

Man, Land, & Sea

A publication by Guam Coastal Management Program

August 31, 2026



Protecting Guam
from Ridge to Reef

INSIDE



Restoring Nimitz Beach Park:
A Vision for Long-Term Coastal Resilience

Restoring Nimitz Beach Park: A Vision for Long-Term Coastal Resilience

By: Steven Dierking, Guam Coastal Management Program

Across Guam's coastlines, post-typhoon recovery has required far more than immediate debris clearing and structural repair. Restoring our natural barriers, specifically our island's coastal tree canopy, stands as a vital and ongoing step toward long-term shoreline stability and community health. The need for proactive coastal stewardship has become increasingly urgent following recent severe storm events, which left behind visible scars along the southern shoreline.

At Nimitz Beach Park in Hågat, powerful storm surges and unrelenting wave energy stripped away tons of sand, undercut existing vegetation, and exposed the coastline to heightened risks of ongoing erosion. Coastal dynamics in Hågat Bay mean that once sand and topsoil are washed away by major typhoons, the shoreline struggles to replenish naturally. When mature trees are lost to high winds and water, the beach loses its primary line of defense. Without strong, deep root networks binding the sand together, subsequent high tides continue to eat away at the exposed park grounds.

To address these vulnerabilities, the Guam Coastal Management Program joined forces with the Guam Department of Agriculture's Forestry and Soil Resources Division for a major restoration effort at Nimitz Beach Park.

Following necessary post-typhoon tree work and clearing, agency staff and volunteers came together to introduce a diverse suite of native and coastal species. The initiative was guided by a dedicated Planting Plan designed around an ideal concept for mature canopy growth. To ensure the site establishes quickly and temporary canopy gaps are filled, teams brought extra stock beyond the initial layout specs. This forward-looking strategy creates an immediate, dense vegetated buffer while young trees establish, with selective thinning planned down the road only if necessary.

The selection of native species was carefully chosen to serve specific ecological functions. Binālo, Niyoron, Pānao, Puting, Talisai, and Nanaso all play essential roles in island coastal protection. Beyond providing much-needed shade for parkgoers, these salt-tolerant plants feature expansive root systems that anchor fragile shoreline soils, absorb wave energy, and buffer inland areas against future storm events.

Restoring public parks and coastal zones requires a balance between emergency response and long-term natural resource management. Through continuous collaboration between the Guam Coastal Management Program, the Forestry and Soil Resources Division, and the local community, living shoreline projects like the Nimitz Beach Park planting ensure Guam's coastlines remain resilient, green, and protected for generations to come.



Guam's Backyard Buoys

By: Camille Quichocho, Biologist, Guam Coastal Management Program

As the Backyard Buoys project lead, my aim has been to improve access to ocean data for our island. The initiative, led by The Bureau of Statistics and Plans (BSP), Guam Coastal Management Program (GCMP) in cooperation with the Pacific Islands Ocean Observing System (PacIOOS), involved deploying compact, affordable Sofar Ocean Spotter buoys in southern Guam. Throughout the process—from securing all the required local and federal permits to deciding on the main sites off Hågat and Malesso'—close collaboration was essential. We entered into formal interagency agreements with the Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DOAG-DAWR) and Guam Police Department (GPD) to partner on deploying and regularly maintaining the buoys. Importantly, the community outreach meetings held in Hågat and Malesso' played a key role in refining the choice of sites, for example, by changing the Hågat location between Anae Island and Facpi Island to prevent disruption of local boat traffic.

The initiative's real strength lies in the real-time wave and oceanographic data provided by these buoys. By sending live measurements of wave height, period, direction, and sea surface temperature directly to a web-based app, the buoys give important information to boaters and fishers as they make safety decisions before going out. Fishers in the area can use sea surface temperature data to target particular types of catch. Meanwhile, natural resource managers and scientists obtain higher-resolution nearshore wave data, enabling them to better understand coastal erosion in our southern villages. Also, the availability of wave data can improve the readiness of local search-and-rescue teams and emergency responders such as the Guam Fire Department and the U.S. Coast Guard.

Guam's Backyard Buoys Offline Due to Typhoon Damage

Deploying technology in dynamic ocean environments comes with severe challenges. Both the Hågat and Malesso' Spotter buoys are currently inactive due to mooring failures and storm damage, so we are using this setback opportunity to strengthen our approach. GCMP is fully committed to reinstalling the buoys and, moving forward, intends to upgrade the mooring designs to better withstand storm surges. To address this challenge, we plan to gather active community input and buy-in by holding outreach events, choosing sites that won't impact marine activities, and ensuring the mooring design is suitable for the substrate and can withstand the stronger, more frequent storms we've been experiencing in this region.

We continue to learn from our partners in the Backyard Buoys network about their trials and errors, successes and failures, and innovative ways to keep this initiative alive for the benefit of our people. Our neighbors in Saipan at Pacific Coastal Research and Planning (PCRP) recently deployed Spotter buoys that miraculously survived a direct hit from Super Typhoon Sinlaku. With feedback from their community, they built their mooring sturdy enough for a small vessel to attach to, and this worked in their favor, as they could not remove the buoys safely with a typhoon approaching the island. With these learnings, GCMP is eager to redeploy the Spotter buoys and get this critical data back in the hands of our community. We also want to ensure this project is well known within our boating and fishing community to protect both your vessels and our buoys. We hope you will participate in future outreach events for this project, and you can stay up to date by following the Guam Coastal Management Program on social media.





Action for Resilience: Building the 2027–2032 Guam Coral Reef Strategy

By: Hannah Maier, GCRI's National Coral Reef Management Fellow

Guam's reefs face compounding threats, some of which have shifted from occasional events to daily pressures we're witnessing in our everyday lives. Whether we are looking out at the beach or going for a swim, we all notice a warmer ocean, lower tides, and more frequent typhoons. As threats to the reef become more acute, practitioners, scientists, and citizens keep coming back to the same question: how will we tackle the colossal task of protecting Guam's coral reefs? If there's one thing we know, it's that the future of Guam's coral reefs relies on the collaborative efforts of government, private agencies, and organizations involved in land, watershed, and coral reef management. A type of integrated natural resource management known as the "ridge-to-reef" approach is at the forefront of the Coral Reef Resilience Strategy being developed for 2027-2032. The ridge-to-reef approach recognizes that in order to protect coral reefs, we need to think holistically, and also protect our forests and watersheds, and support sustainability and community resiliency. This strategic plan aims to identify priorities and actions for coral reef conservation and restoration that will be carried out over the next five years. The Guam Coral Reef Initiative (GCRI), a section of the Guam Department of Agriculture Division of Aquatic and Wildlife Resources (DOAG-DAWR), is heading the development and production of the strategic plan, with the support of partner agencies and community stakeholder groups.

The Coral Reef Resilience Strategy for 2027-2032 builds upon the strategy from 2019-2024 and includes new actions, as well as actions that were delayed by the COVID-19 pandemic. It focuses on aligning priorities across 5 key management areas: fisheries, terrestrial/land, human resilience, sustainable tourism, and coral reef response and restoration. GCRI, with support from the Nature Conservancy, held a full-day workshop with 42 natural resource managers at the Dusit Thani on August 1, 2026 to develop the strategy. Attendees included nonprofit staff, academics, GovGuam agencies, and individuals currently involved in natural resource management. To kick off the workshop, representatives from each organization delivered lightning talks highlighting recent accomplishments and progress towards conservation goals. During the remainder of the meeting, attendees brainstormed future actions to safeguard Guam's reefs for the next generations. An overarching goal of this in-person meeting was to develop new partnerships and identify potential collaborations between different management areas. A clear commitment to coral reef conservation across agencies and disciplines was demonstrated by the active participation of such a diverse group of natural resource managers.



While consulting natural resource managers for their expertise is crucial, strategy development often overlooks community feedback. The Coral Reef Resilience Strategy aims to engage directly with community members to gather their feedback on how we can best protect Guam's reefs. GCRI hosted a public Coral Reef Conservation town hall at the Guam Museum that was open to all island residents with an interest in coral reefs. There were 43 community members in attendance, and the town hall brought together divers, fishermen, tourism operators, volunteers, students, government workers, biologists, and artists of all ages and backgrounds. The town hall began with a presentation on GCRI's work and the current state of Guam's coral reefs.



GUAM
CORAL REEF
INITIATIVE

Despite an initial power outage, attendees joined small groups to discuss and respond to different questions at stations placed around the room. The question and feedback stations gave residents an opportunity to share concerns, local knowledge, and suggestions to inform the future of coral conservation. The community feedback from this town hall will be integrated into the Coral Reef Resilience Strategy and priorities and actions will be updated to include the community's input. The GCRI team is grateful for the active and passionate participation of both community members and natural resource managers.

The GCRI team is excited to share the completed Coral Reef Resilience Strategy in May. For questions, requests for more information, or to get involved, please contact GCRI's National Coral Reef Management Fellow, Hannah Maier – hannah.maier@doag.guam.gov.



Hannah Maier, Guam's National Coral Reef Management Fellow

Hannah is a sustainable development professional with experience in humanitarian aid and environmental conservation, and a passion for community resilience. She holds a B.S. in Natural Resources and the Environment from the University of Michigan and an M.A. in Sustainable Development Practice from the University of Florida. Born and raised in Michigan, she didn't touch the ocean until she was a teenager, sparking both a lifelong fascination and a healthy fear of the sea. Thanks to encouragement from a university mentor, she completed a summer National Science Foundation (NSF) Research Experiences for Undergrads (REU) at Biosphere 2 to study the impacts of ocean acidification on hermit crab behavior. The experience proved incredibly impactful as she navigated independent research alongside other first-generation college students and scientists who inspired her to do things she once thought scary, like public speaking, getting scuba dive certified, and traveling alone.

Following her REU, she studied abroad in Costa Rica and conducted research on the challenges faced by a rural women's association raising oysters through aquaculture. While solo traveling after her program, she crossed paths with the Sea Turtle Conservancy in Panama and was recruited to return after graduation to work as a field technician. Eager to spend more time in Latin America, she joined Peace Corps Ecuador, where she discovered her passion for humanitarian aid and community development. Her career has since spanned Western Africa, Eastern Africa, and Eastern Europe, supporting crisis response programs, agroforestry projects, and social cohesion initiatives funded by USAID.



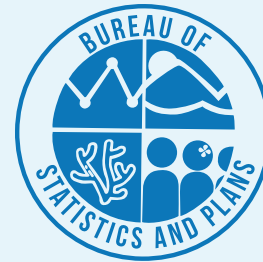
Hannah is multilingual in English, Spanish, French, and Romanian. Outside of work she enjoys cycling, diving, crafting, and attempting new hobbies. She doesn't like to cook or open her eyes underwater. She loves to dance despite being notoriously bad at it.

As Guam's National Coral Reef Management fellow, Hannah will be responsible for the development of Guam's Coral Reef Resilience Strategy, and she will also work with businesses in the tourism industry to reduce recreational impacts on corals. Feel free to shoot her a message and say hello – hannah.maier@doag.guam.gov



August 31, 2026

Man, Land, & Sea 5



32nd GUAM INTERNATIONAL COASTAL CLEANUP 2026



SATURDAY, SEPTEMBER 19, 2026

Show Time: 6:30 am for most sites

Over 25 cleanup locations across the Island to choose from!

SCAN HERE



TO REGISTER

Register Now!

- Register Now at: <https://bsp.guam.gov/gicc2026/>
- Trash Bags and Gloves are provided
- Service Learning Credits Available for Students!

Need More Information? Interested in Becoming a Sponsor?
Contact Steven Dierking at the Guam Coastal Management Program:
steven.dierking@bsp.guam.gov or visit: bsp.guam.gov/gicc2026/



32ND ANNUAL GUAM INTERNATIONAL COASTAL CLEANUP

Join Us! **SATURDAY, SEPTEMBER 19, 2026**
🕒 6:30 AM Check-In | 7:00 AM Cleanup

PROTECT OUR SHORES, PRESERVE OUR PARADISE



ESSENTIAL DETAILS FOR VOLUNTEERS

 Date & Schedule	Sept 19, 2026 ; 6:30AM-11AM
 Locations	Over 25 Sites Island-Wide
 Pre-Registration	MANDATORY on Eventbrite - NO ON-SITE REGISTRATION
 Service-Learning Credits	GDOE Students Earn Hours! Check-In & Check-Out Required
 Youth & Minors	Under 18 Require Chaperone & Digital Waiver

WHAT TO BRING & WHAT TO EXPECT

 Supplies Provided	Gloves & Heavy-Duty Trash Bags
 What to Wear	STURDY CLOSED-TOE SHOES REQUIRED , Hat, Comfort Clothes
 What to Bring	Filled Reusable Water Bottle, Reef-Safe Sunscreen
 Digital Data Logging	Download CLEAN SWELL App to Log Data



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**Man, Land, and Sea
Newsletter
August 31, 2026**

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The Man, Land and Sea newsletter
is funded by a grant from the U.S.
Department of Commerce, National
Oceanic and Atmospheric
Administration (NOAA)
through the Coastal Zone
Management Act of 1972, as
amended, administered by the
Office for Coastal Management
and the Guam Coastal
Management Program (GCMP)
of the Bureau of Statistics
and Plans, Government of Guam
through Cooperative Agreement
Award NA25NOSX419C0062.

[https://bsp.guam.gov/
guam-coastal-management-program/](https://bsp.guam.gov/guam-coastal-management-program/)

**Organizing
a Beach
Cleanup?
We can help!**

Contact the Guam Coastal
Management Program and
get connected with other
volunteers and supplies.

Call 671-475-9647

or email

gcmp@bsp.guam.gov
for more information.

*limited supplies available per
cleanup event.



HOW A RAIN GARDEN WORKS

Gutters & Down Spouts
Assist with directing rain water from your roof to your rain garden.

Native Plants
Adapt to local conditions and are easy to maintain once established. Plus, they attract birds, butterflies and other pollinators.

Mulch Layer

Deep Roots
Plants with a deep root system encourage infiltration and help absorb nutrients.

Berm
A berm holds water in the garden during heavy rains.

BENEFITS OF A RAIN GARDEN

- Rain gardens are shallow depressions with plants, specifically sized and placed to absorb stormwater runoff, the water that flows from your built impervious surfaces such as rooftops, driveways, roads, parking lots when it rains.
- Rain gardens are a beautiful way to use native plants while reducing the amount of polluted runoff from reaching Guam's rivers, streams, ocean and the aquifer.
- Rain gardens filter pollutants such as fertilizers, pesticides, metals and bacteria out of stormwater runoff. This allows clean water to slowly soak back into the ground and recharge groundwater supplies.

PITI RAIN GARDEN PROJECT

**FOR MORE INFORMATION, PLEASE CONTACT GCMP
475-9647 • BSP.GUAM.GOV**

A MESSAGE BROUGHT TO YOU BY THE GUAM COASTAL MANAGEMENT PROGRAM
NOAA GRANT #NA25NOSX419C0062

