Rural coastal residents overlooked in sea level rise impacts, solutions

Video examples of rural coastal communities struggling with sea level rise and marsh encroachment.

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The threat of rising seas to coastal cities in Hampton Roads is coming into sharper focus, with helpful assists from studies, summits and working groups.

But rural residents living along the waterlogged rim of the Chesapeake Bay, watching as marshes migrate inland and swallow chunks of their property or nearby access roads, have yet to make it onto most radars.

“So much of the focus is on urbanized areas,” said Lewis Lawrence, executive director of the Middle Peninsula Planning District Commission. “What is the city of Norfolk going to do? What is the city of Virginia Beach going to do? You never read about adaptation needs in rural coastal communities.

“We don’t matter. We are not on people’s radar. But everybody is important.”

Add in other challenges to rural life in the Chesapeake — access to health care, broadband and jobs, flood insurance premiums through the roof, sagging real estate values and often onerous environmental regulations — and what you get are property owners who decide to pack up and migrate, themselves.

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“I call it a coastal cancer,” said Lawrence. “And it is slowly just chewing up — literally and figuratively — the value of our communities.”

“These changes are happening at a slow pace,” said environmental anthropologist Elizabeth Van Dolah at the University of Maryland, College Park. “But they’re sneaking up on people in such a way that they’re realizing, ‘Oh, my gosh, all of the sudden I’ve lost half of my property because of this.’ And they’re kind of at a loss as to what to do about it.”

Van Dolah and her colleague, Christy Miller Hesed, have studied how residents of rural coastal communities wrestle not only with the water, but with bureaucracies ill-equipped to help them. The pair presented their work at a recent summit on marsh resilience held in Williamsburg.

Adjust expectations

Rural property loss from marsh migration is a growing challenge locally as sea level rise continues to accelerate along the mid-Atlantic coast.

Researchers at the Virginia Institute of Marine Science recently mapped out how roads and buildings in Gloucester County will fare by 2050 and 2100 under current rates of rise.

They enlisted graduate students at VIMS as well as public policy and law students at the College of William and Mary to do the heavy lifting.

The students looked at 18 years of local tide gauge data from the National Oceanic and Atmospheric Administration and compared those water levels to property and road elevations to map out what flooding looked like in that time period.

Then they used intermediate sea level rise projections for Virginia — 1.5 feet by 2050 and 4.2 feet by 2100 — and simply raised the past tide gauge data by those projections.

From that, they built maps showing roads that will become increasingly impassable from recurrent flooding.

They also looked at flood risk for 24,695 land parcels in the county under current projections of rise and found that, by 2050 and with an increase of 1.5 feet in sea level, 2,275 parcels will be at medium risk of recurrent flooding and 405 at high risk.

By 2100, with a projected rise of 4.2 feet, 3,570 parcels will be at medium risk of recurrent flooding, and 1,536 at high risk.

“These are issues that we know are going to increase,” said Carl Hershner, director of the VIMS Center for Coastal Resources Management. “But the answers are going to be very expensive and very difficult, and the need for planning and analysis is now.”

But land parcels are only part of the problem.

Even when homes or businesses don’t flood, some access roads will. And, for up to 200 hours a year, they will become choke points in and out of neighborhoods.

“What happens to a person’s quality of life because of the flooding roads impacts?” said Pamela Braff, doctoral student at VIMS.

Adaptation doesn’t necessarily mean to cut bait and abandon flood-prone roads, they said.

“There are interim measures where it may just be changing the expectations for how serviceable the road will be,” said Hershner.

“You keep the road in its current position, you maintain it with a good surface, but you don’t attempt to raise it. And so everyone knows that the road is going to flood at certain times and not always be passable. And you just sort of, as they say, learn to live with the water.”

‘More water than we know what to do with’

But what happens when waterfront property owners don’t want to live with the water anymore?

The Middle Peninsula landed on one solution in 2003 almost by accident.

That year, in response to a thorny problem regarding public water access, they got the General Assembly to authorize the Middle Peninsula Chesapeake Bay Public Access Authority.

At the time, Lawrence said, it was the only governmental entity in the country focused solely as a political subdivision to provide public access to waterfront.

One day, a Gloucester County resident called offering to donate a piece of property. It was a novel concept at the time, but it turned out the authority did have the authority to accept the title.

In the seven years since, others have called to donate their land — in two cases, massive homes and acreage worth more than a $1 million each — typically in exchange for charitable or conservation tax credits.

“It has become a very commonplace exit strategy for people,” Lawrence said.

All told, nearly $4 million in waterfront property has been donated, he said, ranging from the two million-dollar estates to properties valued at a few thousand dollars. Only three parcels have buildings on them; the rest are undeveloped.

Reasons for donating range from challenges with flooding or environmental regulations — one man balked at putting in a $40,000 septic system — to lack of local jobs and amenities.

Every day, said Lawrence, 72 percent of the Middle Peninsula's workforce — more than 34,000 workers — drives out of the area to get to their jobs in Hampton Roads, Richmond, Fredericksburg or Northern Virginia.

And sometimes, he said, some decide to out-migrate altogether.

Donated properties get an enthusiastic reception from Lawrence, whose job it is to repurpose them for the public good. They're offered up for water recreation, or to reserve for bow hunting or duck hunting excursions. The authority is developing water trails along all its holdings. Entrepreneurs can pitch their own ideas for waterfront restaurants or other businesses.

When the Gloucester High School crew team was looking for a home, Lawrence said he offered up one of the estates, now the Captain Sinclair's Recreation Area along the Severn River. The property has an 8,000-square-foot manor house and a 2,000-square-foot brick rancher, boat ramps, piers and a pool.

"When we get into lower Gloucester or lower Mathews, the challenges are really great," Lawrence said. "We've got more water than we know what to do with. We've got to stop thinking about water as a liability and more as an asset.

"We've got this massive special distribution of public property now that can be used to design our way and innovate our way into the next century. To live with the water differently and to create higher-paying jobs that will retain families so they don't have to sell and move."

'The last generation'

For one small waterfront community in the Maryland portion of the bay, there are few options left but to move.

The hamlet of Smithville in Dorchester County skirts the Blackwater National Wildlife Refuge and lies along the Harriet Tubman Underground Railroad.

It was established in the 1880s by freed slaves, and a hundred years ago, it had a population of 100. Today, it has four, all of them aging.

Homes are empty, but the New Revived Methodist Church — established a year after the community was founded — still serves as a social and spiritual hub, drawing former residents in from nearby towns and cities for Sunday service.

But now it's all getting swallowed up by marshland.

Van Dolah and Hesed incorporated Smithville in their study of how rural churches can engage with governments and non-governmental organizations to tackle coastal resilience.

"Ditches around the church are always full of water," said Hesed. "The ground behind the church is very soggy and you can see standing water. And the marsh is coming closer and closer to the building, as well as to the cemetery."

Current and former residents of Smithville haven't been passive in the face of such threats. For 15 years, Hesed said, they've participated in university studies to better understand climate change impacts, approached elected officials to voice their concerns and applied for funding.

”And, as a result of all these years and years of reaching out to try to figure out what they could do, they’re just now finally able to get the necessary permission to cut down the phragmites and bring in a little bit of fill dirt for the low spots immediately behind the church,” said Hesed.

“The issue here is, this really shouldn’t be so hard.”

As a rural black community, she said, Smithville is doubly challenged because it already faces social and political marginalization.

“But this has not just been an issue for New Revived,” said Hesed. “There are going to be marshes migrating inland all around the Chesapeake Bay.

“There needs to be some work done to promote resilience of these rural human communities as well as marsh communities.”

Three main concerns regarding marsh migration, said Van Dolah, are its impacts on property, environmental regulations that favor marshes over people and funding structures that leave rural communities behind.

“A lot of these folks are not interested in relocating … because their property is more than a financial asset,” Van Dolah said. “Oftentimes, property is handed down through generations, so it’s part of their identity.”

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Government programs that fund adaptation work often require that homeowners share in the cost, which low-income residents often are unable to do. And many such programs are tied to more immediate disaster relief, whereas marsh migration is occurring “at a much slower and stealthier rate,” she said.

Their recommendations going forward are that land managers and scientists who work on marsh migration issues engage directly with rural communities to understand their realities, and also that environmental regulations include some flexibility.

“For a lot of property owners in these rural areas,” said Hesed, “they’re the last generation that’s going to live there. Their kids have moved elsewhere. They’re not going to be able to sell their property because property values have plummeted.

“But is there a way to allow them to do small things so they can live safely and comfortably on their property. (That) would give them a little bit more time.”

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