

NOTES: Regarding the removal of the rocks at Zeke's Island New Inlet Dam

This Bill was originally introduced as N.C. Legislative proposal (SB160). When it did not receive any traction it was added to the proposed budget as a line item within Budget Bill 97, Section 14.6 (h). The stated purpose in the Bill is to remove the historical New Inlet Dam's Southern Component in order to reestablish the natural hydrodynamic flow of water between the Cape Fear River and the Atlantic Ocean that occurred prior to emplacement of the dam, much of which was built by an act of the US Congress in 1879.

The physical and environmental consequences of reintroducing a second tidal inlet to the Cape Fear River would be significant. Any inlet-related erosion - after inlet opening - could significantly threaten local communities, communities built decades after the Zeke's Island area attained a new equilibrium.

Not accounting for future erosion, at the onset of removing the dam, the boundary of the Zeke's Island Reserve would be shifted 200 feet eastward causing loss of critical habitat. According to the NC Department of Environmental and Natural Resources, Zeke's Island is one of three original National Estuarine Research Reserve components dedicated by the National Oceanic Atmospheric Administration and the Division of Coastal Management in 1985. The unusual characteristics of the site have created a variety of habitats, including tidal flats, salt marshes, shrub thicket, maritime forest, sand dunes, ocean beach, and the hard surface of the rocks. Fish, shrimp, crabs, clams, and oysters use the estuary as a nursery ground.

The NC Department of Environmental and Natural Resources has identified "the expanse of intertidal flats in the Zeke's Island vicinity as the **single most important shorebird habitat in southeastern North Carolina**" (emphasis added.)

The entire geomorphology of the entrance to the Cape Fear River as it currently exists - with its congressionally authorized and routinely maintained federal navigation channel, is dependent upon a no-flow condition at New Inlet. Prior to its closure, New Inlet was a relatively robust flowing tidal inlet. With dam removal, the driving forces that influence tidal inlet creation and stability would be expected again to foster a large flowing inlet into a now much deeper river channel.

The re-opening of New Inlet would immediately serve to impact the historic Fort Fisher site. It would decrease tidal flow through the Cape Fear River mouth significantly changing traditional shoal configurations. This, then, would also substantially influence littoral processes and sediment transport on Bald Head Island, Oak Island, and beyond. Federal navigation channel shoaling both upriver near New Inlet and further down to the current mouth would be expected to increase significantly thereby requiring more frequent, larger and more expensive dredging operations.

According to the bill, the reason for removing the rocks would be "for ecosystem restoration and protection of navigational safety." NC State Senator Lee, one of the bill's primary sponsors said that, "removing the Rocks would simply help restore the area's

equilibrium.” Mr. Lee further stated that, “The general idea is that they don’t need to be there, so let’s see if we can get them removed.” What equilibrium? It has been evolving to its current state for more than 135 years!

Other inaccuracies exist in the premise for the rocks’ removal. Some incorrectly believe that the rocks were placed to prevent blockade runners in the Civil War. That the majority of the rocks were placed in 1879, 14 years after the end of the war, refutes that argument.

Reestablishing the ecosystem is spurious. In the 1870s the drafts of ships were much less than those that currently ply the river. Maps from the 1700s and 1800s show Cape Fear River depths averaging 12 feet, far from the currently managed depth of 42 feet. Also during those periods the populations of the barrier islands was minimal or non-existent. How can one assume that “restoring” this inlet to its original configuration would “restore habitat” or improve the river’s flow when there now exists a river depth that is multiples of those in the 1800s? Furthermore, the barrier islands are now well-developed and thriving contributors to the local and state economies. There is simply no comparison.

There does not appear to be any scientific basis for Senator Lee’s observations. The science is outlined in the White Paper written by Coastal Engineer Erik Olsen. These findings are echoed by Spencer Rogers, a coastal engineering expert with NC Sea Grant, and other coastal engineers. The White Paper sheds light on more changes and risks than are stated here.

Resolutions against the removal of the rocks at Zeke’s Island known as the New Inlet Dam have been passed by Bald Head Island, Carolina Beach, Caswell Beach, Oak Island, Ocean Isle Beach and Southport. And it is on the agendas of Kure Beach and Sunset Beach.

Notes sourced from:

- White Paper, Eric Olsen
- Coastal Reserve and National Estuarine Research Reserve- Zeke’s Island article on NCDENR Website
- Wilmington Star News article, Legislation would change landscape of Zeke’s Island, by Gareth McGrath, published April 18th 2015