

COASTAL HERITAGE

VOLUME 19, NUMBER 2

FALL 2004



The Coast's Great Leap

CONTENTS

3

THE COAST'S GREAT LEAP

South Carolina's coastal communities are changing at a white-hot pace.

12

MANAGING ECOSYSTEMS ACROSS WATERSHEDS

The U.S. Commission on Ocean Policy reports on government's inadequate system of authority over coastal and marine ecosystems.

13

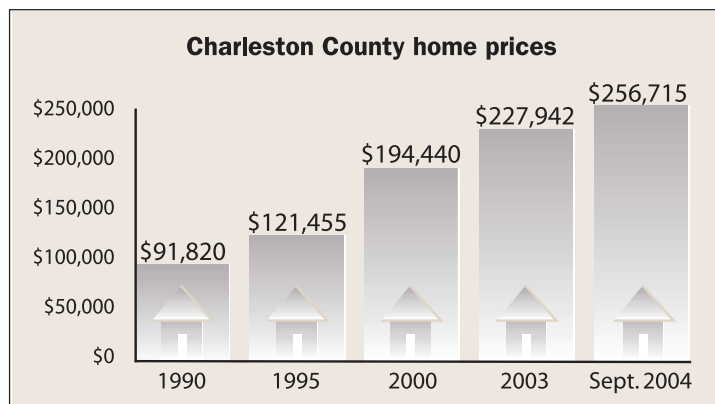
AMERICA AS A COASTAL NATION

Seaports remain powerhouses of economic growth.

14

EBBS AND FLOWS

ON THE COVER: *A young girl frolics in Myrtle Beach on the Grand Strand, the greatest driving force behind South Carolina's coastal tourism industry.* PHOTO/WADE SPEES



UPWARD TREND. *Since 1990, housing prices have skyrocketed in South Carolina coastal counties. In Charleston County, for example, average prices have risen nearly 300 percent from 1990 to Sept. 2004.*

SOURCE: Charleston Trident Association of Realtors



Coastal Heritage is a quarterly publication of the S.C. Sea Grant Consortium, a university-based network supporting research, education, and outreach to conserve coastal resources and enhance economic opportunity for the people of South Carolina. Comments regarding this or future issues of **Coastal Heritage** are welcomed.

Subscriptions are free upon request by contacting:

S.C. Sea Grant Consortium
287 Meeting Street
Charleston, S.C. 29401
phone: (843) 727-2078
e-mail: Annette.Dunmeyer@scseagrant.org

Executive Director
M. Richard DeVoe

Director of Communications
Linda Blackwell

Editor
John H. Tibbetts

Art Director
Patty Snow

Contributing Writer
Susan Ferris



Board of Directors
The Consortium's Board of Directors is composed of the chief executive officers of its member institutions:

Dr. Andrew A. Sorensen, Chair
President, University of South Carolina

James F. Barker
President, Clemson University

John E. Frampton
Executive Director
S.C. Department of Natural Resources

Dr. Raymond S. Greenberg
President, Medical University of South Carolina

Major General John S. Grinalds
President, The Citadel

Leo I. Higdon, Jr.
President, College of Charleston

Dr. Andrew H. Hugine, Jr.
President, S.C. State University

Dr. Ronald R. Ingle
President, Coastal Carolina University

COPYRIGHT © 2004 by the South Carolina Sea Grant Consortium. All rights reserved.



The Coast's Great Leap

How fast is too fast? In a single generation, the South Carolina coast has been transformed.

By John H. Tibbetts

CHANGING LANDSCAPES. *This inland development along the west bank of the Intracoastal Waterway in Horry County was built after a new expressway was completed. Road-building in recent years has opened up vast new inland tracts for development. PHOTO/WADE SPEES*

Over the past 25 years, the South Carolina coast has experienced the most explosive social and economic changes since the end of the Civil War.

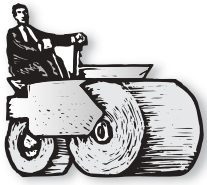
Many barrier islands and other near-coast areas are turning into the exclusive domain of out-of-towners, second-home owners, and the well-to-do. Skyrocketing land costs, property taxes, and hazard-insurance premiums squeeze local folks who live near the coast. Sleepy villages have been transformed into “boomburbs,” a term coined to describe explosively growing suburbs. Former tobacco and tomato fields are being overrun with condos and golf courses. And development continues to race inland beyond the coastal-zone region into tidal freshwater locations.

“The coast is exclusive because the land values are so high,” says Chris Brooks, deputy commissioner of the state Office of Ocean and Coastal Resource Management (OCRM). “The immediate coast has been pretty much built out, so people are moving far up the watersheds

into freshwater areas. There are large developments farther inland than we’ve seen before, but a lot of the jobs are located down on the coast where the tourists are.”

Each weekday, a morning tide of commuters ebbs down to the booming communities and resorts of the South Carolina coast, followed hours later by an evening tide that floods back to the suburbs stretching for miles through the pinelands of the new inland empires.

Affordable housing is becoming scarcer near the shore, says Rick Estee, owner and president of Meridian Builders based in Mount Pleasant. “A lot of builders and developers are taking their show on the road to areas farther inland because there’s so much land out there, and they can get permits. If people want affordable housing, they are having to commute to get to it.” The next retirement trend, says Estee, is empty nesters selling their high-value coastal homes and moving inland, holding on to the difference to pay for living expenses.



Going too far?

It's difficult for local governments to resist development pressures while staying out of court, says Timothy Beatley, who teaches regional and environmental planning at the University of Virginia.

Faced with what they consider intrusive government regulations, property owners and developers often invoke the Takings Clause of the Fifth Amendment which says "[N]or shall private property be taken for public use without just compensation."

"The 'takings' issue is always there as a threat from landowners and developers," says Beatley, "and it's so hard (for government) to take charge and do the kind of long-term planning that's needed."

In 1922, U.S. Supreme Court Justice Oliver Wendell Holmes wrote, "The general rule at least is, that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." If a court determines that a government land-use regulator "goes too far" in severely limiting or preventing development, then the affected landowner must be compensated.

Over the past 25 years, the U.S. Supreme Court has attempted to define more clearly what "goes too far" really means. Yet this remains a complex area of law, and many local officials are confused about which regulatory measures would be considered allowable by courts.

Property-rights advocates also hold significant influence in legislatures, and many state-resource agencies have faced numerous lawsuits over "takings" compensation claims.

As a result, virtually every coastal state lacks the political backing to vigorously guide development barreling up watersheds, says Beatley. "I doubt that any coastal state has the management capability to ensure the long-term sustainability of the resource base."

Limited by court decisions and state tradition, South Carolina's land-use regulators have become, by necessity, cautious of "going too far" in restricting development.

From 1990 to 2000, U.S. "near-coast" areas—zip codes closest to the shoreline—had 35 percent job growth but only 11 percent population growth. Why?

"In near-coast areas, most new jobs are in the relatively low-wage tourism industry, but these places are also where you have the highest-priced real estate, and growing numbers of workers can't afford to live there," says Charles Colgan, a University of Southern Maine economist who has been studying coastal demographics and economics for the U.S. Commission on Ocean Policy. The commission's September 2004 report is the most comprehensive national assessment of U.S. ocean policy since the 1969 Stratton Commission's.

Commissioners describe many coastal regions as battered by sprawling development that degrades estuaries and wetlands, by urban and farm runoff laden with contaminants, and by poor planning that puts growing numbers of people at risk from hurricanes.

In South Carolina's new coastal economy, some traditional marine-related jobs such as fishing, ship-building and ship repair have declined. Yet other job sectors are hot: tourism, insurance, real estate, finance, port-related wholesale trade, retail trade, and health care. During the 1990s, almost one out of every four net new civilian jobs in South Carolina was located in just two coastal counties—Charleston and Horry, according to a 2002 study by Clemson University economists Mark S. Henry and David L. Barkley.

The South Carolina coast is prospering because of long-term shifts in global and national economies, says Barkley. "We're so productive now that we need fewer people to produce goods that society needs, and at the same time people have more income that they spend on health care and leisure. The South Carolina coast has benefited from this shift."

More Americans are fleeing older, cold-weather cities for the amenities of warm-weather seaside communities. "Amenities are very important in today's economy in attracting both people and jobs," says Barkley.

So who benefits most from coastal growth? "Rich people—the developers and bankers," says Lauriston R. King, a political scientist at East Carolina University, in Greenville, N.C.

"Realtors and mortgage brokers benefit—and also workers in industries that offer services to the older, wealthy people moving into the area," adds Al Parish, an economist at Charleston Southern University. "People providing assisted-living services are doing very well."


Other winners include many local residents, who largely benefit from being in a vibrant, growing economy, says Colgan. It wasn't long ago that the South Carolina coastal economy was weak, and good jobs were hard to find.

Many homeowners who have owned coastal properties for years are now equity-rich, though rising property taxes and insurance premiums can threaten their ability to stay in their homes.

Most tourism occupations offer low wages—averaging \$16,000 a year nationally—but Charleston's service jobs in port-related operations, health-care research facilities, and the defense sector often pay as well as those in manufacturing, says Parish.

Today's high-flying beach towns and coastal historic cities are growing wealthier—and grayer. According to 2000 census figures, families with young children fled some downtown Charleston neighborhoods during the 1990s, because housing prices and property taxes became astronomically high.

In the near-coast areas of the Charleston region, the number of households increased from 1990 to 2000, while the population in those areas fell significantly. Says Barkley:



CHAIN REACTION. Using high-powered water pressure, a worker at Detyens Shipyard in North Charleston removes rust from a ship's anchor chain. Detyens has so far bucked the national trend of declining shipyard jobs in the United States. Many American shipyards have lost repair work to foreign yards that operate with less regulation and lower wages. PHOTO/WADE SPEES

“You have households with one or two members moving in, and households with kids moving out to the non-coastal areas.”

In June, Marjory Wentworth, South Carolina’s poet laureate, her husband Peter, a producer of films and commercials, and their three children moved from Sullivan’s Island to Mount Pleasant. Maintenance costs pushed them out of their pre-Civil War home, which they sold to pay for their eldest son’s college tuition and other pressing family needs.

“When we moved to Sullivan’s Island in 1989, it was the most affordable house we saw,” Wentworth said. “Now it’s very different. The town is allowing enormous houses to be built, but people don’t live in them full-time. Sullivan’s Island has become a very prestigious place—a place you come to if you have money. You really have to be a millionaire now.”

Although Wentworth wishes that her family could have stayed on Sullivan’s Island, this summer turned out to be the right time to move inland. “What a lucky thing that the value on our Sullivan’s Island home increased, and what a blessing that we can sell this house and create a good situation for our family.”

Portions of the near-coast have become one-dimensional resorts, catering to the wealthy. Indeed, some coastal communities around the country are turning, in the words of author and planner William Fulton, into “one big Monaco where the rich play and somehow find a place to house the people they need to provide them with service.”

Bill Mabry, a Mount Pleasant retiree, is considering a move from his three-bedroom house to a condominium or townhouse 25 or 30 miles inland because of rising property taxes and insurance premiums near the coast. “The costs keep going up, up, up, and you can’t do anything about it.”

Since the 1970s, waves of African-American families have relocated from the coast. Some families made profits by selling their property to developers, but others were forced out by rising taxes and a lack of property titles. It has been common for African-American extended families along the coast to own land collectively as “heirs’ property.” A dozen or more family members would jointly inherit a single property without a will or clear title. After successive generations, ownership would become confused in the view of courts and local government. Because it was unclear who was the owner of record, no one paid property taxes in many cases, and lands were lost. Some heirs who lived in New York and other distant places sought to sell off valuable coastal property, and as a result local family members were displaced.

Nancy Butler, a bookkeeper at Rural Missions, Inc., a nonprofit organization, is worried about suburban growth on Johns Island and rising property taxes on her five-acre home property. But she knows change can bring opportunities, too. As a girl, she worked long hours in the tomato fields. Island farms have since disappeared, but local people have found jobs on

nearby resorts. “If development brings work to the island, then I welcome it. Development is not going away.”

The coastal economic boom since the 1980s has undoubtedly improved living standards and educational opportunities for some African-American families. The late Charles E. Fraser, developer of Sea Pines on Hilton Head Island, often pointed out that coastal land sales enabled dozens of African-American families to send their children through college.

A \$9.5 billion industry in South Carolina, coastal tourism commands an army of workers—waiters, construction foremen, gardeners, carpenters, chefs, hotel clerks and managers.

But few workers can afford to live on resort islands. Instead of looking for housing on Hilton Head Island, for example, many find homes in flourishing new mainland suburbs like Bluffton, in Beaufort County. Resort workers have found relatively inexpensive apartments there. It also attracts professionals who live in gated subdivisions and commute to managerial jobs on Hilton Head.

In the early 1990s, Bluffton, with 700 residents and a dusty, down-at-the-heels charm, was peaceably lost among the pines. Its isolation did not last, however. The town is located 20 miles from Hilton Head beaches and 20 miles from Savannah, smack in

Reading and Web sites


Center for Economic Forecasting at Charleston Southern University. *The 2002 Economic Impact of the South Carolina State Ports Authority*, undated. www.scspsa.com/community/SPA_EIR.PDF

Henry, Mark S. and David L. Barkley. *The Contribution of the Coast to the South Carolina Economy*. Regional Economic Development Research Laboratory, Clemson University, September 30, 2002. cherokee.agecon.clemson.edu/redrl_rpt9.pdf

An Ocean Blueprint for the 21st Century: Final Report of the U.S. Commission on Ocean Policy. Washington, D.C., Sept. 2004. oceancommission.gov/

Rappaport, Jordan and Jeffrey D. Sachs. “The United States as a Coastal Nation.” *Journal of Economic Growth*, March 2003.

South Carolina Department of Health and Environmental Control. *Setting a New Course for the Coast: Final Report of Council on Coastal Futures*, May 30, 2004. www.scdhec.net/ocrm/IMAGES/CCF/final%20report%20pdf.pdf



LEAVING HOME. *Marjorie Wentworth, South Carolina poet laureate, stands at the gate of her former house on Sullivan's Island. Last summer, Wentworth and her family decided to sell their island home and buy a less expensive one on the mainland so they could pay for pressing family needs. Households with one or two people are moving to areas nearest the ocean, while households with children are moving farther from it.*

PHOTO/WADE SPEES

the middle of one of the fastest-growing corridors in the state.

In an effort to manage its own growth, Bluffton annexed 48 square miles of land from the county and permitted 16,500 homes since 1998. "The annexation committee could see growth moving off the island," says Bluffton mayor Hank Johnston, "and it was inevitable that it was

Charles Colgan

Coastal-zone counties accounted for one-third of U.S. gross domestic product in 2000.

going to develop out here, and Bluffton needed a say as to what happened."

The next growth wave will hit Hardeeville, in Jasper County, 20 miles farther inland, says Johnston. Hardeeville (pop. 2,600) is in the process of annexing 11.5 square miles to accommodate and manage this emerging development.

As metro areas sprawl across watersheds, they gobble huge amounts of land. Between 1973 and 1994, the Charleston area saw a 255 percent increase in urbanized land, while the population rose only 41 percent, according to a study by Jeffrey S. Allen, director of the South Carolina Water Resources Center at Clemson University's Strom Thurmond Institute. Much of this growth has spread inland along Interstate 26 and throughout the watershed of the Ashley, Cooper, and Wando rivers.

Waterways become degraded when open spaces in a watershed are developed without measures to control runoff pollution. "As more and more people move into the coastal region, we are changing its water quality," says Geoff Scott, director of the NOAA-

National Ocean Service Center for Coastal Environmental Health and Biomolecular Research in Charleston.

WEALTH ENGINES

Over the past decade, regions near ocean and Great Lakes coasts have been the country's most

From America's colonial beginnings, coastal cities were the powerhouses of its economy. The nation's most important financial centers—Boston, New York, Philadelphia, and Charleston—were founded on Atlantic sea harbors. Later, New Orleans and Mobile flourished on the Gulf of



ALL IN A ROW. New BMW cars are lined up for export at the State Ports Authority Union Pier in Charleston. South Carolina jobs than many realize. The piedmont, the state's manufacturing center, is the largest benefi-

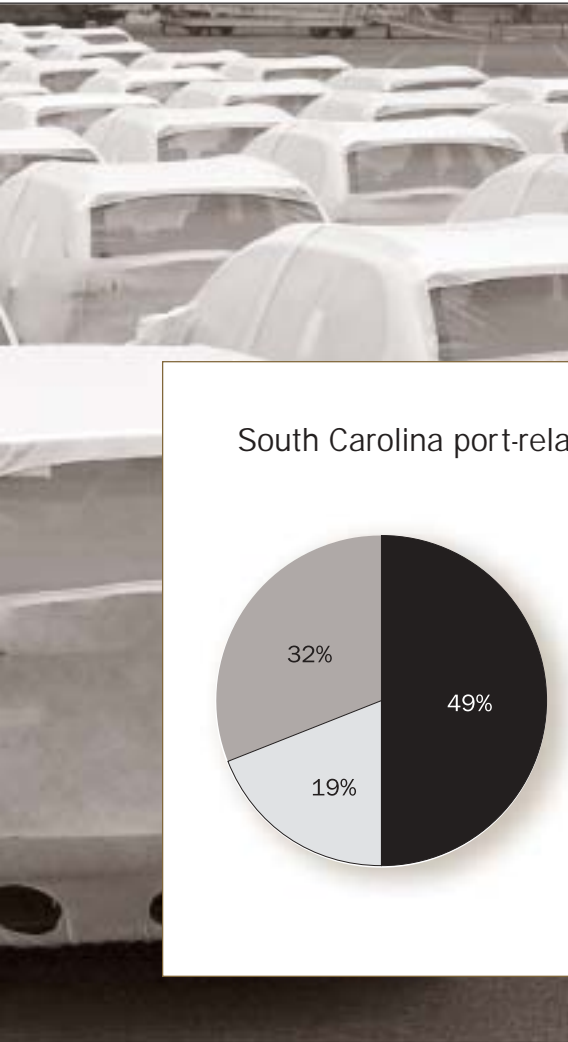
dynamic economic force. Coastal states accounted for more than three-quarters of the U.S. economy in 2000, measured by gross domestic product, according to Colgan of the University of Southern Maine. Not only that, state-defined coastal-zone counties accounted for one-third of U.S. gross domestic product in 2000.

Mexico. In the 1830s, Chicago and Cleveland on the Great Lakes became dominant cities, transporting goods via the Erie Canal to the Hudson River and New York harbor. Today, West Coast port cities trade with Pacific Rim nations.

St. Louis, Pittsburgh, Memphis, Cincinnati, and Minneapolis-St.

Paul were built on a foundation of wealth from barge traffic carrying commodities along the Mississippi and Ohio rivers to the sea, and these river cities still depend, to some degree, on global trade via seaports.

“Our oceans and coasts are among the chief pillars of our nation’s wealth and economic well-



Hershman, an ocean policy professor at the University of Washington. “It’s not just a question of runoff and pollution and loss of fisheries and seagrasses, which are important issues. We also need to look at the people who live along the coast, who create a lot of the pressures but who also have the capability of restoring it. We need to think more about the communities along the coast, and their dynamics.”

According to Colgan’s study, many jobs vanished in goods-producing sectors related to the ocean during the 1990s: shipbuilding and ship repair, commercial fishing, offshore oil and gas production, and marine transportation, according to

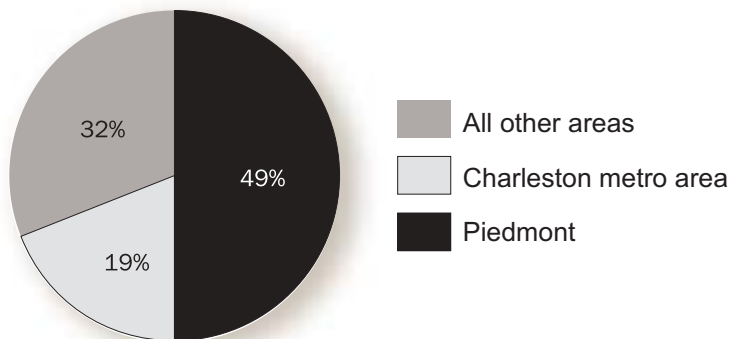
Through the 1980s, the United States pursued a massive naval expansion as part of a Cold War strategy to apply pressure on the Soviet Union. Nearly all ship building in the United States was—and is—done for the Navy. In November 1989, however, the Berlin Wall fell, spelling the end of the Cold War. Over the next decade, numerous major Navy shipyards and Navy bases—including Charleston’s—were shut down, and U.S. shipbuilding and ship-repair employment declined 37 percent.

In the early 1990s there were three shipyards in the Charleston area. Now there is only one—Detyens Shipyard, but it has prospered. In the early 1990s, Detyens had about 300 workers. After the Navy left, Detyens took over three drydocks at the North Charleston facility and now has 600 employees, plus another 600 substitute and temporary workers. Still, Detyens faces intense pressure from overseas competitors, says executive vice-president Loy Stewart, Jr. “We compete against shipyards all over the world that are subsidized by their governments and have cheaper labor.”

U.S. shipyards, which nationally employ 35,000 workers, have complained for years that they are losing repair work to foreign shipyards that operate with less regulation and lower wages.

Commercial fishing meanwhile has endured a boom-to-bust cycle. During the 1970s and 1980s, U.S. fishery catches expanded dramatically. Greater numbers of American fishing vessels and fishermen plied U.S. waters than ever before. By 1990, however, many commercial fisheries had collapsed under this pressure, leading to severe regulations intended to bring them back to health. Fishery regulations in many cases were too little, too late. International competition from overseas fishermen and aquaculture further hammered domestic fishermen. Jobs in U.S. seafood processing, which reflect trends in seafood harvesting, declined 11 percent during the 1990s.

South Carolina port-related job impact by region



SOURCE: Center for Economic Forecasting at Charleston Southern University

Charleston. Port-related industries have a much larger impact on the economy than other areas. PHOTO/WADE SPEES

being,” noted the ocean commission’s report. Even so, Colgan’s project is the first comprehensive study of economic and social changes along U.S. coastlines.

Colgan’s study provided “a way of looking at economic and social factors more systematically and rigorously than we have had in the past,” says commissioner Marc J.

the report. These sectors had sharp declines in direct employment, and their wage growth fell behind those of other national sectors. These job losses in ocean-related, goods-producing sectors, by the way, mirror changes in the national economy.

Shipbuilding lost much of its place in the U.S. economy after the collapse of the Soviet Union.

In the 1990s, Eddie Gordon co-owned a 700-foot fishing dock in McClellanville, where up to 80 boats once tied up, adjacent to his crab-processing plant that employed 50 people. Now the dock and plant are gone. Two years ago, Gordon and his partner, Rutledge Leland, sold the property, which was turned into a housing development. “We had lost so many boats in the fishing fleet,” says Gordon, “there wasn’t a need for the tie-up anymore.”

In offshore oil and gas production, improved technologies caused an 11 percent drop in jobs from 1990 to 2000. Finally, automation and the growing use of containers in marine shipping reduced the number of dockworkers and other shipping employees by almost one-third over the same decade.

Traditional coastal employment sectors have been outstripped by tourism and recreation, which saw job growth of more than 40 percent during the 1990s.

Coastal tourism in the South is no longer strictly seasonal. Charleston draws tourists year-round. The Grand Strand, once only a summer resort, is a 12-month attraction. South Carolina’s coastal tourism draws billions in revenue each year, supports local businesses that employ thousands, and provides tax monies that benefit the state budget.

Yet the loss of fishermen and other traditional marine-related workers “has impoverished more of the coastal population and led to less diversity in the economy,” says Kathi Kitner, a cultural anthropologist with the South Atlantic

Fishery Management Council, which manages fisheries in federal waters from North Carolina to the Florida Keys. “This is a big problem, because diversified economies are healthier.”

Tourism remains the largest industry in the Charleston area, creating a \$5 billion total economic impact.

Port-related industries, though, have a much larger economic impact along the coast than many realize. The Charleston port, one of the world’s most efficient, was responsible for 55,000 Charleston-metro jobs and a total local economic impact of \$3.3 billion in 2002, according to Al Parish of Charleston Southern University.

A few decades ago, many port-related jobs required heavy lifting, but many of those been replaced by occupations demanding sophisticated knowledge and problem solving. “The



SERVING IT UP. Jennifer Salewski, a Folly Beach waitress, serves dinner at the Starfish Grille. Nationally, employment in the tourism and recreation sector grew by more than 40 percent in the 1990s. But many of these jobs pay far less than those in traditional ocean-related sectors such as shipbuilding, marine transportation, and commercial fishing. PHOTO/WADE SPEES

world of brokers, traders, customs and legal firms, the homeland security industry, dredging companies, and business services is growing very, very rapidly in port cities around the country,” says Hershman of the University of Washington.

In South Carolina, it is the piedmont region (Greenville, Spartanburg, and Anderson counties) that had by far the most jobs from port-related jobs—two-and-a-half times more (144,000) in 2002 than the Charleston-metro area had. That’s because the piedmont is the manufacturing center of the state.

“In the piedmont, there are the BMWs and the Michels and others that send a large amount of their product through the port,” says Parish. “These companies wouldn’t be (in South Carolina), at least in their present capacity, if not for the port.”

COMPETITIVE ADVANTAGES

In November 2002, the Board of the South Carolina Department of Health and Environmental Control established a 19-member Council on Coastal Futures to document priority issues relating to coastal-zone management and to recommend actions, programs, and measures to improve it.

In a May 2004 final report, the council endorsed an agenda to “balance property rights with conservation goals by developing and implementing a combination of regulatory and incentive-based programs.”

The council called for protecting freshwater wetlands, improving coordination among regulatory agencies, managing stormwater, and limiting proliferation of docks and marinas. The council has also endorsed the principle that OCRM should assume more direct permitting authority over the full eight coastal counties.

“We already see subdivisions with docks far back in the freshwater

areas with the same kinds of impacts that we see down here on the coast,” says Chris Brooks of OCRM. “The impacts are clearly moving inland and we need ways to address them.”

Coastal South Carolina will prosper over the near term, economists say, as the national economy continues to shift to services and information-based industries, and as Americans enjoy the wealth to travel and buy second homes.

The lowcountry’s competitive advantages include a beautiful natural environment, plus comparatively less traffic and a lower cost of living than giant northern metro areas. The coast, however, could lose these advantages over the longer-term.

“South Carolina coastal communities will continue to do well as long as they maintain the quality of life,” says Barkley of Clemson. “But if the growth leads to congestion, very high housing prices, and degradation of public services, then all of this in the long run could ruin what attracted people in the beginning.”

The South Carolina coast was late to prosper from its geographic advantages. By the last decades of the twentieth century, however, crucial elements fell into place: air-conditioning became more widely available and affordable, the Charleston port became far more efficient, and Americans had more money to travel to beach resorts. The boom was on.

In one generation, global trade and tourism transformed the South Carolina coast’s distinctive culture. Yet the transformation is not over. For better or worse, the coast during the next generation is poised to change even faster than any other time in its history. ♡



Global coastal growth

In one of the greatest human migrations of modern times, people are flocking to giant urban agglomerations along shorelines in less-developed countries. This migration makes U.S. coastal population growth look tame in comparison.

In 1950, New York City was the planet’s only “megacity,” defined as a city with more than 10 million people. Now there are 17 megacities around the globe, and 14 are located in coastal areas. Eleven of today’s megacities are located in Asia, and the fastest-growing ones are located in the tropics. The United Nations (UN) Population Division anticipates four new megacities by 2015, including Tianjin, China; Istanbul, Turkey; Cairo, Egypt; and Lagos, Nigeria. Each but Cairo is located on coastlines.

The world economy grew more than fivefold between 1950 and 1990, and the internationalization of finance, production, and services, plus advances in information technology and cheap labor, reduced physical boundaries around the world. Cities such as Sao Paulo, Brazil; Buenos Aires, Argentina; and Jakarta, Indonesia prospered after deregulation of financial markets, and their urban cores flourished with port activity and Western-style, high-income commercial and residential gentrification.

U.S. coastlines are laggards in comparison. Surprisingly, the population of U.S. coastal counties actually *grew more slowly* than inland counties from 1990 to 2002, according to preliminary results of a U.S. Census Bureau study by statistician Rachel Franklin. Counties along immediate coastlines grew just 13.3 percent, while counties inland from NOAA-defined coastal zones grew 18.4 percent. Booming metro areas such as Atlanta and Las Vegas led the inland population charge.

However, in coastal states from Virginia to Florida, shoreline counties grew 22.5 percent, much faster than the national average. The southeastern coastline, therefore, grew much faster than inland areas.

Managing ecosystems across watersheds

Coastal communities are changing at a blistering pace, but resource managers are struggling to respond, shackled by government's fractured system of responsibility and authority over coastal and marine ecosystems, according to the U.S. Commission on Ocean Policy.

A confusing stew of 140 federal laws governs ocean policy, involving more than a dozen federal agencies that often fail to consult with one another.

The country's oceans and coasts, the commission points out, have been grossly undervalued, poorly understood, and inadequately managed, "compromising the health of (these) systems and diminishing our ability to fully realize their potential."

Governments generally regulate each marine and coastal sector separately—assuming sectors are regulated at all. Local and state

agencies, moreover, manage resources according to traditional political boundaries, not according to ecosystem boundaries.

Dozens of agencies and jurisdictions, often working separately, are responsible for managing land uses and impacts in coastal watersheds and related offshore marine areas. "Agencies seem to be operating in isolation, and at times at cross purposes," says Timothy Beatley, who teaches urban and environmental planning at the University of Virginia.

The nation needs a focused ocean and coastal policy, according to the commissioners. They propose that Congress create a National Oceans Council, reporting to the president, to open lines of communication among various agencies.

Commissioners also propose volunteer councils at the regional level. "I hope," says commissioner Marc J. Hershman, an ocean policy

professor at the University of Washington, "that a new national council would stimulate and give encouragement and seed grants to regions that want to develop some kind of regional approach to their coastal and marine issues."

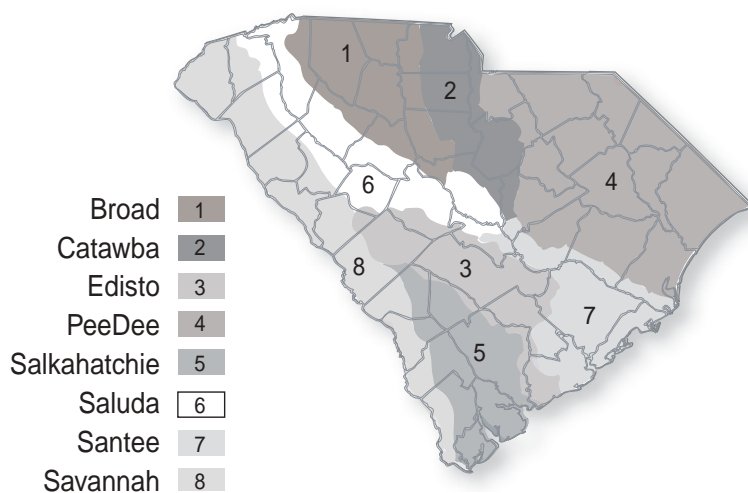
Regional councils would provide more of a "big picture" for resource managers. Each region would determine what its own most important problems are, and work to find solutions.

Throughout its report, the commission strongly endorses "ecosystem-based management." By taking this strategy, resource managers recognize that there are various components—physical, biological, chemical, and human—of an ecosystem.

Ecosystem-based management, moreover, calls for an interdisciplinary approach, including scientists, resource managers, and local residents. Another key component is that management should cross government's jurisdictional lines.

"We did look at the spread of folks up the watersheds," says commissioner Paul Sandifer, senior scientist for NOAA's National Centers for Coastal Ocean Science, "and I think that's part of the reason why you see the huge emphasis on trying to connect the activities in the coastal zone right out into the deep ocean. We're trying to recommend that the watersheds be connected to the coastal and ocean systems in regional planning activities. Increasing suburbanization of the watersheds is clearly related to what happens to the coast and the ocean." ♡

SOUTH CAROLINA WATERSHED BASINS



AMERICA AS A COASTAL NATION

Why is the United States such a rich country?

It has a free-market economy, a skilled and adaptable workforce, excellent universities, and political and social freedoms, to name a few obvious reasons. But one often-overlooked reason, some experts say, is that the United States is blessed with thousands of miles of coastline and numerous seaports.

Landlocked regions, wrote eighteenth-century economist Adam Smith, are fated to struggle economically because of their distance from the ocean and their lack of navigable rivers to carry goods between inland cities and the coast. In Smith's day, the most explosively profitable enterprises relied on sea trade, especially between colonies and mother countries. Seaports and trading centers that grew up around them—London, New York, and Charleston—were powerhouses of economic development. The United States, from its beginnings, profited as a seafaring nation, its wealth concentrated near coastlines.

Smith predicted that coastal communities and those near navigable waters would continue to be much richer than interior regions. And he argued that landlocked Siberia, central Asia, and inland Africa were probably doomed to failure, cut off from the lifeblood of commerce—the sea.

Shouldn't Adam Smith's hypothesis be outdated by now? After all, computer chips, satellites, cheap air travel, and fiber-optic

phone lines are touted for spurring growth industries and geographic freedom. Many skilled, highly educated people can supposedly live anywhere, unrestricted by trade centers of the past. Any day



HIGH AND DRY. Global trade reaches America primarily through the nation's major harbors. International trade and the U.S. coastal industries it stimulates are a crucial and growing part of the national economy. PHOTO/WADE SPEES

now, droves of workers should realize that they can leave expensive coastal cities for, say, the wheat country and wind-swept small towns of North Dakota, where a house can be bought for a song.

The reality, however, is that a mass migration many hundreds of

miles from ocean and Great Lakes coastline hasn't occurred.

A location within a few hours' drive of a seaport makes many businesses, especially manufacturers, more efficient. Industries depend on sea trade to import raw materials and parts, which are then manufactured or processed into finished products that can be exported overseas via container ships. Trade by navigable waterway is easily the cheapest method of transporting goods. Trade via truck, train, or airplane cannot compete, mile for mile, with sea trade.

Industries located near navigable waters continue to have a significant transportation cost advantage over those located far from a major waterway or a seaport, according to a May 2003 study by U.S. Federal Reserve Bank of Kansas City economist Jordan Rappaport and Columbia University economist Jeffrey D. Sachs, who is best-known for his "shock therapy" to help Poland and Russia recover economically after the fall of communism.

In recent decades, "quality of life" considerations have increasingly drawn more people to the coast. But increased productivity stimulated by sea trade remains the most important reason why U.S. economic activity is overwhelmingly concentrated within a short drive of ocean and Great Lakes coasts today, says Rappaport.

"There is very strong evidence that harbors matter and make a large contribution to productivity," says Rappaport. "This is not just something left over from a hundred years ago." ✓

EBBS & FLOWS

7th International Conference on Shellfish Restoration

Charleston, South Carolina
Nov. 17-20, 2004

The 7th International Conference on Shellfish Restoration (ICSR '04) will provide an opportunity for government officials, resource managers, and users to discuss approaches to restore coastal ecosystems through habitat quality assessment and restoration; stock enhancement, management, restoration; and habitat remediation through watershed management.

To request more information, visit <http://www.scseagrant.org/icsr.htm> or contact Rick DeVoe at Rick.DeVoe@scseagrant.org

Coastal GeoTools '05

Myrtle Beach, South Carolina
March 7-10, 2005

Coastal GeoTools focuses on the technical information needs of the nation's coastal programs. The conference's goals are to promote the understanding and applied uses of the geospatial data and tools for studying and effectively managing the coast. Attendees will become better prepared to incorporate technology into their decision-making process. For updates on Geotools '05, add your name to the GeoTools '05 mailing list at www.csc.noaa.gov/geotools/mailling_list.htm

Solutions to Coastal Disasters Conference 2005

Charleston, South Carolina
May 8-11, 2005

This is a must-attend conference for coastal planners, managers, scientists, engineers, geologists, economists, oceanographers, meteorologists, property owners, elected officials, and others interested in the coast. Conference topics will focus on the science and management of erosion, hurricanes, coastal storms, tsunamis, seismic events, climate change, sea level rise, and wind hazards. For more information, visit www.asce.org/conferences/cd05/

SUBSCRIPTIONS ARE FREE UPON REQUEST BY CONTACTING: ANNETTE.DUNMEYER@SCSEAGRANT.ORG



287 Meeting Street
Charleston, S.C. 29401

Science Serving South Carolina's Coast

NON-PROFIT ORG
U.S. Postage Paid
Charleston, SC
PERMIT #248



Coastal Heritage is printed on recycled paper.
Web site: <http://www.scseagrant.org>