

# Chesapeake Bay Island Amid a Disappearing Act

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AP Photo/Steve Helber

Gravestones are laid out in front of an abandoned structure on the north end of Tangier Island, Va. on Wednesday, April 3, 2013.

**TANGIER ISLAND, Va.** -- One day after Hurricane Sandy lashed this speck of land in the Chesapeake Bay last fall, islander Carol Moore hopped in her skiff and headed to a stretch of beach along The Uppards, one of the islands that comprise this remote outpost. A favorite haunt, Moore collects sea glass, pottery and arrowheads that she finds among the bleached oyster shells that blanket the beach.

What she found there that day shocked her.

Waves stirred by Sandy's fierce winds had pounded the beach and scattered in the surf human remains from a graveyard of a former settlement called Canaan, an ancestral home of Moore's mother's family. "The first thing I saw was an exposed skeleton," she said. "Then I saw a

skull, oh Lord. Then as I walked around it was just more exposed graves and bones and hardware from caskets. It just bothered me so much

Moore spent hours on the beach, contemplating what she had found and what it meant for her beloved island. Then she sprang into action. She called the state marine police. The sheriff's department then finally a TV news station, which sent a crew out to document her gruesome discovery.

The televised footage did the trick. It attracted a team of state archaeologists to the beach to carefully gather skeletal remains for study and, ultimately, for reburial.

But what she found that day still haunts Moore. She frets about the future of this island dating back centuries to the earliest European visitors and whether future generations will enjoy it as she has.

"I don't want to have to tell stories to my grandchildren about Tangier," says Moore. "I want them to experience what I have for 50 years. I'm scared to death we're going to lose it."

Her concerns are not overstated. This island is disappearing.

Once inhabited by up to 1,000 residents, the island's current population of 500 is crowded today on several ridges of high ground, still only several feet above sea water.

It's not just rising seas alone, however, that make Tangier Island so vulnerable and Moore so fearful it will be consumed by the bay.

Tangier Island is sinking, the result of events eons ago.

First, 35 million years ago, a meteor slammed into the lower bay and land continues to seep into its crater. Then, the glaciers that gouged out the 200-mile-long bay 10,000-15,000 years ago, are also causing land to sink. A climate scientist compared this effect, called subsidence, to squeezing a jelly-filled ball.

Climate change is simply accelerating what they say will be increasing flooding along the bay and the foreseeable demise of Tangier. Some areas of the island are losing up to 15 feet or more of land a year.

They make portions of coastal Virginia, such as the Norfolk and Virginia Beach areas, among the 10 most-threatened places on the planet by rising seas.

For Tangier, the future appears particularly grim.

"We have a pretty high degree of certainty that things are going to get wetter and wetter," said Carlton J. Hershner Jr., a climate-change scientist at the Virginia Institute of Marine Science and co-author of a report on its impacts in coastal Virginia. "Not to be a bearer of bad news for Tangier, but that would suggest that sometime in the next 50 to 100 years the island would basically be under water."

Tangier Island is the bay's bell jar.

Because of its isolation, many of residents still retain the linguistic echoes of the island's settlers, primarily from Cornwall along England's southwest coast. A handful of names - Pruitt, Dise, Marshall - dominate the population. John Smith, the intrepid and boastful Jamestown settler, is believed to be the first European to step foot on the island four centuries ago. The arrowheads Moore collects are remnants of Indians who summered here.

Today, the first thing you see as you approach Tangier Island by boat is a water tower, rising from the sea like the lumbering alien death machines on stilts in Steven Spielberg's remake of the "War of the Worlds." Then the neat, tightly packed homes come into focus, barely rising from the shimmering water.

The Uppards, a strip of sand and salt marshes, is the main island's buffer from the full impact of hurricanes and winter storms. It was also the destination for a team of archaeologists that returned in April to tend to more graves churned up by the surf since Moore's discovery.

"If we have another hurricane between now and then, our island is not going to tolerate it."

Carol Moore

On a sunny but chilly day in April, Moore awaited at the town harbor to ferry visitors there. She was bundled in an oversized Cincinnati Bengals jacket and a cap that engulfed her head.

Moore guided her outboard to the Uppards gliding past dozens of deadrise boats used by watermen, the bay's popular name for crabbers. The working boats, freshly painted after emerging from their winter retirement, have a high bows that gracefully dip to their sterns, nearly to the waterline. The design is intended to ease the backbreaking work of the men who haul in pots - cages with trap doors - laden with skittering crabs.

"Soft shell capital of the world," Moore says as she pilots her boat 'To Oz' past crab shacks that line the channel that cuts through the island. The shacks laden with stacked pots are perched above the water on pilings.

Then an odd sight on this staunchly Christian island appears fluttering over one crab shack: the flag of Israel.

"Tangier is a huge believer in Israel," Moore states, pulling down a sock to show a small Star of David tattooed on her right ankle.

The expanse of beach along the Uppards is unbroken except for the shell of a trailer, a makeshift camp for bird hunters. The rusted hulks of old machinery litter the beach, washed up by storms. Here, at low tide, four state archaeologists are on their hands and knees around a long rectangular impression - the shaft to a grave. A tiny rectangular impression is nearby, the outline of a small coffin emerging from the muck within the shaft. It is the grave of a child, probably a toddler.

These new remains, as well as the others, were from a cemetery that now lies under water 50 or more feet out into the bay.

"Our mission here is to try to take as many (remains) as we can of the ones that are going to erode into the bay in the near future," said state archaeologist Mike Barber, taking a break from his work. "Beyond that, we're not sure what's going to happen to this cemetery."

(PHOTOS: Massive Flooding Ruining Homes, Lives)

They can only work on the exposed graves during 3-hour windows of absolute low tide, when the waters retreat into the bay.

The island was abandoned in 1929 after a hurricane convinced residents to move away, primarily to the center of the island. Grave markers rescued from the cemetery are neatly lined up along the beach above the high tide mark, weathered memorials to place and a people lost forever to the seas.

"They decided it was enough," Barber said. "I think Carol is the most frequent inhabitant here now."

Archaeologist Joanna Wilson Green bailed out the larger grave shaft while fellow archaeologists David Hazzard and Thomas Klatka carefully worked with small trowels and bamboo sticks to remove the thick, dark muck. The bamboo sticks are used so they don't mar the bones as they scrape away the years.

"As Joanna said, this is one way to bring back dignity to these people," Barber said. "I think that's an important aspect of our work."

Green said, "We think it's a great honor to treat the dead with respect and to learn what they have to teach us."

Once the skeletal remains are removed and packed, they'll be placed in a solution to extract the salt. They'll then head to the Smithsonian for an analysis by a forensic pathologist who is studying the earliest Europeans in Tidewater Virginia.

"Then we'll deal with folks like Carol and the descendant population to see whether they want to rebury them," Barber said. "There's really not a lot of room on the island to rebury them at this point."

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While the Uppards is now a place for hunters and archaeologists, the main portion of the island is a quietly thriving place, even before the arrival of day-trippers. Only one ferry from Maryland sails to the island during the off-season.

The narrow lanes that dissect the island are primarily traversed by golf carts, and most homes have one or more shoehorned in-between houses. Graveyards are as common in yards as swing sets, another sign of the island's diminishing dimensions. The dead are now buried close to homes, away from the encroaching sea.

Moore, the daughter of a seventh-generation waterman and the spouse of a former waterman, and other islanders such as Mayor James "Ooker" Eskridge have lobbied for federal funding to build a jetty and a seawall to protect the 3-mile-long, porkchop-shaped island. The 430-foot seawall and jetty is intended to protect the harbor at Tangier from waves and sheets of

ice that are pushed into the inner harbor and channel during the winter months.

The seawall and jetty would shelter the Uppards and, by extension, the main island. Some portions of the island are losing up to 15 feet of land a year.

"Saving Uppards is going to save Tangier," said Moore, a reserved, quietly determined native islander. "That land protects us from the northwest winds."

(MORE: What Makes Cicadas So Loud?)

In November, islanders got the news they had been awaiting a decade for when officials announced that the seawall and jetty would be constructed at a cost of \$4.2 million. The federal government will pay about \$3.2 million, with the state picking up the rest.

Gov. Bob McDonnell said the project is "critically important" to saving the island and "a culturally significant way of life that has changed little over the centuries."

Work is scheduled to begin in 2016 and be complete in 2017.

The news, while welcome, still has left Moore and other islanders edgy as hurricane season approaches.

"If we have another hurricane between now and then, our island is not going to tolerate it," she said. "We can take the wind. We can take the tides. But the two together is just devastating."

Eskridge, who is pushing to hasten the work, questions the threat of rising seas. He says erosion's the problem and maintains that tides have been abnormally low. "Sea level may be rising but not here," he said.

Hershner, the climate-change scientist, is skeptical of the long-term benefit of the seawall.

"What's being built out there is erosion protection," he said. "That's not going to hold back the sea levels."

The only solution to preserve the island, he said, would be to construct a dike or levee encircling it, an engineering feat that would be tremendously expensive.

"The other problem is you put a levee around it and their lifestyle is all related to the water, so you have to cut off access to the water to preserve the island. You'd just make a hole in the water."

Moore is mindful of rising seas and Tangier's sinking. She knows what the climate scientists say. Still, she says, Californians live with earthquakes, and Kansans with tornadoes.

"I was born here and I'll probably die here," she said.

Still, she holds out hope her 25-year-old son Alex, a former Marine who served three tours, and daughter Loni, 30, will enjoy the island, as will Loni's two children.

"We have so much history here on the island and we just hope to save what we've got," Moore said. "We need saving. We can't let our ancestors be forgotten."

The state Department of Historic Resources, which dispatched the archaeologists to Tangier, also is surveying the island in hopes of getting it on the state or national landmarks registry. Such a designation could attract more tourists and funding support.

"Yes, it's fragile, but there's a lot of commitment on the ground to finding a future," Director Kathleen Kilpatrick said of Tangier. "In the meantime, our commitment is to helping how we can."

As for Barber and his fellow archaeologists, they left after a week. They said there was little more they could do.