STORY BY **DW GIBSON** PHOTOGRAPHY BY **ELYSE BUTLER**

Keepers of the Bay

Twenty years in, Mālama Maunalua has done some major cleanup work

Karen Gleason has known Maunalua Bay for just about as long as any living person. At 83, she's been steps from the shoreline all her life and remembers when her family's home was surrounded by fishponds and farms. There was a dairy in Niu Valley and another in Kuli'ou'ou. She grew up a few miles from the beaches of Waikīkī but in an entirely different world. "I used to ride up the street on my bicycle to the dairy," Gleason says. "My mother would call and tell them what she wanted, and I would just go up there and pick it up. Country, you know, that's what it was when I was young."

But as she made her way through elementary school, that started to change. As a third grader, she was in one of the first classes to attend 'Āina Haina School, built on the land of a dairy that had closed. "Kaiser came in and started a housing development," she says, referring to Henry J. Kaiser, the industrialist who played a central role in development of the area. "That spread and brought more houses and people and roads and everything else that comes with it."

As the population swelled, the area became known as "Hawai'i Kai," a new name that nodded to the role that Kaiser played in changing the landscape.

OPENING SPREAD / **The waters of Maunalua Bay (seen also on pages 28–29) are among O'ahu's most used and abused; twenty years ago, it was choked with invasive algae. Today Mālama Maunalua maintains the bay by clearing algae, planting coral and working with homeowners.**

TOP / **Dan Arencibia (left) and Alex Awo (right, seen also on page 31) identify coral and algae found in Maunalua Bay.**

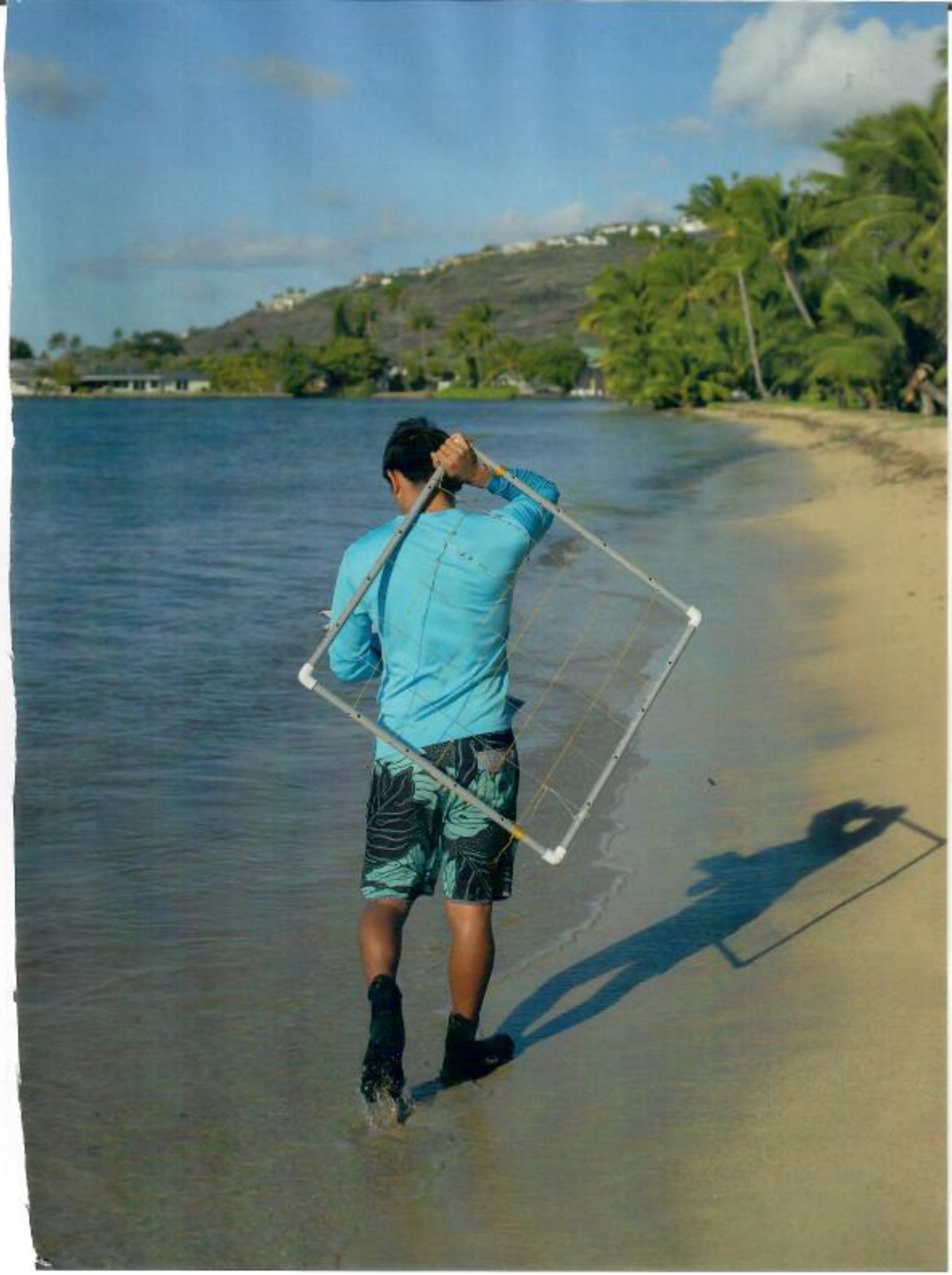
BOTTOM / **Gorilla ogo, an aggressive invasive alga affecting the bay.**

AT LEFT / **Mālama Maunalua founding member Karen Gleason.**

Gleason noticed the bay where she had grown up swimming, surfing and fishing was changing, too. "We were going down toward the Koko Head end of the bay to go out because seaweed was settling in the other end." With each passing year, three types of invasive algae—leather mudweed, gorilla ogo and prickly seaweed—spread and eventually filled the bay. "The streams that ran down into the ocean were built into concrete culverts," recalls Gleason. "The water from the forestland up from the houses was rushing down these culverts, and with it all of the rubbish from the houses, the garden pesticides and stuff like that. You could see and smell gasoline in the water."

She wasn't the only one who noticed. Gleason's neighbors were equally dismayed by what had become of their bay. In the early 2000s, several families living in the area formed a hui (group) to answer the pressing question: How could they restore the bay they had enjoyed for so many years? The hui included land stewards such as Laura Thompson, mother of navigator Nainoa Thompson, who was instrumental in reviving traditional Polynesian voyaging. Gleason and her late husband were central to the hui as well. In 2005, the group officially formed the nonprofit Mālama Maunalua, and the long work of restoration began.

Those early efforts have now fully matured into a robust organization that is celebrating its twentieth anniversary. The milestone was recently capped by securing a Fisheries Management Area (FMA) designation—one of only thirteen in Hawai'i. That designation is a major victory that began as a quixotic pursuit, requiring years of paperwork and community meetings. It's redefining what's possible in the years to come for the bay, the hui that cares for it and potentially for other



PHOTOGRAPH BY ALEX AWO, MĀLAMA MAUNALUA

Clearing algae is only the first stage of restoring a complex marine ecosystem like Maunalua. Rehabilitating reefs requires volunteers like those seen above to identify corals resistant to environmental stressors, then plant them and monitor their growth—one small patch of reef at a time.

communities hoping to steward their lands and waters.

The group's work is now more expansive than ever, requiring everything from band saws to hammers and chisels, along with a steady stream of volunteers and no fewer than half a dozen partner organizations. The work is paying off—and setting an example of what a community can do.

Removing invasive algae is, if nothing else, unglamorous.

Teams of volunteers wade into the silty waters and pull algae by hand, filling one five-pound bucket at a time. These are loaded onto a truck and distributed to area farmers. "They compost it," says Doug Harper, the executive director of Mālama Maunalua. "So it's a really kind of closed circle regenerative project."

Alex Awo is one of the leads for the volunteer teams removing algae. He's been with the organization for a decade and serves as the director of habitat restoration programs. But his relationship to Maunalua Bay extends much further into his past. Awo was born and raised in the Pauoa neighborhood of Honolulu. As a teenager, he and his friend wanted to avoid the surfing crowds in Waikīkī, so they ventured a few miles east to Maunalua, looking for less crowded waves.

"In 2009, the reef was just carpeted with invasive algae as far as the eye could see—three, four hundred yards out," Awo recalls. "We had to trudge through that stuff. It was like walking through deep snow. And that wasn't even the worst part. You pull your leg up, it'd be covered in this black sludge. Not only dyed your leg black for the rest of the week, it smelled, and that smell would get in your nostrils for the week. I remember telling my friends at one point, 'Guys forget this, we're not doing this anymore. We're not trudging to all this pollution just to go surfing.' We thought at that point as kids that we had lost Maunalua forever, because we weren't planning on coming back."

But when Awo learned about Mālama Maunalua, he jumped at the opportunity. "We came back a few years after that to volunteer with one of the hui events. And were just blown away at how clean the water was looking." From the time the work began, it took more than a year for the water to start clearing, and even then the work was only beginning. The hui founders understood that this wouldn't be a case of fixing a problem and closing shop; it would be about creating a new system of maintenance.

Over the past twenty years, more than forty-six thousand volunteers have removed some 4 million tons of algae. They come from all over O'ahu, neighbor islands, the continental US and the world. In 2024, the organization worked with 2,900 student volunteers alone. "We do lots of outreach events to share what's going on in the environment," says Harper. "We do it all over the island but especially here in Maunalua Bay—a lot of the work is hyperlocalized."

Getting the algae under control revealed a deeper problem: The coral was unhealthy. In 2019, the organization started identifying areas where restoration might be possible. "They're called 'corals of opportunity,'" says Harper, "and we basically started

Restoring the bay also means tending the land, in part by capturing rainwater before it becomes runoff. Mālama Maunalua's newest initiative, the Green Stormwater Infrastructure program, coordinates with area homeowners to install rain barrels and plant rain gardens. Above, Mālama Maunalua's education and outreach coordinator Lauren Bailes maintains the Koko Head rain garden on a community work day.

doing biopsies on them. We take the coral pieces to the Hawai'i Institute of Marine Biology, who's a partner on the project, and they do resilience testing."

A diamond-plated band saw is used to cut away the dead coral and rock; the pieces of resilient live coral are eventually placed back into the water and monitored. "Almost all of our staff are certified divers," says Harper. "We're planting corals that have shown an ability to survive and spawn in warmer conditions. We've all been trained on how to do the coral survey work, and we go out there with some regularity to track things. We can get 3D images of the coral then go back a month later and see if they've grown."

Mālama Maunalua now offers an "adopt-a-plot" program—individuals or groups take responsibility for a ten-by-ten-meter section of the bay. "We tell them what their GPS location is, train them and then they can go out on their own, remove invasive algae, put it in bags and leave the bags by the beach access," Harper says.

Gleason's house doubles as the storage facility for the tools that volunteers use for the work. "I have the wagons and buoys and lines and all the stuff stored on the side of my yard, and the group stops here," she says. She's used to volunteer teams coming through at least a couple of times a week, often students who show their competitive edge.

"It's funny," says Awo. "Each year we tell students how much other classmates have pulled from the bay. Like, 'Oh, they pulled two thousand pounds last year,' and the kids want to beat those records. But now it often works out to where they end up disappointed. 'Oh, we didn't pull this much.' And I say, 'Well, you need to remember, that's a good thing. It means we have less and less invasive algae to remove. Each year we have cleaner and cleaner plots. We're starting to see a lot more of our native species come back." Awo listed eight different types of marine life that have made a comeback, including the bright green pūako'ako'a, a native calcareous algae, and the feathery red hulu pua'a, a type of limu (seaweed).

Harper says the bay had nearly 100 percent invasive algae coverage when the work began; now it's down to roughly 30 percent. "Going from 100 percent to 30 percent is a pretty big win," he says.

But the work hasn't slowed—if anything it's accelerated, and more and more people want to get involved. This year, three hundred people applied for about a dozen internships. And the work has moved up into the valley to address the root issue: rainwater runoff, accelerated by the development. You can't stop the rain, but you can redirect it. "We're incentivizing homeowners to do rain gardens, rain barrels and plant trees," says Harper. "When we talked to homeowners in the community, they kept saying that they don't know how to do green storm water infrastructure, and they don't have the money to do it."

Within a month of announcing the Green Stormwater Infrastructure (GSI) program, in 2023, Mālama Maunalua had over 2,300 applicants. To date, more than two hundred rain barrels have been installed, along with about a dozen rain gardens and a few dozen trees. It's what Harper calls "ridge to reef" management. While it's a small program with limited funding from the Hawai'i Community Foundation Fresh Water Initiative and the Ulupono Initiative, Harper hopes it will eventually encourage the City and

With the bay's designation as a Fish Management Area last May, Mālama Maunalua claimed another victory and demonstrated what a dedicated community can achieve. Gone are the days when Awo and his friends had to wade through thick, black sludge to reach the surf. "We're doing the right thing in the best way that we can," he says. "Really standing by—not just our environment—but also our Hawaiian culture."

County of Honolulu to do the same work on a much larger scale across O'ahu.

In May, Mālama Maunalua hit a milestone: They completed an eight-year campaign to get the bay designated as a Fisheries Management Area. The FMA designation is the result of painstaking work that included scores of community meetings, years of survey work and engagement with various state agencies. Working closely with the community, Mālama Maunalua hosted more than two hundred meetings and produced a carefully crafted proposal to request FMA designation from the Board of Land and Natural Resources.

One of the central rules that the FMA establishes for the bay is a ban on nighttime spear fishing. "The reason for that is a lot of those species are most heavily impacted at night because they're sleeping," says Harper. "People can go out and just hammer a reef. You can protect a lot of those species just by eliminating that one practice. And so we did that with cutouts for a few traditional practices."

There's also a ban on fishing certain invertebrates, including certain crabs, lobsters and Triton's trumpet. According to Harper, these bans had widespread support from the start: "Those were ones that all the fishers were like, 'It's really hard to find those species already—they deserve special protection.'" Including the people who fish in the bay—and have for generations, in some cases—was critical. The FMA designation also establishes an advisory panel made up of different stakeholders, from fishers and researchers to community organizers and cultural representatives. "It's been a really exciting demonstration of fishers working with conservationists, working with government, all saying, 'Let's talk equally here as to what we want to see done, what we can do legally, and what we want to see happen,'" Harper adds.

Mālama Maunalua now serves as a detailed model for other communities throughout Hawai'i and beyond. The organization's ever-growing legion of volunteers is the best possible chorus for spreading the word to others who might be looking for a roadmap to restore the ecosystems in which they live.

Awo says the best part of his job is when people recognize him long after they pulled algae from the bay. "I run into parents at the supermarket," he says, "and I see teachers outside of school, or little kids that will run up to me and be like, 'Mr. Alex. Mr. Alex, you work from Mālama Maunalua!' I wasn't really expecting people to remember a field trip that they were required to go to for school. To hear feedback from people about how inspiring that experience was for their keiki, or how impactful it was for them even as adults, really makes what we're doing out here that much more worthwhile. We're doing the right thing in the best way that we can. Really standing by—not just our environment—but also our Hawaiian culture." **hh**

Contents

V29 N°1
FEBRUARY – MARCH 2026

ISLAND INTELLIGENCE

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