

• **Overview of Environmental Quality Control Water Quality Management Components in the Charleston Harbor Project Area**

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- *Executive Summary*

The Department of Health and Environmental Control is a comprehensive management agency with many offices and divisions that is ultimately responsible for the environmental management of our state. The Bureaus of Solid and Hazardous Waste Management, Water Pollution Control, Air Quality, and Administrative Services are the Environmental Quality Control components discussed in this document. The Office of Ocean and Coastal Management is also discussed in this document. Decisions made regarding permits from program areas within these Offices have a direct impact on the Charleston Harbor Project area. Examples of activities requiring permits from the Department of Health and Environmental Control which have a direct impact on the Charleston Harbor and its surrounding reaches include discharges from wastewater treatment plants, landfills, incinerators and other smokestacks, NPDES permits including, industrial and municipal and stormwater runoff, and wetland alteration. The table of contents at the beginning of the document lists the program components for each Bureau along with the specific regulation that sets forth the jurisdictional responsibility.

This report is intended to provide the researcher and general public with information regarding policies, programs, and permitting criteria of the Department of Health and Environmental Control, Offices of Environmental Quality Control and Ocean and Coastal Management in the Charleston Harbor Project area. The Harbor Project area, outlined in the map, is made up of sections of Charleston, Berkeley, and Dorchester counties. Each policy, program component, and permitting requirement is discussed in this report. A list of missions, program objectives and permitting general requirements is provided so that the reader can develop questions and specific research objectives. Reference to the specific program components, legislative findings and regulatory standards are provided throughout. In addition to this information are references to other Department of Health and Environmental Control environmental permitting manuals from the responsible program areas. All should be consulted directly when inquiring about specific program components and responsibilities.

This document is also intended for the citizen who is interested in the environmental quality of the Charleston Harbor. It is equally important for the public at large to understand the permitting and program responsibilities and requirements. This report should shed light on a confusing and complex system of overlapping regulations. It should be pointed out that many of these overlapping regulations are intentional. This “web” of requirements prevents potential problems from occurring, thus improving the quality of life around Charleston Harbor and the State of South Carolina. However, it is important for the lay reader to be cautiously skeptical regarding many parts of the regulatory process understanding that political pressures dictate at what level environmental protection occurs.

Information provided in this guide will allow a researcher to formulate research questions and at the same time identify the location, the personnel and offices responsible for disseminating that information. This document could also be used by interested citizens in the Charleston area who would like to assist the resource management agencies by becoming better involved in the regulatory process. All efforts were taken to assure that this report is comprehensive and does not leave out any significant component of environmental management by the Department of Health and Environmental Control. However, the author realizes that an agency of this size invariably has program components that get overlooked and many program components require much more thorough of a discussion than is offered in this report. This document should be used by researchers and government workers alike in order to better understand the workings of the Department of Health and Environmental Control.

- ***The Charleston Harbor Project***

The Charleston Harbor Project (CHP) Special Area Management Plan program was created in 1991 with the mission of providing local leaders the necessary information required for managing the complex components of growth and development in the Charleston area watershed. The Charleston Harbor Project set out in 1991 with three primary goals.

- To maintain and enhance the quality of the environment in the Charleston Harbor estuary system.
- To maintain the range of uses of waters and natural resources of the Charleston Harbor estuary system.
- To anticipate and address potential problems before adverse impacts occur.

The Charleston Harbor Project is located entirely within Berkeley, Charleston and Dorchester counties. The Charleston Harbor Project is organized into twelve task forces that attempt to identify research needs and develop proposals for scientific research. The task forces consist of private and public sector planners, researchers and concerned citizens, and cover such areas as biological, recreational, historical and cultural resources, economic and land use management concerns, and point source and other water quality issues. Through applied research, administrators of the Charleston Harbor Project are determining the most significant economic, cultural and natural resource management issues. Over fifty research projects have been funded by the Charleston Harbor Project and are described in detail in the [annual reports](#). The Charleston Harbor Project has also been actively contributing to developing a waste load allocation model for the Harbor Project area with an assortment of other resource management agencies. This model will be used to better manage potential sources of pollution affecting the Charleston Harbor.

- ***The South Carolina Department of Health and Environmental Control***

The South Carolina Department of Health and Environmental Control (DHEC) is charged with the mission of “*promoting and protecting the health of the public and the environment*” of South Carolina. The Department of Health and Environmental Control was created in 1973 by the General Assembly through the Reorganization Plan Number Ten which reunited the State Board of Health (created in 1878) and the Pollution Control Authority. The federal Water Pollution Control Act in 1972 set forth goals to achieve “fishable and swimmable” surface waters throughout the United States by 1985. DHEC is also the sole advisor to the State in matters pertaining to public health and environmental quality and has the authority to abate, control, and prevent pollution. Statutory authority is primarily provided in Titles 44 and 48 of the South Carolina Code, 1976.

Act 181 of 1993 restructured many agencies within state government. The environmental regulatory functions of several land and water resources agencies were consolidated and added to the DHEC Office of Environmental Quality Control. The South Carolina Coastal Council, the lead agency with

responsibility for the management of the South Carolina coastal zone, was also added to DHEC as a separate Office at the same level as the Office of Environmental Quality Control.

There are six offices that make up the Department of Health and Environmental Control. The Office of the Commissioner performs support functions for the Board, Commissioner, Legislature, and other State and Federal agencies and the general public. The Office also performs much of the strategic planning, needs assessments, and other specific management directives for the Department as a whole. The Office of Administrative Services is responsible for the overall management and consultation for all administrative service units within the Department. This office is responsible for maintaining budget, and financial services as well. The Office of Administrative Services also manages the SUPERB Fund program for Underground Storage Tank clean up. The Offices of Health Services and Health Regulation are responsible for the public health components. These include immunizations and vaccinations, family planning services, and other special needs programs. The Office of Environmental Quality Control and the Office of Ocean and Coastal Resource Management are discussed in more detail in the next section because they are the main bodies for environmental management in the State of South Carolina.

- **The Office of Environmental Quality Control**

The Office of Environmental Quality Control, or EQC as it is more commonly known, is directly responsible for implementing state and federal legislation for protecting the environmental quality of the entire State of South Carolina. This is accomplished by a number of divisions and programs. Six bureaus within EQC issue permits, certificates, licenses, and registrations, and monitor a number of activities which have direct and indirect impacts on the environment through a variety of management methods. The six bureaus that make up the Office of Environmental Quality Control are the Bureaus of:

- Solid and Hazardous Waste Management;
- Water Pollution Control;
- Air Quality;
- Drinking Water Protection;
- EQC Laboratories; and
- District Services.

The Bureau of EQC Laboratories and the Bureau of District Services, have an important role in the Charleston Harbor area; however, they do not have any direct permitting, registration, or certification functions that the other Bureaus have. Therefore, these bureaus will not be discussed in this report. Information regarding these Bureaus can be found in the [“General Guide to Environmental Permitting in South Carolina.”](#) The Bureau of EQC Laboratories does certify laboratories in the state to perform scientific analysis of environmental samples. The Bureau of District Services acts as a liaison between interested parties and the permitting programs within the other bureaus. The Bureau of District Services also conduct field and site investigations, respond to complaints, and collects and analyzes water samples.

There are a number of regulatory techniques used by EQC to manage development and environmental resources in the State. These techniques include permitting, licensing, registration, certification, reporting, and monitoring. The authorities for these management techniques are set forth in a multitude of wide reaching and comprehensive federal and state legislative acts. Several methods require joint monitoring, registration, certification, or permitting with other state and federal agencies. These components are discussed more thoroughly in the sections that describe the roles and responsibilities of each program area with direct impact on the Charleston Harbor Project area.

- **Bureau of Water Pollution Control**

- **Primary Legislation:** *Water Quality Protection* [Federal Clean Water Act, SC Pollution Control Act (§48-1-10 et. seq.)] *Ground water* [Groundwater Use Act (§49-5-10 through §49-5-130)] *Surface water* [Stormwater Management and Sediment Reduction Act (§48-14-10 et. seq.)] *Shell fish* (§44-1-140 et. seq., and R 61-47) *Septic Systems* (§44-1-140, §44-55-210 et. seq., and §44-55-610 et. seq.)

- **Historic Overview**

The Bureau of Water Pollution Control (BWPC) has evolved over the last several decades into the major environmental permitting office with many regulatory and other water quality management responsibilities. Very few projects in South Carolina do not need a permit, certificate, or assistance from this office. The Federal Clean Water Act along with the State's Pollution Control Act provide the primary statutory authority to limit wastewater discharges to an acceptable level. The Federal Water Pollution Control Act of 1972 and the subsequent amendments of 1977 set forth the goal to make all water bodies in the nation both fishable and swimmable. The Environmental Protection Agency (EPA) delegates much of its regulatory authority to the Bureau of Water Pollution Control, but still maintains a role in the administration of key components. The South Carolina Pollution Control Act is the primary state legislation that provides the Department of Health and Environmental Control with authority for establishing water quality standards and classifications of waterbodies. The regulations promulgated in R.61-68 set up the framework for water classifications and standards and specify general and specific standards for all surface and groundwater of the State.

- **Mission:**

- to restore and maintain the chemical, physical and biological integrity of the State's waters to the degree that these water resources may be utilized to the maximum extent possible consistent with public health, economic and social development, protection and propagation of aquatic life and the safety and welfare of the public.
- to ensure that dams in the State are constructed using appropriate engineering principals and that they are properly maintained to provide for public safety.
- to ensure that construction activities in the States navigable waters do not interfere with the uses of those waters.
- to ensure that water quality data submitted to the Department has been developed by State certified laboratories.
- to prevent the transmission of such water borne diseases such as hepatitis, typhoid fever, cholera, and dysentery that occur as a result of the consumption of raw or partially cooked shellfish harvested from contaminated waters.

- Water Quality Standards applicable to the Coastal Zone (from R. 61-68)

Class	Classification Code	Water Temperature	DO	pH	Fecal Coliform	Toxic Pollutants
Outstanding Resource Waters	ORW	Water quality conditions will be maintained and protected as feasible, within the Department's statutory authority.				As prescribed in R.61-68, E(7) and E(8).
Freshwaters	FW	Shall not exceed more than 5° F above natural temperature conditions or exceed a maximum of 90° F as a result of the discharge of heated liquids unless a different temperature standard as provided for in C.(8) has been established.	Daily average not less than 5 mg/l with a low of 4 mg/l	between 6.0 and 8.5	Not to exceed a geometric mean of 200/100 ml, based on 5 consecutive samples during any 30 day period; nor shall more than 10% of the total samples during any 30 day period exceed 400/100ml.	As prescribed in R.61-68, E(7) and E(8).
Shellfish Harvesting waters	SFH	Shall not exceed 4° F above natural conditions during the fall, winter, and spring, or 1.5° F above natural conditions during the summer as a result of the discharge of heated liquids unless a different temperature standard as provided for in C.(7) has been established, or a section 316(a) determination under the Federal Clean Water Act has been completed	Daily average not less than 5 mg/l with a low of 4 mg/l	Shall not vary more than 3/10 of a pH unit above or below that effluent-free waters in the same geological area having a similar total salinity, alkalinity and temperature, but not lower than 6.5 or above 8.5	Not to exceed an MPN fecal coliform median of 14/100 ml nor shall more than 10% of the samples exceed an MPN of 43/100 ml, where all tests are made using the five tube dilution method	As prescribed in R.61-68, E(7) and E(8).
Tidal Saltwaters	SA	Shall not exceed 4° F above natural conditions during the fall, winter, and spring, or 1.5° F above natural conditions during the summer as a result of the discharge of heated liquids unless a different temperature standard as provided for in C.(7) has been established, or a section 316(a) determination under the Federal Clean Water Act has been completed	Daily average not less than 5 mg/l with a low of 4 mg/l	Shall not vary more than one-half of a pH unit above or below that of effluent free waters in the same geological area having a similar total salinity, alkalinity and temperature, but not lower than 6.5 or above 8.5	Not to exceed a geometric mean of 200/100 ml based on five consecutive samples during any 30 day period; nor shall more than 10% of the samples in any 30 day period exceed 400/100 ml.	As prescribed in R.61-68, E(7) and E(8).

Tidal Saltwaters	SB	Shall not exceed 4° F above natural conditions during the fall, winter, and spring, or 1.5° F above natural conditions during the summer as a result of the discharge of heated liquids unless a different temperature standard as provided for in C.(7) has been established, or a section 316(a) determination under the Federal Clean Water Act has been completed	Not less than 4mg/l	Shall not vary more than one-half of a pH unit above or below that of effluent free waters in the same geological area having a similar total salinity, alkalinity and temperature, but not lower than 6.5 or above 8.5	Not to exceed a geometric mean of 200/100 ml based on five consecutive samples during any 30 day period; nor shall more than 10% of the samples in any 30 day period exceed 400/100 ml.	As prescribed in R.61-68, E(7) and E(8).
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The Bureau of Water Pollution Control has eight major regulatory program areas. For projects in the eight coastal counties of South Carolina, and all major projects within the CHP area, the Office of Ocean and Coastal Resource Management plays an important role by both certifying and issuing storm water management and land disturbance permits, and commenting on other important land and resource management issues that arise when a project requires other state or Federal permits. Each program area within the Bureau has its own specific responsibility. There is, however, substantial coordination between internal program areas and outside agency concerns (i.e., wetland alteration, beach management, bridge construction). This comprehensive permitting network for potential environmentally threatening activities seeks to eliminate future problems.

• ***Major Objectives of the Bureau of Water Pollution Control***

- to ensure State waters are properly classified for protection of public uses
- to evaluate activities affecting water quality, navigability of waters, and the safety of dams and to ensure that they are properly carried out
- to evaluate the quality of the State's waters
- to ensure all wastewater treatment systems, sediment control systems, dams, and structures constructed in navigable waters are planned, constructed maintained and operated in accordance with applicable State and Federal requirements
- to develop, support, and approve updates/amendments to Water Quality Management plans pursuant to Section 208 of the Federal Clean Water Act and to certify consistency of regulatory actions with such plans
- to ensure that laboratories conducting water quality related analyses and submitting data to the Department be certified.

• **Non-regulatory Management Measures**

In addition to the eight permitting or certification program areas which are discussed later in the document, the Bureau of Water Pollution Control uses several non-regulatory methods to meet the missions provided above and the objectives discussed below. One example is the Watershed Water Quality Management Strategy. The Watershed Water Quality Management Strategy is a comprehensive management plan for the State's surface and ground water that uses non-regulatory management techniques. This strategy divides the State into basins that are inseparably linked together by topography, flora and fauna. The Watershed Water Quality Management Strategy is discussed in more detail later in the document, but it is important to recognize that non-regulatory techniques provide resource management agencies and non-government interests with wider flexibility. The annual Statewide Water Quality Assessment is another non-regulatory component of the Bureau. This annual document provides ample information regarding the water bodies to local and regional resource managers and planners.

- Watershed Water Quality Management (Section 208: Clean Water Act)

The first major state watershed planning and management activities in South Carolina took place in 1972 shortly after the Federal Water Pollution Control Act (Clean Water Act) was established. Section 303 of the Clean Water Act extended several watershed program components further, and as a result many recommendations became public law. In 1975 four major basins were identified and the Water Resources Commission published reports regarding the status of these basins. Section 208 of the Federal Water Pollution Control Act established the structural framework for watershed management in the United States. Section 208 made the Council of Governments (COG) the lead organizations for watershed planning in the State.

There was, however, a less emphasis on watershed planning during the late 1970s and early 1980s because of changing grant appropriations. In the early 1990s the Bureau of Water Pollution Control sought to reemphasize the importance of watershed planning and management realizing that through watershed planning a coordinated approach to the management of river basin development would take place. In addition to coordinated development practices, watershed planning would allow the Department of Health and Environmental Control to address both congressional and legislative mandates in a more coordinated matter. It would also allow the Bureau of Water Pollution Control to better and more efficiently utilize its personnel and financial resources. Managing at a watershed level allows for much better communication between the Department of Health and Environmental Control, the regulated community, and the public at large on important present and future water quality issues.

Watershed water quality management recognizes the interdependence of water quality related activities associated with a drainage basin including monitoring, problem identification and prioritization, water quality modeling, planning, permitting, and other related activities. At the same time watershed water quality management relies on problem prevention. A more efficient issuance of NPDES and state wastewater permits also takes place when activities are reviewed on a watershed basis. A watershed based strategy fulfills a number of EPA reporting requirements from the Clean Water Act including;

§303(d)	- identifies waters that do not meet standards
§305(b)	- water quality description and analysis of environmental impacts to water body
§314	- reports on clean lakes
§319	- develops non-point source pollution control strategies

The Department of Health and Environmental Control Catawba-Santee watershed ambient water quality monitoring network is comprised of three levels of water sampling stations. There are 67 primary sampling stations that operate monthly. Grab samples instead of the EPA suggested “four day average” samples are taken at these stations. The state also operates 45 secondary sampling stations. The secondary sampling stations take monthly samples during the months of May through

October, and throughout the year in areas with a history of point source discharge and non-point source problems. The watershed monitoring stations are monitored once a month year round during the year that the watershed unit is being assessed. In addition to the 139 ambient monitoring stations, Santee-Cooper monitors another 53 sites to augment the DO, pH, and fecal coliform data. Data from these monitoring stations and from special water quality studies are intended for use in assessing the water quality status and trends at these locations. Data from these stations are also used for water quality modelling and assimilative capacity evaluations which are required for certain permitted activities.

• ***Biennial Statewide Water Quality Assessment (Section 305: Clean Water Act)***

Section 305 (b) of the Water Quality Act of 1987 requires that the State of South Carolina through the Department of Health and Environmental Control issue an biennial report regarding the water quality conditions and water pollution control programs in South Carolina. This report known as 305(b), reports to congress the condition of the waterbodies in South Carolina and allows them to make decisions regarding the future use of natural resources in the state. A major component of this report is a determination of whether the quality of those water bodies support the goals of the Federal Clean Water Act (1972). Data is collected for this assessment from the ambient monitoring network discussed in the Watershed Water Quality Management section above. Data is collected and analyzed during intervals of two years, and a wide variety of parameters are used for analysis. The next 305 (b) report will be issued in 1996.

The Department of Health and Environmental Control has promulgated regulations which designate classified uses for each waterbody and establish general rules and specific standards to protect these uses. The water quality standards for selected parameters from R.61-68 are summarized earlier in the document. The regulations hold two principals of the Clean Water Act very high. These principals are that waters that meet classification standards must be maintained at that level, and waters that do not meet classified standards must be improved. The Clean Water Act (1972) states, "it is the national goal to have every water body fishable and swimmable by 1983." In 1992, Regulation 61-68 addressing to the Water Classifications and Standards, classified all surface waters of the state as protected for swimming to meet the goals of the federal Clean Water Act.

The most recent 305 (b) report (1992-1993) reports that the State has approximately 75% of rivers and streams, 99% of lakes, and 85% of estuaries with fully or partially supported uses. Approximately 67% of the State's 631,856 acres of coastal shellfish growing waters are unconditionally approved for safe shellfish harvesting. Approximately 20% are conditionally closed to harvesting. Approximately 11% are prohibited for shellfish harvesting because of potential public health concerns associated with nearby marinas or discharges, and approximately 2% are closed because of unsuitable water quality. The chart below indicates the shellfish beds that are restricted or prohibited due to the proximity to marinas. A map is provided that indicates the location of all restricted or prohibited shellfish beds.

Marina	Waterbody	County	Acreage of Prohibited Shellfish Beds
Edisto Marina	Big Bay Creek	Charleston	530
Botany Bay and Miscellaneous Docks	Adam's Creek/ North Edisto River	Charleston	6
Metal Traders Ship Repair	Wadmalaw River	Charleston	
Bohicket Marina	Bohicket Creek	Charleston	76
Folly Marina	Folly River	Charleston	54
Mariner's Cay	Folly River	Charleston	60
Crosby Commercial Dock	Folly River	Charleston	57
Bowen Island Marina Railway	Folly River	Charleston	50
Backman Commercial Dock	Backman Creek	Charleston	50
Breech Inlet and Texaco Marina	Breech INlet	Charleston	45
Toler's Cove	AIWW at the Cove	Charleston	78
Carolina Seafood Dock, Bull Bay Seafood Dock, and Miscellaneous Shrimp Docks	Jeremy Creek/AIWW	Charleston	377
Wild Dunes Marina	Morgan Creek	Charleston	14
Buzzard Roost	Stono River	Charleston	52
Stono Marina	Stono River	Charleston	33

The 305 (b) report also reviews groundwater resources throughout the State. The goal with groundwater is to protect existing and future uses rather than undertaking a complicated and expensive restoration project.

The chart below refers to the levels of support for waterbodies statewide, but they are typical to the Charleston Harbor Project area. The author encourages further review of the 305 (b) document for more information.

Water Body	Fully Supported	Partially Supported	Not Supported
Rivers	60%	15%	25%
Lakes	99%	<1%	<1%
Estuaries	71%	14%	15%

Water pollution occurs in two forms. Non-point source pollution is caused by diffuse sources and is normally associated with stormwater runoff from various activities, including farming, forestry, hydromodification, urban development, and construction. Non-point source pollution is also caused by atmospheric deposition of pollutants by both natural and manmade activities. Point source pollution can be traced to the point of discharge. For example a chemical discharged from a pipe into a water body can be traced to its source, where as pollution generated from runoff . These pollutants are commonly regulated by the wastewater discharge (NPDES) permitting or stormwater permitting programs discussed later in the document. Point source pollution and to a lesser extent

non-point source pollution is managed through modelling and effluent budgeting methods called total maximum daily loading. The pollutant effluent standards used by Department of Health and Environmental Control are utilized by the Waste Load Allocation staff within the Bureau of Water Pollution Control for developing the waste load allocation models.

- Total Maximum Daily Loads (Section 303: Clean Water Act)

Section 303 (d) of the federal Clean Water Act requires each State to identify waters within its boundaries that do not achieve or are not expected to achieve water quality standards after application of presently required controls for point and non-point source pollutants. It also requires states to establish a priority ranking system for such waters and develop total maximum daily loads (TMDL) for certain waters according to their rank. Section 303 (d) also requires that states consider establishing more stringent standards for waterbodies high on the priority list. A list of selected waterbodies from the Charleston Harbor Project area which appear on the 303(d) list is included below.

Watershed ID	Waterbody	Standards being violated
03050201-070	GOOSE CREEK	TX, DO, FC
03050202-030	SAWMILL BRANCH	DO, FC
03050202-040	ASHLEY RIVER	DO, FC, TX, NT, PH
03050202-070	STONO RIVER	DO, FC
03050202-050	ELLIOT CUT	DO, FC
03050202-060	SANDY POINT CREEK	FC
03050202-060	ICWW	FC
03050202-060	ENTIRE COASTAL WATERSHED	NPS
03050202-070	BASS CREEK	NPS
03050202-070	ICWW	FC
03050202-070	KIAWAH RIVER	DO
03050202-070	CAPTAIN SAM'S CREEK	FC
03050205-070	CLARK SOUND	NPS
DO - DISSOLVED OXYGEN FC- FECAL COLIFORM NPS - NON-POINT SOURCE	PH - pH AM - AMMONIA TX - TOXICS	TB - TURBIDITY SS - SUSPENDED SOLIDS NT - NUTRIENTS

The TMDL is made up of two major components; the load allocation and the wasteload allocation (WLA). The models that represent these amounts allow the Bureau of Water Pollution Control to consider the maximum amounts of effluent or other pollution types that can be added to a waterbody. The assimilative capacity is the ability of a waterbody to absorb pollutants into the waterbody without violating the numeric standard listed earlier or a protected use. The WLA is that portion of the TMDL allocated to point source discharge. It represents the maximum point source contribution that can be released into a waterbody without compromising the existing standards.

A wasteload allocation is the portion of a stream's assimilative capacity for a particular pollutant which is assigned to an existing or proposed point source discharge. Wasteload allocations for oxygen demanding substances (carbonaceous and nitrogenous oxygen demand), ammonia toxicity and total residual chlorine are determined by the Wasteload

Allocation Section. Wasteload allocations for metals, organic pollutants and most toxicants are determined by the individual permitting sections.

Various techniques, ranging from simple mathematical models to complex computer based models, are used by DHEC to determine the ability of a waterbody to assimilate various pollutants.

Wasteload allocations developed using these techniques allow use of the assimilative capacity of a waterbody while ensuring that numeric criteria necessary to protect existing and classified uses are maintained. Wasteload allocations are now developed as part of the basin review process for reissuance of existing permits as well as in response to proposals for new and expanded projects throughout the State.

A total maximum daily load (TMDL) is the maximum allowable load of a specific pollutant which can be assimilated by a waterbody or a portion of a waterbody without contravening water quality criteria or preventing attainment of an existing or classified use. Traditionally, the Department has developed TMDLs for waters with known or anticipated problems resulting from point source discharges. Future TMDLs are to be developed in conjunction with the basin review process for selected waters listed on the 303(d) list of waters not meeting applicable standards for specific pollutants. These formal TMDLs, which may include non-point sources as well as traditional point sources of pollution, will be public noticed as formal TMDLs and will require EPA approval. Informal TMDLs, developed as part of the wasteload allocation review process, will continue to be developed for individual pollutants (such as metals) and categories of pollutants (such as oxygen demanding substances) in existing and proposed point sources discharges. Public notice and EPA approval will be handled through the normal NPDES permit process.

For instances when the assimilative capacity of a waterbody exceeds the existing or proposed pollutant loading, effluent limits are determined by the minimum treatment required (guideline numbers or secondary treatment) for the type of discharge involved. Such waterbodies are said to be effluent limited. In instances where the existing or proposed loading is greater than the assimilative capacity of the stream, discharge limits are based on the maximum allowable loading which will not result in instream violations of numeric water quality criteria. Such waterbodies are said to be water quality limited. If more than discharge exists or is proposed for a water quality limited stream, the load must be divided or allocated between the dischargers.

To date, TMDLs considering only point source discharges have been developed for a variety of pollutants on a number of different streams. TMDLs for phosphorus have been developed for Eighteen Mile Creek and the Reedy River. TMDLs for ammonia nitrogen, due to chronic toxicity, have been developed for the Congaree, Saluda, and North Fork Edisto Rivers, as well as for numerous smaller streams. Informal TMDLs for oxygen demanding substances have been developed for the Cooper, Pee Dee, Ashley and Beaufort Rivers, as well as for many smaller streams. Limits for metals and toxicants, which can be considered WLAs or TMDLs, are now

developed on a routine basis. Development of new and revision of previously developed TMDLs, both informal and formal, are expected to play an increasingly important part in the overall wasteload allocation process as the Department continues implementation of the basin planning and permitting strategy.

- **Bureau of Water Pollution Control Regulatory Program Areas**

- *Shellfish Sanitation (R. 61-47 through R. 61-49, and R. 123-151)*

The Bureau of Water Pollution Control also maintains a shellfish sanitation program. This program is responsible for overseeing shellfish harvesting and processing in South Carolina. The regulatory component handles the permitting and certification of commercial seafood processors. The non-regulatory component conducts the shellfish sanitation survey that is responsible for classifying and managing shellfish beds in the coastal areas of South Carolina.

There are specific objectives for management of shellfish areas in the coastal zone of South Carolina. These objectives include;

- ensuring that shellfish harvested in South Carolina or other areas and consumed in South Carolina meet the health and environmental quality standards provided by federal and state regulations, laws, and guidelines
- preventing the harvesting of shellfish from contaminated waters
- ensuring that all shellfish and crustaceans harvested for human consumption are processed, shipped, and handled in accordance with state health and environmental quality standards
- ensuring that the State Shellfish Program is in compliance with U.S. Food and Drug Administration (FDA) and Interstate Shellfish Sanitation Conference (ISSC) requirements.

The Charleston Harbor Project area contains significant shellfish resources; however, because of many point source discharges shellfish harvesting is prohibited at most beds. The map provided indicates the location of conditional, restricted and prohibited shellfish beds within the Charleston Harbor Project boundary. Sanitary surveys and subsequent harvesting classifications allow the Bureau of Water Pollution Control to review shellfishing areas, and close shellfish beds when necessary. Shellfish sanitary surveys are a federal requirement created in the early 20th century by the predecessors of the Environmental Protection Agency and the National Oceanic and Atmospheric Administration. The survey was created to reduce public health problems which arose from contaminated shellfish beds.

The coastal zone of South Carolina is divided by the Department of Health and Environmental Control into 23 shellfish growing areas. Conditions at 423 monitoring stations are regularly sampled during harvesting season in order to help determine proper classifications. There are thirteen shellfish zones in the Charleston Harbor Project area consisting of 116 monitoring stations. The shellfish sampling stations are sampled six times per year, mostly during harvesting season, which runs from September 15 to May 15. The map provided indicates the location of the EQC monitoring sites in

the Sullivan’s Island-Isle of Palms area. Data that come from these stations are used to make up the shellfish sanitary surveys that are determine which shellfish beds are opened or closed for harvesting. The sanitary surveys are conducted every three years with annual updates in problem areas. The data are collected from strategic sites and used to complement a comprehensive ambient monitoring network relating to changes in waterbody condition by natural and man-made activities.

Shellfish areas are classified as approved, conditionally approved, restricted, or prohibited. The table below outlines the standards used in determining shellfish classification. All sampling procedures and analyses are conducted based on guidelines from the Interstate Shellfish Sanitation Program. Areas that are closed are identified with signs indicating that harvesting shellfish from these beds is unsafe. In addition to warnings, harvesting shellfish from restricted or prohibited beds carries a fine.

Classification	Standards
Approved	Growing areas in which a sanitary survey indicates that the water is not contaminated with fecal material, pathogenic microorganisms, or poisonous and deleterious substances in concentrations dangerous to human health. The fecal coliform MPN median does not exceed 14/100 ml and not more than 10% of the samples exceed 43/100 ml.
Conditionally Approved	Growing areas generally of the same quality as approved waters, however, water quality may temporarily vary because of sporadic impacts from nonpoint and point sources, rainfall, or seasonal activities. Shellfish may be harvested for marketing under conditions specified in a management plan.
Restricted	Growing areas in which a sanitary survey indicates there is a limited degree of pollution which renders the shellfish unsafe for direct marketing. Shellfish may be marketed after relaying or depuration. The median fecal coliform levels are between 14 and 88/100 ml and not more than 10% of the samples exceed 260/100 ml.
Prohibited	Growing areas in which a sanitary survey indicates excessive concentrations of pollutants exist or the potential exists for unsafe levels of contaminants. The median fecal coliform MPN exceeds 88/100 ml or more than 10% of the samples exceed 260/100 ml. Shellfish may not be harvested from prohibited areas for human food use. Prohibited areas may be established around potential pollutant sources which may cause unsatisfactory variations in water quality.

• Wastewater Discharge (NPDES) and Land Application Permitting (R. 61-9)

Any person wanting to discharge wastewater to surface waters, which include wetlands, must first obtain a permit from the BWPC. Public and private sanitary wastewater dischargers receive permits from the Division of Domestic Wastewater, while industrial and all other discharges receive permits from the Division of Industrial and Agricultural Wastewater. Discharges to surface waters receive

National Pollutant Discharge Elimination System (NPDES) permits, while discharges via land-base systems (e.g. irrigation) receive state land application permits.

A certified operator of proper grade must be approved to operate and maintain a wastewater facility. The level of operator will be stated in the permit. Easements must be obtained from property owners, if wastewater crosses their property from a permitted facility in reaching waters of the State. For a project occurring in the coastal zone of South Carolina and for all projects with the Charleston Harbor Project area, the Office of Ocean and Coastal Resource Management must certify the project as consistent with the state and Federal Coastal Zone Management Act before a BWPC permit can be issued.

- *Authorizing Statutes:*

Federal Water Pollution Control Act of 1972 (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217) as amended by the Water Quality Control Act of 1987 (P.L. 100-4). [U.S.C. 1251 et. seq.]. SC Pollution Control Act (SC Code of Laws, 1976, Title 48, Chapter 1.)

- ***State Construction Permitting (R. 61-67)***

Permits are required to construct wastewater transportation and treatment facilities including industrial pretreatment facilities. While some individual service connections do not require a permit to construct, most construction activities for wastewater systems must receive both a permit to construct and a permit to operate. Examples include, but are not limited to;

- building a new sewer line,
- expanding an existing pump station,
- upgrading a wastewater treatment system,
- building a new pretreatment system
- adding sludge management systems

For wastewater treatment facilities the Preliminary Engineering Report (PER) should be submitted first. When both a preliminary engineering report approval has been granted and the applicable discharge permit has been issued (NPDES, Land Application System or Municipal pretreatment permit), the plans and specifications should be submitted. For projects with a collection system only, the PER, plans and specifications may be submitted together. A permit to operate must be issued by SCDHEC prior to any person starting up a wastewater treatment or collection system. For more information regarding State construction permits a researcher can see the [General Guide to Environmental Permitting in South Carolina](#).

- *Authorizing Statute*

SC Pollution Control Act (SC Code of Laws, 1976, Title 48, Chapter 1).

- ***Storm Water NPDES Permitting (R. 61-9)***

All activities or facilities classified as “Associated with Industrial Activity” must receive NPDES permit coverage for their storm water discharge(s). These activities generally include industrial manufacturing facilities, landfills, hazardous waste treatment, storage, and disposal facilities, steam electric power generating facilities, salvage operations including “junkyards”, Municipal Waste Water Treatment Plants (WWTP) sites with a permit capacity 1 MGD or greater or WWTP facilities with a pretreatment program, and any construction that disturbs five (5) or more acres. In the coastal zone this limit is two (2) or more acres. Agricultural operations are generally exempt from the Storm Water NPDES permit program.

Coverage under one of the general permits requires the permittee to have a Pollution Prevention Plan for the control of storm water discharges from the regulated site or facility at the time of the Notice of Intent (NOI). This plan will consist of the Best Management Practices (BMPs) the permittee will use at the site or facility to control the discharge of storm water. They also must provide sediment and erosion control.

- *Authorizing Statute(s)*
Federal Water Pollution Control Act of 1972 (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217) as amended by the Water Quality Control Act of 1987 (P.L. 100-4) [U.S.C. 1251 et. seq.]. SC Pollution Control Act (SC Code of Laws, 1976, 1976, Title 48, Chapter 1).

- ***401 Water Quality Certification (R. 61-101)***

Any applicant for a Federal permit or license for an activity which may result in a discharge to navigable waters must receive a certification from SCDHEC that applicable State water quality standards will not be violated. The Federal permit or license cannot be issued until after certification is issued and cannot be issued at all if certification is denied.

Certification is required for activities permitted by the U.S. Army Corps of Engineers for construction in navigable waters or discharge of dredged or fill material into the state’s waters, including wetlands. U.S. Coast Guard permits for bridges, and Federal Energy Regulatory Commission licenses for hydroelectric projects also require certification. A federal permit cannot be issued without the water quality certification. Any conditions issued in the certification become part of the permit when issued.

In the coastal zone of South Carolina, and in the entire area of the Charleston Harbor Project jurisdiction, a coastal zone consistency certification is also required. In these cases, a combined certification is issued. This is called a State Certification and holds the same requirements as discussed earlier.

- *Authorizing Statute(s)*

Federal Water Pollution Control Act of 1972 (P.L. 92-500) as amended by the Clean Water Act of 1977 (P.L. 95-217) as amended by the Water Quality Control Act of 1987 (P.L. 100-4) [U.S.C. 1251 et. seq.].

- ***State Dams and Reservoirs Safety Act Permitting (R. 72-1 through R. 72-9)***

Activities that include the construction or modification of any dam greater than 25 feet in height or impounding more than 50 acre feet of water must apply for and receive a permit. These permits are typically not issued in the coastal zone of South Carolina

- *Authorizing Statute*

South Carolina Dams and Reservoirs Safety Act (SC Code of Laws, 1976, Title 49, Chapter 11, Article 3), SC R.72-1 through R.72-9.

- ***Navigable Waters Permitting (R. 19.450)***

Permits are required for dredging, filling, or construction in, on or over a navigable water. Navigable waters are waters which are navigable, have been navigable, or can be made navigable by removal of incidental obstructions by rafts of lumber or timber or by small pleasure or sport fishing boats. These waters are below the mean high water line in tidally influenced areas or below the ordinary high water mark in non-tidal waters. It is required that the activity not adversely affect the navigability of the stream or river, and have no adverse effects on water quality or the aquatic community.

No separate application is necessary for activities which also receive 401 Water Quality Certification, Coastal Zone Consistency Certification, or another permit from SCDHEC (NPDES, Mining, Water Supply, etc.). Program areas will coordinate to insure that the permitting requirements of this program are satisfied by the applicant through appropriate permit conditions. These other agency permits or certifications will consider the effects of the proposed activity on state navigable waters. Activities that do not require other Department of Health and Environmental Control certifications are required to file an application for which the Bureau of Water Pollution Control will review.

Public notices are filed by the Bureau of Water Pollution Control and allow a 30 day period for public comments. The applicant must file a public notice in a newspaper with general or local circulation. This comment period will remain open for fifteen days. Upon completion of the public comment period a Notice of Proposed Decision is filed. There is another fifteen day period allowing for an appeal. If no appeal is made the permit is issued or denied.

- *Authorizing Statute*

Article 14, Section 4 of the SC Constitution, 49-1-10 1976 Code of Laws, of SC, R.19-450

• ***State Storm Water Management and Sediment Reduction Act Permitting (R. 72-300)***

This permit requirement extends to any land disturbing activity, disturbing an area of two or more acres. In addition, the Storm Water NPDES permitting requirements apply to projects that disturb an area greater than five acres. Originally the SC Land Resources Commission had responsibility for administering stormwater permits, however with the government restructuring in 1994 and the dissolution of the Land Resources Commission, stormwater responsibilities shifted to the Department of Health and Environmental Control, Bureau of Water Pollution Control. In the coastal zone of South Carolina, the permit requirements are extended to some activities if the land disturbance is less than two acres and is closer than 1/2 mile from a receiving water body. These permits are administered by the Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management. The disturbances requiring a Storm Water NPDES permit if the site was within 1/2 mile from a receiving water body include;

1. all commercial buildings which will handle hazardous chemicals (including gasoline, kerosene, diesel fuel, nutrients, etc.);
2. all commercial buildings and parking/runway areas with greater than one acre of impervious surface located directly adjacent to a saltwater (critical) area;
3. all commercial buildings and parking/runway areas with greater than one-half acre of impervious surface located directly adjacent to a saltwater (critical) area;
4. all residential subdivision developments located directly adjacent to a saltwater (critical) area;
5. all projects impacting Geographical Areas of Particular Concern (GAPC).

Projects must meet minimum standards with regard to quantity and quality of discharge from the site. Eighty percent of the sediment must be contained on site and discharge from the site must be no greater than .5 ml/L settleable solids during the peak run-off from a 24 hour designed storm event. The post construction discharge must be no greater than the pre-development conditions during two year, ten year, and 24 hour designed storm events. A waiver can be signed to show that there would be no adverse impacts from the increased runoff if the increase is necessary for development. The agency has the authority to require best management practices (BMP) for the site in order to contain sediment and runoff.

The first one-half inch of runoff must be contained by the onsite stormwater management system for projects within 1/2 mile of a receiving water body. However, for projects within one thousand feet from shellfish beds, the first 1 1/2 inches of runoff must be retained on site. These requirements are thoroughly discussed in the document [“The South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities.”](#) Requirements are more stringent for bridge construction. The table below represents the stormwater management criteria for bridges. Golf courses also have specific stormwater management standards in the coastal zone of South Carolina as described in the handbook mentioned earlier.

Classification	0-30000 (Average Daily Traffic Volume)	Greater Than 30,000 (Average Daily Traffic Volume)
ORW (within 1000ft of shellfish beds)	First inch of runoff from bridge surface must be collected and routed to an appropriate stormwater management system, so that maximum exfiltration occurs before contact with shellfish beds. Vacuuming should be considered for bridge.	First inch of runoff from bridge surface must be collected and routed to an appropriate stormwater management system, so that maximum exfiltration occurs before contact with shellfish beds. Vacuuming should be considered for bridge.
ORW (not within 1000ft of shellfish beds)	A stormwater management plan must be implemented to compensate for the lack of direct treatment of runoff. Vacuuming can be considered. The use of scupper drains should be limited.	A stormwater management plan must be implemented to compensate for the lack of direct treatment of runoff. Vacuuming can be considered. The use of scupper drains should be limited.
SFH (within 1000ft of shellfish beds)	A stormwater management plan must be implemented to compensate for the lack of direct treatment of runoff. Vacuuming can be considered. The use of scupper drains should be limited.	First inch of runoff from bridge surface must be collected and routed to an appropriate stormwater management system, so that maximum exfiltration occurs before contact with shellfish beds. Vacuuming should be considered for bridge.
SFH (not within 1000ft of shellfish beds)	A stormwater management plan must be implemented to compensate for the lack of direct treatment of runoff. Vacuuming can be considered. The use of scupper drains should be limited.	A stormwater management plan must be implemented to compensate for the lack of direct treatment of runoff. Vacuuming can be considered. The use of scupper drains should be limited.
SA	No Treatment Required. The use of scupper drains should be limited.	No Treatment Required. The use of scupper drains should be limited.
SB	No Treatment Required. The use of scupper drains should be limited.	No Treatment Required. The use of scupper drains should be limited.

- ***Bureau of Solid and Hazardous Waste Management***

- **Primary Legislation:** *(RCRA, CERCLA, South Carolina Infectious Waste Management Act, South Carolina Solid Waste Management Act, Atomic Energy and Radiation Control Act)*

- **Historical Overview**

(Provided by the Bureau of Solid and Hazardous Waste Management)

The South Carolina Department of Health and Environmental Control began the development of its regulatory program for the management of solid and hazardous waste by sponsoring legislation which was approved by the General Assembly of South Carolina in March 1978. This legislation, known as the South Carolina Hazardous Waste Management Act (Act 436), established the statutory waste activities within the State. Implementation of this act was predicated upon the Department's promulgation of regulations setting forth requirements which would be necessary to protect public health and safety, the health of living organisms, and the environment from the effects of improper, inadequate or unsound management of hazardous wastes.

The Department developed its first set of proposed regulations addressing this matter in March 1979 and submitted them to the General Assembly for approval. After revision a new set of regulations were adopted by the department and subsequently approved by the General Assembly in March

1980. These regulations (R. 61-79) initiated the Department's regulatory program for the management of hazardous wastes.

In 1981, these regulations were amended to provide for the assessment of fees for land disposal of hazardous waste as mandated pursuant to Act 517 of 1980; to modify the amounts of financial coverage which transporters of such waste must demonstrate; and to enhance the consistency between federal and state programs regarding criteria, identification and listing of hazardous wastes.

During the 1983 session of the South Carolina General Assembly, legislation was enacted to further amend the Hazardous Waste Management Act. The 1983 amendment provided for an increase in fees for the land disposal of hazardous waste and the levying of fees for certain storage activities. Monies collected are utilized to fund clean up of uncontrolled hazardous waste sites not covered by federal programs and to mitigate contingencies arising from the operation of permitted land disposal facilities. The amendment also required that generators and facilities submit to the Department quarterly reports outlining the types and quantities of hazardous wastes generated, treated, stored and disposed of during each calendar quarter.

On February 17, 1984, the Department submitted regulation revisions to the General Assembly which revised and amended those provisions of R. 61-79 which were contrary or inconsistent with the amended act. These revisions also incorporated those changes necessary to ensure consistency between the state and federal hazardous waste programs. These regulations were approved by the General Assembly on July 22, 1984. According to the provisions of the 1976 Federal Resource Conservation and Recovery Act (PL 94-580), a state hazardous waste program must be evaluated and approved by EPA. In making its evaluation, EPA requires the state to demonstrate that:

- the state program controls all the hazardous wastes controlled by the federal program and that the state's methods for identifying these wastes are consistent with the federal approach;
- the state program controls all the generators that would be controlled by the federal program and establishes minimum requirements for reporting and record-keeping, proper packaging and labeling of hazardous wastes prior to shipment, and use of a manifest to track generator shipments of hazardous wastes;
- the state program controls all transporters of hazardous waste which are controlled by the federal program and establishes minimum requirements to ensure the integrity of proper packaging and labeling during transportation and use of manifest to track each shipment of hazardous waste;
- the state program establishes interim standards for existing and new treatment, storage, and disposal facilities which are consistent with federal standards including design, operation and maintenance standards; financial responsibility; preparedness for and prevention of discharge or releases of hazardous wastes; closure and post-closure requirements including financial requirements to ensure money will be available for closure and post-closure monitoring and maintenance; groundwater monitoring; facility personnel training; and inspection, monitoring, record keeping, and reporting;
- the state program requires permits for all hazardous waste management facilities covered under the federal program and prohibits their operation without such a permit;
- the state program utilizes administrative procedures for permitting which are consistent with federal permitting procedures including minimum public notice and comment requirements;
- the state program provides for adequate compliance and enforcement activities including sufficient inspection, surveillance and investigation to determine compliance or non-compliance with applicable program requirements.

The Department received “Final Authorization” of its hazardous waste program from the U.S. Environmental Protection Agency on November 8, 1985. Amendments to State Regulations were subsequently prepared to reflect the changes which occurred in Federal Regulations through the period ending June 30, 1987. In addition, the State implemented recommendations of the Hazardous Waste Task Force regarding notice to the public of pending applications and regarding clearer financial responsibility stipulations for certain hazardous waste industries and other matters.

- **Organization**

The regulations utilized by the Bureau of Solid and Hazardous Waste Management closely follow the federal standards established by the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Bureau is setup with a number of divisions which have as their purpose achieving the missions of both state and federal waste management missions. The Bureau was established to achieve the following missions.

- to protect human health and the environment by ensuring proper management of solid and hazardous wastes including infectious waste;
- remediation of problems associated with past management of waste and abandoned waste sites;
- regulation of oil and gas exploration, drilling, transportation and production;
- planning for and responding to emergencies resulting from the release of oil, chemical or radioactive wastes or materials;
- ensuring proper mining and land reclamation; and ensuring proper management of radioactive wastes and monitoring compliance of the nuclear waste compact.

The divisions within the Bureau of Solid and Hazardous Waste Management have diverse responsibilities in order to meet both the comprehensive mission state above, and the comprehensive mission of the Department of Health and Environmental Control. There are ten divisions within the Bureau of Solid and Hazardous Waste Management. They consist of the divisions of:

- Hazardous Waste Facility Permitting (Fed. Reg. 40 CFR, SC R. 61-79, and R. 61-104);
- Hazardous Waste Transporter Permitting (Fed. Reg. 40 CFR, and R. 61-79);
- Infectious Waste Facility Permitting And Transporter Requirements (Fed. Reg. 40 CFR, and R. 61-105);
- Radioactive Waste Facility Permitting And Transporter Requirements (R. 61-63 and R. 61-83);
- Solid Waste Landfill Permitting (R. 61-66, R. 61-70, R. 61-71, R. 61-107, R. 61-107 and R. 61-107);
- Solid Waste Handling Facility Permitting (R. 61-107);
- Mining And Reclamation Permitting (R. 89-1 through R. 89-35);
- Certificate To Explore For Minerals (R. 89-5);
- Terminal Facility Registration;
- Oil And Gas Exploration, Drilling, Transportation, And Production (R. 121-8).

These divisions within the Bureau as represented by the organizational chart do not subdivide responsibilities by region or EQC district, rather by the type of activity. The legislative acts that give the internal divisions their legal authority are RCRA, CERCLA (Superfund), the South Carolina Infectious Waste Management Act, the South Carolina Hazardous Waste Management Act, the South Carolina Solid Waste Management Act, and the Atomic Energy and Radiation Control Act.

These authorities establish the legislative framework for the Bureau of Solid and Hazardous Waste Management to function. The Bureau of Solid and Hazardous Waste Management has these stated objectives that purposefully follow the mission statements from the legislative acts mentioned before.

- to process permit applications for waste management and mining/reclamation activities in accordance with established time frames and ensure compliance with regulatory and permit requirements;
- restoration of contaminated property to productive use or management of contamination to minimize exposure;
- immediate response to emergencies arising from release of wastes or materials;
- ensure proper conduct of oil and gas exploration, drilling, transportation and production.

- **Waste Management Concerns in the Charleston Harbor Project Area**

- ***Waste Generation***

All generators, transporters, treatment, storage and disposal facilities of hazardous waste are required to notify the South Carolina Department of Health and Environmental Control and the United States Environmental Protection Agency of activities. All activities involving large quantities of hazardous waste must also maintain a manifest that tracks wastes from “cradle to grave”, meaning from creation of the waste to its ultimate disposal. As part of the tracking requirements, an identification (ID) number is generated and permanently attached to the site even if the company relocates to a new location.

Using the ID number, the Bureau of Solid and Hazardous Waste Management has the ability to track current data on each industry’s waste streams, amounts of waste generated, list of transporters used, and the facilities to which each company ships their waste. The Hazardous Waste Tracking System (HWTS) was created in 1984 and fulfilled the need for a comprehensive waste management system. In addition to the HWTS are quarterly reports that provide extensive information regarding amount of waste generated. For more information the annual report “[Hazardous Waste Activities Reported in South Carolina](#)” is available from the Bureau of Solid and Hazardous Waste Management. This report provides extensive information regarding the generation, treatment, storage, and disposal of hazardous waste activities in South Carolina by county.

- A map showing the amount of hazardous waste generation by EQC district is provided below. While the Trident district is not a significant generator of hazardous waste, the map shows that the Wateree district which is the watershed unit directly above the Charleston Harbor Project jurisdictional area, is the highest producer of hazardous waste in the state. The amount is one order of magnitude greater than the other districts. Most of this amount comes from one source. This negative potential implications for the Charleston Harbor and its surrounding reaches from this source are significant.

- ***Landfills (Federal Clean Water Act P.L. 95-217, SC Pollution Control Act, R61-9)***

- A 1992 report by the BCD regional Council of Governments identified forty-seven permitted landfills in Berkeley, Charleston, and Dorchester counties. The chart and maps below represent the status and location of these permitted landfills. What is not represented in the charts and maps are the large number of unknown dumps, landfills, and contaminated sites in the region.

NAME	COUNTY	TYPE	STATUS
SCE&G	BERKELEY	INDUSTRIAL	ACTIVE
SC PUBLIC SERVICE AUTHORITY	BERKELEY	INDUSTRIAL	ACTIVE
SC PUBLIC SERVICE AUTHORITY	BERKELEY	INDUSTRIAL	CLOSED
SC PUBLIC SERVICE AUTHORITY	BERKELEY	CELL/CONSTRUCTION	ACTIVE
WESTVACO	BERKELEY	INDUSTRIAL	ACTIVE
WESTVACO	CHARLESTON	INDUSTRIAL	CLOSED
CITY OF CHARLESTON	CHARLESTON	DOMESTIC	CLOSED
CITY OF CHARLESTON	CHARLESTON	DOMESTIC	CLOSED
CITY OF CHARLESTON	CHARLESTON	DOMESTIC	CLOSED
HOLSTON	CHARLESTON	DOMESTIC	CLOSED
CHARLESTON SHREDDER	CHARLESTON	DOMESTIC	INACTIVE
BEES FERRY - ASH	CHARLESTON	ASH	INACTIVE
BEES FERRY - TEMP SITE	CHARLESTON	STORAGE	ACTIVE
BEES FERRY #1	CHARLESTON	DOMESTIC	ACTIVE
BEES FERRY #2	CHARLESTON	DOMESTIC	ACTIVE
AZALEA DRIVE	CHARLESTON	DOMESTIC	CLOSED
VIRGINIA AVENUE - WESTVACO	CHARLESTON	INDUSTRIAL	CLOSED
VIRGINIA AVENUE	CHARLESTON	INDUSTRIAL	CLOSED
VIRGINIA AVENUE	CHARLESTON	INDUSTRIAL	CLOSED
TRIDENT/JOHNS ISLAND	CHARLESTON	DOMESTIC	CLOSED
MOORE DRUM	CHARLESTON	INDUSTRIAL	CLOSED
G&S ROOFING PRODUCT	CHARLESTON	INDUSTRIAL	INACTIVE
G&S ROOFING PRODUCT	CHARLESTON	INDUSTRIAL	ACTIVE
-----	CHARLESTON	INDUSTRIAL	CLOSED
HANAHAN	CHARLESTON	DOMESTIC	CLOSED
HOLLYWOOD	CHARLESTON	DOMESTIC	CLOSED
SIX MILE ROAD	CHARLESTON	DOMESTIC	CLOSED
SULLIVAN'S ISLAND	CHARLESTON	DOMESTIC	CLOSED
ISLE OF PALMS	CHARLESTON	DOMESTIC	CLOSED
JAMES ISLAND	CHARLESTON	DOMESTIC	CLOSED
ST. ANDREWS	CHARLESTON	DOMESTIC	CLOSED
NORTH CHARLESTON - CITY	CHARLESTON	DOMESTIC	CLOSED
RUSSELLVILLE	BERKELEY	CELL/CONSTRUCTION	ACTIVE
BERKELEY CO.	BERKELEY	DOMESTIC	ACTIVE
BERKELEY CO.	BERKELEY	DOMESTIC	CLOSED
NEIGHBORS SITE	BERKELEY	DOMESTIC	CLOSED
SANDY PINES	DORCHESTER	ASH	ACTIVE
DORCHESTER COUNTY	DORCHESTER	DOMESTIC	CLOSED
OLD DORCHESTER CO.	DORCHESTER	DOMESTIC	CLOSED
CHAMBERS OAKRIDGE	DORCHESTER	DOMESTIC	ACTIVE
WESTOE PLANTATION.	DORCHESTER	INDUSTRIAL	ACTIVE
SUMMERVILLE	DORCHESTER	DOMESTIC	CLOSED
SMITH STREET	DORCHESTER	DOMESTIC	CLOSED
ST. GEORGE	DORCHESTER	DOMESTIC	CLOSED
BFI	BERKELEY/ DORCHESTER	DOMESTIC	CLOSED
GOOSE CREEK & SCA	BERKELEY	DOMESTIC	CLOSED
WESTVACO	CHARLESTON	INDUSTRIAL	ACTIVE

Landfills, disposal sites, and dumps have the potential for causing both point source and non-point source pollution problems. The Bureau of Solid and Hazardous Waste Management is the main agency responsible for issuing permits for landfills in South Carolina. In 1995 there were over 200 permitted landfills in the state of South Carolina; the 1992 inventory identified fourteen active sites with three more permitted but inactive. The South Carolina Solid Waste Policy and Management Act (1991) and the South Carolina Pollution Control Act as amended provide the primary regulatory structure for managing solid waste in South Carolina. Prior to the receipt of a landfill permit, an operator in the Charleston Harbor Project area as well as the entire coastal zone of South Carolina must receive a certification from the Office of Ocean and Coastal Management. In addition to certification from OCRM, the operator of a landfill in the coastal zone must also receive a stormwater permit. Projects that require both a Department of Health and Environmental Control certification and a coastal zone certification receive a joint "State Certification" through an internal memorandum of agreement between the appropriate Offices.

- ***Superfund Activities***

The Bureau of Solid and Hazardous Waste Management is involved with Superfund sites from the preliminary assessment through the final cleanup and long-term monitoring stages. The South Carolina Hazardous Waste Management Act gives the authority to the Bureau to assist in Superfund clean up sites. The "Superfund" was created in 1980 in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) after problems with Love Canal in New York. This program was created so that heavily polluted areas could be cleaned up quickly to avoid serious public and environmental health problems.

The Superfund Authorization and Reauthorization Act (SARA) in 1986 extended the Superfund program until 1991. It was further extended until 1994 under the same framework and legislation. The "Superfund" trust fund was created from taxes imposed on petroleum and chemical companies and used to clean up sites that are not cleaned up by the potentially responsible party (PRP). A PRP could be any occupant of the proper that legally or illegally disposed of hazardous waste. The federal government and state government can attempt to recoup costs incurred in the clean up by taking legal action. However, because many problems were caused by long-term dumping many years ago, it is difficult to collect on those costs. It is reported that the overwhelming costs of superfund have gone to lawyers fighting legal issues.

There are fifty-five (55) sites in Berkeley, Charleston, and Dorchester counties that are either state or federal superfund sites. Three of these are on the Superfund National Priority list. Several sites are directly adjacent to the marine environment and subsequent leakages have led to the temporary and permanent closure of fishing and shellfishing grounds. The Bureau of Solid and Hazardous Waste Management seeks to demonstrate that contaminated property can be cleaned up and reused for beneficial uses without harming public health and the environment. A prime example of one of these sights is the National Park Service site on the Charleston Peninsula. This is the site of the future Charleston Aquarium but has had a long history of environmental contamination. The City of Charleston and a host of state and federal agencies have been active in cleaning up this contaminated site.

- **Bureau of Air Quality**

(Provided by the Bureau of Air Quality)

- **Primary Legislation:** [SC Pollution Control Act, Federal Clean Air Act (42 U.S.C. Sec 7401 et. seq.), Federal Toxic Substances Control Act [15 U.S.C. Sec. 2646](Asbestos); SC R. 61-62; SC R 61-86.1]

- **Historical Overview**

South Carolina developed its Air Quality Implementation Plan in late 1971 and the Environmental Protection Agency approved it in May 1992, according to the mandates of the 1970 amendments to the Clean Air Act. Its purpose has been to serve as a blueprint and timetable for the state in its quest to attain and maintain the six ambient air quality standards (National Ambient Air Quality Standards). The Code of Federal Regulations at §40 51.110 indicates that each plan must set forth a control strategy that provides the emission reductions necessary for attainment and maintenance of the national air quality standards. Emission reductions must be sufficient to offset any increases in air quality concentrations that may result from emission increases due to projected growth of population, industrial activity, motor vehicle traffic, or other factors.

- **Mission:**

- to conserve and enhance air resources in a manner that promotes the quality of life.

- **Objectives:**

The Bureau of Air Quality administers the South Carolina Pollution Control Act, the Asbestos licensing Act, and the Federal Clean Air Act. Engineering Services, Air Compliance Management and Program development and support divisions assure air emission coherence to State and Federal standards. An elaborate state wide air monitoring program evaluates the State's ambient air quality.

To support the mission stated above , the Bureau of Air Quality assures responsible stewardship of air resources and provision of customer service by:

- Protecting and improving air quality with limits described by state and federal laws and defined in permits, licenses, and certifications;
- Monitoring and sampling both specific air pollution sources and the ambient environment;
- Ensuring compliance with environmental laws and regulations through inspections, investigations, technical assistance, and enforcement actions;
- Assessing the impact of environmental emergencies while providing a timely and effective response;
- Conducting programs designed to resolve air resource issues;
- Responding to request for information and to other air quality concerns.

- **Tools and Data**

The Air Compliance Management Division monitors regulatory compliance as described below.

- ***Compliance Section***

- Conduct enforcement actions
- Issue Notice of Violation
- Conduct enforcement of conferences with reported violators
- Determine corrective action necessary to return a source to compliance
- Assess appropriate penalties
- Issue consent and Administrative Orders
- Participate in the preparation of and testimony for adjudicatory hearings
- Make referrals for, and participate in investigation of alleged criminal environmental activities
- Ensure liaison with the Legal Office and news media
- Conduct routine enforcement status conference calls

- ***Technical Management Section***

- Receive and review compliance data
 - District and asbestos Inspection/Investigation reports (about 2,276/year)
 - Emissions test results from industrial sources
 - Referrals from Engineering Services Division, other EQC Bureaus, and EPA
 - Accidental releases
 - CEM quarterly reports information and audit data (about 1,038/year)
- Ensure consistency of reports
- Ensure liaison with:
 - Office of District Services and appropriate District personnel
 - EPA
 - Bureau staff and other EQC Programs
 - Agency Risk Communication Liaison
- Conduct special investigations as appropriate
- Coordinate data for:
 - fuel usage
 - CEMs
 - inspection/investigation reports
 - information compiled for special studies
- Respond to and track indoor air quality inquiries
- Perform compliance audits
- Coordinate Clean Air Act outreach
 - notify affected parties of MACT Standards promulgated
 - coordinate with EPA
- Interpret Short Term Data of SPMS
- Review and develop regulations

The Bureau of Air Quality has nine monitoring stations located in the Trident District. A map and table provide the locations and type of monitoring conducted at these sites. All but the Cape Romain monitoring station are located within the Charleston Harbor Project jurisdiction. The chart below represents the types of emissions regularly monitored by the Bureau of Air Quality. Unlike other districts, there is no alteration of monitoring sites from year to year. A more thorough discussion of monitoring sites and techniques can be obtained directly from the Bureau of Air Quality.

- **Location of Air Quality Monitoring Sites in the Charleston Harbor Project Area**

Location	TSP	PM ₁₀	SO ₂	NO ₂	CO	Pb	O ₃	HF	ACID PREC
ARMY RESERVE							X		
ASHE STREET					X				
BUSHY PARK							X		
CAPE ROMAIN	X	X	X	X			X		X
CHARLESTON CO. HEALTH DEPARTMENT	X					X			
GREENLEAF STREET	X	X							
JAMES ISLAND	X								
JENKINS STREET	X	X	X	X			X		
NAVY BASE	X	X							

- **Status and Trends**

South Carolina meets or exceeds the National Ambient Air Quality Standards for all six criteria pollutants (lead, particulate matter with an aerodynamic diameter less than or equal to ten micrometers, carbon monoxide, sulfur dioxide, nitrogen oxides, and ozone). The Clean Air Act specified these standards to protect public health and welfare.

- **Future Concerns**

Class I areas are parks and wilderness areas designated by the U.S. Congress in 1977 to preserve environments that are relatively pristine. The areas require that industries meet very strict federal standards for pollution control. Cape Romain, between Charleston and Georgetown, is the only Class I areas in South Carolina. Four Class I areas (Great Smokey Mountain National Park, Joyce Kilmer Wilderness Area, Shining Rock Wilderness Area, and Linville Gorge Wilderness Areas in western North Carolina affect the Greenville-Spartanburg area, and the Wolf Island National Wildlife Refuge of the coast of Georgia has a slight impact on the Beaufort County area. Federal Regulations provide federal land managers of Class I areas an opportunity to comment on potential air quality impacts before states issue permits for new major construct at facilities found within 62 miles of a Class I areas boundary.

The Charleston area has consumed nearly all of its sulfur dioxide emissions increments allotted by Prevention of Significant Deterioration (PSD) regulations. Under these regulations, a state may identify areas as Class I (most restrictive emission limits), II, or III (least restrictive emissions limits). South Carolina is designate Class II, except the Cape Romain Wilderness Area. New facilities with sulfur dioxide emissions (e.g., power plants and facilities like Alumax) are difficult to locate near Charleston or Georgetown because of the Cape Romain Class I area. Closing the Charleston Naval Shipyard may allow for some small growth near the shipyard.

The recent permit for Nucor Steel near Charleston underwent PSD review. Air modeling data showed no exceedence of DHEC's significance levels, but did exceed U.S. Fish and Wildlife Service (FWS) significance levels for Class I areas. The FWS sought a cumulative modeling analysis for Nucor that included estimated impacts on the Cape Romain Wilderness Areas from all other sulfur dioxide increment consuming sources within 200 kilometers of the area. The sources involved received their air quality permits after another sulfur dioxide increment consuming source near Charleston (Alumax) submitted its composite air modeling data. Data collected from that analysis were then added to the Alumax results, yielding a total sulfur dioxide increment consumption of 98% for the Cape Romain Wilderness Area.

In a separate issue, EPA is considering revising the national ambient air quality standards for ozone and particulate matter. The agency may change the ozone standard to 0.07 - 0.10 PPM (currently at 0.12 PPM), the particulate matter standard to an annual standard, for 8 hr. averages, of 0.08 $\mu\text{g}/\text{m}^3$ (currently 10 $\mu\text{g}/\text{m}^3$), and may establish a new standard for fine particulates with an aerodynamic diameter of 1 or 2.5 microns (PM 1 standard is more likely). Although the state currently meets all national ambient air quality standards (termed attainment) established in the early 1970s in the Clean Air Act and by EPA, and complies with revisions to those standards that became effective as better health effects data evolved, the proposed revision would place much a South Carolina in non-attainment.

- **OCRM**

- *Overview:*

With growing concern of environmental degradation of the Nation's waterways and coastlines, the federal government passed the Coastal Zone Management Act (1972). This act authorized and appropriated money to be distributed to the states for the development of statewide coastal management plans. The Federal Coastal Zone Management Act set forth many far-reaching goals and objectives. In response, during the mid-1970s the South Carolina General Assembly found that:

- the coastal zone is rich in natural, commercial, recreational and industrial resources of immediate and potential value to the present and future well-being of the State;
- the increasing and competing demands upon the lands and waters of our coastal zone occasioned by population growth and economic development, including requirements of industry, commerce, residential development recreation, extraction of mineral resources and fossil fuels, transportation and navigation, waste disposal, and harvesting of fish shellfish and other living marine resources, have resulted in the decline or loss of living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use and shoreline erosion;
- a variety of federal agencies presently operate land use controls and permit systems in the coastal zone. South Carolina can only regain control of the regulation of its critical areas by developing its own management program. The key to accomplishing this is to encourage the state and local governments to exercise their full authority over the lands and water in the coastal zone;
- the coastal zone and fish, shellfish, other living marine resources and wildlife therein, may be ecologically fragile and consequently extremely vulnerable to destruction by mans alterations;
- important ecological, cultural, natural, geological and scenic characteristics, industrial, economic and historical values in the coastal zone are being irretrievably damaged or lost by ill-planned development that threatens to destroy these values;
- in light of competing demands and the urgent need to protect and to give high priority to natural systems in the coastal zone while balancing economic interests present state and local institutional arrangements for planning and regulating land and water uses in such areas are inadequate.

From these findings the South Carolina Coastal Council was created. This autonomous agency was charged with protecting, preserving and planning in the coastal environment of South Carolina, while simultaneously promoting sound development in the coastal areas. The State at that time set forth very clear policies and objectives. Above all the basic State policy regarding the coastal ecosystem is to protect the quality of the coastal environment and to promote the economic and social improvement of the coastal zone and of all the people of the state. The specific goals and objectives set forth in the South Carolina Coastal Management Act can be found in [Section 48-39-30](#).

In 1993 the South Carolina Coastal Management Act was amended to correspond with the South Carolina Government Restructuring Act which led to the merger of the South Carolina Coastal Council with the Department of Health and Environmental Control. The Coastal Council became the Office of Ocean and Coastal Resource Management in July of 1994. Through the merger, better coordination among resource planning and permitting agencies has been achieved. The ultimate goal of streamlining the permitting process has been met through this merger. OCRM kept its mandates from its years as the Coastal Council, and has since gained new roles and responsibilities. This

document is intended to present the roles and responsibilities of OCRM in the Charleston Harbor Project area.

- ***Organization:***

OCRM is organized into several departments, each with their own responsibility. The department of planning and certification is responsible for all other agency permits that require a federal or state consistency certification before approval. The department of permitting is responsible for reviewing and issuing general permits for activities within the critical area as defined by Statute authority §48-39-10 in Section 3. There are also two National Estuary Research Reserves (the North Inlet and the ACE Basin NERR) that are funded through the Office of Ocean and Coastal Resource Management, and the Charleston Harbor Project which administers the Charleston Harbor Special Area Management Plan.

- **The Department of Planning and Certification [(§48-39-50 (C))]**

The Department of Planning and Certification is responsible for overseeing all federal and state permits that requiring agency certification before issuance. These permits include Army Corps of Engineers 404 permits, EPA 401 water quality permits issued by DHEC, and United States Coast Guard bridge permits. Other outside permits that require OCRM certification are listed below, and a detailed description of permits requiring OCRM consistency certification can be found in the [South Carolina Coastal Zone Management](#) program document. It is important to remember that both the state and federal coastal management acts require this process to occur so that potentially harmful activities can be stopped before irreparable damage to the coastal environment occurs.

- ***Certification Requirements***

- Federal Consistency Requirements

- Army Corps of Engineers Federal Wetland Permits (404 section 10)
 - Nationwide Wetland Permits
 - US Coast Guard Bridge Permits
 - Federal Aviation Administration Airport Permits
 - A-95 General US Permits (these permits are for any activity which uses federal money)
 - Any military construction within jurisdiction
 - Transportation of nuclear and other hazardous materials between states

- State Consistency Requirements

- Marine Resources and Wildlife Department Permits (shellfish harvesting)
 - Mining
 - DHEC - NPDES, Water and sewer permits
 - Air Quality permits
 - Wells, Underground Storage Tanks and Groundwater
 - Landfills

- Other Consistency Requirements

- Subdivision Permits
 - Industrial and Commercial Development Activities

- Local Beachfront Management Plans

The Department of Planning and Certification is also responsible for coastal zone management program refinements and updating components of the overall plan. Recent refinements and updates include:

- an update of the Developer’s Handbook for Fresh Water Wetlands;
- a review of local beachfront management plans for five beachfront communities;
- updating components of the State Beachfront Management Plan; and,
- implementing planning mechanism that aid in complicated resource management decisions.

Overall the Department of Planning and Certification saw over 1,800 certification requests in fiscal year 94/95. Of the total, over 60% required provisions to be made to the application before a consistency certificate was granted. There were five federal permits that were denied.

• **The Department of Permitting [(§48-39-50 (G))]**

The Department of Permitting is directly responsible for the issuing of critical area permits in the South Carolina Coastal Zone. The critical area is defined in §48-39-10 (J) of the South Carolina Coastal Zone Management Act as any of the following:

- coastal waters;
- tidelands;
- beaches;
- beach/dune system which is the area from the mean high-water mark to the setback line as defined in §48-39-280.

Typically the permits issued are for private activities such as boat ramps, docks, marinas, bridges and any other activity that disturbs the salt marsh. Activities that disturb the active beach, or the beach dune system also require a general permit, and must also conform to requirements set out in the Beachfront Management Act of 1990. The Department of Permitting also reviews dock master plans before approval of the project. It is expected that by reviewing dock master plans before approval, problems associated in the future with regard to dock permits can be reduced or eliminated. This planning component of the permitting department has met with general acceptance from the public. The Department of Permitting issued over 900 permits during fiscal year 94/95. Of this total 28 permits were denied, and over 400 required provisions or amendments.

Within the Department of Permitting is the enforcement division. This division is charged with enforcing all activities that are not consistent with the activity permitted in the original permit. These staff members have the ability to issue “cease and desist” orders that have the ability to stop construction of an unpermitted activity. The enforcement staff also have the authority to issue penalties, levy fines, or revoke permits if so necessary to carry out the directive set out in §48-39-80 (O) that states; “to exercise all incidental powers necessary to carry out the provisions of this chapter.” The enforcement division resolved over 100 unpermitted activities and activities in violation of existing permits.

- **National Estuarine Research Reserves (NERR) [(\$48-39-50 (J) and 48-39-50 (B))]**

The National Estuarine Research Reserve system (NERR) was established in 1972, the same time as the US Coastal Zone Management Act was passed. The NERR system was established in order to foster a systems of reserves that represent the national diversity of ecosystems in the United States. This system works through a Federal/State partnership with the multiple goal of research, education, restoration and preservation of important coastal territory.

The Ace Basin and North Inlet National Estuarine Research Reserves are operated by two different organizations, but they are both funded through the Department of Planning and Certification through money from NOAA's Office of Ocean and Coastal Resource Management, Sanctuaries and Reserves Division. The Ace Basin NERR is operated by the South Carolina Department of Natural Resources. The Ace Basin is made up of the Ashepoo, the Combahee, and Edisto River systems and is one of the largest NERR site in the country. This research reserve was established in 1992 and is continually increasing the area protected. North Inlet National Estuarine Research Reserve was also created in 1992, but this reserve is managed by the Belle W. Baruch Laboratory of the University of South Carolina is the managing agency.

- **Charleston Harbor Project [\$48-39-50 (B)]**

The Charleston Harbor Project Special Area Management Plan was created in 1991 with the stated objective of providing local leaders with the necessary information required for managing the complex components of growth and development in the Charleston Area. The Charleston Harbor Project set out in 1991 with three primary goals.

- To maintain and enhance the quality of the environment in the Charleston Harbor estuary system.
- To maintain the range of uses of waters and natural resources of the Charleston Harbor estuary system.
- To anticipate and address potential problems before adverse impacts occur.

The Harbor Project is made up of twelve task forces that identify research needs and develop proposal for research based on those needs. Task force groups are made up of private and public sector planners, researchers and concerned citizens, and cover such areas as biological, recreational, historical and cultural resources, economic and land use management concerns, and point source and other water quality issues. The Charleston Harbor Project's area of concern are Berkeley, Dorchester and Charleston County, however, there are parts of each county outside of the Harbor Projects scope. Through applied research, administrators of the Charleston Harbor Project are determining the most significant economic, cultural and natural resource management issues. Over fifty research projects have been funded by the Charleston Harbor Project. These projects are described in detail in the [annual report](#). The Charleston Harbor Project has also been actively designing a waste loading allocation model for the Harbor Project area.

- **Regulatory Components of the Office of Ocean and Coastal Resource Management:**

Major Components:

OCRM is organized into discreet units that perform the complex regulatory measures required by the Federal and State Coastal Zone Management Act, South Carolina Beachfront Management Act, Storm Water and Sediment Reduction Act, and other statutes. OCRM has major and minor program components that coordinate to create the comprehensive coastal management program it has become. Major components used to manage the coastal ecosystems in South Carolina include the critical area permitting program, state and federal consistency certification, special area management planning, beachfront management planning, geographical areas of particular concern, and storm water management. There is considerable overlap among the goals and objectives of many these components. This overlap is intentional in that in order to sufficiently maintain the stated objectives of the state and federal coastal management acts. Maintaining a certain level of overlap ensures that long-term and cumulative effects may be better recognized before negative consequences to the coastal environment are felt.

- ***Critical Area Permits***

Authorizing Statute: §48-39-360

- A. The critical area is defined as coastal waters, tidelands, beaches and beach/dune systems.
- B. Any alteration of the critical area must be approved by OCRM and must be accompanied by a permit.
- C. Alteration of the critical area includes, but is not limited to:
 1. docks and piers;
 2. boat ramps;
 3. bulkheads, revetments (non-oceanfront);
 4. cables, pipelines, and transmissions lines;
 5. marina/community docks;
 6. roads, bridges, and tunnels;
 7. dredging and filling.
- D. OCRM has the authority to revoke or modify the permit if so needed.
- E. OCRM also has the authority to levy fines and penalties if the enforceable activity the state or federal coastal zone management act.

- ***Federal and State Consistency Certification***

Authorizing Statute: P.L. 920583, 94-370; 15 CFR 930; §48-39-10 et. seq.

- A coastal zone consistency certification is required of any project taking place in the eight coastal counties which requires any State of federal permit.
- No application for consistency certification is necessary, as agencies requesting certificate automatically provide OCRM with a copy of the application.
- Permits that require a 401 water quality certificate and a coastal zone certificate are combined and issued by EQC.

- ***Stormwater Permitting***

Authority Statute: 1976 Code Title 48 Chapter 14

- All land disturbing activities of greater than 2 acres require a stormwater management permit prior to construction.
- OCRM administers this permitting directive for the eight counties in the coastal zone.
- All projects in the coastal counties require a permit if the activity is within one half mile from a receiving waterbody.
- Some projects less than two acres will require a storm water permit when projects are located within one half mile of a receiving water body. These activities include;
 1. all commercial buildings which will handle hazardous chemicals (including gasoline, kerosene, diesel fuel, nutrients, etc.)
 2. all commercial buildings and parking/runway areas with greater than one acre of impervious surface located directly adjacent to a saltwater (critical) area.
 3. all commercial buildings and parking/runway areas with greater than one-half acre of impervious surface located directly adjacent to a saltwater (critical) area
 4. all residential subdivision developments located directly adjacent to a saltwater (critical) area
 5. all projects impacting Geographical Areas of Particular Concern (GAPC)
- Projects over 5 acres require both a state storm water permit and a NPDES permit regardless of location.

• ***Beachfront Management Planning***

Statute Authority: §48-39-320 et. seq.

- Create a long-range and comprehensive beach management plan for the Atlantic Ocean shoreline in South Carolina. Plan components should include:
 1. development of the a database for the states coastal areas to provide essential information necessary to make informed and scientifically based decisions concerning the maintenance or enhancement of the beach/dune system;
 2. develop guideline and coordinating mechanisms with other agencies and local governments for the accomplishment of technical requirements including beach nourishment and restoration, beach access, dune protection, endangered species, regulation of vehicles on beach, and encroachment of development on the beach;
 3. formulate the recommendations for funding programs which may achieve the goals set forth in the State Comprehensive Beach Management Plan;
 4. development of an educational component with regard to the coastal environment;
 5. development of mechanisms for assistance to local governments for the creation of local beach front plans.

• ***Dock Master Planning***

Regulatory Authority: R.30-11(C) (Section 15(A) of the Coastal Management Act)

- The piecemeal approach to permitting of docks and piers is not compatible with state coastal development policies. OCRM must consider the extent to which long-range, cumulative effects of any project that may result within the context of other development in a sensitive area.
- OCRM will provide a more comprehensive review of coastal impacts through the use of dock master plans along the shoreline of properties undergoing development.
- The dock master planning process has multiple goals and objectives:
 1. to determine whether a given property is suitable for water access
 2. to establish guidelines for extending property lines to define corridors in which dock construction will take place
 3. to establish guidelines for determining the appropriate spacing of docks in order to control congestion

4. to maintain the accessibility and navigability of coast waters
5. to establish guidelines for determining the appropriate length of docks
6. to maximize public access to the water
7. to protect geographic areas of particular concern (GAPC) as well as the values of a water body and protected critical areas as set forth in [Section 48-39-20](#) and [Section 48-39-30](#) of South Carolina's Coastal Zone Management Act.
8. to encourage the use of community docking facilities
9. to prevent degradation of water quality.

- ***Wetland Master Planning***

Regulatory Statute: [R.30-11\(C\)](#)

- OCRM encourages a comprehensive approach to wetland management
- Wetland master planning is applied to all projects requiring OCRM certification of ACOE Section 404 permits, and all projects with multiple isolated wetlands (less than 1 acre).

- ***Wetland Mitigation***

Regulatory Statute:

- The avoidance of wetlands is preferable to mitigation, however mitigation is considered only after all policies of OCRM's program document (and revisions) have been addressed and found consistent with the South Carolina Coastal Zone Management Act.
- Through the use of wetland master plans, mitigation plans are easily determined.
- Mitigation plans are required on all projects that require:
 1. coastal zone consistency determination,
 2. impact of federally defined wetlands,
 3. OCRM determines that impacts are minimal and mitigation may not be required.
- The most common mitigation methods include
 1. protection and enhancement (buffering)
 2. restoration
 3. creation of new wetlands (either on or offsite)
- Mitigation guidelines are discussed in detail in program refinement guide on pages 12-16
- Mitigation ratios = 1.5:1 for most sites

- ***Special Area Management Planning***

Statutory Authority: [§48-39-90 \(E\)](#)

- Special Area Management Plans are used to guide and manage potentially incompatible or mediate conflicting uses.
- SAMPS also provide the opportunity to collect and examine data, identify development trends, and predict future conflicts that may have an adverse effect on the coastal environment.
- SAMPS can be created by a variety of agencies, interests and organizations.
- Existing SAMPS include:
 1. [Hilton Head Island \(1982\)](#)
 2. [Charleston Harbor Project \(1991\)](#)
 3. [Ashley River](#)

4. Charleston Peninsula (1985)
 5. Georgetown Central Business District/Sampit River (1986)
 6. Edisto Island, Jeremy Inlet to Big Bay Creek (1987)
 7. Lower Savannah River (1987)
 8. Southern Pawleys Island (1987)
 9. Shem Creek (1981, never adopted by Town of Mount Pleasant)
- SAMPs may be developed as a geographic area of particular concern upon full approval of the OCRM Appellate Panel and agreement among applicable agencies and organizations.

• ***Geographic Areas of Particular Concern (GAPC)***

Statutory Authority: Section 305(B)(3) & (5) of the Federal Coastal Zone Management Act of 1972; Section 8(B)(4) of the South Carolina Coastal Zone Management Act (Appendix B)

- The GAPC program allows OCRM to target particular locations in order to ensure that the highest priority use is maintained, and that the management of that area is consistent with the State and Federal Coastal Zone Management Acts.
- The “areas of particular Concern” include areas of:
 - have a unique natural resource value;
 - where activities depend on proximity to coastal waters;
 - have a special historical, archeological or cultural significance.
- GAPC are of such special importance and concern to South Carolina that the State has established regulatory and/or management controls over them.
- GAPC categories include:
 1. Heritage Trust Program (Act 600 of 1976)
 2. State Wildlife Preserves (§50-3-100)
 3. State Parks (§51-71)
 4. Scenic Rivers [Scenic Rivers Act (Act 1106)]
 5. Marine and Estuarine Sanctuaries (Federal law: P.L. 92-532, 86 Stat. 1061; State law: Sec. 5(J), Act 123 of 1977)
 6. Shellfish Areas (§28-811)
 7. Groundwater Resources (Groundwater Use Act of 1969 (§70-31)
 8. Threatened or Endangered Species Habitats [(Non-game and Endangered Species Act of 1974 (Chapter 15, §50-15-10 through 50-15-90)]
 9. Designated Sites
 10. State Ports (Act 126 of 1942 (§54-1, -12, -15, -20: Section 2 of Act 123 of 1977)
 11. Navigation Channels (Chapter 1, Title 49 (A) 11: §15 of SC Coastal Management Act)
 12. Mining Operations (Act 274 of 1972)
 13. Historic Sites (National Historic Preservation Act of 1966: §15(6), Act 123 of 1977)
- Projects located adjacent to GAPC are carefully evaluated based on the priority of uses for that type of GAPC as set forth in the regulations.
- A GAPC can be nominated by state agencies or federal agencies, local governments, organizations, and interested private citizens.
- Section Four of the South Carolina Coastal Zone Management program document describes the GAPC selection and management process extensively.

As mentioned earlier, OCRM uses overlapping components that integrate many facets of resource management in order to maintain a comprehensive coastal management program. It is necessary to complement the major components discussed above with more minor, but no less important measures. These measures are most often used as tools that allow for the decision making needs in the major components. The measures discussed below are the means that allow for the objectives of

the federal and state coastal management acts to be achieved. These measure include items such as beach surveying and seawall inventories, disaster preparedness components in beachfront management plans, marina pumpout and construction guidelines that relieve some water quality concerns, and the construction and management of a geographic information system for the coastal zone. Below is a sample of program measures conducted annually in order to meet State and Federal coastal management objectives.

- ***Beach Surveying* [§48-39-280 (D)]**

Beach Surveying is a component that integrates the permitting and planning department. Generally beach surveying is contracted by either area contractors or universities through a grant funded by the [United States Geological Survey, Coastal Geology Division](#). The beach surveying component is required of both the state and local beachfront management plans and is conducted semi-annually. The purpose of the beach surveying component is to measure the annual erosion rates occurring on the barrier islands in South Carolina. Once erosion rates are known, then islands can be classified as erosional or accretional and “hotspots” can be identified. Recognizing the erosional histories of developed barrier islands allows OCRM and local governments to prepare for future storms, development, or renourishment. Data from beach erosion is also utilized for establishing and modifying baselines and setback lines on barrier islands. An annual [State of the Beaches](#) report is published by the Charleston office and presents the short-term erosion or accretional trends for all the South Carolina barrier islands.

- ***Hurricane Preparation* [§48-39-260 (7)]**

Included in the Beachfront Management Act is a requirement that both state and local beachfront management plans contain a disaster preparedness component. OCRM updates their hurricane recovery plan annually as do many of the local coastal communities. The state [Beachfront Management Plan](#) sets forth the goals and objectives of the disaster preparedness component, and offers assistance to local communities for the creation of their own disaster component.

- ***Seawall Inventories* [§48-39-50 (C) & (L)]**

The seawall inventory is an annual project that surveys and records the status of all hard erosion control structures on the oceanfront beaches of the South Carolina barrier islands. Data regarding size, condition, material, and ownership as well as a recent photograph is maintained so that in the event of a major catastrophe detailed records regarding the structure are known. New seawalls are not permitted on the oceanfront beaches in South Carolina. Owners of seawalls damaged more than 66 2/3% above grade are not allowed to rebuild [\[§48-39-290 \(B\)\(2\)\]](#).