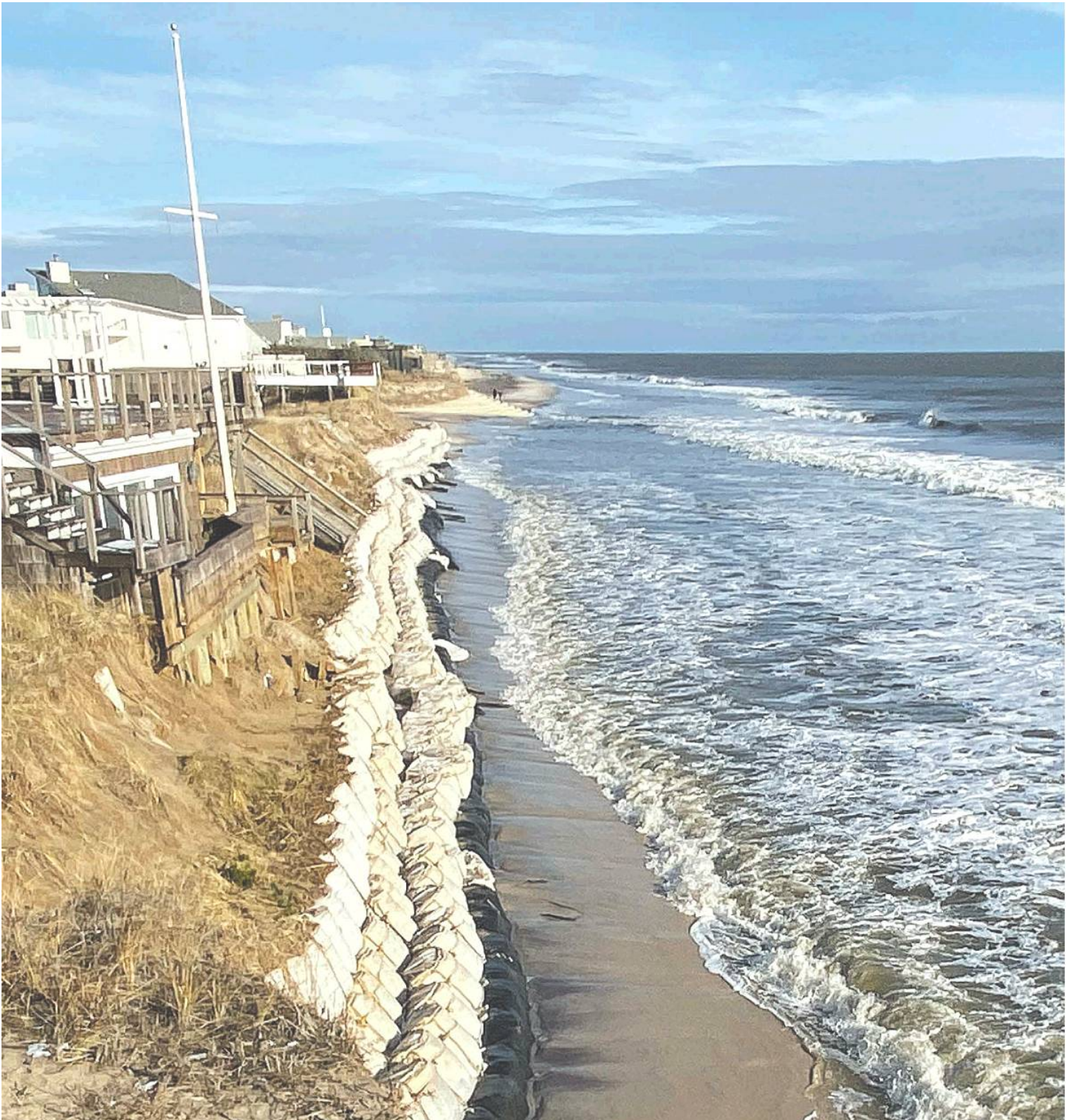


THE RISING TIDE

SLIPPING AWAY

Homeowners and officials buy time as escalating effects of climate change threaten the East End

BY MICHELLE TRAURING





Geocubes are exposed at Quogue Village Beach after a winter storm. DANA SHAW



Houses on Soundview Drive in Montauk are pummeled by a storm. KYRIL BROMLEY

For centuries, the world has known one type of refugee: those who leave their homes behind due to war, violence, conflict or persecution, often risking their lives in the pursuit of safety. In recent years, the definition has unofficially expanded. Consider Hurricane Katrina, a natural disaster that forced 1.5 million people from their homes in Louisiana, Alabama and Mississippi — about 40 percent of whom never returned. In Alaska, residents of a small, eroded seaside village are planning to move what’s left of it to safer ground inland — a project that will cost over \$100 million, but sea level rise, stronger storms and melting permafrost have left them no choice. In Siberia, a thawing permafrost

there has been called a slowly detonating “methane time bomb” that can be seen from space. Last August, Death Valley, California, set a world record for the hottest reliably measured temperature in Earth’s history — for the second consecutive year — while, paradoxically, scientists link the cold snap that hit Texas last February to a warming Arctic that has weakened the polar vortex, allowing frigid air to reach farther south. More than 3 inches of rain pounded New York City last summer during Hurricane Ida, resulting in its first-

ever flash flood emergency. And, last month, dry conditions fanned what started as a grass fire into the most destructive blaze in Colorado state history — burning over 1,000 houses to the ground and displacing 35,000 people, many left without a home to return to, now that the dust has settled. According to the Internal Displacement Monitoring Centre, based in Geneva, Switzerland, 30.7 million people across 145 countries and territories were displaced due to catastrophic weather disasters in 2020 alone. The people left in their wake are now known as “climate refugees.” On the East End, local environmental experts fear that some East End homeowners could land among them, if the effects of climate change continue to escalate. “The farther away things get, the less im-

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portant they are. So those aren’t movers for us,” according to Mark Haubner, co-founder of Drawdown East End, a grassroots organization that aims to reverse global warming. “The things need to be close — and now, we’re close.” Across the East End’s 370 square miles, sea level is still rising, shorelines are still shrinking and, in some areas, water quality is still declining. Sunny days are no stranger to flooding, wetlands continue to migrate, and native species continue to disappear as invasive species move in.

This grim snapshot is not meant to incite unnecessary panic, environmental advocates explain — but to stress that without swift action, local municipalities and homeowners will not be prepared for what is coming.

“I don’t think this is an issue that’s really been dealt with very effectively within our country, and it’s a threat that’s increasing every year — and I think it’s inevitable,” East Hampton Town Supervisor Peter Van Scoyoc said. “And whether you think the cause is human-created global warming or not, the water’s coming up. There’s no doubt about that. Storms are becoming more frequent, more violent, and, regardless of the cause of that, we’re still gonna have to deal with it.”

Confronting climate change has two branches, explained Alison Branco, coastal director of The Nature Conservancy’s Long Island chapter, and they’re both equally important.

The first is “climate adaptation,” which uses tools like beach nourishment projects to quell changes, such as erosion and sea level rise, that are worsening. But it is essential to pair this approach with “climate mitigation,” she said, to lessen the overall changes in climate with renewable energy, carbon sequestration and other measures.

“It’s basically a runaway train right now,” she said of climate change. “We need to slow it down and prevent it from being the worst possible thing. But even if we’re amazing at that, which we’re not right now, we still have a lot of train to deal with. So we also have to address that.”

For many local town and village governments, the conversations and even climate action plans have begun, but they largely took a back seat during the COVID-19 pandemic. With the long-awaited Fire Island to Montauk Point Reformulation Study, or FIMP, now on the horizon, focus has shifted back to the climate crisis — though officials face an uphill battle against a lack of resources and a ticking clock.

“When we have FIMP — when we have hundreds of millions of dollars — and we have property owners who are willing to tax themselves to have natural shorelines, we can buy a lot of time,” Southampton Town Supervisor Jay Schneiderman said. “However, at some point, if we don’t reverse sea level rise, you’re going to reach a point where the equation becomes untenable, where it’s just not worth it to keep pouring out millions and millions of dollars to keep a multimillion-dollar house from washing into the sea.”

Climate Adaptation:

Preparing For The Future

It is possible to imagine a future when the estates along low-lying Dune Road, stretching from Westhampton to Hampton Bays, are abandoned, left for the wetlands to reclaim them; when Gerard Drive in East Hampton becomes permanently inundated with water; when the front line of Montauk is washed away entirely.

But that doesn't have to be the case, Haubner said.

"This is not inevitable — this is the inflection point," he said. "We know what the business-as-usual scenarios look like — and if you look at all the CO₂ and the methane and everything else, they're all on the rise. But it's not inevitable."

According to NASA, global sea levels are rising 3.3 millimeters per year, or about 1.3 inches every 10 years — a direct result of melting glaciers and ice sheets, as well as the expansion of seawater as it absorbs more heat trapped in the atmosphere. Warmer air also contains more water vapor, providing extra moisture to storm systems, which can result in stronger and more frequent hurricanes and nor'easters, severe flooding, and accelerated erosion of beaches as more sand is swept into the ocean.

"Erosion" itself is not a dirty word, though, explained Branco. If a shoreline is undeveloped, the natural process is the reason why beaches have sand, why there is sediment to build up salt marshes and a place for sea grasses to grow, she said.

"It doesn't bother anything — it's part of the natural system, and it means the floodplain is functioning," she said. "But when you have development there, the way our society has structured development and land use, it's all based on lines on a map. And so, forever, we've had this assumption that once you draw a line on a map, it stays there forever.

"But the fact of the matter is, that's not the case anymore," she continued. "Sea level is rising, so that shoreline is moving — and so it means if you have a developed parcel at the shoreline, it's shrinking. People don't want to see that, of course. A lot of people have invested a ton of money in their shoreline property, and they don't want to lose it. But that's what's happening."

Development disputes clog local zoning boards of appeals and planning departments as residents plead to build higher and closer to the water, or protect their existing waterfront properties by hardening eroding shorelines with seawalls — whether it's a bulkhead, stone revetment or geotextile bags, which environmentalists say worsen erosion on neighboring properties by reflecting the energy from the water on either side.

"Normally, if the whole shoreline was natural, it would erode in one spot and that would drift down to the property next to it and settle there, and whatever eroded from there would move along like a conveyor belt," Branco said. "But when you harden the shoreline and stop erosion at some point, you interrupt that conveyor belt, so it has a lot of impact downstream to the amount of erosion and sediment loss that they're seeing. The source for the people downstream is the people upstream — and so when you interrupt that conveyor belt, you actually make things worse."

Marine biologist Kevin McAllister, the founder and CEO of Defend H₂O, a Sag Harbor-based nonprofit dedicated to protecting Long Island's various bodies of water, calls it "death by one thousand cuts."

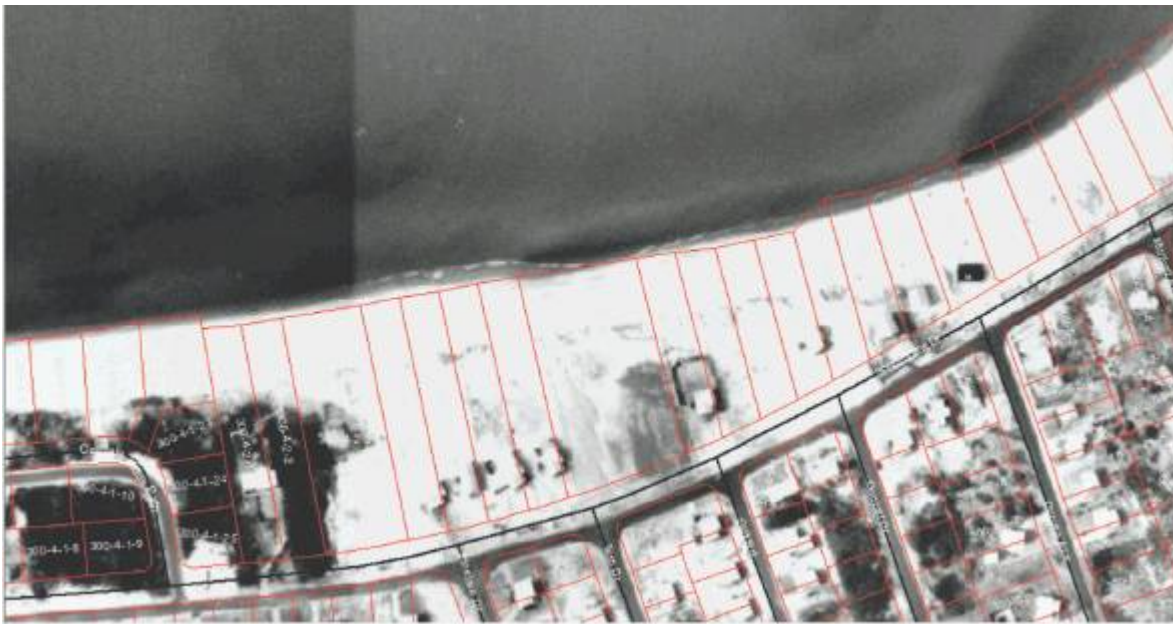
“Ten to 20 years from now, we’ve rimmed the bays with seawalls and we destroyed that habitat,” he said. “Sandy, walkable beaches are gone. That is our lifeblood out there, to walk a shoreline, whether it be Gardiners Bay, Shinnecock or the Atlantic Ocean. Nesting grounds for horseshoe crabs, and the shorebirds that eat those eggs, are gone.

“If we don’t do things differently and eliminate the hard edge that we are inflicting on the coast, we are going to lose those values, those benefits that we hold near and dear — the Long Island lifestyle, my God.

“That’s the rub with the private property interest,” he continued. “We have hard choices to make. We’re all in on protecting shorelines, we all talk about it, but we’ve gotta walk the talk, or we’re letting it slip away — which we are. That’s the trend: slipping away.”

For both town supervisors, it’s a difficult line to navigate, they agreed, and Schneiderman said he approaches the issue on a case-by-case basis, while supporting a natural coastline along the ocean.

“These battles over whether people can protect their properties through creating bulkheads and building up the land behind the bulkhead so they can get a house in, they’re going to continue to be frequent challenges,” he said. “Zoning tools can only go so far. We can elevate the house and push it as far back from the water as possible. But you have this fixed grid of property ownership that runs smack into sea level rise and changing contours of the shoreline. At some point, that property line and the shore-



Aerial photography of Soundview Drive and Captain Kidds Path in Montauk, left, show what was once a vast stretch of healthy beach backing up to a few waterfront homes in 1970.

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line meet.”

In the 1960s and 1970s, the homes in front of Soundview Drive and Captain Kidds Path in Montauk had anywhere from 100 to 200 feet of beach in front of them, Van Scoyoc said. Today, that sand is gone. “By looking at aerial photography throughout the town, areas that once had beaches that have hardened shorelines don’t have beaches anymore,” he said. “And if they do, it’s because sand gets placed there.”



In Southampton Town, residents in four erosion control districts —

Today, much of the sand has nearly disappeared, right, replaced by hardened shorelines to protect a more developed shoreline. COURTESY EAST HAMPTON TOWN



A house in Wainscott was destroyed by Superstorm Sandy.

MICHAEL WRIGHT

Bridgehampton, Sagaponack, Tiana in Hampton Bays, and North Sea — tax themselves to pump sand onto the beaches in order to rebuild them, Schneiderman said. In the coming weeks, the oceanfront residents who footed most of the \$26 million bill to replenish their six miles of eroded beachfront in Sagaponack, Bridgehampton and Water Mill in 2013 will revisit the project and address the Town Board, just as its 10-year anniversary approaches. As a whole, it was “very successful,” Schneiderman said, though some parts of the restored beaches have fared better than others. Whether the next effort will be as large as the first remains to be seen, he said.

McAllister remains skeptical of both this project — and FIMP.

“I’m telling you, it’s a house of cards,” McAllister said, adding, “There’s this notion that the sand calvary’s coming, the Army Corps of Engineers, that, ‘Oh, federal dollars — just pump beaches until the cows come home.’ No, man, that’s not the case. There’s strings attached, and there’s costs attached for the second, third, fourth time around.”

Now funded by Congress and set to begin next year, the project through FIMP will initially cost the federal government more than \$1.5 billion to dump millions of tons of sand along 83 miles of Suffolk County oceanfront. Branco said the effort has delivered a false sense of security, making people hesitant to take more action because “it’s gonna buy us a whole bunch of time, and so we don’t have to worry so much



Town Line Road in Sagaponack following a storm. DANA SHAW



Bay Avenue in Noyac flooded during a storm. DANA SHAW

about this. “Unfortunately, I don’t actually think that’s true,” she said. “I think it will help, and it will buy us a little time, but it doesn’t mean that we can sit back and relax, and we don’t have to plan for those longterm and sustainable solutions, like getting people out of the way of all the water.”

Both McAllister and Branco see no way around strategic coastal retreat. “It’s inevitable in the long term, for sure,” she said, and prefers to look at it as “being proactive and envisioning the future we want to see,” rather than “giving up.”

“At a certain point, you’re just throwing good money after bad,” Van Scoyoc said, adding, “We just need to concede a certain setback from the water to Mother Nature and just let her do her thing.”

Climate Mitigation: Lessening The Impact

With an ambitious goal of energy independence by 2025 and carbon neutrality by 2040, Southampton Town has moved forward with what could be the first solar array of its kind on Long Island.

The municipally led project will employ community choice aggregation — an optout program that allows the town to choose an electricity supplier — and

community distributed generation to operate the solar installation of approximately 4.5 megawatts at the North Sea Landfill, explained Southampton Town Councilman John Bouvier. Typically, a megawatt of capacity will equate to about the same amount of electricity consumed by 400 to 900 houses, according to the U.S. Nuclear Regulatory Commission.

“Hopefully, we’ll be able to break ground on that next year. We have around 20 other sites across the town that we want to do that,” he said, adding, “The goal is to lower the cost per kilowatt hour for the residents, but also for us to be able to take some of that money to be able to do other sustainability projects.”

Boston-based Kearsarge Energy Limited Partnership, hired to build and operate the array, will also conduct “the most comprehensive measurement of emissions and its sourcing within the municipality,” Bouvier said, compiling information that will help the town develop a climate action plan.

“We’ll get that data from them that will help us create a road map of how to meet our goal of 2040 for zero emissions and our energy independence goal in just a few years,” Bouvier said.

Schneiderman said the Town Board needs to revisit those benchmarks, though, but he did not offer what he believes are more realistic dates. “That’s not gonna happen by 2025. Sometimes you set these goals, they’re aspirational, you hope you’re gonna meet them,” he said. “I had thought by 2025, the offshore wind would be a bigger component of our power supply. Because of that, I thought we could meet it. But that is taking longer than I thought.”

After nearly seven years of work, East Hampton Town has recently completed its Coastal Assessment Resiliency Plan, or CARP, which examines erosion risks, storm vulnerability and expected degree of natural recovery, according to Branco, who sat on its advisory board. Next, the Town Board will roll it out with a series of public hearings and seek community feedback before deciding how to move forward.

This comes after, last winter, the board unanimously declared a climate emergency, joining more than 1,800 municipalities around the world in pledging to put impacts on the climate first in decision making. It has also continued to push the “Solarize East Hampton Effort,” a program that provides solar installation at a reduced rate by working through the town’s approved contractor, Van Scoyoc said. And over the fall, a 75-kilowatt solar-plus-battery storage system was installed on the roof of the Parks Department building, which generates clean, renewable energy that, when there’s excess power, the town can sell to the grid.

“We’ve certainly been working hard to address climate change here locally by taking various steps, and we’re also seeing the continued increase of impacts within our surroundings,” Van Scoyoc said. “There are things that, maybe, in more developed areas people wouldn’t notice, because they don’t see the impacts. But here, where we still have some natural surroundings, for those who are careful observers, we can see that things are changing.”

The supervisor pointed to the collapse of scallop populations, wildflowers gone missing, the intrusion of new species like cownose stingrays and southern pine beetles. Since late 2017, the invasive bugs have destroyed 700 trees on his 5-acre property alone.

“We live in a meadow now; we were tucked in a pine forest,” he said. “We had a modest little house tucked in the middle — we did very minimal clearing when we first built the house. It was just a pleasure living surrounded in this cathedral forest of pines, but that’s all gone now.”

Due to warming temperatures — 0.14 degrees Fahrenheit per decade since 1880, according to the National Oceanic and Atmospheric Administration — ticks now have two breeding seasons, said Haubner, who also noted a mosquito flying around his deck just a couple of weeks ago.

Rising heat ultimately will put pressure on cooling systems, too, causing a positive feedback loop regarding climate change — which continues to “get political really fast,” he said.

“The polarization of the country seems to have put where you are on climate change into whether you’re a libertarian or not,” Sag Harbor Village Mayor Jim Larocca said. “It’s part of the larger illness that we’re suffering from nationally, which is losing our ability to come together on critical issues.”

Seizing Control Of The East End’s Fate

While every East End town and village faces a unique set of issues, the overarching climate challenges are, by and large, the same — which begs the question: Why is the approach patchwork, as opposed to more cohesive?

“I think it’s a fair comment, I think it’s fair criticism,” Larocca said, “and it ought to be.”

In recent years, the closest the East End towns have come to combating climate change together was proposed by Suffolk County Legislator Al Krupski, who suggested forming a Coastal Resiliency and Sea Level Rise Task Force. Made up of 21 members — including the commissioner of the Department of Public Works and representatives from each of the 10 Suffolk County towns, the State Department of Environmental Conservation, the Peconic Estuary Program, and more — it would develop policies and recommendations for Suffolk County and local municipalities to protect and preserve coastlines.

“I will say, it’s gotten off to a slow start, because COVID has been such a distraction for people. It just hasn’t been top of mind, and it’s hard to get people together,” Branco said. “But I do think that has the potential to serve that function of bringing the towns together and talking about the issue that should, inevitably, lead to partnering on projects to work on these issues.”

On the town and village level, many governments face their own constraints — among them financial, staffing and time limitations — and Schneiderman reported that Suffolk County has largely left the towns to their own comprehensive planning with little guidance, as compared to 30 years ago. This has led to inconsistency from town to town, which all operate under “home rule” in New York State.

And the federal government has not provided much of a road map, either, Larocca said.

“I don’t think all the way to the national level, and certainly international level, that the planet has yet come up with a plan to save itself, and that’s troubling,” he said. “In our little, tiny corner of it all, if the question is, ‘Could you do more?’ I think there is. We could do more.”

The mayor also pointed out that Sag Harbor sits on a water body that is part of half a dozen town governments, a county government and a state government, making it difficult to “influence the forces that work on us” without leadership and coordination from the village’s neighbors — even more complicated by climate change positioned as a politically charged issue, though that has cropped up less and less on the East End, Bouvier said. “It’s a crazy time we live in, politically, but this should not be a partisan issue, at all — and I think that’s starting to show here,” he said. “I’ve heard very few climate deniers in the last year or so, very little of that. People have realized that there are changes coming. But I think it’s unfortunate — it’s probably human character — that you don’t do anything until the volcano actually erupts.”

According to the 2021 report “Global Warming’s Six Americas,” published by the Yale Program on Climate Change Communication, the American population can be categorized into six distinct groups. “Alarmed” and “Concerned,” who strongly support climate action, make up 58 percent, while 19 percent comprise “Doubtful” and “Dismissive.” The remaining two categories, “Cautious” and “Disengaged,” sit at 22 percent combined.

When the surveys began in 2008, the Concerned was the single-largest group. By 2010, it got slightly smaller while Cautious grew and became equally as large. By contrast, Alarmed was the second-smallest group as recently as 2015, but has rapidly grown to become the largest segment of the U.S. population today.

“It’s hitting its stride and people are paying attention. People may not act on it this year, but they will be listening,” Haubner said, adding, “Logic is wonderful, especially in the climate arena, but it doesn’t get people to change their behavior. Emotion is what changes people’s behavior.”

Every East End resident has a different threshold for what they can tolerate — a breaking point, a moment when the impact of climate change becomes too much, Branco said. To the untrained eye, it may appear

that this is a problem that is not significantly impacting the local communities yet, but she insists that “we’re past that point already.”

“The water is going to come and push people out of the way whether we like it or not. Because we see that coming, the smart thing to do is prepare and back up and make way for water on our terms, so that we can do it without hardship to people,” she said. “We can do it in a fair and equitable way. We can do it in a way that preserves the things we love about the shoreline, that preserves our vacation beach economy on the East End.

“If we let Mother Nature do it for us, we’re not gonna have nearly so much control over all of those things,” she continued, adding, “We know the future’s gonna have a lot more water. So let’s decide for ourselves what we want it to look like and make that happen, rather than just let it happen to us.”