

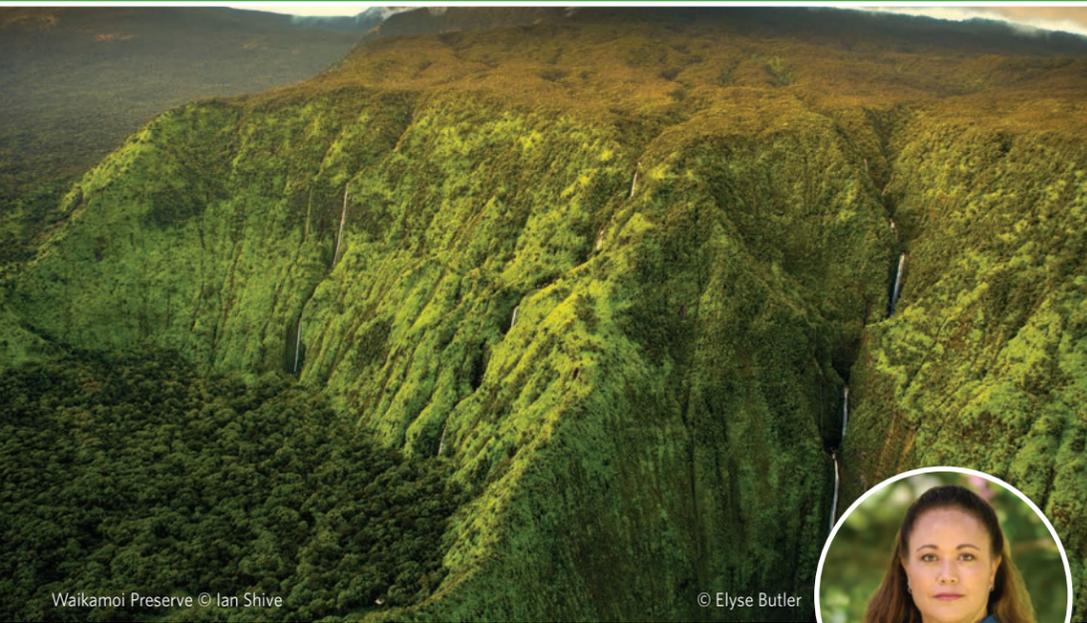
The Nature  
Conservancy



# Hawai'i and Palmyra

Ho'okele Pono  
*Setting the Right Course*





Waikamoi Preserve © Ian Shive

© Elyse Butler



Our planet faces the urgent connected crises of climate change and unprecedented biodiversity loss. Hawai'i and Palmyra are experiencing the impacts of a fast-changing world. More frequent severe weather events, pressure on freshwater supply, and the demand for limited resources have placed greater stress on our island ecosystems and communities.

At the same time, Hawai'i and Palmyra are beacons for solution-making. As islands, they teach us about the intertwined relationships from mauka to makai (uplands to the sea). They remind us that people are a part of nature—not separate but intrinsically connected.

Our chapter's 2024–2028 Strategic Plan supports TNC's global 2030 goals to address the interconnected crises of climate change and biodiversity loss and outlines a framework to safeguard our natural systems, cultural heritage and ecosystem functions to benefit nature and people. We envision Hawai'i and Palmyra as thriving, resilient ecosystems where native biodiversity flourishes, Indigenous leadership and stewardship is supported, and communities are empowered to sustainably manage resources. Four Conservation Strategies guide us toward this vision: **Building Nature's Resilience, Connecting Mauka and Makai, Resisting Extinctions, and Advancing Climate Solutions.**

Along these themes, we have exciting updates about our Hawai'i's Vanishing Forest Birds work. We also share about a reef insurance policy upgrade and restoring native 'iliah (sandalwood) forests, and we introduce our new Palmyra and Terrestrial directors.

Other news includes innovative coral restoration efforts at Kahuwai and Kealakekua Bays on Hawai'i Island. These efforts are grounded in traditional values and ceremonies, with lineal descendants of the areas working alongside TNC, state and community divers. We also launched our Nā Manu Nahele | Hawai'i's Forest Birds webpage and aired several public service announcements featuring our endangered honeycreepers during Merrie Monarch Week, encouraging folks to get involved and help resist extinction.

Our Strategic Plan champions an integrated approach grounded in our team's core values. We know *how* we work together is as important as *what* we do to make an impact. Thus, this dynamic living plan reflects our commitment to mālama (care for) each other and the islands that nourish us. Together, we are charting a course toward a future where people and nature will thrive for generations to come. We thank you for being a part of this.

Mālama,

Ulalia Woodside Lee

## The Nature Conservancy



Protecting nature. Preserving life.

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The Nature Conservancy Hawai'i and Palmyra chapter is the local affiliate of The Nature Conservancy, an international, non-profit organization based in Arlington, VA.

**The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends.**

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Cover: 'Akikiki © Graham Talaber



An 'iliah (sandalwood) seedling in Kona Hema Preserve on Hawai'i Island © Ryan De Seixas

### PERPETUATING NATIVE SANDALWOOD FORESTS

As part of efforts to restore native 'iliah (sandalwood) forests, our field staff collected hundreds of seeds from TNC's Kona Hema Preserve in September. These seeds add to the genetic diversity needed to perpetuate the survival of South Kona's 'iliah (sandalwood), which has been lost as a result of two centuries of exploitation and the impacts of introduced animals such as pigs, deer and goats. The excellent survival of the more than 200 seedlings planted in Kona Hema's Pāpā unit bodes well for these efforts. The seed collected will help establish a third seed orchard in the preserve's lower elevation, closer to where the largest and presumably longest surviving founder 'iliah tree is located. This "many eggs in many baskets" approach to perpetuating the survival of 'iliah will one day provide an abundant seed resource toward planting and reforestation across the region.

### INSURING NATURAL INFRASTRUCTURE

TNC purchased an upgraded reef insurance policy for this year that greatly expands support for this valuable ecosystem and the people who rely on it. This new policy doubled the coverage area to capture more storms, increased the minimum payout to \$200,000 to ensure adequate funding for a quick and meaningful response, and provided equal coverage across reefs surrounding the Main Hawaiian Islands that provide Hawai'i's people with valuable ecosystem services such as sustenance, livelihoods and flood protection. After working with the multi-agency post-storm reef response coalition in 2023 to develop a statewide rapid response protocol and with local teams to develop response plans for each county, TNC convened coalition members to refine methods for rapid response and coral reattachment. Next, we will host trainings to share the methods and build statewide capacity for standardized and effective damage assessments and reef repair following storm events.



Broken coral reattached to the reef with epoxy © Mikayla Barnwell/TNC



Photo courtesy of Ryan Wagner



JC Watson © David Wood/TNC

### NEW DIRECTORS JOIN TNC HAWAII'

TNC Hawai'i and Palmyra is pleased to announce the addition of two new staff: JC Watson, Terrestrial Conservation Director, and Ryan Wagner, Palmyra Station Director. Watson's background includes both on-the-ground fieldwork and organizational leadership with groups such as Kō'olau Mountains Watershed Partnership, Hawai'i Invasive Species Council and the U.S. Fish and Wildlife Service. Wagner brings extensive experience as a mariner and captain leading complex operations at sea and on land across the Pacific. He has worked within Papahānaumokuākea Marine National Monument at Midway, Kure and Johnston Atolls and served as TNC's chief of marine operations at Palmyra from 2008 to 2009.

# Resisting Extinction: *Nā Manu Nahele* | *Forest Birds of Hawai‘i*

View from the Alaka‘i Plateau on Kaua‘i © Ethan Welty/TNC

“Hawai‘i’s Vanishing Forest Birds” is a TNC initiative focused on preventing the extinction of Hawaiian honeycreepers, a unique group of endemic birds found nowhere else in the world. These special birds support forest health through pollination, seed dispersal and insect control. They also have significant cultural significance as kinolau (physical embodiment of gods), ‘aumakua (totems or familial spirits), and are celebrated in chants, songs and stories. Their feathers adorned cloaks and helmets worn by Hawaiian royalty. To celebrate and raise awareness about them, Hawai‘i Governor Josh Green declared 2024 Ka Makahiki o Nā Manu Nahele: The Year of the Forest Birds.

Despite their importance, these birds face many threats. One is the destruction of native habitat by invasive weeds and introduced animals such as pigs, deer and goats. Invasive predators like rats and cats climb trees and attack and eat birds in their nests. TNC and our partners work tirelessly to protect native forests through strategic fencing, targeted removal of inva-

sives, monitoring bird populations in our preserves, monitoring threats such as mosquitoes, and bringing individual birds into captivity for breeding.

Twenty-three species of honeycreepers have gone extinct in Hawai‘i since the arrival of mosquitoes in the early 1800s, with many extinctions linked to avian malaria and pox. Avian malaria, spread by the invasive southern house mosquito, is decimating remaining native bird populations and is the most dangerous and pressing threat these birds face. Just one bite can kill a honeycreeper. Increased temperatures caused by climate change have allowed mosquitoes to move up the mountainsides into TNC preserves and other forested areas where it was previously too cold for them to survive. Four species of critically endangered forest birds on Maui and Kaua‘i—the kiwīkiu, ‘ākohekohe, ‘akikiki and ‘akeke‘e—are facing imminent extinction if nothing is done to control this existential threat.

Together with the Birds, Not Mosquitoes coalition, we’ve embarked on a bold and innovative

effort to save our honeycreepers. The partnership is a group of dedicated conservation professionals made up of more than a dozen federal, state, nonprofit and private entities focused on saving the forest birds of Hawai‘i by halting the spread of avian malaria. We rear male mosquitoes (which don’t bite) with a naturally occurring bacteria that makes them incompatible with females in the wild. When these males are released and mate with the females, the eggs don’t hatch, reducing the mosquito population. This technique has been used around the world for more than 50 years to control the spread of human diseases in more than 15 countries; this is the first time it is being used for conservation of an endangered species.

The incompatible male mosquitoes are packaged into small compostable paper pods that are released by helicopter into inaccessible areas of native forest. Last year, we conducted trials on Maui to determine where the wild mosquitoes are and to test how far the incompatible males travel and how long they live. This informs how many

mosquitoes must be released and how often to reduce mosquitoes in the desired area of remote native forest. Initial results were promising and led to full-scale implementation on Maui in the fall of 2023, with up to 500,000 incompatible males being released per week. We are now conducting trials on Kaua‘i, aiming to protect 3,000 acres of native forest habitat on the Alaka‘i Plateau; full implementation is expected to begin in the fall of 2024.

Conservationists, cultural practitioners and bird-lovers across the islands and beyond have come together to support these ambitious efforts to save our dwindling forest birds from imminent extinction. The huge wave of support via public forums, community testimony and meetings with land board and legislators has demonstrated the urgency and desire for a solution. TNC continues to dedicate significant resources to protecting forest birds through monitoring, forest restoration, mosquito suppression and supporting captive breeding programs—all aspects of our efforts to save Hawai‘i’s Vanishing Forest Birds.



‘Akohekohe  
© Jim Denny



‘Akikiki  
© Jim Denny



‘Akeke‘e  
© Jim Denny



Mosquito biting  
‘Apapane © Jack Jeffrey



Governor Green declares 2024 Ka Makahiki o Nā Manu Nahele (The Year of the Forest Birds) on Jan 12th, 2024 © DLNR



Tube of male southern house mosquitoes released on Kaua‘i © Toni Parras/TNC

The Nature Conservancy, Hawai‘i and Palmyra



Male southern house mosquito released on Kaua‘i © Toni Parras/TNC

nature.org/HawaiiPalmyra

## Reefs for the Future

Climate change is a familiar phrase that conjures visions of its impacts, from drier forests and wildfires to intense storms and flooding to bleached and dying corals. Luckily, TNC has amazing scientists and partners working on innovative solutions.

For Dr. Joe Pollock, saving coral reefs is a calling. He has studied reefs around the globe and is now leading the chapter’s reef conservation and restoration strategy. Joe has seen reefs tragically destroyed by hurricanes and bleached by warming ocean temperatures. To combat these threats, he is now part of a multi-agency group developing the world’s first coral reef digital twin.

Palmyra Atoll was selected as the ideal location to start this work because of the abundance of existing scientific data and variety of reef conditions, ranging from near-pristine areas to sites extremely degraded from WWII. The digital reef replica allows scientists to digitally test solutions to Palmyra’s reefs’ challenges that would be costly to test on-site due to the atoll’s remoteness. For example, the tool allows users to virtually plant corals to see where currents spread their larvae, and then select the best locations based on optimal dispersal.

The knowledge, tools and technologies TNC and partners are developing will assist and empower coastal communities worldwide to safeguard their reefs and the lives and livelihoods that depend upon them.

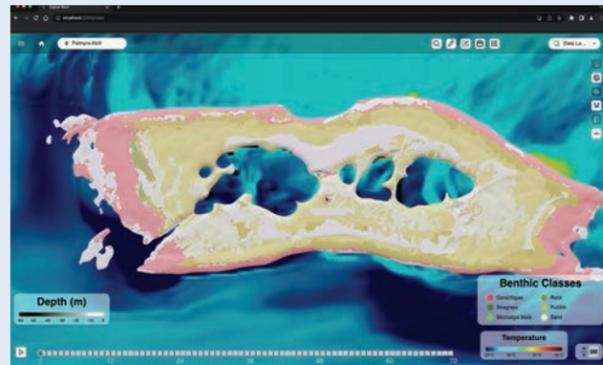
Watch Joe’s visually stunning presentation here: <https://youtu.be/iZ3Ft5NQhCs>



Joe Pollock © TNC



Joe Pollock presents about TNC’s digital reef work © TNC



Coral reef digital twin © Digital Reefs



## Benefitting People and Nature



Hiker overlooking Haleakalā © Ian Shive



Hiker enjoying Kamakou Preserve on Molokaʻi © P.F. Bentley

All too often, we spend most of our day in front of screens and rushing to appointments, leaving little time to be among the trees or on a beach. We are lucky in Hawai‘i to rarely close our windows, and the outdoors is easily accessible given our mild climate. But the benefits multiply when we get out into nature and spending extended time there.

“Being in nature, especially hiking, helps me find peace, clarity and perspective,” reflects trustee Julie Smolinski. “To me it is a respite from the rapid pace of day-to-day life and constant stream of information we often experience. After walking in the mountains or even a park—surrounded by trees, plants, the sound of the wind, bird song, the scent of the earth—I feel more focused and refreshed.”

People who are spending at least 120 minutes in nature every week are more likely to report good health and psychological well-being, a Yale Environment 360 article reports. It’s not only physical activity causing these effects. Research into *shinrin-yoku* (Japanese forest bathing) also shows psycho-physiological benefits are gained by simply sitting in nature. “Is it the smells, sounds or colors that bring relaxation to people?” questions Lori Admiral, Director of Philanthropy.

Though they live in different locations, donors have expressed similar experiences of well-being and awe. Their support of conservation yields tangible and intangible benefits for people and nature—from ensuring clean drinking water to preserving healthy ecosystems

to feelings of happiness and well-being.

“Every day on the farm, as I am digging in the soil or surrounded by fruit trees, I feel connected to something larger,” says farmer and board chair Anne Carter. Caring for the land and enjoying the ocean, as well as knowing that TNC and partners are protecting nature, are things that keep her grounded. A swim in the ocean helps bring perspective to her day and life.

For donor Ivy Timpe, being in nature is not just about exercise. “It’s the delight in seeing the different shades of the water, the rhythm of the waves, or how far the green goes up Diamond Head. It provides wonder at a time when it is sorely needed.”

Trustee Brad Smith enjoys challenging his limits in nature. “I thrive on life-affirming adventures in nature. Challenging myself to reach a summit like Kilimanjaro is one of the most beautiful feelings in the world—both physically and mentally. Sailing from California to Hawai‘i and seeing the sunrise over the Pacific—without land or another boat in sight—is inspiring. Nature allows you to push your limits and to feel alive,” he says.

Admiral says she is energized by TNC’s donors and their appreciation for the reciprocal relationship between people and nature. “We are continually inspired by our donors who understand that people thrive when nature thrives and visa-versa, that all of us together can make a difference.”

Snorkeler at Palmyra Atoll © Dana Edmunds



## A Day of Learning

TNC’s trustees are fundraisers, ambassadors, conservationists and advisors. This year, we are replacing our traditional board business meeting format with immersive program visits. Current and emeritus trustees were invited to learn about TNC’s impact directly from staff and partners on the ground on Kaua‘i.

“Nothing replaces the power of learning about the projects from teams doing the work on the ground,” says Director of Philanthropy Lori Admiral.

Through talk-story sessions, trustees learned about efforts with partners to protect our native birds and the watersheds in our forests, and they learned about restoration using traditional Hawaiian practices during a site visit to Alakoko fishpond.

“I am thankful that the new format of our board meetings creates opportunities like this to further expand our trustees’ understanding of our conservation efforts and the value that our community partnerships and collaborations contribute to reaching our goals,” says board member Ka’iulani de Silva.

Trustees and staff at Alakoko Fish Pond © Mia Stawinski



The Nature Conservancy, Hawai‘i and Palmyra



© Drew Erickson

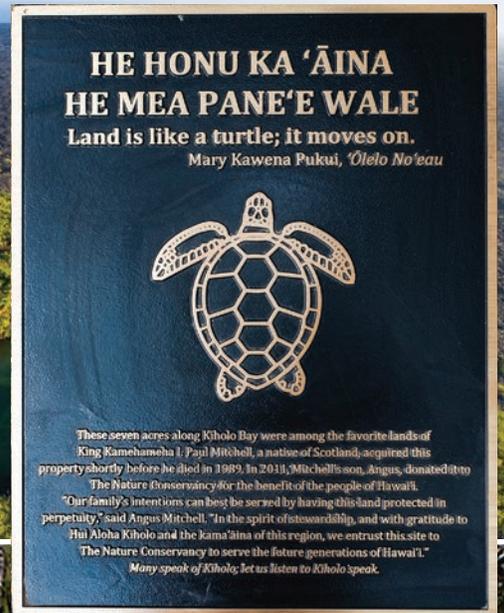
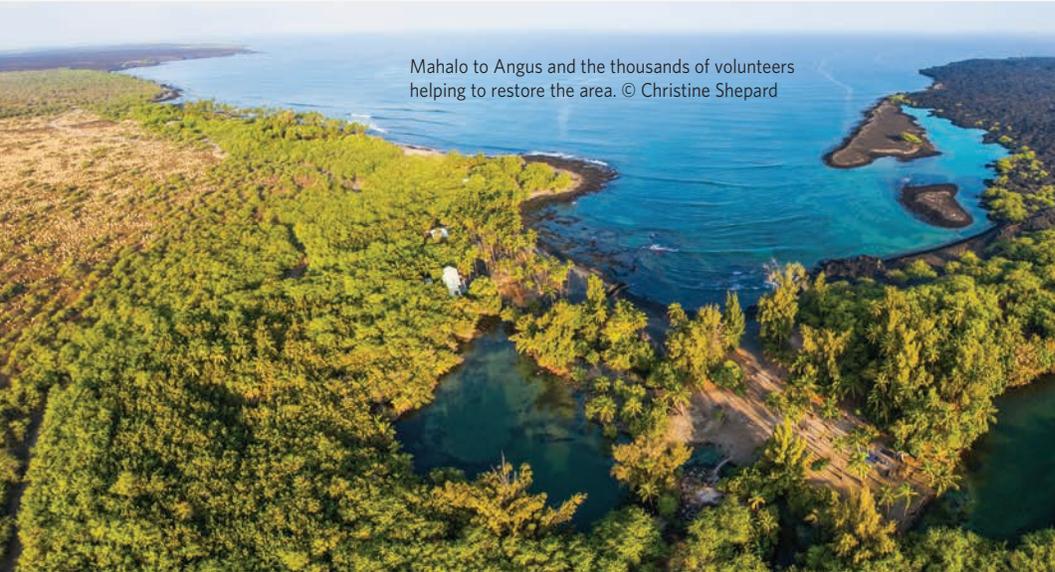
## A Gift That Became a Legacy

### *In Memoriam of Angus Mitchell*

When Angus Mitchell gifted Ka Loko o Kiholo (Kiholo Fishpond) to TNC in 2011, he created a cherished legacy. His gift allowed TNC and our partner, Hui Aloha Kiholo, to uphold Angus's vision of the fishpond as a place for community, bringing together thousands of students and volunteers all committed to putting place first. We often think of each individual that has contributed to its restoration as a water droplet, and that together we can rise like a mighty wave to restore landscapes. We will continue to honor

Angus' legacy, to remember how one person's selfless act can lead to a wave of impact. A plaque commemorates the significance of his gift at the entrance to the fishpond with the 'ōlelo no'ēau (Hawaiian proverb) He honu ka 'āina he mea pane'e wale (Land is like a turtle; it moves on). This reminds us that we as stewards of these wahi pana (storied places) have the kuleana (the responsibility and the privilege) to care for them and leave them better for the next generation. In Angus's memory, we will carry that kuleana forward.

Mahalo to Angus and the thousands of volunteers helping to restore the area. © Christine Shepard



Kiholo caretakers and community members celebrate the return of the fishpond to the people of Hawai'i. © Drew Erickson



As the Mitchell family intended; this site will serve the people of Hawai'i in perpetuity. © TNC