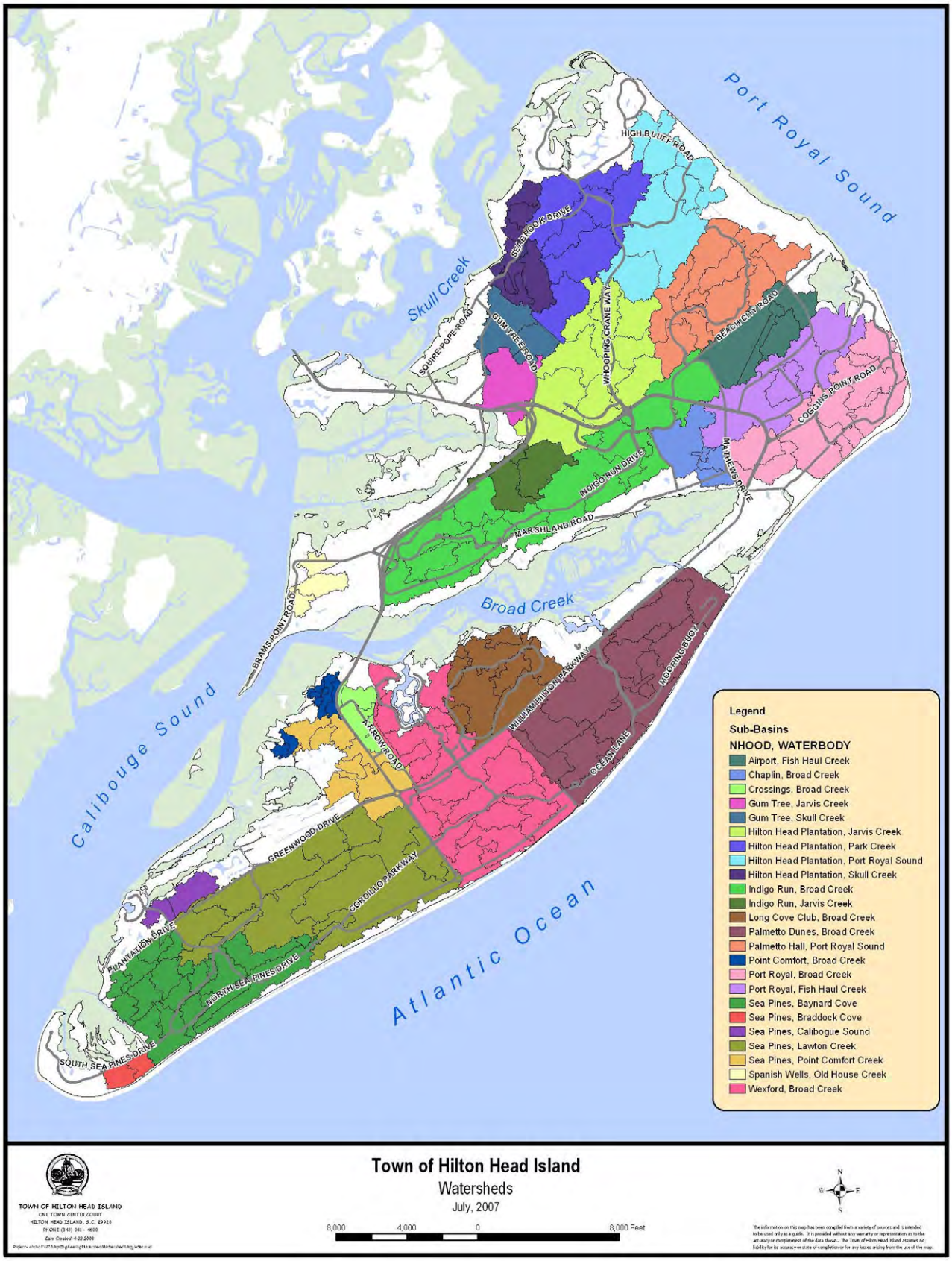
The Town of Hilton Head Island does not have any existing drainage outfalls along the beachfront (either natural or anthropogenic) and Section 16-5-602 of the Town Code prohibits any future development from directly discharging storm water onto the beach.

The beachfront areas of the Island can be divided into 6 major natural drainage basins. None of which drain to outfall structures on the beach (see Figure 12: Hilton Head Island Watersheds).

In all of the drainage basins, the most common methods of conveyance are lagoons, swales, and pipes. In general, storm water is carried from the beachfront areas to the adjacent inland bodies of water.

There are no significant grade differences on the island, necessitating the use of four pump stations during heavy rains to protect against flooding. They are located at Lawton Creek in Sea Pines, Cordillo Parkway in Shipyard, Broad Creek in Wexford and Jarvis Park.

The southernmost portion of the Island drains into Baynard Cove and Braddock Cove which in turn drain into Calibogue Sound. To the north, the second basin in Sea Pines Resort and South Forest Beach drains into Lawton Canal which is pumped toward Calibogue Sound.


Port Royal Sound
Skull Creek
Broad Creek
Calibouge Sound
Atlantic Ocean
HIGH BLUFF ROAD
SEABROOK DRIVE
SQUIRE POPE ROAD
GUM TREE ROAD
WHOOPING CRANE WAY
BEACH CITY ROAD
COGGINS POINT ROAD
MATHEWS DRIVE
INDIGO RUN DRIVE
MARSHLAND ROAD
BRAMS POINT ROAD
WILLIAM HILTON PARKWAY
MOORING BUOY
ARROW ROAD
OCEAN LANE
GREENWOOD DRIVE
CORDILLO PARKWAY
PLANTATION DRIVE
NORTH SEA PINES DRIVE
SOUTH SEA PINES DRIVE
Legend
Sub-Basins
NHOOD, WATERBODY
Airport, Fish Haul Creek
Chaplin, Broad Creek
Crossings, Broad Creek
Gum Tree, Jarvis Creek
Gum Tree, Skull Creek
Hilton Head Plantation, Jarvis Creek
Hilton Head Plantation, Park Creek
Hilton Head Plantation, Port Royal Sound
Hilton Head Plantation, Skull Creek
Indigo Run, Broad Creek
Indigo Run, Jarvis Creek
Long Cove Club, Broad Creek
Palmetto Dunes, Broad Creek
Palmetto Hall, Port Royal Sound
Point Comfort, Broad Creek
Port Royal, Broad Creek
Port Royal, Fish Haul Creek
Sea Pines, Baynard Cove
Sea Pines, Braddock Cove
Sea Pines, Calibogue Sound
Sea Pines, Lawton Creek
Sea Pines, Point Comfort Creek
Spanish Wells, Old House Creek
Wexford, Broad Creek
TOWN OF HILTON HEAD ISLAND
Town of Hilton Head Island
Watersheds
July, 2007
8,000
4,000
0
8,000 Feet

The North Forest Beach area drains through the lagoons of Shipyard Plantation. A pump station was constructed in 2004 to help push the water through the lagoon system. Then the stormwater runs under William Hilton Parkway via a pipe through a canal in Wexford Plantation and is pumped into Broad Creek.

The Palmetto Dunes drainage basin contains approximately 11 miles of canals, which carry the storm water under William Hilton Parkway and into Broad Creek.

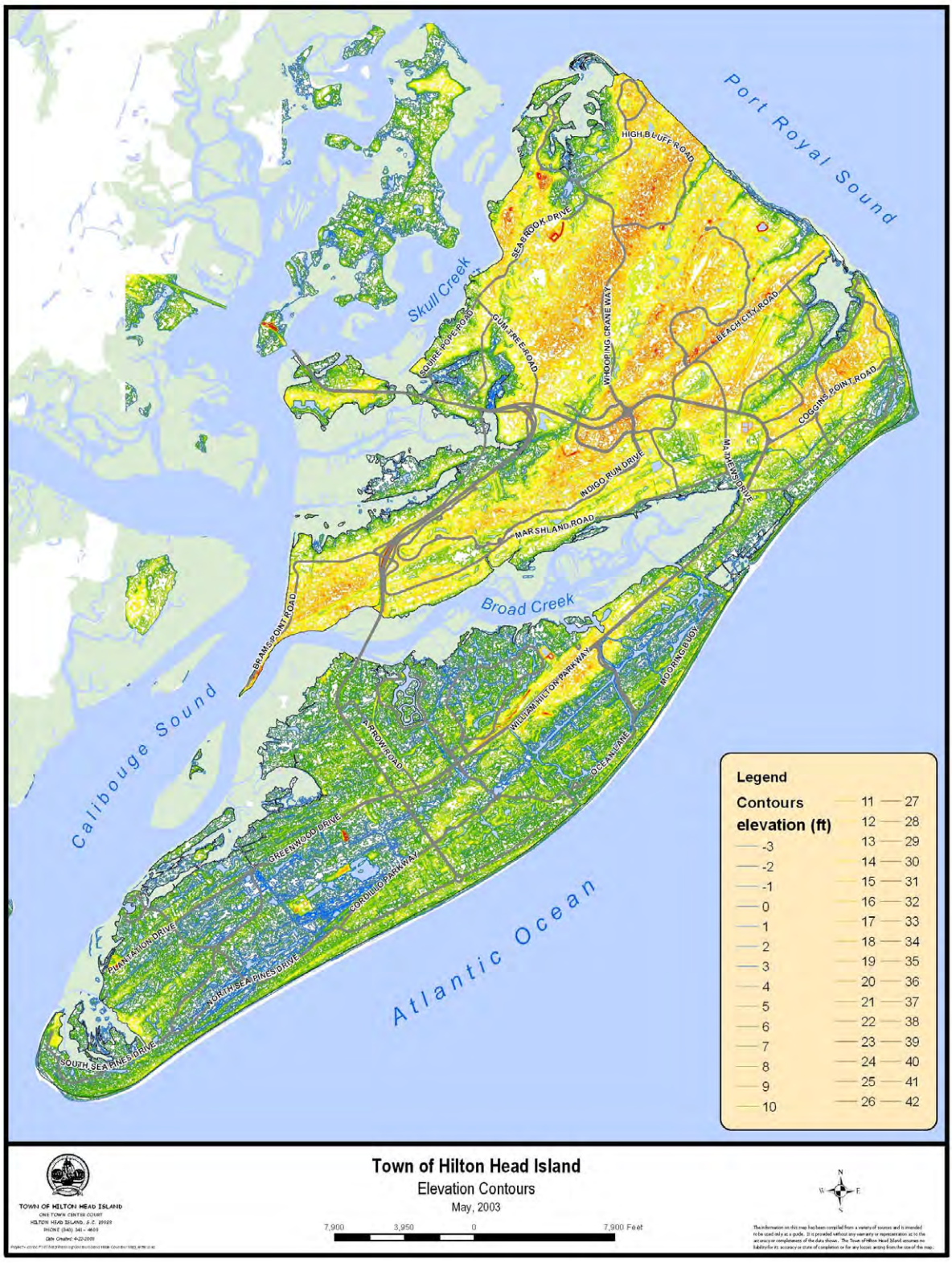
Storm water from the Folly Field basin is transported to the Folly, the Island's only tidal inlet to the Atlantic Ocean. The Folly is made up of several meandering creeks which accept runoff and carry it to the Ocean.

The northernmost drainage basin is Port Royal Plantation. The storm water from this basin is carried via a large drainage ditch to Broad Creek.

Overall, the effectiveness of the beachfront drainage systems is good. An inherent problem with Hilton Head Island is the lack of elevation (See Figure 13: Hilton Head Island Elevations). The vast majority of land being drained has an elevation of less than 10 feet. Therefore a common problem is capacity of the systems to convey runoff during an intense storm of short duration.

In 1995, the Town completed The Island Wide Drainage Study. Since then, all but 2 of the recommended projects have been implemented. The remaining projects are scheduled for funding and will be completed in accordance with the Town's Capital Improvements Program.

1. Palmetto Hall Outfall Improvements (partnership) 1995
2. Lawton Canal Pump Station upgrades (partnership) - 1997
3. Jarvis Creek Pump Station - 1999
4. South Forest Beach Phase I - 2000
5. William Hilton Parkway, Culvert at Wendy's - 2000
6. Gum Tree Area – 2000
7. South Forest Beach Phase II – 2001
8. Pineland Mills Shops - 2001
9. North Forest Beach Phase 1 - 2003
10. North Forest Beach Wexford Pump Station - 2004
11. North Forest Beach Phase II - 2004
12. Ashmore Tract – 2003
13. Folly Field -2004
14. Northridge – 2006
15. Beach City Road / Airport – 2006
16. Lawton Canal Pump Replacement (partnership) – 2006
17. Club Course Drainage Project (partnership) – 2007/8


Port Royal Sound
Skull Creek
Broad Creek
Calibouge Sound
Atlantic Ocean
HIGH BLUFF ROAD
SEA ROOK DRIVE
COUPER ROPE ROAD
PLUM TREE ROAD
WHOOPING CRANE WAY
BEACH CITY ROAD
COGGINS POINT ROAD
MATHEWS DRIVE
INDIGO RUN DRIVE
MARSHLAND ROAD
BRAMS POINT ROAD
WILLIAM HILTON PARKWAY
MOORING BUOY
OCEAN LANE
PINEWOOD ROAD
GREENWOOD DRIVE
GORDILLO PARKWAY
PLANTATION DRIVE
NORTH SEA PINES DRIVE
SOUTH SEA PINES DRIVE
Legend
Contours elevation (ft)
-3
-2
-1
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
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40
41
42
TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S.C. 29928
PHONE (843) 341 - 4600
Date Created: 4-22-2003
Town of Hilton Head Island
Elevation Contours
May, 2003
7,900
3,950
0
7,900 Feet
N
W
E
S

In terms of estimated life, the existing drainage systems are expected to remain in place well beyond a 20-year horizon. Build-out is substantially complete in these beachfront areas. The drainage systems in place should adequately handle future conditions since minimal new development can occur.

Cleaning, dredging and maintaining the existing drainage system is a foremost priority. The Beaufort County Stormwater Utility collects approximately $1.65 million yearly from the Town. The Town provides 5% ($82,000) to the Utility for administrative overhead. The Utility returns the entire $1.65 million of fees (minus the administrative overhead) for the Town to use for drainage infrastructure maintenance and debt service on a $17 million SWU Revenue Bond.

The Town also monitors water quality at 16 sites Island-wide. This project was initiated in 1999 in an effort to monitor stormwater drainage improvements. The Town currently tests for dissolved oxygen, pH, salinity, temperature, turbidity, nitrate, total phosphates, fecal coliform, total kjedahl nitrogen, and ammonia.

EROSION CONTROL AND MANAGEMENT

1. Beach Erosion Rates

The Beachfront Management Act defines three types of shoreline zones. A standard erosion zone is a segment of shoreline which is not directly influenced by the inlet or associated shoals. An unstabilized inlet erosion zone is a segment of shoreline along or adjacent to a tidal inlet which is directly influenced by the inlet and its associated shoals and which is not stabilized by jetties, terminal groins or other structures. A stabilized inlet erosion zone is a segment of shoreline along or adjacent to a tidal inlet which is directly influenced by the inlet and is associated shoals and which is stabilized by jetties, terminal groins or other structures.

In accordance with the Beachfront Management Act, Hilton Head Island is divided into 3 inlet erosion zones and 2 standard erosion zones. These zones are defined and described from south to north according to the numbering system of the State's beach monitoring network. The location of each monitoring monument and zone designation is shown in Figure 14 - Beach Control Monuments & Erosion Rate Zones. Each of the inlet zones are unstabilized by terminal groins, jetties or other types of shoreline armor. The historical erosion rates adopted by the State are shown in Table 9: Historic Erosion Rates for Current Beachfront Baseline. Sections taken over the years at specific beach control monuments can be seen in Figures 15-22 – Beach Control Monument Sections.

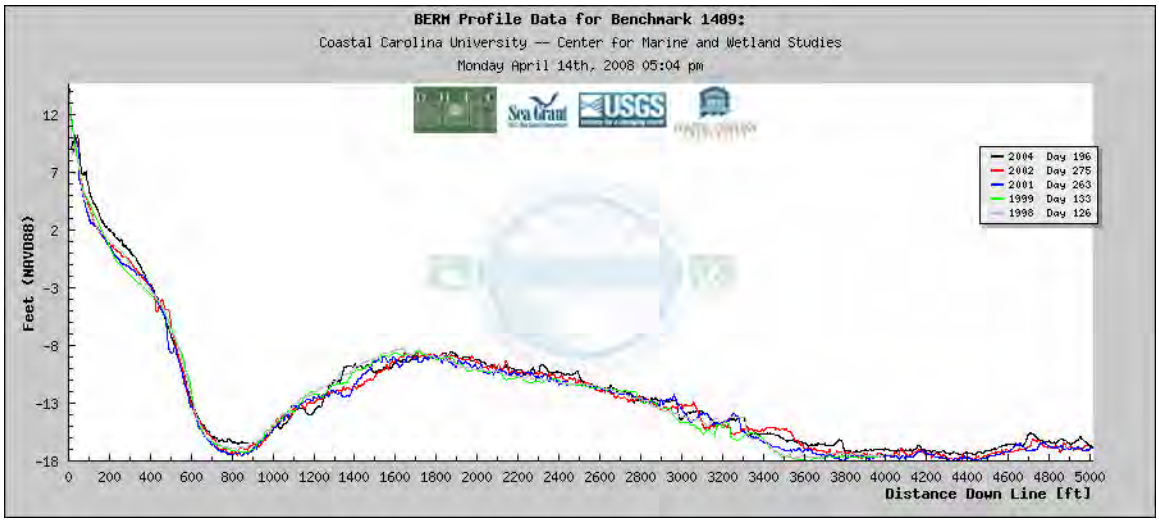
Table 9

Historic Annual Erosion Rates for Current Beachfront Baseline
DHEC-OCRM, December 6, 1999

Monument	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	S/A
1427	S/A
1430	S/A
1433	S/A
1436	-0.6
1437	-0.9
1438	-1.2
1439	-1.6
1440	-2.0
1442	-2.7
1444	-3.5
1445	-4.1
1446	-4.2
1448	-4.3
1451	-5.3
1454	-5.4
1456	-5.65
1457	-5.9
1460	-6.0
1462	-5.9
1463	-5.8
1465	-5.65
1466	-5.5
1468	-3.4
1469	-1.3
1472	S/A
1475	S/A
1478	S/A
1481	S/A
1484	S/A
1487	-2.6
1490	-4.3
1493	-3.0

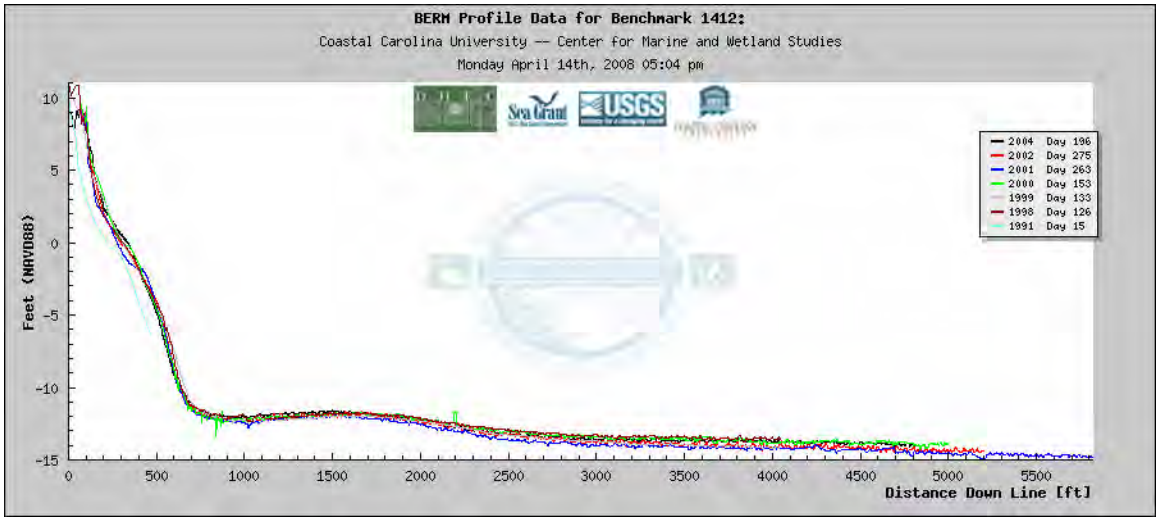

Port Royal Sound
Skull Creek
Broad Creek
Calibouge Sound
Atlantic Ocean
I H
S
I H
S
I H
Legend
DHEC Beach Control Control Monuments
DHEC Erosion Rate Zones
S = Standard Zone
I H = Inlet Hazard Zone
Town of Hilton Head Island
Beach Markers and Zones
March, 1999
10,000 5,000 0 10,000 Feet

Figure 15: Beach Control Monument 1409, Section



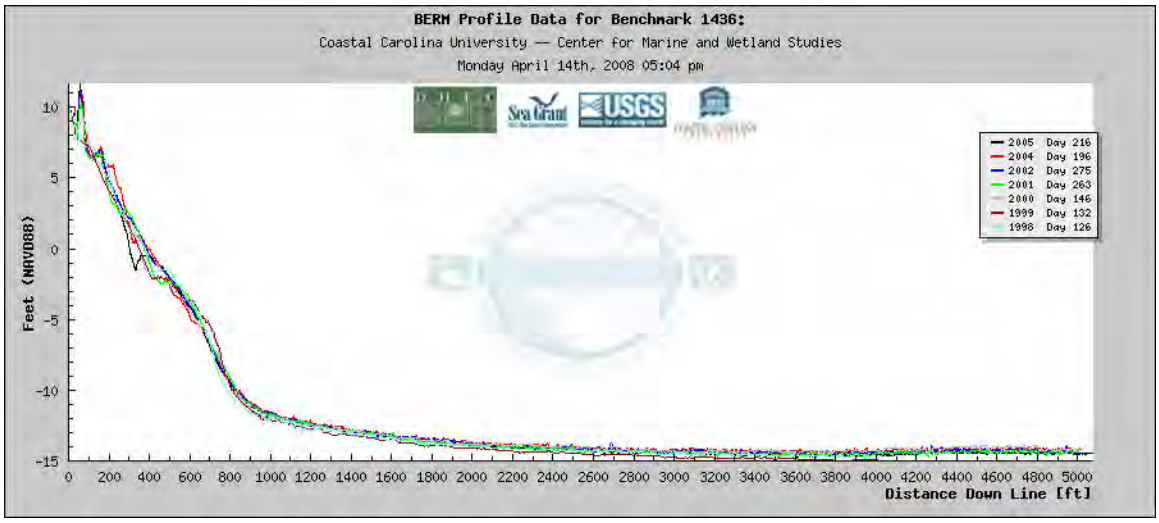
Beach Profiles near the Southern end of Hilton Head Island in the Inlet Erosion Zone at DHEC-OCRM Station 1409, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 16: Beach Control Monument 1412, Section



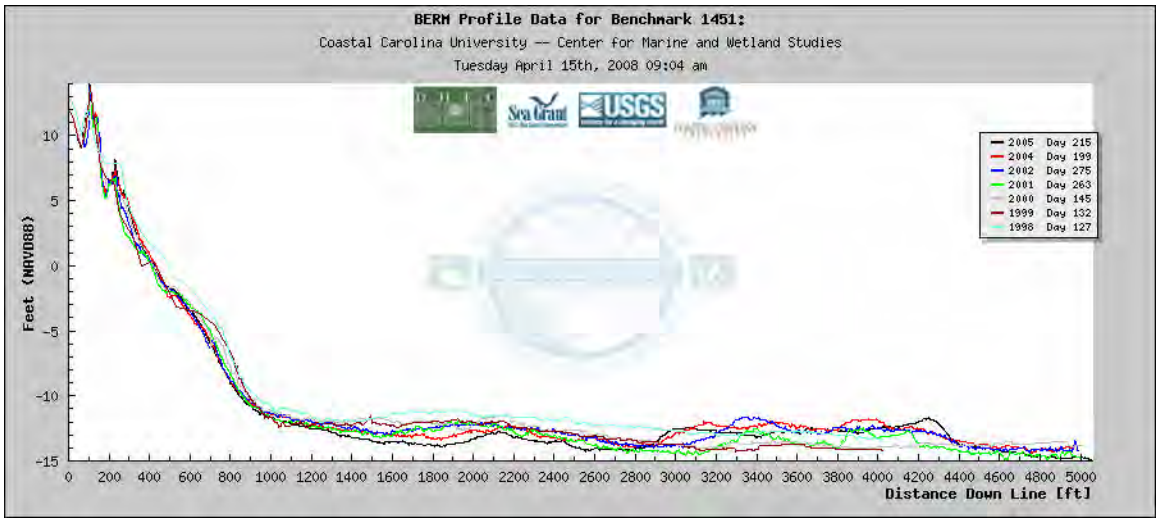
Beach Profiles near the Southern section of Hilton Head Island in the Standard Erosion Zone at DHEC-OCRM Station 1412, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 17: Beach Control Monument 1436, Section



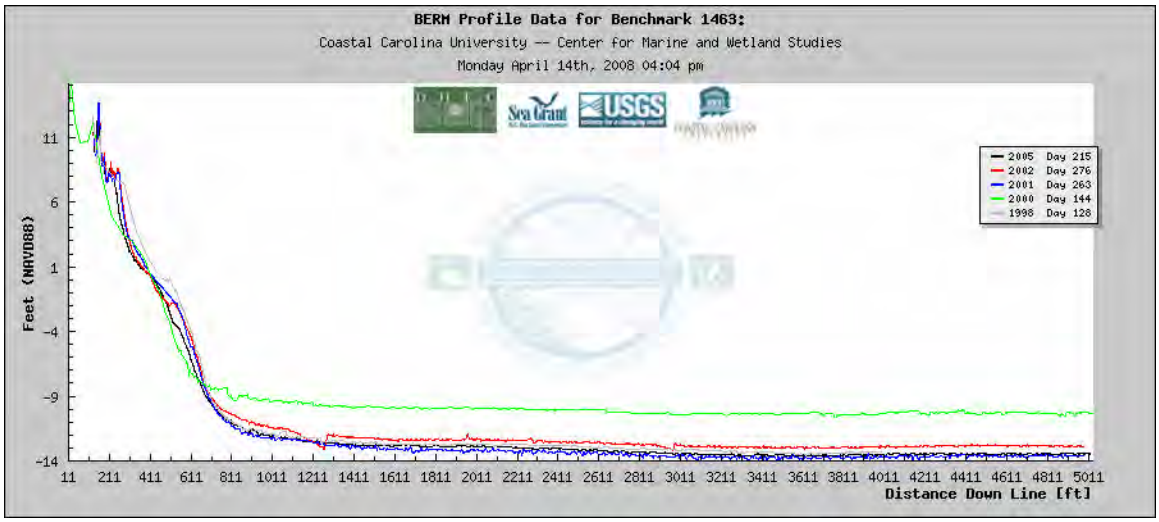
Beach Profiles near the South-eastern section of Hilton Head Island in the Standard Erosion Zone at DHEC-OCRM Station 1436 (Coligny Circle), created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 18: Beach Control Monument 1451, Section



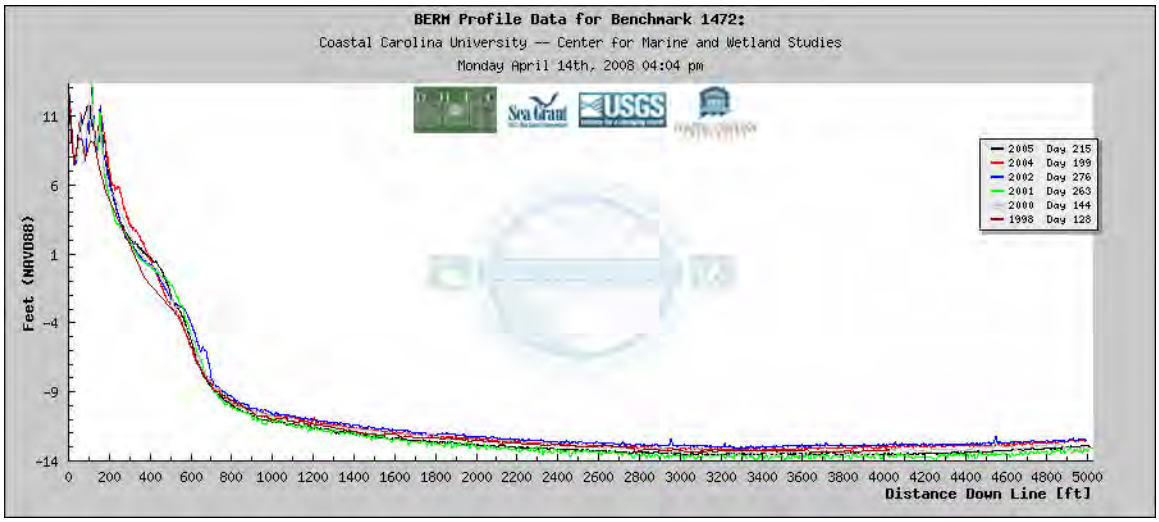
Beach Profiles near the Center section of Hilton Head Island in the Standard Erosion Zone at DHEC-OCRM Station 1451, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 19: Beach Control Monument 1463, Section



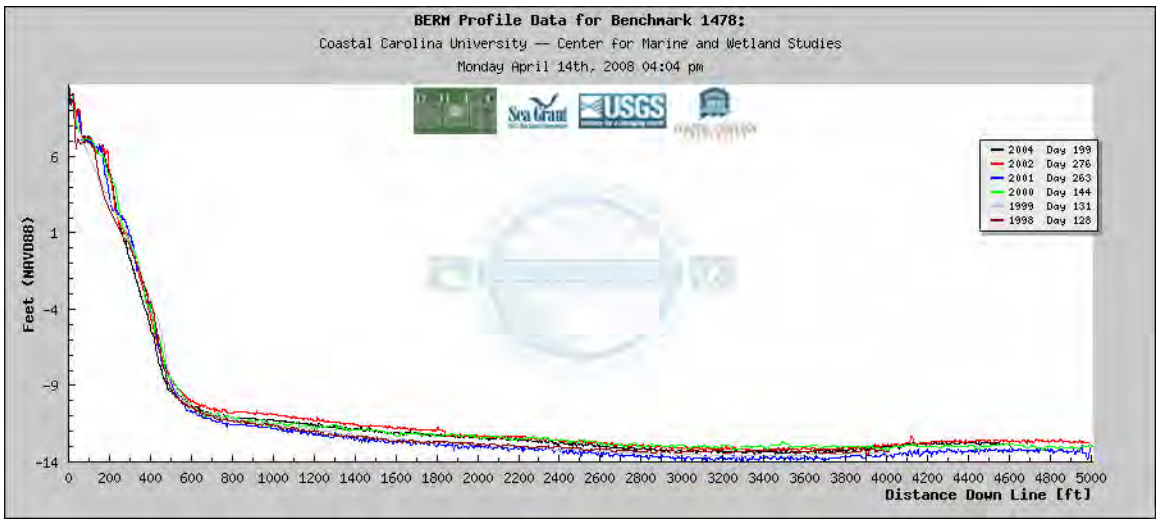
Beach Profiles near the Northeast section of Hilton Head Island in the Standard Erosion Zone at DHEC-OCRM Station 1463, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 20: Beach Control Monument 1472, Section



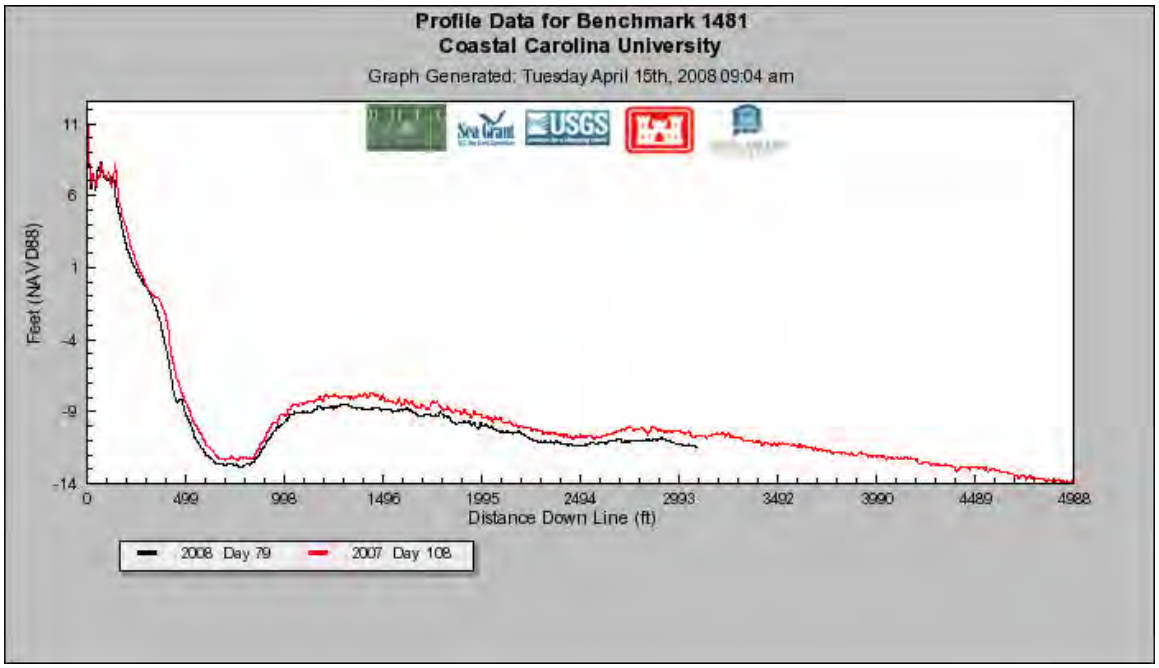
Beach Profiles near the Northeast end of Hilton Head Island in the Inlet Erosion Zone at DHEC-OCRM Station 1472, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 21: Beach Control Monuments 1478, Section



Beach Profiles near the Northern end of Hilton Head Island in the Standard Erosion Zone at DHEC-OCRM Station 1478, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Figure 22: Beach Control Monument 1481, Section



Beach Profiles from 2007-2008 near the Northern end of Hilton Head Island in the Inlet Erosion Zone at DHEC-OCRM Station 1481, created at http://camelot-2.coastal.edu/profiles/plotbybm.php.

Description of Zones

The portion of Sea Pines Resort bordering on Calibogue Sound is an unstabilized inlet erosion zone *(Iu)* subject to direct influence by the Sound. This zone has been accreting since 1965. The Calibogue Sound Erosion Zone includes the shoreline segment from the wooden groin at Land's End to Station 1409 at March Wren Road in Sea Pines Resort, a distance of approximately 10,000 feet. State monuments 1400-1409 are located here. The long-term shoreline change rate is 2 to 5 feet per year of accretion. The 1999 renourishment project increased the beach by as much as 250 feet and has remained stable with only slight erosion.

The next zone is a 10 mile long standard zone *(S)* which extends from station 1409 in Sea Pines to station 1469 just south of the Folly. This area also includes South Forest Beach, North Forest Beach and Palmetto Dunes. Long term erosion rates vary in this zone; they are accretional south of Coligny Circle and erosional north of Coligny Circle, with the rate of erosion increasing with the distance from the Circle. A maximum rate of -6 feet/year is reached at station 1460, located in Palmetto Dunes. The most significant event to occur in this zone was the first beach renourishment project which placed about 2.5 million yards of sand over 35,000 feet of the shoreline from Coligny Circle to the Westin Hotel.

The third zone is a 2,200 foot long unstabilized inlet zone*(Iu)*, located on either side of the Folly from station 1469 to 1472. This area is very dynamic, as the beach changes in response to shifts in the position of the Folly. Erosion rates vary from less than 1 foot per year to -1.3 feet per year.

The fourth zone is a 1.3 mile long standard erosion zone *(S)* extending from just south of Burkes Beach Road to the Westin Hotel, and includes stations 1475 to 1478. This area has historically been accretional. Erosion rates in this zone range from less than 1 foot per year to over 2 feet per year.

The fifth zone is an unstabilized inlet zone *(Iu)* which includes all of the Port Royal Plantation shoreline. This area is directly influenced by the tidal action of Port Royal Sound. Survey stations 1481 through 1496 are located here. This inlet zone has been accretional along the Atlantic shoreline up through station 1484 and has experienced long term erosion along the Port Royal Sound shoreline.

2. *Evaluation of Erosion Control Alternatives*

Since about 1986 a fundamental tenet of the Town's beach management strategy is that reliance upon "*hard*" structures should be minimized. Prior to the initiation of beach restoration through nourishment, different types of hard structures implemented for shore stabilization by the private sector (*i.e.* homeowners, developers, hotels, P.O.A.'s, etc.) have typically consisted of structures such as groins and seawalls or bulkheads. For the purpose of evaluation, two basic types of shoreline stabilization techniques have been considered: hard and soft shoreline treatments. In 2005, Olson and Associates prepared a white paper on shoreline stabilization structures that included the following evaluation of alternatives for both "hard" and "soft" erosion control techniques.

"Armoring consists of shoreline *hardening* through the application of bulkheads, seawalls or revetments.

- Bulkheads are vertical retaining walls designed to hold or prevent soil from sliding waterward.
- Seawalls are usually massive, vertical designed structures used to protect backshore areas from heavy wave action. In highly erosive conditions or exposed locations they may separate land from water.
- Revetments provide a sloping protective cover of erosion resistant material to protect a shorefront from waves and/or strong currents. They can be solid (*i.e*. sloping concrete for example), but most typically are comprised of a designed cross section of natural rock (like granite), or on less frequent occasions manmade type armor units.

  Although armoring may be successful in limiting or reducing the extent of horizontal shoreline recession along a chronically eroding shorefront, it does *not* serve to alleviate deflation (*i.e*. vertical erosion) of the beach profile seaward. Hence, armoring is considered to be net impactive with respect to littoral processes. Most vertical armoring is highly reflective of incident wave energy, thereby further accentuating offshore sediment losses, in particular during storm events. For this reason, a sloping rock revetment (with a lower coefficient of reflectivity) is typically preferable over a vertical seawall or bulkhead in open coast environments.

Groins are one of the oldest and most common shore connected beach stabilization structures. Groins are structures typically constructed perpendicular to a shoreline in the zone of most active littoral transport across the beach profile. As such, groins are often designed to interrupt alongshore transport in order to trap, or retain sand mobilized by waves or currents.

Groins are often deployed as a field of structures in order to spatially affect a section of shorefront. At the terminus of a littoral cell, a single "terminal structure" may be used to anchor the beach, and/or limit the removal of sand from the shore into a navigational channel or the shoals of a tidal inlet."

Rather than these hard structures, the principal means of shore stabilization embraced by the Town of Hilton Head Island Shoreline Management Plan should be beach nourishment, a restorative "*soft*" structure which provides for improved shorefront conditions suitable for recreation, protection of upland development or infrastructure, as well as global environmental enhancement. In the mid 1980's the Town commissioned an "Erosion Assessment Study for Hilton Head Island" which was followed by an "Engineering Evaluation of a Beach Restoration Strategy for Hilton Head Island." In addition to providing the technical rationale for beach nourishment, these two documents formed the basis for the Town's initial and only request to use State funds for the purpose of beach nourishment in 1989.

Since that time, the Town has enacted a local "Beach Preservation Fee" which amounts to a 2% assessment on short-term rental accommodations. Rental to the same person or party of ninety (90) continuous days or more is not considered short term. The collection of this fee has allowed the Town to unilaterally fund subsequent beach renourishment projects, conduct semi-annual beach surveys and annual shoreline aerial photography, provide annual monitoring reports, acquire land, develop beach parks to enhance access, and install and maintain sand fencing and dune vegetation. The

program generates approximately $4 million per year. The Town of Hilton Head Island has spent $35 million for beach renourishment projects between 1990 and 2007, and the Town's Capital Improvements Program includes funding to continue providing beach re-nourishment and maintenance in future years.

The Town has undertaken large scale fill projects on its oceanfront beach in 1990, 1997 and 2006. Besides the creation of a wider, higher and more robust beach configuration suitable for both active and passive opportunities at all stages of the tide, the Town has also been able to initiate a wide array of additional beach and shoreline management functions. These efforts benefit the local population as well as the island's natural environment. Noteworthy accomplishments directly associated with the Town's existing management program include, but are not necessarily limited to the following areas:

- A coincident program of dune and vegetation restoration,
- Improved beach protection laws for existing shorefront development and future redevelopment,
- Enhanced property values and concurrent advalorem tax base,
- Eligibility for unique post-disaster financial assistance from FEMA,
- Acquisition of undeveloped oceanfront lands for purposes of improved public access and park creation,
- Improved promotional opportunities and amenities for resorts, hotels, property management firms, etc.
- Protection of the Folly and its unique estuarine environment,
- Improved Federal Flood Insurance program compliance,
- More effective regulation of inappropriate oceanfront development,
- Enhanced habitat for birds and endangered sea turtles.
- Semi-annual beach surveys and annual shoreline aerial photography are used for modeling erosion and accretion rates when studying the Island's renourishment needs.

3. *Beach Alteration Inventory*

Beach Renourishment

In 1980 United States Army Core of Engineers issued a permit for the deposition of 300,000 cubic yards of sand along approximately 14,000 linear feet of the beach to Sea Pines Company before the Town took over the project. The renourishment sand was transported from the permitted dredging project of Shelter Cove Marina, located mid-island on Broad Creek, as a result of its compatibility with existing beach front sand. A Palmetto Dunes Resort project was the only renourishment project on Hilton Head Island permitted by the USACE and certified by the South Carolina Coastal Council prior to 1990, and predates the incorporation of the Town.

In 1990 the Town of Hilton Head Island undertook a nourishment project that was jointly funded by the State and the Town. This project involved the placement and contouring of as much as 2.5 million cubic yards of compatible sand along 35,000 linear feet of the beach. This renourishment project covered an area of the beach from just north of the Westin Hotel to south of Coligny Circle, with a small area excluded around the Folly. The sand was excavated and placed by hydraulic dredge from two offshore borrow sites located at Joiner and Gaskin Banks.

In 1997, the Town performed another renourishment project located very similarly to the 1990 project; however this project addressed an additional 1.5 mile segment along Port Royal Sound, the reconfiguration of a tidal channel and the installation of sand fencing and native vegetation to encourage dune formation and stabilization.

In 1999 another renourishment project was permitted for emergency work to renourish along the South Beach shoreline as the preferred solution to the localized erosion problem which was occurring at that time. This fill was placed over the South Beach groin field rather than maintaining the structures themselves.

In 2007, the Town finished a $16.6 million project that was similar to the projects constructed in 1990 and 1997, with the exception of certain design refinements near the Marriott and along North Forest Beach. In addition the Town elected an area near Fish Haul Creek along the shoreline of Port Royal Sound due to chronic erosion. This project placed about 2 million cubic yards of sand along 6.6 miles of Atlantic shorefront, from just south of Coligny Circle to just north of the Westin Hotel at Port Royal Plantation, 85,000 cubic yards of sand along 2,000 feet of the Port Royal Sound shoreline north of Fish Haul Creek at the Spa, and 42,000 cubic yards of sand along 1,500 feet of Atlantic Shorefront at South Beach. As with previous projects, the nourishment sand was excavated by hydraulic dredge from two offshore shoal features.

Existing Shoreline Stabilization Structures

Although the Town's preferred approach to shoreline stabilization is beach renourishment, historic efforts to stabilize the Island's shoreline have resulted in structures being installed by various entities at six locations along the Island's shoreline.

South Beach Groins

Seven shore-stabilizing structures presently exist along the southern extremity of the Island within Sea Pines. Six of these structures constitute the groin field found along South Beach's ocean-facing shoreline, while the seventh structure is a terminal groin commonly called the Land's End Groin, located immediately adjacent to the Braddock Cove tidal creek. These structures were installed during the late 1960's and 1970's by Sea Pines Company.

North Forest Beach Armoring

In conjunction with the development of this residential area in the 1960's and prior to the adoption of the S. C. Beachfront Management Plan and DHEC OCRM setback line in the 1980's, over a mile of various forms of armoring was constructed along the North Forest Beach shoreline by property owners. Typical types of armoring ranged from walls, to granite rip rap and concrete rubble, most of which was placed in an undesigned fashion on an as-needed basis. As a result of the Town's renourishment efforts, this zone of shoreline hardening has been effectively isolated from normal day to day wave and tide impacts by beach fill projects conducted in 1990 and 1997. Since the section of central Hilton Head Island shoreline extending from North Forest Beach to the present day Marriott Hotel naturally experiences the most erosional stress, it is deemed to be an important trigger for beach restoration activities.

Marriott Hotel Sloping Concrete Revetment with Seawall

The existing Marriott Hotel complex (formerly the Hyatt Hotel) is an example of the placement of a major habitable shorefront structure at the natural dividing point along Hilton Head Island's littoral system. A massive sloping concrete revetment with seawall was constructed in conjunction with and upland thereof the original project, clearly acknowledging that the hotel complex would be subjected to wave and tide impacts. However, what may not have been realized was the magnitude for potential chronic shoreline recession at that location. A Littoral Transport Study of the island's oceanfront shoreline (Olsen, June, 1996) confirmed that the natural dividing point for littoral transport lies in the vicinity of the hotel and that phenomenon has been partially responsible for increased background erosion rates measured at that location. Although two previous beach renourishment projects have overtly sought to both reduce erosion vulnerability at the Marriott hotel site and to maximize post-construction beach widths sufficient to address high intensity recreational demand, it is recognized that a comprehensive solution is neither practical nor cost-effective seaward of the hotel complex. It is acknowledged that erosion of this area will occur faster than other areas along the shoreline; however due to the specific nature of this area, such an occurrence will not be used as the trigger for a large scale renourishment, like erosion in the North Forest Beach area.

Folly Terminal Groin

A relatively short rock terminal groin was built along the west side of the small tidal inlet known as the Folly, as part of the 1997 renourishment project. The primary purpose of the structure was to allow beach restoration operations to occur in close proximity to the Folly (westward of the inlet only) without increasing the probability of closure due to project induced shoaling. DHEC OCRM permits for beach nourishment on Hilton Head Island, require that the Folly "must be kept in an open and flowing condition" since the tidal inlet is connected to a small isolated estuarine area deemed to be an important environmental resource. Accordingly, maintenance of the groin structure at its current location and approximate existing configuration is an important mechanism for minimizing fill impacts at this location of the island. Conversely, the eastern limit of the Folly has remained unstabilized and beach fill operations at that location are not allowed to encroach toward the inlet.

Port Royal Plantation Groin Field

Along the Port Royal Shoreline, 17 shore perpendicular groins and two shore parallel rock revetments were constructed between 1969 and 1974. The 17 groins were constructed of varying mixes of small, medium and large granite stone. Some groins included concrete rubble. The two remaining groins, located at the southeastern most section of the Port Royal Sound shoreline, were constructed of palm tree trunks combined with granite stone. It is estimated that these two structures were constructed around 1960. The groins' lengths vary from about 100 to 600 feet and the spacing between groins varies from approximately 165 to 850 feet.

Town/SPA Breakwaters

As part of the 2006 Beach Renourishment Project, a new section of Port Royal Sound facing shorefront received limited beach fill to the northwest of Fish Haul Creek. As a complement to the small sand fill, six small rock detached breakwaters were constructed seaward of the limits of sand placement. The purpose of the rock breakwaters is to extend the life (and performance) of the very small isolated fill project. The structures are likewise intended to reduce sand migration from the fill towards Fish Haul Creek. Subsequent to rock placement, marsh vegetation was planted in the lee of each structure to further encourage long term natural stabilization along this shoreline which is at the transition point from sandy beach to an estuarine environment. It should be noted that this shore stabilization project is not located within the DHEC OCRM Beach/Dune Critical Area, but serves to more evenly distribute beach access points throughout the Island.

BEACH MANAGEMENT AND AUTHORITIES

1. Public Trust Doctrine

The Public Trust Doctrine provides much of the basis for the management of public lands and waters in the United States. The Public Trust Doctrine is an example of common law, meaning rules derived from the traditional laws of England in the Middle Ages that were based on custom and precedent rather than legislative action. Common law often addresses issues of access, fairness, commerce, and land uses. The Public Trust Doctrine established that public trust lands, waters, and living resources are held in trust by the State for the benefit of all citizens. It also created the right of the people to fully enjoy public trust lands, waters, and living resources for a multitude of public uses. Finally, the doctrine established responsibilities for the State when managing these public trust resources, and set limitations on the ways government, public, and private owners can use public trust resources.

In the coastal zone, the Public Trust Doctrine covers navigable waters and lands that are subject to the ebb and flow of the tide, including tidal marshes and oceanfront beaches. While each state is able to implement the Public Trust Doctrine according to its own views of justice and policy, the core principles are the same throughout the country. These principles, and the responsibility they establish for the state, are at the heart of many of the state's coastal laws, regulations, and policies. In many states, including South Carolina, the jurisdiction of the Public Trust Doctrine on the beach and navigable waters of the ocean extends landward to the mean high water line. Generally, the Public Trust Doctrine protects the right of the public to pass along the shoreline up to the mean high water line and utilize the space for fishing, navigation or recreation. The Public Trust Doctrine does not authorize the public to trespass on upland private property in order to access the beach. However, the doctrine does help preserve and protect the right of the public to access and utilize the beach

In South Carolina, as with much of the United States, the Public Trust Doctrine has been at the center of numerous court cases and deliberations and will likely continue to be. This doctrine is at the core of the philosophy of coastal zone management and should be recognized and considered by the government, private landowners, and the public at large in the course of decision-making along the beach.

2. Agencies and Jurisdiction

Numerous agencies have responsibility or authority for assisting beach management on Hilton Head Island. This section provides a summary and description of the agencies with regulatory or management authority relevant to beach management in the Town of Hilton Head Island.

Federal

The US Army Corps of Engineers (USACE)

The US Army Corps of Engineers (USACE) is responsible for providing engineering services to the United States, including a major role in civil works projects in which there

is a federal interest. The regulatory mission of the USACE is to protect federal trust resources in their authority. USACE also plays a major regulatory function through section 404 of the Federal Water Pollution Control Act of 1972 (better known as the Clean Water Act), which authorizes the Secretary of the Army to issue permits for the discharge of dredged and fill material in and around wetlands.

USACE has three main permitting mechanisms; the general permit (GP), individual permit, and Nationwide permit. The Army Corps is responsible for reviewing applications and regulating beach nourishment activities under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act. The decision to issue a permit is based on evaluation of the probable impacts of the project including cumulative impacts of the activity on the public interest.

USACE also maintains an emergency management responsibility through its Emergency Management Division located in Charleston. During emergencies, USACE is authorized to provide engineering and public works assistance to State government agencies.

The National Oceanic and Atmospheric Administration (NOAA)

The National Oceanic and Atmospheric Administration (NOAA) is a federal agency housed within the Department of Commerce. The mission of NOAA is to protect federal trust resources, provide mapping of navigation channels, monitor and forecast weather, monitor coastal dynamics and conditions, and manage the nation's coasts. Within NOAA are the National Ocean Service and the National Marine Fisheries Service.

The National Marine Fisheries Service (NMFS) implements the Magnuson-Stevens Fishery Management Act policies, monitors and establishes federal catch limits, restores coastal wetlands and shellfish habitat, and assesses natural resource damages to federal trust species. NMFS has coordination authority over federal activities and permits that may adversely affect Essential Fish Habitat (EFH), and requires notification and consultation prior to federal permitting of certain activities, including beach nourishment. NMFS administers the requirements of the Marine Mammal Protection Act, and has joint responsibility with the US Fish and Wildlife Service for the protection and recovery of sea turtles.

The National Ocean Service monitors coastal processes and conditions and administers the federal Coastal Zone Management program. Section 307 of the Coastal Zone Management Act requires that an applicant for a federal permit, grant, license, or approval must certify that the proposed action is consistent to the maximum extent practicable with the policies and purposes of a federally approved State coastal management program. The state must concur with this certification prior to a federal agency undertaking the approval, authorization, licensing or funding of the proposed project.

The US Fish and Wildlife Service (USFWS)

The US Fish and Wildlife Service (USFWS) is the federal agency responsible for the protection of federal fish and wildlife habitats and species, specifically those that are imperiled, threatened, or endangered. Much like NOAA, USFWS does not directly permit or authorize activities but is typically part of a consultation team and can elevate

issues that are deemed important. USFWS is responsible for administering the federal Endangered Species Act (ESA), which protects threatened and endangered species and habitats primarily on land and on the beaches in coastal areas. The USFWS has direct responsibility for protecting endangered insects, plants, and shorebirds, and shares joint responsibility with NMFS for the protection and recovery of sea turtles.

The Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) is part of the Department of Homeland Security and is responsible for reducing the loss of life and property and protecting the Nation from hazards, including natural disasters. FEMA supports a risk-based program for a comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. The Agency provides coordination, resources, and communication to state agencies during federal emergencies and is involved in promoting community resiliency and post-disaster relief. FEMA also administers the National Flood Insurance Program, a federal program enabling property owners in participating communities to purchase insurance as protection against flood losses in exchange for State and community floodplain management.

The United States Coast Guard (USCG)

The United States Coast Guard (USCG) is the federal agency responsible for protecting the nation's waterways and coastline as part of the Department of Homeland Security. The Guards' missions include promoting maritime safety, security and mobility, providing for national defense, and protecting natural resources. USCG performs search and rescue operations in coastal areas for missing boaters, lost swimmers, and sinking vessels. Coast Guard is also involved in law enforcement on the water, particularly reckless boating, boating while intoxicated and drug interdiction. In addition, the Coast Guard has authority over the permitting of bridges. A major responsibility of the Guard is to respond to, investigate, and address oil spills in a waterbody. USCG has developed an Area Contingency Plan for each section of the State for spills and response. USCG serves as the Federal On Scene Coordinator for spills.

State

State General Assembly

The South Carolina General Assembly is the legal legislative body in the State and as such holds significant authority over decisions of the State. The General Assembly has the authority to control public lands, including bottomland and beaches below the mean high water mark, manage public trust resources, such as finfish and shellfish, and regulate the use of waterbodies for various purposes including navigation. The Assembly has delegated responsibility for the management of many Public Trust resources to State agencies. All authority and jurisdiction assumed or acted upon by any State agency is through direct delegation of such authority from the South Carolina General Assembly.

Department of Health and Environmental Control (DHEC)

DHEC is the state's health and environmental management agency comprised of five deputy bureaus including Administration, Health Regulation, Health Services, EQC, and OCRM. The mission of DHEC is to promote and protect the health of the public in South Carolina. As the state's health agency, a considerable amount of resources are directed to the protection of human health. The DHEC Commissioner and a Board of Health and Environmental Control comprised of seven appointed members are appointed by the General Assembly.

DHEC Office of Environmental Quality and Control (EQC)

DHEC-EQC is the state's environmental management and regulatory agency and operates eight regional offices in the state. EQC manages water and community wastewater permitting, stormwater permitting, septic system, public and private wells and other inspections, manages air emissions, brownfields, solid waste and hazardous waste, mining, beach monitoring, public swimming pools, and permitting activity for numerous environmental program areas.

DHEC Office of Ocean and Coastal Resource Management (OCRM)

DHEC OCRM is the State's coastal management agency and administers the federal coastal program, as amended and refined by the state, and protects and manages coastal public trust resources. Formerly known as the South Carolina Coastal Council, DHEC OCRM consists of a regulatory division, a coastal planning division, a science and policy division, communications and technical resources division, and an administrative division. The regulatory program reviews and permits dock activities beach and dune permits, beach renourishment, wetland impacts, marina applications, and coastal stormwater permitting within the eight coastal counties. The Planning Division provides assistance to local communities in identifying and addressing coastal change, prepares guidance and policy documents to assist government agencies in understanding coastal issues, and manages the preparation of local comprehensive beach management plans.

Department of Natural Resources (DNR)

The South Carolina Department of Natural Resources (DNR) is the principal advocate for and steward of the State's natural resources. This is accomplished through regulating hunting, fishing and boating activities and through conservation and land and water management programs. DNR administers the State's threatened and endangered species programs, including protection of shorebirds, sea turtles and marine mammals. DNR also administers most of the State's authority for the management of surface vessels and enforcing boating regulations through the DNR Law Enforcement Division.

Department of Transportation (DOT)

The South Carolina Department of Transportation (DOT) is responsible for planning, constructing, and maintaining state roads and bridges, and providing mass transit services in the State. DOT is an Executive branch agency that is overseen by a seven-

member commission. The Governor appoints the Commission chairperson and the six commission members represent the congressional districts of the State. The Commission is responsible for hiring the Executive Director who then is responsible for hiring division directors. The Department helps plan for hurricane evacuation routes and maintains and publishes the current evacuation routes. DOT also provides emergency response during hurricanes to facilitate evacuation.

Emergency Management Division

The South Carolina Emergency Management Division (EMD) is responsible for preparing for, responding to, and assisting in recovery after major disasters, storms, and other emergencies. EMD is comprised of six divisions under the supervision of a Division Director. The divisions include the division director's office, public information, preparedness and recovery, response and operations, critical incident management group (CIMG) and administrative services. EMD provides planning assistance for communities prone to emergencies such as storms or hazards, and also provides training to responders. A Regional Emergency Management Program is housed in EMD that provides on-the-ground assistance to communities in the six EMD districts. EMD also works directly with county and local governments following storms to help facilitate rebuilding.

Town

The enforceable jurisdictional boundaries of the Town generally include all of Hilton Head Island including an area extending one mile offshore as per Section 5-7-1450 of State Statutes. The Town also includes a large area of Town owned property on Jenkins Island. The jurisdictional area of the Town is defined by Section 2-1-20 of the Municipal Code.

The areas of Jenkins Island that are not included within the Town's limits are regulated by Beaufort County and include the following developments: Windmill Harbour, Blue Heron Point, Mariners Cove and the RV Resort.

3. Regional Planning Efforts

In 2006, the Town of Hilton Head Island adopted by resolution the Southern Beaufort County Regional Plan. In relationship to Beach Management, this plan recommended that the participating local governments adopt the same regulations, if possible. As part of the implementation of this plan, a regional Natural Assets Working Group was formed which compiled a list of baseline standards that should be adopted by the applicable participating local governments and also be made available to the region. These included such recommendations as uniform dune/dune system definition, protection of more than just the primary dune, protection of all dune plants, reasonable dune plant pruning, re-establishment of dunes systems by redevelopments, restriction of structures in dune systems and buffer areas, uniform lighting standards for protection of wildlife, and standards for violations. These recommended suggestions are still being reviewed by the Regional Plan's Implementation Committee.

4. Town Comprehensive Plan

The Town's first Comprehensive Plan was adopted in 1985. Revised and adopted in 1990, 1996, 2000, and lastly in 2004, the Comprehensive Plan is a continuing planning program for the physical, social and economic growth, development and redevelopment of the Island. The original 1991 Town Beach Management Plan was adopted as part of the Town's Comprehensive Plan. This updated Beach Management Plan constitutes a revision and updating of the previous 1991 Beach Management Plan and will be adopted as an Appendix to the Town's Comprehensive Plan.

Other Elements of the Comprehensive Plan promote protection and preservation of the beach and dune systems. The Natural Resources Element describes the Island's beach systems and coastal dunes, as well as the endangered, threatened and rare plant communities and species. It also lists goals and strategies for continued research and monitoring of natural resources; improvement of water quality and reduction of pollutants; development and implementation of a wildlife protection plan; continued land acquisition to further protect sensitive and endangered environments; creation of view corridors; promotion of environmental education programs; and incorporation of environmental protection into development projects. The Land Use Element describes goals and strategies for reduction of allowable density to ensure that development does not create adverse impacts on the natural resources and encourages incentives and voluntary compliance with the 40 year setback zones. The Recreation Element provides strategies for park development and guidelines for the continued creation or expansion of public beach parks and beach accesses.

The Town's 1991 Beach Management Plan contained a required Recovery Plan. In 2003, the Town drafted and adopted the Recovery Plan, which is part of the Town's Comprehensive Emergency Management Plan. This Recovery Plan was a revision of an earlier 1991 Post Disaster Recovery and Mitigation Plan. The 2003 Recovery Plan is a very detailed document outlining continuity of government; reentry procedures; economic restoration; debris management; damage assessment; repair and restoration of public infrastructure; emergency ordinances; emergency permitting and inspections; rebuilding; housing; mitigation; finance administration; and mutual aid. In 2004, the Town adopted the Beaufort County Hazard Mitigation Plan which replaced earlier mitigation plans. It identifies natural hazards to the Island, contains a vulnerability assessment, and gives goals to continue periodic beach renourishment. A Disaster Recovery Commission is currently working on implementation of the 2003 Recovery Plan. This Plan will be discussed in more detail later in this document.

5. Land Use, Development and Zoning

Land Management Ordinance

The Land Management Ordinance (LMO) is a set of laws that regulate land use and development activity within the Town. It has several sections that regulate development activity on the beach and dune system.

A. Development Review and Design Standards

Development review and site design standards for all development on Hilton Head Island are regulated in LMO Chapter 3, 4, 5 and 6. This includes regulations on density, buffers, setbacks, aesthetics, landscaping, tree protection, wetland alteration, traffic circulation, open space standards, street and pathway standards, parking and loading standards, stormwater management standards, lighting, flood zone standards, fire protection water supply and utility standards.

In 1991, the Town did not have its own requirement for beach setbacks but relied on the setbacks established by the DHEC OCRM. Since 1991, the Town has amended LMO Chapter 5 to include regulations regarding buffer standards adjacent to the DHEC OCRM Baseline. These buffer standards adjacent to the DHEC OCRM Baseline state that the depth of the landward buffer, adjacent to the DHEC OCRM Baseline, shall be no less than 40 feet average and 20 feet minimum depth. Uses permitted in this buffer include street or driveway access, utilities, pathways, and lighting fixtures. As mentioned previously, the PUD's also contain their own beachfront setback requirements.

Other local setbacks exist regarding adjacent use and adjacent street setbacks in LMO Chapter 5. Adjacent Use Setbacks (for Single family, Multifamily/Recreational, Institutional/Commercial, and Industrial/Utility) and adjacent street setbacks (Single family detached and other uses) in areas outside the beachfront PUD's are governed by Chapter 5 of the LMO. Required setbacks for development shall be determined according to the relationship of the proposed use to the existing contiguous use on each property adjacent to the development. For purposes of determining the appropriate setback distance where the adjacent property is vacant, it shall be classified as the use which would require the greatest setback allowed by right in that district. As mentioned previously, the PUD's also contain their own adjacent use and street setback requirements.

One consequence of this setback restriction may be that the buildable area of a parcel of land is diminished. The State has attempted to overcome this limitation by adopting a policy encouraging buildings to be located as far landward as practical. However, once the local setbacks required by the Town and/or a local architectural review board are included, the buildable size of the parcel may be even further diminished. A local avenue of relief for landowners who find themselves in this dilemma exists in the form of a variance required from local setback requirements. The Town's Board of Zoning Appeals determines whether to grant the variance based on those findings dictated in the State enabling legislation which requires consideration of the Town's Comprehensive Plan and therefore the Beach Management Plan.

B. Regulations on Beach Protection

LMO Chapter 6 (Natural Resource Protection) contains regulations designed to promote the protection and stabilization of existing beaches. It describes general standards, beach nourishment and erosion control standards, beach access standards, and dune protection standards.

Before development plan approval is granted, it must meet the following general standards:

- Will not result in the removal or diminution of the amount of sand, silt, shell, sediment or other geologic components of any beach, or interfere with natural patterns of wind and water movement of sand, silt, shell, sediment or other beach components, except for maintenance of any structures causing these effects which were existing prior to the enactment of this Title;

- Will not result in the direct discharge of stormwater onto any beach;

- Will not result in the discharge of treated or untreated sewage or other human waste from land or waterborne sources, with the exception of advanced treated effluent irrigation systems approved by the SCDHEC;

- Will not result in the direct or indirect removal, destruction, depletion or digging out of vegetation which contributes to beach stability;

- Will minimize any interference with the natural use of the beach for feeding, foraging, resting, nesting and breeding by indigenous and migratory birds, shellfish, marine fishes, sea turtles and other wildlife. Such interference shall include the destruction or diminution of organisms or material upon which wildlife feed;

- Will not interfere with the customary rights of the public for access to and use of the active beach; and

- Will not remove, alter or destroy any beach protection structure, such as walls or revetments, unless specifically authorized by an appropriate development plan approval or building permit.

Standards for beach nourishment and erosion control detail requirements for fill materials; the use of natural features of the beach and dune system over artificial structures; limited approval of erosion control structures; interference with existing or planned public access to the beach; and timing of beach nourishment or construction of control structures.

Beach access standards regulate elevated walkways; vehicular access to the beach; general public interest in development applications (such as the need for land acquisition for public use); and prohibitions on development adjacent to the beach that would cause net loss of any officially designated beach access. Beach access will be discussed later in more detail.

Dune protection standards prohibit development on dunes with certain exceptions; prohibit primary dune destruction, disturbance or alteration with exceptions; restrict elevated walkways; allow vegetation planting and construction of wood, sand and wire fences; and prohibit removal, alteration or destruction of any dune protection structure. It also outlines when restoration or stabilization of existing dunes and creation of new dunes may be required for new developments and redeveloping properties.

C. Regulations on Beachfront Zoning

LMO Chapter 4 (Zoning District Regulations) provides for the establishment of certain base and overlay districts for the purpose of guiding development in accordance with existing and future needs and in order to protect, promote and improve the public health, safety, morals, convenience, order, appearance, prosperity and general welfare. A large portion of the beachfront area is zoned PD-1 (Planned Development Master Plans). Sea Pines and Port Royal Master Plans specifically identify much of their beachfront area as 'open space.' To change this land use, it typically would require a vote of the majority of property owners as this property is typically owned by the POA. Such a change would then require a rezoning by Town Council.

Other areas along the beach are classified into different zones. The designation of 'open space' along the beach is not specifically identified in these other zones as it is in the PD-1 zone. In some instances, this has led to certain parcels "(strand blocks)" being sold to developers who are looking into the possibility of developing these parcels. These strand blocks typically contain remnants of the dunes system that lie landward of the primary dune. Development of these areas would therefore destroy the remaining dunes system. The Town is taking steps to prevent this, as described later in the Shoreline Retreat Policy Section.

Density in the zoning districts is limited, in part to protect and preserve the beach and dunes system. The PD-1 zoning districts are typically 2 or fewer units/acre. The beachfront zones which allow the most density are limited to RM-8 and RD which both will allow 8 dwelling units per acre (d.u./acre).

The following is a listing and brief description of the character and purpose of each of the beachfront zoning districts (See Figure 23 - Official Zoning District Map.)

§ PD-1 (Planned Development):
The purpose is to recognize the existence of certain unique mixed use Planned Unit Developments (PUD's) which are greater than 250 acres in size. Generally, these PUD's have served to establish the special character of the Island as a quality resort and residential community and the intent in establishing this District is to allow the continuation of well-planned development within these areas.

§ RS-4 (Single Family Residential):
The intent is to allow, preserve and protect the character of low density, single family areas and neighborhoods at densities at 4 units per acre.

§ RS-6 (Single Family Residential):
The intent is to allow, preserve and protect the character of low density, single family areas and neighborhoods at densities at 6 units per acre.

§ RM-8 (Moderate Density Residential):
The purpose is to allow development of residential uses up to 8 dwelling units per net acre. This district is used to encourage a moderate density neighborhood providing a variety of residential opportunities for residents of the Town.

§ CFB (Central Forest Beach Resort Development):

The purpose in establishing this District is to provide for continued development of this moderate intensity resort-oriented neighborhood and infill with other compatible visitor-oriented development.

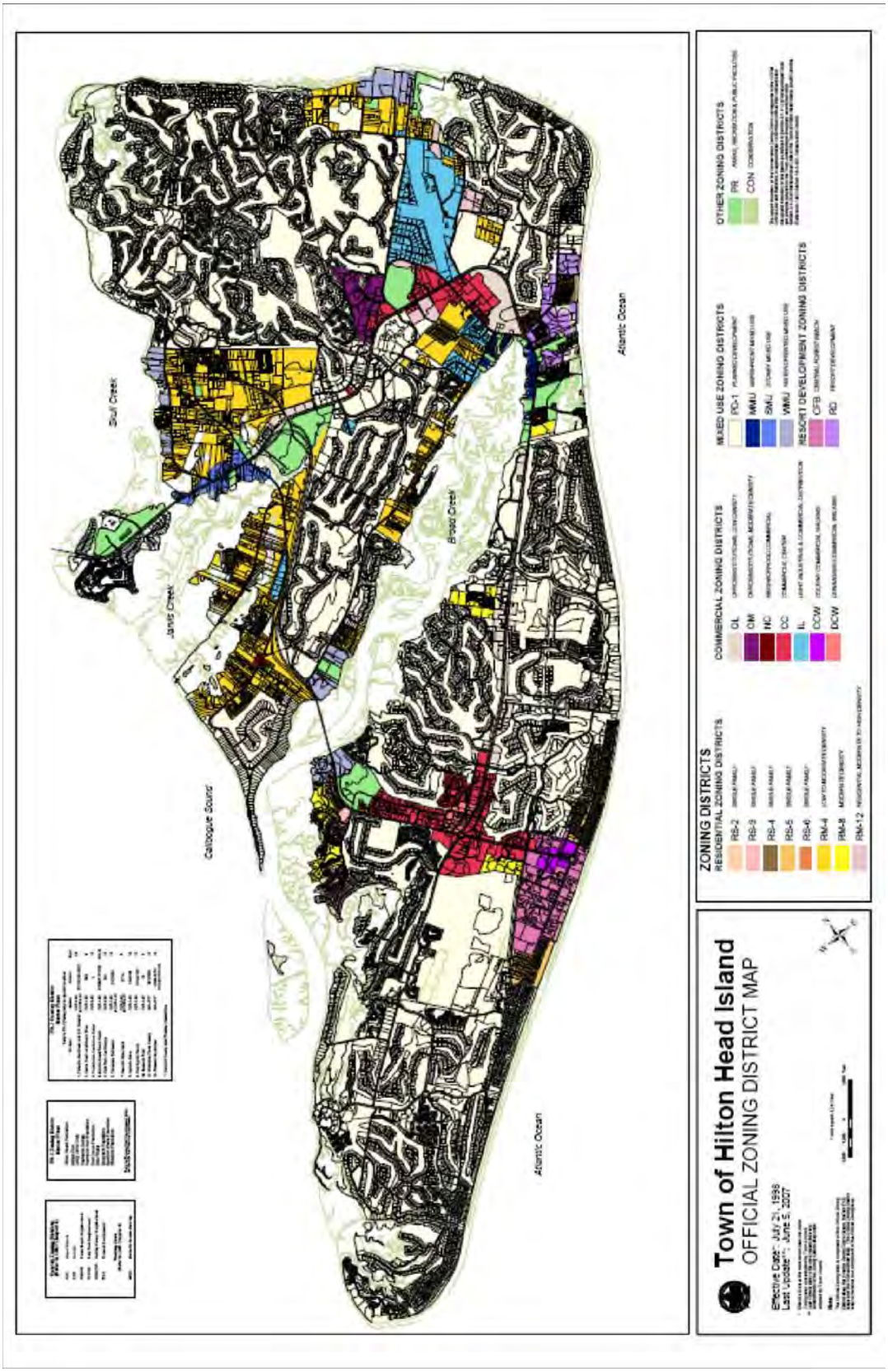
§ RD (Resort Development):
The intent is to provide for tourist resort development in the form of multi-family, timeshare or interval occupancy units intended for use as resort transient lodging, and, under controlled circumstances, the development of motels and resort hotels. It is also the intent to provide for commercial development aimed at serving the transient island visitor. The commercial development is meant to service primarily the market created by the needs and desires of the transient population staying in the resort development district.

§ PR (Parks, Recreation and Public Facilities):
The intent is to manage the types of land uses permitted on publicly held land by permitting the establishment of areas within the Town for active or passive recreation, or providing for the preservation of land in its natural character for public enjoyment.

§ CON (Conservation):
The purpose is to regulate very low intensity development in environmentally sensitive tidal wetland areas and the beach. Only development which will minimally disrupt natural features or systems, whether temporarily or permanently, will be allowed.

- Folly Field Neighborhood Character Overlay District:
The purpose of this overlay district is to protect the single-family residential character of the district and in particular the development and re-development of lots within the district. This district identifies the 'strand block' as being the area between the existing-most current seaward lots and the beach and is designated as open space. In addition, vertical construction in this designated area is prohibited. It also has an Open Space section which states that: "open space adjacent to the beach shall be designated as the area between the existing most current seaward lots and the beach and shall not be counted towards the density calculation for any development activities."

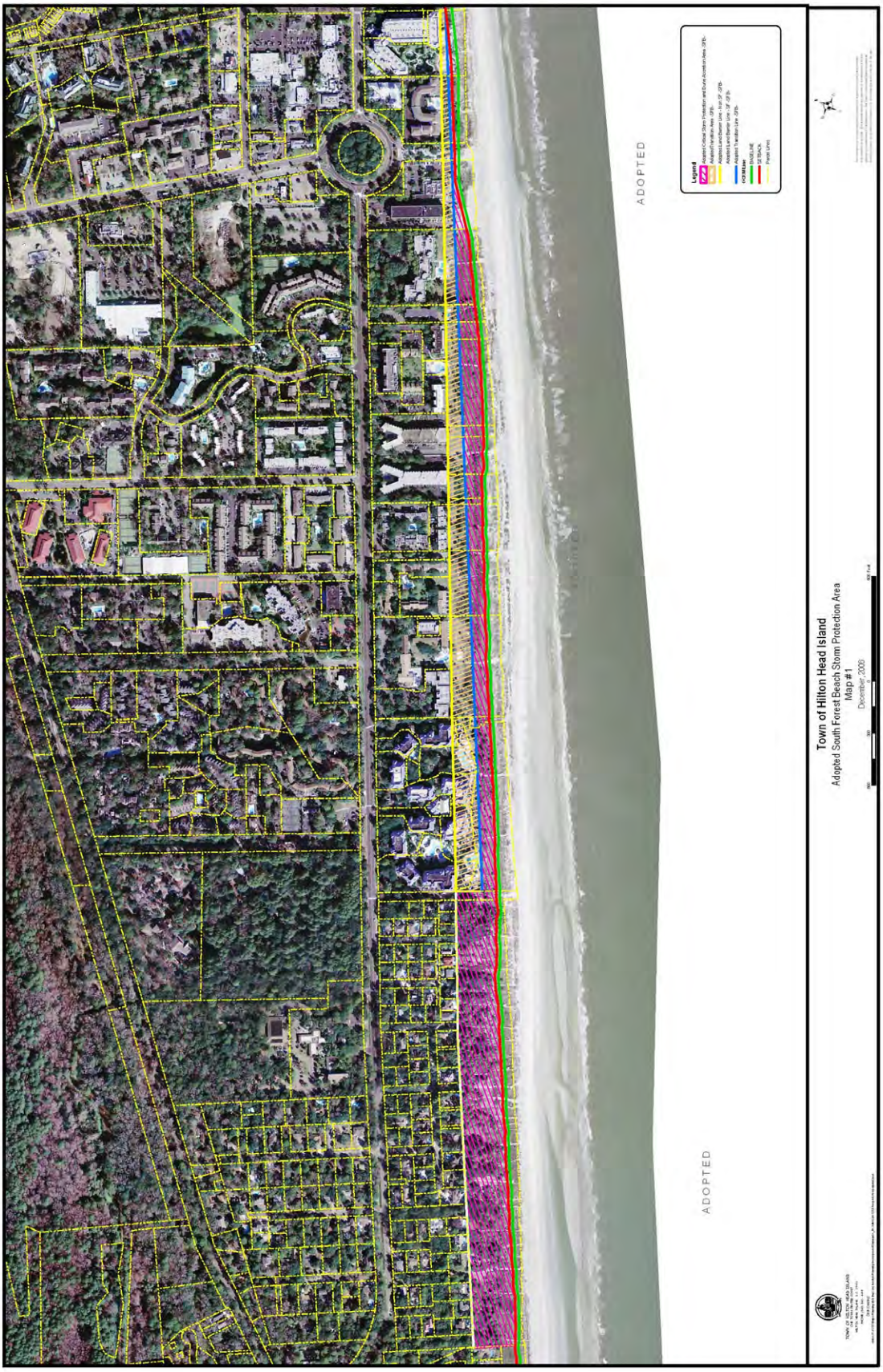
- Forest Beach Neighborhood Character Overlay District:
The purpose of this overlay district is to protect the single-family residential character of the District and in particular the development and redevelopment of lots within the district.


Town of Hilton Head Island
OFFICIAL ZONING DISTRICT MAP
ZONING DISTRICTS
RESIDENTIAL ZONING DISTRICTS
COMMERCIAL ZONING DISTRICTS
MIXED USE ZONING DISTRICTS
OTHER ZONING DISTRICTS
RESORT DEVELOPMENT ZONING DISTRICTS
Broad Creek
Calibogue Sound
Atlantic Ocean

Municipal Code

Beach and Dune Protection

In 2006, Town Council adopted an amendment to the Municipal Code Title 8 which strictly regulated the South Forest Beach area (see Appendix). Figure 24 - Critical Storm Protection and Dune Accretion Area indicates those areas along the beach that are between the State-mandated Setback Line and the actual line of habitable existing construction. The Town has determined that dunes systems exist in this area between the OCRM Setback Line and the line of existing construction that could be developed. A dunes system is defined as one or a series of hills or ridges of wind-blown sand or one or a series of hills or ridges of sand resulting directly or indirectly from restoration or beach renourishment, all of which may or may not be anchored by vegetation (e.g., sea oats) and is in the vicinity of the beach. Damage to or development of this dune system is not in the public interest and would not be in accordance with retreat policies of the State of South Carolina and the Town of Hilton Head Island. Furthermore, the Town wishes to protect, preserve, restore, and enhance the beach/dune system for the protection of life and property so it acts as a buffer from high tides, storm surge, hurricanes, and erosion. Therefore, in 2006, Town Council adopted a Resolution and Ordinance to create and define the Landward Barrier Line, define and designate a Critical Storm Protection and Dune Accretion Area and Transition Area, and limit the type of construction activities within these areas. Further research is being conducted to extend this concept, or a similar concept, further along the beach.


ADOPTED
ADOPTED
Legend
Town of Hilton Head Island
Adopted South Forest Beach Storm Protection Area
Map #1
December, 2008

Public Safety and Services

The Town contracts with two organizations for beach safety; the Beaufort County Sheriff's Office to provide law enforcement and security on the beach and Shore Beach Services to provide a patrol boat and rescue jet skis, life guards (9:00 a.m.-5:00 p.m. from Memorial Day weekend through Labor Day weekend), litter patrol, and beach rental items (chairs, umbrellas, paddleboats, sailboats, fun cycles, sailboards, etc.) Beach markers were also installed as part of the Sea Turtle Program every 0.1 miles along the beachfront. These markers are used to help identify beach access points.

Title 8 of the Town of Hilton Head Island Municipal Code is the Town's Beach Ordinance. It covers activities which are prohibited or regulated on the beach, defines Designated Areas, and regulates enforcement (see Appendix).

Regulated Uses of and Activities on Beach

In order to ensure the public health, safety and welfare of individuals using the beach, the following activities are regulated or prohibited:

- Prohibited: vehicles, para-sailing, glassware, horses on the beach, interfering with marine and wildlife, indecent exposure, disorderly conduct, unauthorized wearing of lifeguard emblems, littering, possession or consumption of alcoholic beverages, and open containers.
- Regulated: operation of motorized watercraft, sand sailing, kites, sleeping on the beach, animals, shark fishing, fires, firework discharge, disturbing the public peace, and franchising commercial activities on the beach.

6. Town Capital Improvement Projects

Proposed Public Access

Table 10 outlines the additional future parks to be constructed by the Town of Hilton Head Island for improved beach access (See Figure 25 – Future Beach Access). Each of these projects is included in the Town' s Capital Improvement Program to be done by the year 2015.

Table 10: Future Town-Owned Public Beach Access

	Handicapped access	Boardwalk	Restrooms	Trash receptacles	Showers	Bike Racks	Drinking Fountain	Vending machines	Life guards/ rentals	Picnic pavilion	Natural trails	Sitting Deck	Viewing scope	Office attendant	Emergency Access	Historical Marker	Parking spaces	Within 1000' of access	Zoning District
Collier Beach Park	ü	ü	ü	ü	ü	ü	ü	ü	ü								24	ü	PR
Driessen Beach Park Expansion	ü		ü	ü	ü	ü	ü	ü	ü			ü		ü	ü		40	ü	PR
Coligny Park Expansion			ü	ü	ü	ü	ü		ü		ü				ü		Parking expansion currently under design.	ü	CFB


Port Royal
Palmetto Dunes
Sea Pines Circle
Coligny Circle
Sea Pines
FIGURE 25
TOWN OF HILTON HEAD ISLAND
ONE TOWN CENTER COURT
HILTON HEAD ISLAND, S.C. 29928
PHONE (843) 341-4600
November 2007
Beach Managment Plan
Town of Hilton Head Island
Future Beach Access and Parking Locations
0 0.4 0.8 1.6 2.4 3.2
Miles
1 inch equals 0.884567 miles
This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.

7. Public Outreach and Education

The Town of Hilton Head Island is proactive on educating the public on the accessibility of its beaches. This includes information on access locations, parking rules, swimming areas, beach rules, pathways, and beach renourishment. In addition, the Town's Facilities Management Division operates and maintains the beach parks, including overseeing contracts for life guards, boat rentals, and litter patrol; collecting beach fees; park security; and public relations. Kiosks are being installed at several parks, and beach rule signs have been posted at every public access point. In addition, South Carolina Department of Transportation signs assist in directing beach-goers to the various parks.

Brochures and other information locations produced or funded by the Town include:

- Island Pathways Brochure
- Island Parks Brochure
- Beach Renourishment Brochure
- Resident and Visitor Guide to Hilton Head Island's Beaches
- EcoMap (funded with Southeastern Ecological Institute)
- Website *www.Hiltonheadislandsc.gov*

DISASTER RECOVERY AND MITIGATION

1. Response and Recovery

The Town developed a Post-Disaster Plan in 1991 to guide its citizens and post-disaster operations. The plan was incorporated into the Town's Comprehensive Plan in 1999. In 2003, the Town prepared a Comprehensive Emergency Management Plan (CEMP), of which, Volume IV represents the Town's Recovery Plan and establishes the Town's recovery policies and schedule that detail the Town's pre-event responsibilities and recovery actions. The Town works with all appropriate agencies, in advance of a disaster (if predictable) and after, to minimize potential injury and damage, and to expedite recovery and redevelopment.

The Town Recovery Plan establishes the following Town Recovery Goals:

- Maintain leadership;
- Promote economic recovery;
- Utilize local initiative and resources;
- Maximize state/federal programs and benefits;
- Establish and maintain communication to and from citizens;
- Provide a point of contact for disaster victims; and
- Make maximum use of damage assessment for recovery planning.

The organization of the Town's recovery activities is consistent with the concepts of the Incident Management System (IMS) and Integrated Emergency Management System (IEMS). Storm recovery is divided into short-term phases, which begins during the response phase of an emergency and can last up to six months, and long-term recovery which focuses on restoring the community to pre-disaster condition or better. The Town's recovery activities and programs are grouped into 22 Recovery Functions (RF) including, Recovery and Redevelopment (RF1), Continuation of Government (RF3), Damage Assessment and Impact Analysis (RF 9), Emergency Permits and Inspections (RF 13), and Mitigation (RF 19).

In the event of a hurricane threat, the Town will activate all or part of the Town Emergency Operation Center (EOC).

<u>Cleanup</u>

The purpose of the Debris Management Plan is to effectively manage debris generated by natural and man-caused disasters and contains the following policies:

1. First focus debris removal efforts on clearing of major transportation routes and roadways into damaged areas to allow for the movement of emergency vehicles, personnel, equipment and supplies.

2. Remove debris in affected areas to prevent the development and spread of vector-based epidemiological agents and general sanitation problems.

3. Conduct disposal activities with health and environmental concerns being the foremost consideration.

Maintaining essential services

The repair and restoration of public infrastructure, services and buildings after a disaster will be completed for the purpose of returning public infrastructure and the Town's services to pre-event levels or better. Restoration of utility services is critical to the success of both short and long-term recovery programs. Complete utility restoration could take months. Initial roadway clearance will push debris to the right-of-ways, providing access to underground cables. Restoration of the commercial power supply will be the pacing activity for reestablishing water and sewer systems, and the restoration of power will be passed by the clearance of debris along the transmission line rights-of-way.

Damage to transportation systems will influence the accessibility of disaster relief services and supplies. Restoration of transportation systems is designed to make sure that the Town (service, equipment, facilities, etc.) can facilitate the movement of emergency personnel, vehicles, equipment and supplies.

Restoration of electrical services and communication systems will begin as soon as major transportation routes are cleared of debris to allow emergency vehicles and crews to enter the disaster area.

Protecting public health

The Town will also work to identify the threats to public health during the recovery period and to provide remedies. It is the policy of the Town that the continuation of public health functions and control of environmental factors related to public health is essential following a disaster to prevent the outbreak of disease and to monitor the spread of vectors associated with the disaster itself.

Emergency building ordinances

After a disaster the Town will provide an emergency permitting plan to streamline the permitting process on Hilton Head Island, which will include coordination with DHEC OCRM regarding the permitting for reconstruction of any oceanfront structures. This process will include determining whether repair or reconstruction of damaged structures will be allowed and under what conditions, coordinating and streamlining the Town's permitting processes, and implementing a system to verify that repairs/redevelopment comply with all applicable codes and laws.

2. Mitigation

In 1999, the Town developed a Flood Hazard Mitigation Plan. It was one of the first mitigation plans in the nation to be officially incorporated into a Town's Comprehensive Plan—a concept now embraced by the American Planning Association through their *Planning Advisory Series*, and FEMA, through the *Disaster Mitigation Act of 2000* (*DMA) regulations*. In 2004, the County joined with its municipalities to create the *Beaufort County Hazard Mitigation Plan*, which was adopted by the Town as part of its

Comprehensive Plan. This Plan outlines hazard identification, vulnerability assessment, community mitigation capability assessment, goals and objectives, and hazard mitigation projects and Action Plan.

As mentioned in this Plan, floodplain management and development policies and procedures are in good order and contribute to the Town's commendable Community Rating System (CRS) rating of 6, which provides a 20% reduction in the cost of flood insurance to the more than 29,000 policyholders. This represents an approximate annual savings of $1.75 million.

SHORELINE RETREAT POLICY

State Mandated Beachfront Setback

The State of South Carolina established a forty-year policy of retreat as part of the Beachfront Management Act. DHEC OCRM, as the steward of the State's coastal resources, is responsible for implementing this policy. The implementation is derived from a baseline established by DHEC OCRM which runs parallel to the shoreline on oceanfront beaches. The baseline is evaluated and redrawn by DHEC OCRM every eight to ten years and, as directed by the Beachfront Management Act, stretches of beach are divided into standard erosion zones and inlet erosion zones based on their erosion characteristics.

The baseline for a standard erosion zone is established at the location of the crest of the primary oceanfront sand dune in that zone. If the shoreline in a standard erosion zone had previously been altered naturally or artificially by the construction of erosion control or other anthropogenic structures, the baseline is established where the crest of the dunes would be had the disturbance not occurred.

The baseline for inlet erosion zones is determined differently for inlets that are stabilized by jetties, groins or other structures, and inlets that are not stabilized. For unstabilized inlets, DHEC OCRM establishes the baseline at the most landward point of erosion at any time during the past forty years. For inlet zones that are stabilized by jetties, groins, or other structures, DHEC OCRM establishes the baseline at the location of the crest of the dune, and not at the location that the dunes would be had the inlet remained unstabilized.

All baseline decisions are determined by DHEC-OCRM, founded on the best scientific and historical data available. In determining the baseline location for inlet erosion zones, DHEC-OCRM must consider historical inlet migration, inlet stability, channel and ebb tidal delta changes, the effects of sediment bypassing on shorelines adjacent to the inlets, and the effects of nearby beach restoration projects on inlet sediment budgets.

The second part of implementing the forty-year retreat policy at the State level is the setback line. The setback line is a boundary established by DHEC OCRM that is landward of the established baseline at a distance equal to forty times the average erosion rate, and not less than twenty feet.

No new construction is permitted seaward of the baseline, with the exception of wooden walkways not more than six feet wide, wooden decks no larger than 144 square feet, public fishing piers, golf courses, normal landscaping, pools that were located landward of existing functioning erosion control structures, groins built before 1988, or structures permitted by a DHEC OCRM special permit. A DHEC OCRM permit is required for all of the above actions except for the construction of wooden walkways not more than six feet wide.

Construction within the State setback line is restricted in order to implement the State forty-year retreat policy. Construction, reconstruction, or alterations between the State baseline and setback lines are governed as habitable structures, erosion control devices, and swimming pools. All other construction between the baseline and setback lines requires a permit from DHEC OCRM. New habitable structures built between the baseline and setback line may not exceed five thousand square feet of heated space, be located as far landward on the property as possible, and not incorporate any erosion control structure or device as part of the integral habitable structure. No part of the building may be constructed seaward of the baseline or on the primary sand dune. The applicant must certify to DHEC OCRM in writing that these conditions are accurate, and submit a drawing that shows the footprint of the structure on the property, a cross section of the structure, and the structure's relation to property lines and setback lines which may be in effect.

Owners may replace habitable structures permitted within the setback that have been destroyed beyond repair by natural causes after notifying DHEC OCRM. The owner must certify that the total square footage of the replaced structure seaward of the setback line is not greater than the original square footage beyond the setback line, the replaced structure is no further seaward than the original structure, and is constructed as far landward as possible, considering local zoning and parking requirements.

No new erosion control devices are allowed seaward of the setback line except to protect a public highway which existed prior to the enaction of the Beachfront Management Act. Erosion control structures that existed before 1988 may not be repaired or replaced if destroyed more than fifty percent above grade. DHEC OCRM is responsible for assessing the damage to erosion control devices and structures, as well as habitable structures, to determine the extent of damage following hurricanes or other events.

Finally, no new pools are permitted to be constructed seaward of the setback line, unless they are located as landward as possible of an existing, functional erosion control device. Pools that existed prior to 1988 may be repaired or replaced, if destroyed beyond repair, if the owner in writing certifies to DHEC OCRM that it is moved as far landward as practical, it is rebuilt no larger than the destroyed pool, and is constructed in such a manner that cannot become or act as an erosion control device. DHEC OCRM may issue a special permit for all other construction or alteration between the setback line and baseline.

Town Retreat Policy

The South Carolina Beachfront Management Act requires that local plans include a 40 year retreat policy that considers relocation of buildings, removal of erosion control

structures and relocation of utilities. When the Town's Beach Management Plan was first adopted in 1991, the State was in the process of drafting their own policy, and provided little direction to the Town at that time. In 1992, the Town amended its original Beach Management Plan to include a 40 Year Retreat Policy which stated:

- Locate development landward of the DHEC OCRM Setback line to the extent possible;
- Adopt various growth management techniques and procedures to reduce development levels;
- Retain open space seaward of the DHEC OCRM Setback line to the extent possible;
- Utilize land acquisition; and
- Address retreat during redevelopment scenarios after a disaster.

With the adoption of this 2008 Beach Management Plan, this Policy continues to be in effect. The Town's zoning, density and design standards mentioned previously help fulfill this policy along with other techniques outlined in the next Section.

To accompany the above Retreat Policy, this Beach Management Plan details an additional Policy on beach renourishment as part of the 40 Year Retreat Policy. Beginning in 1990, the Town embarked on an ambitious renourishment program with an ongoing maintenance program. As a result of these projects, portions of the beach and dunes system have been enhanced, thereby resulting in expanded areas subject to development pressures by construction that is not in the public interest and not in accordance with retreat policies and goals of the State and the Town. In a few instances, DHEC OCRM has designated a newly formed embryonic dune as the new primary dune, allowing development on the landward, and sometimes larger, dune. Because of this, there have been petitions to the DHEC OCRM to move the Baseline further seaward, increasing the number of areas for loss of the larger dunes system. In addition, DHEC OCRM re-examines the possibility of relocating the Baseline every 8-10 years, possibly seaward. This would further encourage development on top of the larger dunes system.

It is not and has not been the intent of the Town to encourage or permit development to move seaward as a result of the Town's beach renourishment projects and efforts, or to support any effort to move the DHEC OCRM established baseline seaward, where such effort to relocate the baseline is based in whole or in part on the existence of new dunes and/or new beach areas formed as a result of the Town's beach renourishment projects and efforts, or by other private efforts. The Town's intent in pursuing the renourishment program is:

- To protect, preserve, restore, stabilize and enhance the beach/dune system through beach renourishment and other appropriate means, to provide for the protection of life and property, and to act as a buffer from high tides, storm surges, hurricanes, and erosion;
- To prohibit development from moving seaward onto new dunes or beach areas formed as a result of the Town's beach renourishment projects and efforts;
- To provide an important basis for a tourism industry that generates annual revenue for the State of South Carolina and the Town;

- To provide habitat for numerous species of plants and animals which are threatened or endangered, or which may become threatened or endangered as a result of the loss of the beach/dune system;
- To provide habitat for beach/dune system vegetation that is unique and extremely important to the vitality and preservation of the system; and
- To create a recreational beach at high tide.

BEACH MANAGEMENT NEEDS, GOALS AND IMPLEMENTATION STRATEGIES

1. Shoreline Retreat

With the adoption of the Land Management Ordinance and the Comprehensive Plan and appendices, including the Beach Management Plan, many of the Town's policies and goals on shoreline retreat are being met. However, continuous pressure from developers to move development toward the newly renourished beach is of grave and immediate concern to the Town.

Need 1: *The Town should investigate methods to continue to protect the existing beach/dune features and those features resulting from renourishment projects from the development and redevelopment pressures.*

Goal 1.1: Have a well maintained beach and dunes system that helps to preserve and protect the Island's manmade and natural resources and provides for a sound economic base; the Town does not support movement of the baseline or any other action that would result in encroachment of development into the dunes system or seaward of the existing baseline that was established in 1999.

Goal 1.2: Extend the Town's Critical Storm Protection and Dune Accretion Area to other areas of the Island.

Implementation Strategies:

A. Continue beach renourishment and collection of beach preservation fee. Continue regular scientific monitoring of Town projects such as beach nourishment and water quality enhancements.

Achievements:

- Town Council authorized the first phase of a comprehensive Shoreline Management Plan. The first element, an inventory and analysis of shoreline stabilization structures, has been completed.
- The Town has completed three major and one emergency beach renourishments since 1990.
- Detached breakwaters were installed along parts of Port Royal Sound Shoreline.
- The Town has begun post 2007 project monitoring, studies on groins at Port Royal Plantation, South Beach, and the Spa area on Port Royal Sound.
- The Town contracted with Olsen Associates for studies on groins at Port Royal

Plantation, South Beach, and the Spa area on Port Royal Sound.

- Semi-annual beach surveys are conducted and an annual monitoring report is prepared.
- The Town is entering its second season for water quality monitoring on the beach.
- Sea turtle monitoring continues on island beaches. Staff is mapping all nesting sites.
- A dedicated funding source has been established for beach renourishment in the form of a beach fee, derived from an additional two percent Local Accommodations Tax levied by Town Council. This source provides $4 million each year, dedicated to beach renourishment and related monitoring, dune refurbishment, maintenance and operations, and new beach parks and beach access facilities.
- Completed a Port Royal beach erosion study.

B. Continue to hold densities along the beachfront at or below current levels.

Achievements:

- The Town adopted *Resolution 2003-08,* that states: "to ensure that the intent of the ten Planned Unit Developments within the Town's PD-1 District is not compromised, *the master plan caps for those Planned Unit Developments should be held at current levels or below* until the Comprehensive Plan review/revision process is completed and this resolution is incorporated into the same, unless it can be clearly demonstrated that such a change will result in a reduced impact on infrastructure and the natural resources of the Island."
- A goal of the Land Use Element states*: "the reduction in allowable densities is preferred*." The Town should "reduce allowable development densities to ensure that development and redevelopment do not create adverse impacts on the natural resources of the Island, and so, not place an unreasonable burden on the community's infrastructure. Further, since 70% of the Town is within areas that were master planned, the "*master plan caps should be held at or below current levels* to ensure that the intent of those PUDs is not compromised" *(Comprehensive Plan 2004).*

C. Continue to amend and enforce the LMO and Municipal Code to protect the established dunes systems on our beachfront, to provide for re-establishment of the dunes systems during redevelopment, and to provide for redevelopment scenarios after a natural disaster.

Achievements:

- LMO Chapters 4 & 5 regulate growth management requirements regarding site design and density; LMO Chapter 6 regulates natural resources, including beach protection and preservation. These chapters address building location on the site in relation to the Setback and Base lines, and requirements for protection of beach/dunes systems and vegetation.
- Municipal Code Title 8 Chapter 1 regulates beach/dune use and activities, and creates Special Designation Areas, including the Critical Storm Protection and Dune Accretion Zone. Research currently underway to expand the Critical Storm Protection and Dunes Accretion Zone.

- Municipal Code Title 8 Chapter 3 provides for Sea Turtle Protection.
- Town Council adopted the Recovery Plan in 2003. The Disaster Recovery Commission was formed to work with staff to further research certain unresolved issues in the Recovery Plan.
- Town Council adopted the Critical Storm Protection and Dune Accretion Zone which increases protection of the dunes system along the South Forest Beach Area. The Town is evaluating the benefits of extending this type of protection to other areas of the Island.

- The Town installed fences and plantings to support buildup and retention of dunes.

D. Work with DHEC OCRM during the update of the Beach Management Plan when designated by the State and to review, as requested, public petitions to move the Baseline on individual properties to ensure compatibility with this Plan. It is the policy of the Town of Hilton Head Island that the baseline not be moved seaward.

Achievements:

- Beach Management Plan was first adopted in 1991 and amended in 1992 (inclusion of 40 Year Retreat Policy) and in 1998 (update of Beach Access section)
- This document constitutes most recent update. Town Staff coordinated heavily with OCRM Staff on its outline and content.

E. Continue to promote environmental education programs and standards that stress protection of fragile areas and wildlife.

Achievements:

- In 2001, USFWS identified critical wintering habitat for the Piping Plover along parts of the Island's shoreline.
- The Town supports the Loggerhead Sea Turtle Protection Program through funding.
- The Town provides brochures that addresses habitat on the beach.
- The Town conducted a habitat inventory near Fish Haul Creek in 2003.
- Ordinance enforcement is carried out by Town Codes Enforcement Officers, Facilities Management staff, Shore Beach franchise employees and BCSO deputies.
- Town Staff works with OCRM, DNR and Lowcountry Estuarium to present public education programs on such topics as water quality, low impact development, and native beach plantings to both the general public and the development community.

F. Coordinate with the Chamber of Commerce in tourism efforts to promote our beach.

Achievements:

- ATAX grants are given to the Chamber for promotions.

G. Work to revise state legislation for enhanced protection of the beach and dunes system, which should include an effective retreat policy and prevent movement of the baseline further seaward as a result of renourishment when determining baseline locations.

H. Provide input to DHEC OCRM during the update of the State's Beach Management Plan to help ensure that the DHEC OCRM Baseline does not move further seaward along the Town of Hilton Head Island shoreline.

I. Work with the State to receive beach nourishment funds in the event the Town does not have local funding to renourish.

2. Beach Access

In the late 1980's, the Town purchased its first public beach access in the Coligny area. To date, the Town owns 8 beach parks with a total of over 1400 parking spaces. This is in addition to over 150 other privately-owned beach access points (neighborhoods, hotels, condominiums, beach clubs). Most of these private access points are located in gated communities and are accessible to their residents and visitors. With over 70% of the land on Hilton Head Island in gated communities, and near build-out conditions of the Island, there are very few parcels remaining next to or adjacent to the ocean that could be purchased by the Town and developed into a beach park. It is therefore critical for the Town to coordinate with private property owners during redevelopment of commercial areas to allow beach access for the public on their oceanfront areas, and to protect those locations currently in existence.

Need 2: *With the large majority of oceanfront land under private ownership, the Town should seek ways to work with developers to allow for public beach access in redeveloped sites, and to work with Property Owners' Associations' to protect those accesses that currently exist.*

Goal 2.1: Have adequate public beach access at Town-owned sites and seek innovative solutions to providing additional beach access for the public in privately-owned neighborhoods and commercial areas.

Implementation Strategies:

A. The Town should continue to implement its Capital Improvement Program and Land Acquisition Program to develop, renovate, or expand its beach parks.

Achievements:

- The Town owns 8 dedicated beach parks with over 1400 parking spaces.
- The Town has a dedicated funding source for land acquisition on the beach.
- The Town has spent $138 million for land acquisition to acquire over 1150 acres, some for beach parks.
- The Town is currently renovating the Coligny Beach Park to open views to the ocean and to provide a better designed park.

B. Continue to work with oceanfront developments to provide public access to the beach during redevelopment. Also work with neighborhood associations to protect neighborhood access points.

Achievements:

- LMO 16-6-304 provides the ability for the Town to "consider the need for beach access to meet the general public interest" while reviewing all development applications involving property adjacent to the beach. It allows Town Staff to recommend to Town Council purchasing the property for beach access.
- The Town has negotiated with beachfront developers to include emergency vehicle access in some of the new development along the beach (Marriott Oceanfront, Disney).

C. Develop a method of increasing public awareness concerning beach access points through better access signage, informational kiosks, directional signage and brochures.

Achievements:

- The Town installed beach matting at Coligny, Driessen, Folly Field, Alder Lane, Mitchellville and Islander's beach parks for access to the lower beach area by wheelchairs and other mobility devices used by disabled people to traverse the dry, soft sand.
- The Town installed GEOWEB to stabilize emergency accesses to beach. Accesses are in the Coligny Beach Park, Islanders Park, Bradley and Burkes Beach Roads, Mitchellville and future Collier Beach Park.
- Staff worked with oceanfront beach developers to allow beach access emergency markers for location identification and installed them for efficient emergency vehicle access.
- The Fire & Rescue Master Plan recommends special emergency response vehicles be purchased in order to facilitate medical emergency response on the beach.
- The Town produced a Beach brochure and a Park Brochure detailing beach access locations and pathways to the beach.
- The Town coordinated with SCDOT for highway identification signs directing the public to beach parks.