

# **Engineering the beaches will erode N.C.'s resources**

By Rob Young  
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CULLOWHEE - Our state's Coastal Resources Commission is scheduled to hear testimony today about the potential use of hardened structures to prevent coastal erosion. The CRC members should keep in mind that any proposed solutions will depend largely upon whom one asks.

If coastal communities turn to engineers for suggested solutions to beachfront erosion and long-term sea level rise, they'll get a very different answer than they would from scientists.

This is because engineers are in the business of, well, engineering. The consulting engineers who propose beach nourishment projects, inlet realignment projects and, now, terminal groin projects are in effect selling a product.

If you ask a coastal engineer what to do about beach erosion on North Topsail, he/she is unlikely to suggest that you relocate threatened infrastructure, or even that you do nothing. It is in the interest of consulting engineers to fight coastal erosion with engineering projects, as long and as often as possible.

I do not begrudge engineers their profession, but we must keep in mind that all salespeople will paint a rosy picture for their products.

On the other hand, if you ask North Carolina's coastal scientists what to do about long-term erosion, you will get a more nuanced answer. At the risk of being presumptuous, I will offer my view of the consensus opinion of the majority of my colleagues, based on detailed conversations over the last several years.

Relocation of property and infrastructure away from eroding shorelines and high hazard areas should become official state policy. North Carolina has a relatively low density of oceanfront development compared to states such as Florida. Relocation of property is a viable (if not popular) alternative to the building of seawalls and groins.

Holding the line against coastal erosion will become increasingly difficult and exceedingly costly to taxpayers with the projected rise of sea level over the next century.

There is understandable concern within coastal communities regarding the loss of tax base if oceanfront homes are moved or if oceanfront lots are lost. Yet few, if any, studies have been conducted examining the potential benefits of relocating critical infrastructure away from an eroding shoreline. The benefits may outweigh the losses in many cases.

These benefits can include: substantial savings for taxpayers, preservation of the recreational beach (the main economic resource for many tourist towns), an increase in the value of remaining properties, reduced future risk from storm damage and a lighter load for emergency managers. Yet the potential benefits are rarely considered by local communities in planning for the future.

Relocation of some properties could be implemented after severe storms or with financial incentives. I am not suggesting that relocation be mandated or that it will work for all communities.

Relocation of the Cape Hatteras Lighthouse was a resounding success. The structure is now safe, and its protection no longer costs taxpayers money.

Beach nourishment, the currently preferred method of fighting coastal erosion, is becoming increasingly expensive. In the future, beaches will need more sand, more frequently. The sand resources are simply not available to fight this battle into the 22nd century. In light of this, relocation may begin to seem like a more reasonable option.

North Carolina has longstanding prohibitions against the use of coastal hard structures (seawalls, groins and jetties) for the protection of private property. As coastal erosion continues, and worsens, there will be tremendous political pressure from oceanfront property owners and the coastal engineering industry to rescind these bans. To do so would signal the demise of North Carolina's recreational beaches.

Science tells us the coast will look different 100 years from now. These changes need not end the coastal economy as we know it. But preserving our recreational beaches and the businesses that depend on them will require insightful and long-term planning. Beginning an honest assessment of how we may deal with future sea level rise can help ensure that our coastal communities remain the beautiful, vibrant places they are today.

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