

# Losing A Beachfront Home Isn't Just A Rich Person's Problem

As the sea level rise exacerbates coastal erosion, many longtime middle-class residents are struggling to protect their properties.

BY **NATHAN EAGLE**

**A** broad black cloth drapes down the steep slope from Richard Serman's grassy backyard to the sandy beach at Pupukea.

Navigating the straps he tied to keep his two remaining palms somewhat upright, he explains the benefits of the "skirt" that he and dozens of North Shore homeowners have deployed to prevent their properties from slipping into the sea.

He's lost 10 feet of lawn in recent years from chronic coastal erosion. Some have lost more. The surf is insatiable, eating the land out from under them — farther and farther inland as sea levels rise and storms batter the shoreline with increasing frequency.

The geotextile fabric is a Band-Aid on an escalating problem that has left longtime residents desperately searching for help as policymakers ponder longterm solutions in the face of a [changing climate](#).

Homeowners have run up against state and county policies that have made taking action hard, slow or confusing.

Lawmakers seem more interested in protecting Waikiki and Honolulu's urban core than rural coastal homes, many of them owned by middle-class families who have lived on the coast for generations.



An extension ladder, leaned against a geotextile fabric to slow erosion, provides access to the beach from Richard Serman's home in Pupukea.

Maureen Malanaphy, a retired public school teacher, has been fighting a similar battle 15 miles around the bend in Hauula. Her Band-Aid is concrete and dirt.

Sinkholes up to 5 feet deep and 15 feet wide have been the bane of her existence the past several years. Storms don't even have to make landfall to cause them.

Six named cyclones spun near the islands last year, one of the most destructive hurricane seasons on record. Hurricane Norman only came within a few hundred miles of Oahu last September, but it was close enough to create another trench in Malanaphy's small backyard.

On a recent Monday afternoon, she points at the holes she's filled in the yard and the patches she's made to the brick seawall that has guarded her home since before she moved in 38 years ago. The old wall is the only reason her home is still there, she says.

Wealthy foreign investors and U.S. mainland speculators have snatched up many of the oceanfront properties in Hawaii, turning them into second homes or vacation rentals for the hordes of tourists who come to experience the islands each year.

But there are also many homes still owned by longtime middle-class residents who bought them before prices skyrocketed or inherited properties from relatives at a time when global warming was discussed more in scientific journals than on international stages as the biggest crisis of our time.

Serman and Malanaphy raised their families in these homes and had planned to live out their retirement years there. Now that dream is vanishing, and they aren't sure what to do.

What's legal and what's not? What are the best practices and what's a waste of money? What's the plan for folks without millions of dollars or political clout?

“From a homeowner’s view, I would love to see just more information, more knowledge and collective efforts to know what are our options,” Malanaphy says.

“Because it seems to me that nothing is being done.”

Climate scientists expect more than \$20 billion in ruined buildings and roads around Hawaii as sea levels rise a projected 3 feet by the end of this century. It's a

primary driver in the state's shifting shorelines, coupled with more frequent storms, chronic flooding, overuse of infrastructure and misuse of resources.

Not everyone who lives on the North Shore thinks climate change is causing the erosion — including Stermann. He faults an uptick in storms, cyclical weather phenomena and the throngs of people who trample the dunes that naturally buffer coastal homes — and a failure by the state to manage the erosion.

A record 10 million tourists are predicted this year alone for Hawaii. Many of those are expected to visit the North Shore's iconic sites like Ehukai Beach Park, the legendary surf spot known as Banzai Pipeline that's a short walk from Stermann's place.

Malanaphy, and some of her neighbors, agree with the scientific consensus around climate change and blames its myriad effects on the threats her property faces.

"The climate has been really wacky," she says.

The differing views on the causes of the unprecedented changes that oceanfront property owners are experiencing only matter so much in the here and now.

Residents along the coast are dealing with many of the same problems and taking similar steps to prepare for the situation to worsen.

In the meantime, crews are building at least two new homes along the highway in Kaaawa, just down the way from Malanaphy. Flooding has frequently shut down this stretch of highway. Waves overcome the rocky revetment protecting the road in front of the homes' wooden skeletons.



**S**terman says the skirt he is using has slowed the rate of erosion in front of his home. It absorbs the wave action and protects the loose sand and soil underneath it. The black cloth didn't cost much and it's easily removable.

He's lost 10 feet of private lawn but has faith in the public beach building back up. The sand has come and gone over the years — 200 feet wide some seasons, 20 feet at other times. The drop-off from the edge of his backyard to the beach is 10 feet this week, but has been 25 feet.

Cory Lum/Civil Beat

"Tourists, tour vans pulling up, they're wearing out the sand dunes."

— *Richard Sterman*

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Sterman has worked almost 40 years in real estate since graduating from the University of Hawaii. His [office](#) is 5 miles down the road in Haleiwa.

It took him decades to afford his dream home in Pupukea, a community of about 4,500 people where the median household income is \$87,000.

He bought the home in 1998 for \$385,000. The 2,300-square-foot home, built in 1990, is now worth \$3 million, according to this year's [tax assessment](#).

Sterman is literally a stone's throw from one of Oahu's best surf breaks. World-renowned surfers and others use the extension ladder he has leaning against the embankment to access the shoreline.

His four kids grew up there, playing in the waves and attending Waialua and Kahuku high schools.

"It's easy to give up and run for the hills," Sterman says. "It's harder to make a stand and preserve our oceanfront properties."



**S**terman says implementing the right coastal management program won't just save his property, but everything behind it — other homes, a bike path, the highway.

To him, that means empowering homeowners to protect their properties with skirts, angled revetments or other methods more gentle than vertical seawalls. So far, the skirts are OK with the coastal authorities but more permanent structures are either banned or need special permits.

He doesn't want to see the North Shore turn into a place like Kahala or parts of windward Oahu that have lost their beaches from hardening the shoreline so severely that it stops any semblance of the natural movement of sand.



“I don’t know what the solution is longterm, but I would say it has a lot to do with the state and Department of Land and Natural Resources working together with the homeowners to preserve the oceanfront properties,” he says.

Like his neighbors, Sterman’s biggest beef is with local government’s so-called [managed retreat plan](#).

City and state officials seem more inclined to step in to save Waikiki and Honolulu from rising seas, erosion and flooding by spending millions or likely billions of

dollars on raising streets, armoring the coast and perpetually replenishing south shore beaches. They argue that the state's economy depends on it.

But they appear less apt, based on public statements and policy documents, to do the same for rural areas outside the urban core. That's where they envision managed retreat, a plan to move residents, roads and businesses systematically away from the shore. But it remains unclear how government would incentivize this or who would ultimately bear the financial burden.

"It's a defeatist attitude," Sterman says. "They just don't care anymore, and their philosophy allows them to not care."

The state released a report earlier this month that sheds light on some of the critical factors to consider when implementing a managed retreat strategy. But it doesn't spell out what homeowners should do now, as was initially envisioned.

The report underscores that this is one of three main options to adapt to sea level rise and related effects of climate change. Flood-proofing or elevating homes is another option. Protection is a third choice, which could involve seawalls, dune restoration and beach renourishment.

"It's a very complicated discussion and controversial," says Sam Lemmo, state [Office of Conservation and Coastal Lands](#) administrator. "We don't want people to think that the government is going to come in and pay them to leave areas because we simply don't have the funds to do that. But there are innovative financing mechanisms, you know, reverse mortgage schemes, conservation easements."

Sterman and about 40 North Shore homeowners have recently formed the Oceanfront Preservation Association to figure out how to tackle these issues.

Sea level rise is a background concern to other residents in the area. The North Shore Neighborhood Board heard more complaints last year about crime, air traffic, a missing fire hydrant at Haleiwa Elementary, leaking showers at Waimea Bay and unsightly windmills.



**M**alanaphy is a single mom on a mostly fixed income. While retired from the Hawaii Department of Education, she still substitute teaches to bring in extra money — funds she'd rather not spend on sinkholes and seawall repairs.

She and her then-husband bought the 1,400-square-foot wooden home in 1980 for \$118,000. Built in 1963, it's now valued at \$565,000, according to her 2019 [tax assessment](#).

Hauula is a small community of about 4,100 residents. The average household income is about \$93,000, according to census data. Given the cost of living, that's still considered low income for a family of four in Hawaii, according to the U.S. Department of Housing and Urban Development.

## Should I leave my beachfront home?



Like other parts of windward Oahu and the North Shore, it's desired for its lack of development and easygoing pace.

A Hawaiian flag and sign reading "WATCH FOR KID'Z" urges drivers to slow down as you turn onto the looping road that leads to Malanaphy's home.

"I've always felt I wanted to live here forever. I love this place," Malanaphy says, looking out from her backyard at the Koolau Mountains and waves lapping at the rocky shoreline.

"To me, it's very spiritual," she says. "I've always felt a very deep connection with the ocean and the land. It's been part of my being and some people tell me I should sell right away and get out. It's really hard to do that."

Some of Malanaphy's neighbors are already actively searching for homes farther inland. Others have turned their properties into vacation rentals.

She noticed changes in the weather patterns about seven years ago. The storms have become more frequent, flooding more intense. Three roads closed last fall when the water covered Kamehameha Highway, the only route in or out of Hauula.

She's started budgeting several thousand dollars for annual repair work to her yard. The sinkholes and seawall repairs aren't covered by her flood insurance.

"When something happens I'm full of anxiety and stress and I have to hustle to find people right away," Malanaphy says. "My seawall is legal because it's grandfathered in but when something's happening to your land you've got to take care of it right away because a little hole gets bigger and bigger."

She ultimately wants greater awareness about the problems with sea level rise.

"They say we're going to lose homes and highways, that it's coming," she says.

"But is there anything we can do? Do we have any options?"



A seminal state study in late 2017 found sea levels are rising at increasing rates due to global warming of the atmosphere and oceans and melting of the glaciers and ice sheets. The report explains that “rising sea level and projections of stronger and more frequent El Niño events and tropical cyclones in waters surrounding Hawaii all indicate a growing vulnerability to coastal flooding and erosion.”

University of Hawaii climate scientist [Chip Fletcher](#) has been researching sea level rise and issues related to global warming for almost 30 years. He helped develop the 304-page [Sea Level Rise Vulnerability and Adaptation Report](#), which the state climate commission adopted. The Legislature is considering bills again this session to give its recommendations teeth.

The science does not present a postcard picture for coastal residents. Fletcher hears their concerns regularly, steers them to [online mapping tools](#) to help guide their planning efforts and explains the jurisdictional regime between the city and county and state. He explains the current thinking on sea level rise and seawalls, but he’s blunt in his assessment.

“Ultimately, where you are is doomed and you are in a no-win situation,” Fletcher recalls telling one of the many people who email him. “You need to figure out an exit strategy.”

To him, managing erosion is a misplaced concept that amounts to messing with the lifeblood of a beach.

Vertical seawalls, sloping revetments, geotextile cloths will all help stop erosion, Fletcher says. Some are better than others, but he says they will eventually cause longterm beach narrowing and beach loss.

The geotextile cloths, or skirts, are useful because they are not a permanent solution, he says. But that's also the problem — it's just buying time.

“The states and the local jurisdictions are trying to come up with exit strategies but so far we've just been fumbling around,” Fletcher says. “We don't really have anything. And you know, one might say they don't have an obligation to come up with an exit strategy for you. So there is a certain amount of you're on your own.”

## About the Author



### Nathan Eagle

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# The Maui News

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## Managed retreat, other strategies weighed to address sea-level rise

Workshop in Lahaina focuses on solutions



Panelists Shellie Habel (from left), Chip Fletcher and Brad Romine, who are all affiliated with the University of Hawaii, along with environmental law attorney Doug Codiga and moderator Kai Nishiki appear at the “Disappearing Shorelines and Managed Retreat: A Conversation” symposium at Waiola Church Hall in Lahaina on Friday. -- The Maui News / MELISSA TANJI photo

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LAHAINA — With sea levels expected to rise by more than 3 feet by the next century, developing and implementing strategies to deal with the problem, which could include moving developments away from the



shoreline, will include much discussion, money and difficult decisions, experts said Friday.

Scientists, government officials and attorneys attending the one-day symposium, *“Disappearing Shorelines and Managed Retreat: A Conversation,”* offered various options and posed questions to an audience of more than 70 people.

The event at Waiola Church Hall in Lahaina was sponsored by Na Papa'i Wawae 'Ula'ula, the West Maui Preservation Association and other organizations.

Those attending posed questions to experts on multiple panels throughout the day. One audience member asked if there were other options for properties, such as hotels, to consider besides retreat or being left for the ocean to reclaim.

*“I guess to sum it all up, it's very site specific. I don't think there is one obvious solution, statewide or islandwide,”* said Brad Romine, a coastal processes specialist with the University of Hawaii Sea Grant program.



State plans to put up a seawall to protect a portion of Honoapiilani Highway near Olowalu in 2016 faced protests. In an agreement reached between community and environmental leaders, the state backed away from its initial plans to build an 900-foot-long stone protection structure and to instead restripe and repair the existing revetment and to move the lanes toward the mauka side of the roadway, farther away from the surf. -- The Maui News / MATTHEW THAYER photo

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*“Our hotel folks might think in a slightly different time frame”* and may base their moves on economic factors, such as return on investment, said Romine, who took part in the *“Managed Retreat/Resiliency”* panel.

Property owners could consider weighing other short-term options rather than moving their homes or hotels. This could include beach nourishment, which experts said has its pros and cons.

It is difficult to tell how fast sea-level rise will occur. The speed will determine how fast and what types of assistance properties may need, Romine said.

Chip Fletcher, a professor at the University of Hawaii at Manoa and vice chairman of the Honolulu Climate Change Commission, called retreat an *“exit strategy,”* which will lead to difficult decisions. For example, governments and communities will need to decide if tax dollars should be used to help people who built near the shoreline.

He made an analogy to homes destroyed on Hawaii island by the volcanic eruption. Should public funds be made available to those who built on active volcano sites and now have lost their homes?

*“In a wealthy world, I would want to do that. But we are in a world of restricted resources,”* he said.

Decisions will have to be made about how to treat the different types of property owners — owner-occupants, landlords and longtime kamaaina.

Fletcher said Maui County already has one of the most advanced shoreline setback laws in the world, which prevents development in hazardous areas. He reminded the audience that the county is working on new coastal setback rules.

The new rules would replace the county's current calculations for shoreline setbacks and establish an erosion hazard line that incorporates future erosion from sea-level rise. The new line would be used for coastal developments uniformly throughout the county, streamlining the application process for applicants and planners.

*“It achieves the dual purpose of providing for the safety of people who live on the coastline and pushes future development from the very sensitive region, beach and dune systems,”* he said of the setback rules.

Fletcher pointed out that Maui County is the only county he knows of that defines and regulates dunes behind the sand that touches the water.

The beach is like a checking account; sand goes in and out with the tide and other weather conditions like money in the account. The dunes behind the beach act as a savings account, he explained.

When waves or storms take away the sand nearest the waves, the dunes are able to replenish sand on the beaches. The wind also puts sand in its place.

Panelist Shellie Habel, a coastal land program coordinator with the UH Sea Grant Program, addressed the impact on tourism of measures to protect the shoreline, such as sandbags or geotubes.

*“If we want tourism to stay vital here, people aren't going to want to go somewhere that is not naturally healthy or aesthetically pleasing,”* she said. *“In order to remain vital . . . the area will have to remain aesthetically pleasing.”*

There are a *“bunch of ways”* to keep the areas pleasing for visitors and residents, but *“each way will cost us something,”* she said.

In another panel, county planners spoke about how they are working on community plans that address the issues of managed retreat and sea-level rise.

County Public Works Director David Goode said his department has identified county roads impacted by sea-level rise, such as Lower Honoapiilani Road and Front Street in West Maui, South Kihei Road, and

Haneoo Road in East Maui. He said funds could be requested in the next county budget session for further studies.

Kai Nishiki, an organizing member of Na Papa'i, said there is a responsibility to address the matter of sea-level rise and thanked everyone for beginning the conversation.

*“Solutions, solutions, solutions, that’s what we are about here. We don’t want to leave anyone behind. We want to make sure our beaches and our reefs are taken care of,”* Nishiki said.

She added that organizers want to make sure that the host culture is addressed along with homeowners and the tourism industry.

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Hawaii 2040

# Study: Moving Ourselves Away From The Shoreline Is Hard But Doable

A new report sheds light on some of the critical factors for the state to consider when implementing a managed retreat strategy.



By Nathan Eagle    / February 22, 2019

 Reading time: 5 minutes.



As sea levels slowly rise around the Hawaiian Islands, the surf eats away at oceanfront properties and threatens to make coastal roads impassible.



Even the most conservative [scientific models](#) show a half-foot of sea level rise, expected by 2030, would flood miles of highways and potentially cause hundreds of millions of dollars in economic loss.

It's projected to [worsen exponentially](#) as sea levels rise by 1 foot by 2050 and 3 feet by the end of this century, causing an estimated \$20 billion in economic loss just to physical structures. That doesn't include compounding effects like the impact on tourism or business.

So what do we do? One option is moving our homes, businesses, hotels, roads, bridges and utilities back from the shoreline. But managed retreat, as it's called, is no easy task.

A new [state report](#) released this week provides the most detailed look yet at the feasibility of pursuing this option in the islands.



Coconut roots exposed along the shoreline at Haleiwa Beach Park.

“Managed retreat is complex to implement and given Hawaii’s exposure to both chronic and potentially catastrophic coastal hazards, we felt it was important to at least start a discussion to better understand what it could mean in Hawaii,” said Justine Nihipali, the state Office Of Planning’s [Coastal Zone Management Program](#) manager.

“The Managed Retreat Report is a first cut at a realistic analysis of the challenges and opportunities associated with managed retreat and considerations that must be examined if retreat is to be pursued in Hawaii,” she said.

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The report emphasizes that this is one of three main options to adapt to sea level rise and related effects of climate change. Accommodation, which includes making assets flood-proof or elevating them, is another option. Protection is the third option, which could involve seawalls, dune restoration and beach renourishment.

The report underscores how hard it is to implement a managed retreat strategy. The political will is hard to come by, and the effort could divide communities, literally and figuratively, and cost exorbitant amounts of money.

There are fundamental questions that need to be answered. For instance, if people living in coastal homes need to move back from the shoreline, do

taxpayers foot the bill or do the property owners?

The Office of Planning commissioned the 84-page report for \$125,000. Consultants led by [SSFM International](#) spent 16 months studying background policies and planning work, reviewing research, developing scenarios, holding a symposium and making one major recommendation.

The report calls for creating a statewide leadership committee with experts in planning, social science, coastal hazards, economics and tax policy, legal and land use issues. That committee, presumably convened by the governor, would in turn recommend the best way for Hawaii to implement managed retreat.

In the meantime, the report lays out important do's and don'ts and highlights a couple of examples and reasons why it could be worth the trouble of pursuing such a policy.

“Presently, there is a realization that retreat is a necessary adaptation strategy in Hawaii along with accommodation and protection but the question remains how to implement retreat and under what circumstances,” the report says.

If the state does go forward with managed retreat, the report says it's critical for officials to make sure it's the right strategy for the right areas and results in enhanced public access.

While the report says community outreach should be done ahead of time, it may be most doable only after a catastrophic event when money and resources are more available and political and social will is more easily found.

“The cost of land and real estate in Hawaii may make widespread use of buyouts at pre-disaster, fair market value impossible,” the report says.



A before image taken in 1995 of Phase 1 of the Managed Retreat Shoreline Project at Surfer's Point, Ventura, California.

As a local example, the report recounted the 1960 tsunami in Hilo and the decisions made thereafter. Officials designated the area along the bay between Kamehameha Avenue and the ocean as a buffer zone, prohibiting building businesses there.





Courtesy: Paul Jenkin

An after image taken in 2015 of Phase 1 of the Managed Retreat Shoreline Project at Surfer's Point.

The government condemned and tore down the remaining businesses and planted trees to absorb the energy of future tsunamis. Hilo Bayfront Park, as it's now called, has expanded and serves as a natural buffer between future tsunamis and downtown Hilo, as

Holly Miller wrote in a [2011 report](#) for the University of Hawaii Hilo.

Last year during Hurricane Lane, the park acted as a floodable open space, the report noted, and it's become a popular place for residents and visitors to spend time and access the shoreline.

On the U.S. mainland, the report used Surfer's Point in Ventura, California, as an example. A managed retreat project that began in 1995 restored the dunes and beach that had eroded along a hardened stretch of road.

The state should also change its laws to help implement the policy, such as new building restrictions and coastal armoring prohibitions, the report says.

"To rush haphazardly into retreat may waste precious and limited state, county and public sources of funds and lands and cause undesirable litigation," the report says.

Hawaii has not yet agreed on the specifics of a retreat plan, the report notes.

"Currently, there are many state and county priorities — homelessness, food sustainability, energy neutrality, etc. — that strain resources. Thus, a more thorough, detailed understanding of retreat and what it entails is necessary."

*Read the full report below.*

To print the document, click the "Original Document" link to open the original PDF. At this time it is not possible to print the document with annotations.



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**hawaiiguy** 1 day ago

How much money have we spent on inventions that will make a difference in how the power of the littoral zone absorbs the energy of the ocean? I have been researching for 5 years, a "barrier" that takes the power out of the waves, deposits the sand behind it and stops the sand from reentering the litoral zone. The answer to the question is no money has been spent. I have researched inventions and patents where other dreamers like me, have spent money and effort to get bureacracy to try these inventions, but they are incontrol of the beaches and will not even talk to us about what can be done.

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**solve4HI** 3 days ago

It's great to see these reports. And also to see one state agency raising the alarm about coastal flooding threats, while others move forward with more building close to the ocean. Aka - all of Kaka'ako-Ala Moana, and the last 2-3 Rail stops being under water in ~20 years. Sigh...

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**Ken** 6 days ago

Maybe our engineers should look a the Netherlands and how they have protected their country. It may be just like the rail project. Very expensive to build around the islands and very ugly but at least it will serve the entire State.

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**QuietAndEffective** 6 days ago

The shorelines have not always been where they are now. They have changed dramatically even over the last 20,000 years. For example, Florida was much wider, and there was a land bridge almost all the way to Australia. The oceans are all connected, so it is a worldwide phenomenon. It is correlated with the Milankovitch Cycles, with eccentricity of orbit, and axial tilt being the primary influences. The glaciers advance and retract, and the Sahara Desert was once much wetter. The coastal flooding study was appropriate, and the next step should be education, mandatory disclosures with property sales and building permits, and identifying critical infrastructure such as the airport, ports, wastewater treatment facilities, pipelines, and roads. Enjoy the ocean, but live far enough away that you don't get washed out. If you own beachfront property, it is not all gloom and doom. There will still be many good days.

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**CivilianReader** 5 days ago

Climate change has accelerated everything. The next 20 years will be comparable to the last 20k. Many are in denial, but the research data reflects reality.

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