

# SPECTRUM

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U.S. ARMY CORPS OF ENGINEERS, SOUTH ATLANTIC DIVISION

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Corps Regulatory Program

Balancing Progress & Nature's Needs

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## On the Cover: Seabeach Amaranth

A lone sea beach amaranth grows near the Blockade Runner Hotel at Wrightsville Beach.

### On the left:

This is the same seabeach amaranth plant shown on the cover roughly four weeks later. This annual plant faces numerous threats throughout the year including a lack of water, being trampled upon by beach goers, or insufficient habitat caused by overwash. Read more about this endangered plant and how the Corps is doing its part to help preserve it.

Cover photo and inside cover photo by Hank Heusinkveld  
Wilmington District



Brig. Gen. Joe Schroedel  
The South Atlantic Division Commander

## Message from Brig. Gen. Schroedel

This issue of Spectrum focuses on the South Atlantic Division's Regulatory program. Established as part of the Clean Water Act, the Regulatory, or Section 404, program is a major federal environmental effort aimed at preserving the quality of the nation's waters and wetlands. In the Southeast, which has millions of acres of marshes, swamps, and bogs, the magnitude and importance of this program cannot be overestimated.

Wetlands are the life blood of the planet's food chain, providing habitat for everything from plankton to egrets, and the U.S. Army Corps of Engineers takes its responsibilities for protection of them as a sacred trust. Our diverse team of biologists, environmentalists, and engineers works

hard to diligently regulate development so as to minimize damage to vital resources, while at the same time being sensitive to the economic implications of their work. Educating and informing the public about this vital resource and the regulatory requirements connected with it is a big part of their job as well, and they perform it superbly.

This issue highlights some of the many efforts in support of the Regulatory program, including initiatives to streamline processes and enhance understanding of the program. We salute the efforts of our capable and dedicated staff who work the many regulatory issues with a disciplined and objective approach.

**DEEDS, NOT WORDS!**

Best wishes always,  
Joe Schroedel

# SPECTRUM

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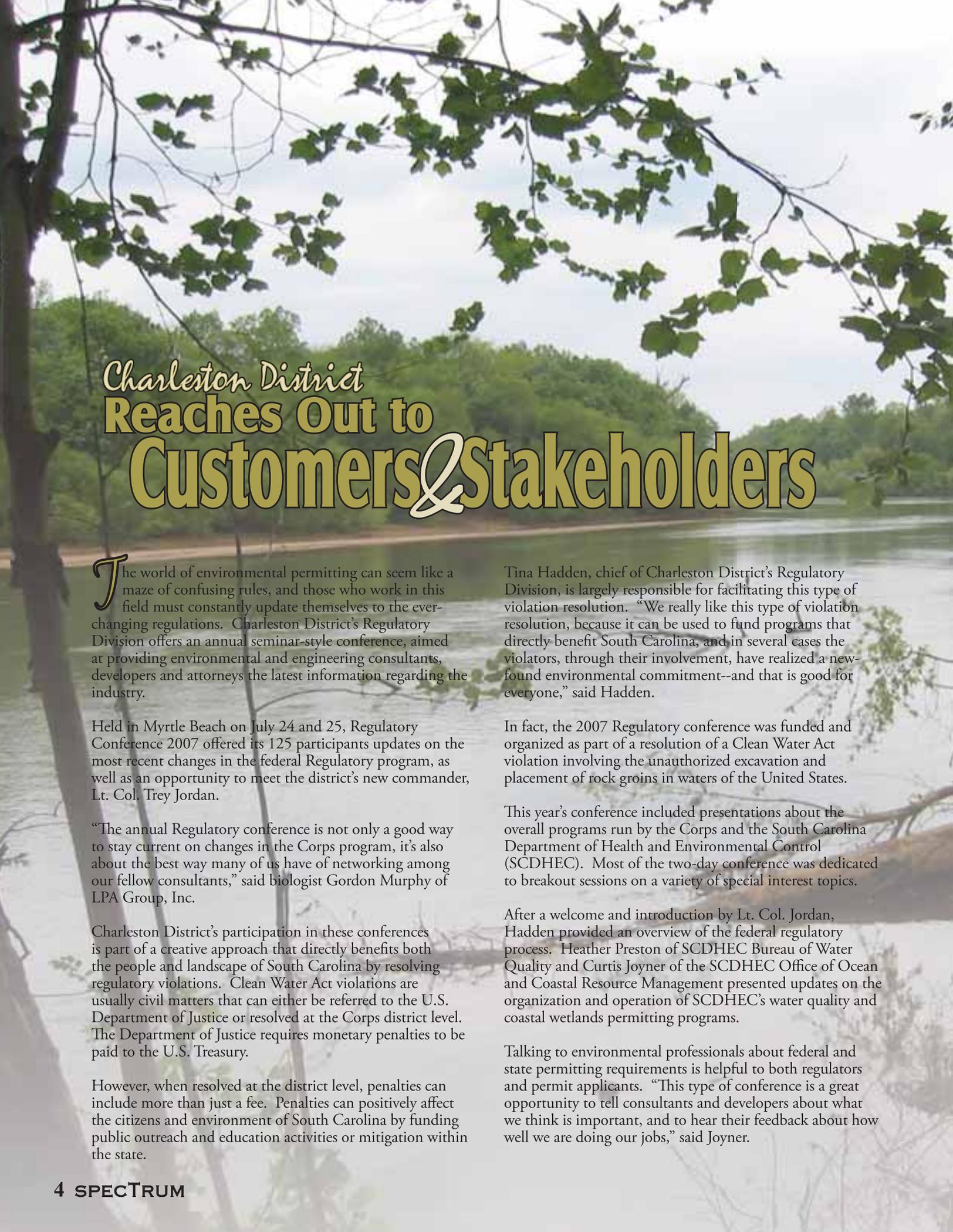
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## Charleston District Reaches Out to Customers & Stakeholders

The world of environmental permitting can seem like a maze of confusing rules, and those who work in this field must constantly update themselves to the ever-changing regulations. Charleston District's Regulatory Division offers an annual seminar-style conference, aimed at providing environmental and engineering consultants, developers and attorneys the latest information regarding the industry.

Held in Myrtle Beach on July 24 and 25, Regulatory Conference 2007 offered its 125 participants updates on the most recent changes in the federal Regulatory program, as well as an opportunity to meet the district's new commander, Lt. Col. Trey Jordan.

"The annual Regulatory conference is not only a good way to stay current on changes in the Corps program, it's also about the best way many of us have of networking among our fellow consultants," said biologist Gordon Murphy of LPA Group, Inc.

Charleston District's participation in these conferences is part of a creative approach that directly benefits both the people and landscape of South Carolina by resolving regulatory violations. Clean Water Act violations are usually civil matters that can either be referred to the U.S. Department of Justice or resolved at the Corps district level. The Department of Justice requires monetary penalties to be paid to the U.S. Treasury.

However, when resolved at the district level, penalties can include more than just a fee. Penalties can positively affect the citizens and environment of South Carolina by funding public outreach and education activities or mitigation within the state.

Tina Hadden, chief of Charleston District's Regulatory Division, is largely responsible for facilitating this type of violation resolution. "We really like this type of violation resolution, because it can be used to fund programs that directly benefit South Carolina, and in several cases the violators, through their involvement, have realized a new-found environmental commitment--and that is good for everyone," said Hadden.

In fact, the 2007 Regulatory conference was funded and organized as part of a resolution of a Clean Water Act violation involving the unauthorized excavation and placement of rock groins in waters of the United States.

This year's conference included presentations about the overall programs run by the Corps and the South Carolina Department of Health and Environmental Control (SCDHEC). Most of the two-day conference was dedicated to breakout sessions on a variety of special interest topics.

After a welcome and introduction by Lt. Col. Jordan, Hadden provided an overview of the federal regulatory process. Heather Preston of SCDHEC Bureau of Water Quality and Curtis Joyner of the SCDHEC Office of Ocean and Coastal Resource Management presented updates on the organization and operation of SCDHEC's water quality and coastal wetlands permitting programs.

Talking to environmental professionals about federal and state permitting requirements is helpful to both regulators and permit applicants. "This type of conference is a great opportunity to tell consultants and developers about what we think is important, and to hear their feedback about how well we are doing our jobs," said Joyner.



Lt. Col. Jordan makes introductory remarks at the Regulatory Conference 2007, which reached out to more than 125 customers and stakeholders.

Breakout sessions on eight special interest topics were limited to approximately 25 people per session, to maximize participants' opportunities for in-depth discussion. Presented by Charleston District Regulatory staff and counterparts from various federal and state environmental agencies, session topics included:

- Evaluation of project alternatives, to help permit applicants understand how the Corps attempts to identify and permit the least environmentally damaging project design
- Mitigation for project environmental impacts
- Watershed planning as an environmentally responsible development tool
- Evaluation of project effects on cultural resources, including archaeological sites, historic buildings and structures
- Endangered species issues related to federal wetlands permitting
- Storm water permitting administered by the state
- Changes in Nationwide Permits, recently reissued for another five-year period
- Recent Corps headquarters guidance on Clean Water Act jurisdiction over wetlands and waters of the United States, resulting from the 2006 Supreme Court opinions in the high profile Rapanos and Carabell cases

“Participating in this type of conference is invaluable,” said Travis Hughes, chief of the Charleston District’s Special Projects Branch and a presenter in the conference. “It helps us reach out and distribute important information about complex regulatory issues to those who must use it in their work.” ■

by Richard Darden  
Charleston District

# Jacksonville District Meeting Challenges to Serve the Nation

David Hobbie, chief of Jacksonville District's Regulatory Division says his district and its counterparts in the South Atlantic Division will all face the same challenges in the future.

"Rapanos [Supreme Court decision] and our budgets are the number one and number two challenges," said Hobbie, who came to Jacksonville from Mobile District in February 2007. "Both issues are tied together, and we all need to devise creative solutions to address them."

"Rapanos," a 2006 Supreme Court decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States*, resulted in clarification of the Corps' jurisdiction over wetlands under the Clean Water Act. With their decision, the Court addressed where the federal government may apply the Clean Water Act, specifically by determining whether a wetland or tributary is classified as a "water of the United States." Following the ruling, the new guidance and procedures were so complex that Hobbie and his staff conducted a tour of four Florida cities, meeting with consultants and non-government organizations to discuss the Regulatory program in general, and the new guidance in particular.

Under the new guidance, the Corps and the U.S. Environmental Protection Agency (EPA) will assert jurisdiction over traditional navigable waters; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters, where the

tributaries typically flow year-round or have continuous seasonal flow for at least three months; and wetlands that directly abut such tributaries.

Hobbie said he and his counterparts and other leaders throughout the South Atlantic region met with EPA representatives for a week, followed by monthly conference calls to discuss the implications of the decision and to coordinate implementation of the guidance in a fair and consistent manner across the region. They also regularly share information and experiences in tackling common budgetary problems.

"Many of our regional budget problems are directly related to Rapanos," he said. "We are constantly working to identify how we can help each other in this regard." For example, Jacksonville District, home of one of the largest regulatory programs in the Corps, recently transferred surplus funds to Wilmington District to help them meet a shortfall. "We are all looking at many ways to maximize our budgetary process," he said. "Payroll, which is also expanding because of Rapanos, is a problem we all face, so we are sharing expertise in every way possible."

During his four "Meet the Chief" presentations in Florida, Hobbie told each audience that he knows many believe the Regulatory program is "so easy a caveman can do it." He then shared a true to life flow-chart, to illustrate the complexities of the program, including extensive and time-consuming review and analysis, coordination with other regulatory

agencies, associated public review and comment, and constant coordination with applicants to achieve avoidance, minimization or mitigation of wetland impacts resulting from a potential project.

Hobbie cited budget, workload and personnel as the primary challenges in today's Corps Regulatory program.

To meet budget challenges, Hobbie has advocated for the use of technology to issue public notices via the Internet, which helps to reduce reproduction costs, has relocated vehicles to cut down on travel time and expenses, and has consolidated offices to achieve efficiency and economy.

The use of State Programmatic General Permits, Regional General Permits and self-certification has shifted the permit decision authority more appropriately, leaving only the most complex permits for Corps regulatory staff to review.

An oversized workload, coupled with pressure to expedite review and issue decisions, and then explain those decisions to applicants, the public, elected officials and the media places a high degree of stress on the undersized staffs in many districts, and Jacksonville is no exception. Hobbie is hiring interns and offering recruitment and retention bonuses to attract and retain highly qualified team members.

"You want faster decisions from us on permit applications," Hobbie said to the consultants and others at his Florida meetings, "and I'll

give you a fast decision – the answer is ‘no.’” He further explained that “getting to yes” requires significant time, expertise, prudence and patience. “What many people don’t realize is that we spend an inordinate amount of time consulting with applicants, going back and forth, to ensure that a proposed project avoids or minimizes impacts to wetlands. Those days, of necessity, are gone.” From now on, Hobbie has directed, decisions on permit applications will be based on the application as it is received. Continuous consultation and review is a thing of the past. “He’s [Hobbie] not telling us what we want to hear,” said one attendee. “But he’s being honest and I give him points for that.”

The Jacksonville District program is further complicated by the need to consider current and potential impacts on the Everglades. The Comprehensive Everglades Restoration Plan (CERP) has 68 separate components. A single independent project may have far-reaching impacts on one or more of those components and, as restoration

of America’s Everglades is a Corps priority, the Regulatory program must consider the overall program in permit decisions.

Hobbie believes that he and the district’s Regulatory program are already reaping some rewards from the recent “roadshow” effort. “One thing I did after the four events across Florida was send thank you notes to all 600-plus professionals who attended. I personally signed all 600. It took two days, but I did it,” he said. “I was rewarded by a return thank you note, in which a consultant called us, ‘a class act.’ My goal is for all of the Jacksonville District Regulatory Division and all of our counterparts in the South Atlantic Region to have that solid, consistent reputation. We exist to serve the nation, and we will do so with a focus on the bottom line and on making decisions and implementing our program in an efficient, fair, effective, reasonable way.” ■

by Barry D. Vorse and Nancy J. Sticht  
Jacksonville District



Photo courtesy of the Philadelphia District

Jacksonville

# Mobile District Regulatory Division gets Closer to the Customer

**W**hen first established, Mobile District's Regulatory office operated as a branch of Operation Division. The branch covered an area spanning almost 66,000 square miles, serving customers in approximately 96 counties in Alabama and Mississippi. Two sections, the Jurisdiction Determination and Enforcement Section and the Permit Evaluation Section, process Standard and General Permits as well as Letters of Permission.

Two years ago, Regulatory Branch became Regulatory Division, and a new approach of getting closer to the customer while simultaneously reducing the operating budget was born.

## Reorganized to Enhance Responsiveness

Regulatory Division was immediately reorganized to better serve its customers. Regulators became project managers, operating within a "cradle to grave" concept. The district's areas of responsibility were divided geographically: Interstate 10, running through Alabama

and Mississippi, became the dividing line. Inland Branch, north of Interstate 10, was managed by Bill Bunkley, and Coastal Branch, south of Interstate 10, was managed by Tunis McElwain. The district's desire to better serve customers in central and northern Alabama and in Mississippi resulted in opening a new field office in Birmingham, Ala. with satellite offices in Montgomery, Ala. and Columbus, Miss. The Coastal Branch opened a field office in Gulfport, Miss. to serve coastal Mississippi. "Gone are the days of driving five to six hours to meet with 20 customers in one week to view prospective project. The days of at least twenty-four weeks out of a fifty-two week year of overnight temporary duty are over," said Cindy House-Pearson, team leader in Birmingham, Ala. "Gone are the days of frustrating our customer." Regulatory Division's reorganization logistically placed them in a better position to continue the mission of the U.S. Army Corps of Engineers' regulatory program and provide more responsive service to customers.



## Serving the Nation

With this strategic change, customers no longer have to travel four hours or more to the district office for pre-application meetings. The Birmingham field office covers 31 central and northern counties in Alabama; Montgomery field office covers 13 central and southeastern counties in Alabama; and Mississippi field office covers 16 central and eastern counties in Mississippi and 3 counties in Alabama.

A primary goal of the regulatory program is to protect the nation's aquatic resources, including wetlands. The regulatory program also plays a key role in protecting endangered species.

The Corps encourages applicants to begin taking steps early in their planning process to avoid or minimize adverse environmental impacts. The Corps' expedited general permit program also motivates applicants to seek solutions that avoid or minimize harm, so they can receive quicker permit decisions.

The Corps' permit system is designed to be fast, fair and efficient. Most permit decisions are made in 60 days or less. Many projects are authorized under nationwide or regional general permits, which provide faster decisions in instances where there will be minor environmental impact. The average processing time for general permits is 21 days. Nearly 80,000 of the permits issued by the Corps each year are general permits.

In many cases, the Corps works with potential applicants during the planning and design of projects so that problems can be identified and addressed early in the process, saving costs and reducing potential environmental harm.

The standard permit process has four general steps:

- **Pre-application/Application**

A project is identified and a permit application is submitted. Corps staff provides input as needed on application and review requirements.

- **Public Notice and Comment**

Upon submittal of a complete application, the Corps solicits the views of a variety of individuals, agencies and organizations.

- **Evaluation, Decision and Mitigation**

The Corps evaluates the application and considers input from the public, seeking to balance public interest factors with the benefits and impacts of the project. A primary goal of the review process is to minimize the impact of projects on the environment. The Corps coordinates with several federal, state and tribal agencies during this process.

- **Monitoring and Enforcement**

Once a permit has been issued, the Corps monitors the project to ensure that the permit's conditions are met.

In some cases, projects will have an unavoidable impact on wetlands. In these instances, the Corps requires replacement of the wetlands. In fiscal year 2003, the Corps issued permits that affected 21,330 acres of wetlands. By contrast, more than 43,000 acres were restored, created, enhanced or preserved under the program. In many cases, several small, separate, low-value wetlands were replaced with more environmentally beneficial, large wetland complexes.

In addition to the permit process, the Corps' enforcement program ensures that anyone that harms the environment must repair the damage. The Corps acts on more than 6,000 reported violations each year. ■

by Lorraine Sutton Evans  
Mobile District





# Wilmington District Former Chief Recalls Implementing NEPA &

Penny Schmitt (left), Wilmington District public affairs officer, talks with former Chief of Engineers Lt. Gen. (Ret.) John Morris.

**L**t. Gen. (Ret.) John Morris can tell you that the Chinese curse “may you live in interesting times” is a permanent condition for the U.S. Army Corps of Engineers. The times are always interesting for an organization that lives at the nexus of geophysical reality, human inventiveness, political will and conflicting aims in the hearts and minds of the public.

Morris served as chief of engineers from 1976 to 1980, and previous to that, as director of civil works and division commander in Omaha. During those ‘interesting times,’ landmark environmental legislation transformed the Corps from an agency that granted permits for work in or modifications to major navigation channels, to an agency that implemented the Clean Water Act and the National Environmental Policy Act (NEPA) through its permitting program amendments.

“The Corps has been in charge of navigation channels and waterways since 1824,” said Morris. “We always had a permitting authority. If you wanted to build a pier or modify a waterway and that could affect navigation, of course we had a say in that.”

The Clean Water Act amendments brought about a sudden change. “At the time that legislation passed, I was director of civil works,” Morris said. “Our jurisdiction went from actual navigation channels to any stream with a flow of something like five or more cubic feet per second. Suddenly we had thousands of miles more ‘waterways’ to regulate—our jurisdiction ballooned and increased by about a factor of 20.”

At that time, the concept of “Nationwide Permits” had not been approved. Every permit was an individual permit. “It was overwhelming!” Morris recalled. “The most significant change in jurisdiction hung on a single conjunction. The term ‘dredge and fill’ was now termed ‘dredge or fill,’ greatly changing the types of actions that came under Regulatory purview.”

An early public flap that actually brought some relief came as a Corps news release stated that the new legislation would mean that private landowners had to seek permits for almost any change. “This was interpreted to mean that farmers couldn’t control their own land. There was a big furor!” said Morris. “However, that had the good effect of changes to the legislation that granted some sensible exceptions for farming and forestry activities.”

The first months and years of implementation were like many challenges being faced by the Corps today. New procedures had to be adopted to cope with change, and in order to keep the avalanche-level workload from simply burying staff.

“E. Manning Seltzer, then chief counsel for the Corps, was asked for his help. He suggested a nationwide conference to discuss ways to implement consistently and effectively. A lot of important case studies came out of that conference, held in New Orleans. Legal cases also began to accumulate, and it soon became clear that legal decisions would be more powerful than engineering in shaping the future of the Regulatory program.”

Key cases decided by engineer leadership in the early phase of implementation have had lasting effects on Regulatory approaches. “Col. Al Costanzo, then district engineer in Wilmington, set an important precedent in a permit decision about development on Bald Head Island,” Morris said. “When the developer asserted that he did not have to state the purpose of the pier he was building to get a permit, Col. Costanzo disagreed. That was the beginning of the principle that the appropriateness of a proposed project’s purpose would be considered.” Soon afterwards, a permit application to build a retirement community at “Block M,” an island in Miami Harbor, was denied because the project’s purpose did not require building it on the water.

Decisions regarding other Jacksonville District permit applications also contributed greatly to future cases, Morris recalls. “When NEPA and the Clean Water Act amendment came into effect, a developer had completed two phases of construction on Marco Island in Florida. A third phase was under construction and a fourth was planned. The Jacksonville district engineer wanted to approve the permit to finish, even though the island was densely populated with red mangroves, an important factor in the food chain for shellfish. The division engineer disagreed, and the decision came to then-Chief of Engineers Lt. Gen. William C. Gribble, Jr. This was of course politically sensitive, and the governor of Florida weighed in with promises that if we permitted this project, he would see that mangroves elsewhere were not disturbed.”

“I spent the weekend studying all the documentation and concluded that we could not grant a permit while the State of Florida still lacked a Coastal Zone Management

# the Clean Water Act

Plan that would guarantee protection of other mangrove stands in the future. We had to think beyond any promises a sitting governor might make, and wait for the state to establish a more permanent set of rules for coastal areas.”

It's easy to see how quickly the new legislation moved the Corps from pragmatic decisions about navigability of waterways to serious environmental considerations. Also, this case highlighted the significance and importance of the Corps' interrelationship with state law and regulations.

“Our own projects and processes were also affected greatly by the new law and NEPA,” Morris said. “Of course, none of our existing projects or those under construction had an Environmental Impact Statement (EIS) or a Finding of No Significant Impact. It was relatively easy to incorporate that in the planning process for projects not yet under way. We also put together EISs for projects that were under construction. Establishing EISs or management plans for our ongoing operations and maintenance programs was the last thing to be accomplished.”

A Corps dredged material disposal site in the Chesapeake Bay, known as Hart–Mueller Island, became the subject of much discussion. “After not being used for quite a while, the island had developed into a great bird habitat,” Morris said. “We actually published a book, with photos, called *Dredging is for the Birds*.

That was probably the first publication to take note of the close relationship between water bird populations and nesting sites and the U.S. Army Corps of Engineers waterways maintenance program.

Over the decade in which the Regulatory program and its controlling environmental legislation took root, the Corps worked closely with EPA to establish approaches that would work effectively. “We started out decentralized, but had to pull everything in more centrally long enough to get processes settled and functioning. Then it became obvious that we would have to return to a decentralized way of working or the office of the chief of engineers would surely be overwhelmed,” Morris said. During this period, the idea of Nationwide Permits began to emerge, and these created more efficiencies for the program. Then, as now, major changes or adjustments in the program were tested in the courts.

The turmoil and challenges we face today in implementing new rules for wetlands regulation, put in perspective by these reminiscences from our former chief of engineers on the difficulties the Corps faced and overcame in the 1970s, confirms that our Regulatory community, working with other agencies and the public, can find effective ways to implement a whole new set of rules. ■

by Penny Schmitt  
Wilmington District



# Dry Times?

## Regulatory has a Role in Drought and Other Emergencies Too!

**T**he Corps' Regulatory Offices not only have a big workload related to the daily pressure of development, road-building and other 365-days-a-year issues. They also must respond quickly when emergencies strike.

Wilmington District's regulators most often find themselves extra busy after a hurricane, when they must rush to expedite site visits and implement emergency permitting procedures to speed critical storm damage repairs toward completion. "When there is a major regional disaster, we work with our division office to come up with emergency permitting instruments and policies. We must continue to protect sensitive environments appropriately, yet help communities recover from damaging events that can leave whole communities cut off," said Regulatory Division chief Ken Jolly.

In the wake of hurricanes, members of the Wilmington District's two coastal offices in Wilmington and Washington, N.C. rapidly move out to document post storm conditions. In 2004, the North Carolina Coastal Federation recognized the Washington office's superb post-storm work with an award for their work in identifying storm damage and protecting temporarily storm-filled marshes from becoming 'new building lots' for coastal development.

After Hurricane Isabel tore a hole in Hatteras Island in 2003, the Corps' Regulatory staff worked almost around the clock with state and federal resource agencies to find an environmentally safe route for the pipeline that would pump sand five miles through water and across beaches to repair the mile-long breach and reconnect the lines of communication.

Perhaps surprisingly, drought also calls on Regulatory to come to the assistance of communities suffering from reduced water resources. "Thus far, the Wilmington District has been able to answer the needs brought to us by using our normal processes, primarily Nationwide Permits" said Jolly.

Notably, the Washington Regulatory Office assisted the City of Goldsboro, located on the Neuse River, in obtaining two permits they considered key to preserving the viability of the city's water intake in the river. The Corps granted a temporary two-week permit to the city so that the utility manager could, as needed, place a pipeline in the river and pump water out if low water caused the intake to fail. Following full coordination with natural resource agencies, the permit was extended for 60 days, and can be reassessed again after that time if renewed rainfall does not raise the river level.

At the same time, the City of Goldsboro sought a permit to temporarily repair a damaged levee that was keeping water flow away from the main stem of the river over the city's water intake. "This is actually a Corps levee, for which we are seeking funding to do repairs," said Greg Griffith, explaining the district's inspection of completed works program. "With a permit from Regulatory, we were able to allow the city to go ahead with a temporary fix that will help them during this drought period, and until we can implement the more permanent repair."

If the drought continues and deepens, Jolly says the district may see a need to work with division and other district offices to activate emergency permitting authorities that would help communities and others to keep functioning until rain returns. For now, he and his staff have been able to help out by using processes already in place. ■

by Penny Schmitt  
Wilmington District

Regulators worked closely with state and federal resource agencies to speed approval of plans and methods to repair this mile-wide breach in Hatteras Island after Hurricane Isabel in 2003.

# Savannah District Teams with Savannah State University to Offer New Course in Environmental Regulations

Individuals wanting to gain more in-depth knowledge of the U.S. Army Corps of Engineers' regulatory program will now be able to do so, thanks to a new course in environmental regulation now being offered by Savannah State University (SSU). The course, entitled "Introduction to Environmental Permitting and Processes," is offered as an elective through the university's College of Sciences and Technology.

"This is a great opportunity for the Corps and Savannah State to build upon our existing partnership," said Jeff King, project manager, Regulatory Division. "It is also a great opportunity for the Corps to interact with the students at SSU and expose them to Regulatory policies and issues."

The class will introduce undergraduate, graduate and non degree-seeking students to the many aspects of the Regulatory program, including identifying environments under Corps jurisdiction and regulations, policies, procedures and practices that govern activities in waters of the United States.

In addition, students will become familiar with Corps-based interactions with other federal, state and local agencies, including the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the Georgia Department of Natural Resources Environmental Protection Division and the U.S. Environmental Protection Agency.

Hands-on coursework will involve laboratory and field exercises in identifying wetlands with respect to hydric soils, vegetation, and hydrology.

During a recent field exercise, students from Savannah State University use the Munsell Soil Color Chart to determine the hue, value, and chroma of soil. All three indicators must be present for an area to be deemed a wetland. (Photo by Jeff King)

King and Carol Bernstein, chief of Regulatory's Coastal Branch, will instruct the course. Guest lecturers will include project managers Michael Ruth, Jason O'Kane and Stan Knight, and Richard Morgan, team leader in the Coastal Branch.

"The idea is to expose the students to as many experts in the field as possible so that they can get an idea of what it means to be a regulator. We all have unique skill sets and talents that are of benefit to the students," said King.

King said that municipalities, city and county representatives and the Georgia National Guard have all expressed an interest in the course.

For more information on the course, contact Matt Gilligan, professor and coordinator of marine sciences at SSU, at (912)356-2808 or [gilliganm@savstate.edu](mailto:gilliganm@savstate.edu). ■

by Rashida Banks  
Savannah District

Michael Ruth, project manager with Savannah District's Regulatory Division, teaches Savannah State University students about wetland delineations. (Photo by Jeff King)



# Wilmington District A Tale of Two Beach Plants: One Must Stay, the Other

**W**ilmington District marine biologist Doug Piatkowski and Department of the Army intern and Regulatory Specialist Liz Hair began their search for an elusive plant about a mile west of the Coast Guard station at Wrightsville Beach. In about three hours in sweltering heat they covered roughly four miles of the beach looking for a plant that's in danger of becoming extinct. It's called seabeach amaranth, and since 1993 it has been listed as threatened under the provisions of the Endangered Species Act of 1973. A peculiar, finicky plant that looks similar to spinach, it's threatened by erosion, flooding and regular

beach foot traffic. Upon spotting a lone plant, Piatkowski and Hair used a global positioning system (GPS) device to record its exact location for use in maps documenting the amaranth's distribution in coastal North Carolina.

"Seabeach amaranth is considered a pioneer species. It usually grows between the seaward toe of the primary dune and the limit of the wave up-rush zone," said Piatkowski. "You don't usually find the plant back in the dune field among other coastal dune plants. Their presence is most dominant on accreting shorelines. Germination occurs within stable fore-dune and/or embryo dune formations."

A lone sea beach amaranth grows near the Blockade Runner Hotel at Wrightsville Beach

# Should Go

Piatkowski explained that though the amaranth is resilient to the conditions of the harsh beach-face environment, it doesn't particularly build and stabilize dunes like other coastal dune-building plants, such as native sea oats. Though there are no known dependent links between seabeach amaranth and other species, the consequences of its potential extinction is unknown.

The U.S. Fish and Wildlife Service states that seabeach amaranth is protected because "the reduction of biodiversity reduces the ecological integrity of the environment. All living organisms perform a function in the environment and are dependent on the functions of other organisms. In turn, there is interconnectedness among species, including humans, in the environment."

Just past the lone, endangered amaranth was an overabundant, invasive plant species called beach vitex, one that could potentially impact amaranth and its habitat. The plant, also known as chasteberry, kolokolo kahakai or monk's pepper, originated in Korea. It has made its way to the eastern coasts of the U.S., where it's now wreaking havoc by creating a monoculture, or one-plant community, shading out native vegetation. Once thought to help protect and build front beach sand dunes, it had what seemed to be the perfect prerequisites – it is fast-growing, drought resistant and tolerant of blowing sand. Although it can reach four feet tall and 12 feet wide, its roots are shallow and add nothing to natural dune stabilization.

Tommy Socha, a Wilmington District plant specialist based in Charleston, has observed the growth of the vitex. Socha, a member of the South Carolina Exotic Plant Council, brought beach vitex to their attention and suggested a study to determine if the vitex should be placed on the noxious plant list or prohibited from planting on the beach. Described as the "kudzu of the coast," the beach vitex appears to be taking over primary beach dunes in South Carolina. Major efforts are under way to document the occurrence and spread of beach vitex, to increase public awareness of its potential invasiveness and to explore methods of control while restoring native beach dunes. ■

Story and photos by Hank Heusinkveld, Wilmington District  
Tommy Socha, Charleston District, Contributor



Marine Biologist Doug Piatkowski and Regulatory Specialist Liz Hair look for the threatened sea beach amaranth at Wrightsville Beach.



Doug Piatkowski and Liz Hair look for the threatened sea beach amaranth in the mist of the invasive beach vitex at Wrightsville Beach.



Liz Hair holds a beach vitex demonstrating its shallow roots.

