Coastal Erosion

by Gary Appelson

Florida is defined by its beaches. They are arguably our most important natural resource. But Florida's beaches are in trouble – from sand loss due to inlets and jetties, poorly sited coastal development, inadequate coastal construction setback policies, sea wall construction, stronger and more frequent erosion-causing storms, and slow-rising sea levels. As private properties along the coast are threatened by erosion, panicked residents and resource managers look for relief through costly beach nourishment and other engineering solutions such as construction of unsightly and harmful sea walls and piles of rock. Defying long-term planning in the face of climate change, Florida continues to allow, encourage, and subsidize high-risk coastal development on the frontal dunes of even the most critically eroding shorelines. This very real set of factors combines to create a sort of "perfect storm" that threatens the future of Florida's sandy beaches and coastal habitats.

Most of the non-storm-related coastal erosion in Florida is attributable to the state's system of navigation inlets and the jetties used to stabilize those inlets. These engineered inlets interrupt the natural flow of sand along beaches by causing it to accumulate in inlet channels or against the jetties. Coastal engineers estimate that up to 70 percent of coastal erosion may be attributed to inlets. And although a 1986 law required the Florida Department of Environmental Protection (FDEP) to develop an inlet management plan for all of the state's 57 inlets and to bypass all sand captured by inlets to adjacent sand starved beaches, today only 17 plans have been adopted, and many of these have been implemented only partially.

Shoreline development on eroding beaches establishes a line in the sand that property owners try to defend with sea walls and other armoring structures as the surf gets closer. Sea wall construction reduces a beach's natural resiliency to respond to storms by preventing the beach/dune system from retreating, by increasing erosion in front of and around the walls, and by locking up sand that would normally feed down-drift beaches.

The FDEP estimates that nearly half of Florida's 825 miles of sandy beaches are currently "critically eroded," and both the beach and adjacent upland properties are in need of protection. The state's costly beach renourishment program is the primary strategy to combat coastal erosion, followed by coastal armoring. Given budget shortfalls, limited sand supplies, and environmental impacts, especially from armoring, some question the long-term sustainability of this strategy.

It has been 30 years since the Florida Legislature adopted the current policies designed to manage shoreline construction and protect the state's beaches. The Coastal Construction Control Line (CCCL) program established a jurisdictional zone, within which homes are supposed to be built away from eroding shorelines in order to protect the beaches and dunes. Unfortunately, the program is fraught with inconsistencies and loopholes that allow homes to be built too far seaward, necessitating the need for future seawalls and beach nourishment. According to a recent study, about 50 percent of all the homes and condos built since the CCCL program was established now sit on critically eroding beaches and need protection. This is what the program was intended to prevent.

People often ask how it is that homes can be built so close to the ocean. While the CCCL program generally prohibits construction seaward of a line equal to where waves are projected to reach in 30 years, loopholes often render this sensible setback ineffective. Exemptions for building seaward of the 30-year erosion line are mandated for single-family homes on lots plated before 1986 and are routinely granted if there is an existing "line of construction" or a pending beach nourishment project. The 30-year erosion line is waved or moved seaward once a funding commitment for continual beach re-nourishment is secured. Structures are then allowed to be built on land known

to be washing away. Such permits are based on the anticipation of long-term funding for re-nourishment and not on the expected life of any previous sand placement. Structures also are allowed to be built up to the existing line of construction. If a line of construction was established 30 years ago when there was 200 feet of beach between homes and high tide, and if today the beach is only 30 feet wide and the erosion rate is several feet per year, developers and homeowners still are permitted to build up to that line.

Complicating the problem is the fact that the state-financed Citizens Property Insurance Corporation (CPIC) subsidizes development in coastal high-hazard areas fronting vulnerable and eroding beaches. CPIC builder's risk and wind insurance is provided to developers and homeowners along the shoreline, regardless of historical erosion rates, storm history, or frequency of repeat claims.

Solutions for long-term protection of Florida's beaches are illusive. What is needed is a combination of strong leadership and creative strategies that consider all stakeholders. Citizens can help by learning about the issues, contacting elected officials and requesting creative solutions, and by supporting organizations that address these issues. People buying along the shore should inquire about local erosion rates and avoid structures located too close to critically eroding beaches. Citizens must encourage local and state officials to commit to long-term protection of our beaches. Ask them to support strategies that allow for a "strategic relocation" away from the shore wherever feasible. Such strategies will include tax incentives, conservation easements, transfer of development rights, and other mechanisms that create incentives for building or relocating landward. Florida also will need to commit more resources to coastal land acquisition, better inlet management practices, and an overall reassessment of the CCCL program.

The fate of Florida's beaches is in our hands, but time is running out on our ability to make the sort of policy changes needed to save Florida's beaches. You can start by learning more about the issues. Watch the Caribbean Conservation Corporation's new video, *Higher Ground: The Battle to Save Florida's Beaches*, which can be seen online at www.cccturtle.org.

Saving the Sea Turtle

The Caribbean Conservation Corporation is the world's oldest sea turtle conservation organization. Established almost 50 years ago, its mission is to protect sea turtles and their habitats throughout the Caribbean and the Atlantic. CCC developed and sponsored the Sea Turtle Specialty License Plate, which now funds Florida's Marine Turtle Protection Program. Ninety percent of all sea turtle nesting in North America occurs on Florida's beaches. In an effort to educate the public about pressing coastal development and beach protection issues, CCC recently produced the educational video, *Higher Ground: The Battle to Save Florida's Beaches*. The video is also intended to be a springboard for discussion to help bring about creative leadership in addressing these issues. *Higher Ground* can be viewed on CCC's website at www.cccturtle.org.

Gary Appelson is the Policy Coordinator with the Gainesville-based Caribbean Conservation Corporation (CCC) and its Sea Turtle Survival League, through which he monitors the laws and regulations impacting coastal policies, the coastal environment, and sea turtles, including the state's regulatory program for coastal construction, beach nourishment, and coastal armoring. He also serves on the steering committee of the newly formed Oceans and Coastal Alliance, a group of national and Florida-based conservation organizations focusing on coastal and marine resource protection issues, and was just appointed to the Technical Working Group to the Governor's Climate Action Team. Find out more about CCC at www.cccturtle.org.