

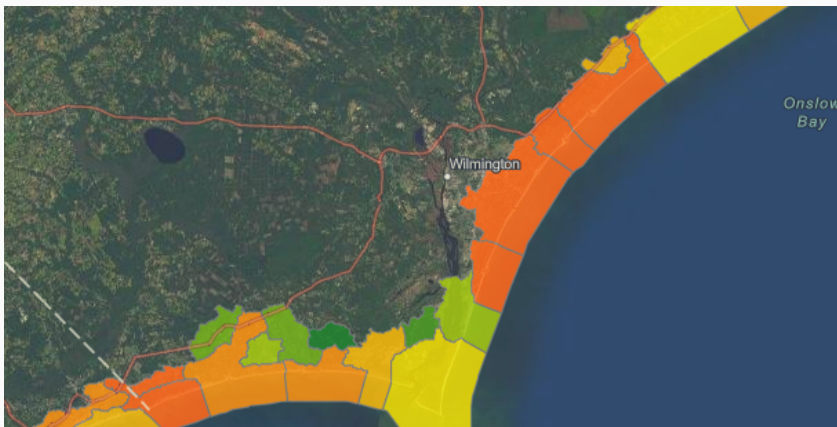
PENDER COUNTY'S DIMINISHING SALT MARSH

BY MARTI ROSENBECK

(Long, 2021) Drone Photograph of Wrightsville Beach

The Loss of Our Lifeline

Salt marshes are one of the most productive and self-sustaining habitats on earth, but all along the southeastern coast, from North Carolina to Florida, they are diminishing, and Pender County is not immune. There are many benefits of a healthy salt marsh, both for the environment and the people, but these benefits cannot be reaped if the marshes are gone. There are several reasons why salt marshes are disappearing—climate change causing sea levels to rise, marsh erosion, droughts, and manmade barriers to prevent marsh migration, are all partly to blame. Some of these threats are going to take years of effort to reverse the damage done to the marshes. The use of barriers, such as bulkheads, are particularly damaging to salt marshes because they cause the marsh to diminish more rapidly than the other threats.



(NOAA, 2021) Resiliency maps from the National Oceanic and Atmospheric Administration

Map of coastal Pender County colored in orange shows the salt marshes in our community are some of the least resilient to sea level rise. Areas in green are most resilient.

Do you own property neighboring a salt marsh?

Ask yourself...

- Do you have a bulkhead or other barrier against a salt marsh on your property?
- Do you know that bulkheads drown salt marshes?
- Do you know salt marshes are a vital habitat for many seafood that local fishermen rely on?
- Do you know salt marshes protect against floods and hurricanes?
- Do you know that salt marshes are in danger of disappearing by the end of the century?



The Value of the Marsh

Salt marshes are coastal wetlands found between land and ocean. They are regularly flooded and drained by salt water brought in by tides. They are a breathtaking sight to see, but they should not be protected just because of their beauty. There are many benefits of having healthy salt marshes in our community. They are a habitat for a variety of wildlife, such as many species of birds and bats, river otters, meadow mice, and raccoons, to name a few. All the habitats in the coastal ecosystem are interdependent on one another, making the environmental benefits of a healthy salt marsh far-reaching.

A healthy salt marsh maintains clean water by filtering pollutants that contaminate our waterways, such as runoff from rainstorms and excess nutrients like nitrogen. The plants in the marsh utilize and break down these pollutants making the marsh a natural water filter.

Salt marshes also protect shorelines from erosion. The plants hold sediment in place that would otherwise be washed away by waves coming in and out. This is especially important for coastal property owners because the marsh acts as a buffer between their property and the water.



(Danner, 2019) Saltmarsh Sparrow

Capturing Carbon

Salt marshes are incredibly efficient at capturing and storing carbon dioxide from the atmosphere, decreasing the effects of climate change. According to the National Oceanic and Atmospheric Administration, "current studies suggest that mangroves and coastal wetlands annually sequester carbon at a rate ten times greater than mature tropical forests." Dr. Carolyn Currin, a scientist at the NOAA, radiocarbon dated a marsh in Camp Lejeune and found that it stored carbon for almost 2,500 years. She warns that as marshes are damaged or destroyed, not only can they not capture carbon, but they may release carbon back into the atmosphere that's been stored for many years.



(Currin, n.d.) Scientists drill for a core sample at Camp Lejeune.



A Thriving Coastal Economy

If the ecological value of salt marshes wasn't enough, they also have a tremendous economic value. Hurricanes and flooding from storms can cause significant damage to property and threaten the lives of people and animals. Salt marshes absorb stormwater through their roots and act as a natural buffer against storm surges. This is especially important in developed areas with paved roads because the water cannot be absorbed through the pavement. The NOAA estimates salt marshes decrease property damage by up to 20%.

	<i>Economic Impact</i>	<i>People Employed</i>
Commercial Fishing	\$155.3M	2,660
Seafood Preparation and Processing	\$14.4M	210
Fish Markets and Retailers	\$80.3M	1,616
Seafood Restaurants	\$47.3M	1,043
Total	\$297.3M	5,528

(Harrison, n.d., Figure #1. OUR SEAFOOD INDUSTRY MAKES A BIG SPLASH.)

The salt marsh not only protects us, but it feeds us as well. The fishing industry in Pender County is vital to its economy. It creates jobs, supports restaurants and grocery stores, and attracts tourists. Salt marshes provide shelter, food, and a nurse habitat for more than 75% of seafood that local fishermen rely on, including oysters, shrimp, crab, and a variety of finfish. Local oyster farmer Cody Faison says, “healthy salt marshes are essential to his business”.



(Long, 2021a) Cody Faison farms oysters in Topsail Sound near Hampstead Wednesday, Sept. 8, 2021.

Local Seafood Pays Off

"North Carolina's wild-caught commercial seafood industry provides nearly \$300 million in economic impact and 5,500 jobs in the state. From harvesting along the coast, seafood preparation and wholesaling, and the retail and restaurant sectors, the seafood industry makes a significant economic splash."

(Harrison, n.d., "#1. OUR SEAFOOD INDUSTRY MAKES A BIG SPLASH." section)

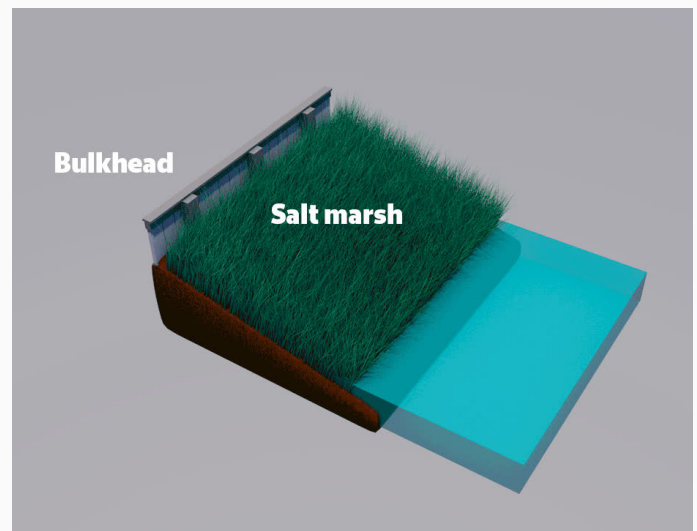


Protecting the Marsh

Coastal development and sea level rise place enormous stress on the salt marsh and if we don't take action to protect them, most will be gone by the end of the century. A study conducted by Duke University predicts that more than 80% of present-day marshes are projected to drown or erode by 2100.

Bulkheads are barriers typically put in place by coastal property owners to prevent salt marshes from migrating inland. Why do salt marshes migrate inland you may ask? As sea levels rise, marshes migrate away from the water so they don't drown. If there is a barrier preventing migration, the salt marsh has nowhere to go, and will eventually die.

Removing the use of bulkheads on coastal properties might be the difference between the life or death of the salt marsh.



[[Bulkhead], 2021) A Million Acres of 'Priceless' Marshes Protect NC, SC, GA. Will They Perish in Rising Tides? The News & Observer

The image above shows an illustration of a bulkhead against a salt marsh. Imagine the water slowly rising. Eventually, the water will rise above the grass, and with nowhere for the marsh to go, it will drown. This is not an issue in undeveloped areas because there are no barriers preventing marsh migration.

When property owners of coastal developments fight salt marshes with bulkheads, they kill the habitat that protects Pender County from floods and supports the local fishing industry. Salt marshes protect us from floods by absorbing stormwater and acting as a natural buffer from storm surges. They provide a habitat for seafood that local fishermen depend on, and for a variety of other wildlife. They provide those animals with clean water through their natural filtration methods. Salt marshes protect shorelines from erosion and capture and store more carbon than any other habitat on the planet. The salt marsh is our lifeline, and it is invaluable to our community and our future.