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# Honoring and learning from the past to guide the future

A commitment to restore the He'eia watershed through science, stewardship and education

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Jun 15, 2018

Volunteers can assist with the restoration on the third Saturday of every month.

Courtesy of Brian Glazer

The He'eia National Estuarine Research Reserve (NERR) was designated as the 29th NERR site in the United States on Jan. 19, 2017. Located in the He'eia estuary and Kāne'ohe Bay, O'ahu, the designation encompasses 1,385 acres of diverse upland, estuarine and marine habitats and supports the restoration of this area through funds for monitoring, research, education and infrastructure development.

Many consider this a monumental achievement, not only for conservation in Hawai'i, but also as a testament to the hard work and vision of strong local partners and hundreds of community members.

"This is an opportunity to do something truly fundamentally different," Acting Reserve Manager Robert Toonen of the Hawai'i Institute of Marine Biology said.

The He'eia NERR site and its establishment are unique in a number of ways. Unlike other NERR sites, its distance from the headwaters to the estuary is just under a mile. With highland streams so close to the ocean, the whole system needs to be considered when managing aspects such as land use or reef health.

Because of this direct connection through the watershed, the managers of each part of the system, whether it is the upland meadows, the fish pond, or the coral reef, "all have to be in constant communication and on the same page about what our actions are," Toonen said. "It has to work for all of us, or it's not working for any of us."

Although some may see this as a challenge, the He'eia NERR is designed to utilize traditional knowledge and land-use systems, such as the ahupua'a, that have integrated the management of land and sea in He'eia for hundreds of years.

Ahupua'a are wedge-shaped divisions of land running from the mountain to the sea, usually following watershed boundaries. Each one provides its community with plentiful resources and a system of land and ocean resource division and management. The ultimate goal of the He'eia NERR is to develop a coastal management strategy that draws on traditional Hawaiian practices in order to better the ecosystem in Kāne'ohe Bay and the ecosystem services it provides: spiritual and cultural connections, food and recreation.

Prior to the NERR designation, a network of dedicated individuals and organizations existed and made significant contributions to the restoration of the area. Organizations like Paepae o He'eia and Kāko'o

‘Ōiwi, which are now NERR site partners, have been working to foster community-based resource management for the last 10 to 20 years. The idea to form the He‘eia NERR was a product of community-driven conservation efforts and discussions with kūpuna. The contributing groups include the Ko‘olaupoko Hawaiian Civic Club, Ko‘olau Foundation, Paepae o He‘eia, Kāko‘o ‘Ōiwi and the Hawai‘i Institute of Marine Biology (UH Mānoa), in partnership with the government agencies responsible for land management in the area.

The community brought their idea to initiate a NERR site designation in Hawai‘i to the late Sen. Daniel Inouye’s office, and with his support, they started a discussion on beginning an open application process to consider NERR sites throughout the entire Hawaiian Archipelago. Eventually, the He‘eia site was selected and nominated by Gov. Neil Abercrombie for consideration by the National Oceanic and Atmospheric Association. After a long series of public hearings and review in Washington D.C., designation was granted on Jan. 19, 2017. Receiving the NERR designation takes the actions that were already in motion and “connects the dots,” says Hi‘ilei Kawelo, executive director of Paepae o He‘eia.

Kāne‘ohe Bay, and in particular the ahupua‘a of He‘eia, are well-researched habitats, but a comprehensive research program to monitor the restoration success of He‘eia is still not in place. The NERR designation will help coordinate research so that projects are not duplicated. Instead, efforts focus on priorities set out by the NERR partners, which are integrating traditional knowledge and contemporary research to better understand the effects of human activities and natural events and to inform decision makers that affect the area and its coastal resources.

A NERR System-Wide Monitoring Program will be established to collect long-term data, including water quality, weather, habitat and land use. Ongoing stewardship and education programs that emphasize cultural practices and place-based education will grow and broaden with increased support from the NERR designation.

“This is a great opportunity for the NERR to show this is how we can do responsible science. This is how we can communicate effectively to the community so that we can help to improve how they view stewardship and how they view science and that the two can work positively together,” Kawelo said.

As the He‘eia NERR develops and establishes programs in stewardship, research and education, there is a lot to look forward to.

“Let’s take He‘eia and let’s show that working with the community and maximizing those partnerships is really successful, and hopefully that model can grow,” Kawelo said.

Through the He‘eia NERR, she believes the opportunity exists “to direct and guide what happens in our community.”

“When the site partners manage this place, we ask the question how can we do the best job possible, and let’s listen to everyone,” Toonen said. “[Let’s] ask the question, ‘What do you think is wrong and what do you want to see the Bay look like?’ And then let’s see if we can actually accomplish those goals.”

The He'eia NERR is looking to find a different mechanism of management – one that is driven by the community to ultimately cultivate stewardship of the area based on its traditional roots.

## Sarah Tucker

**Sarah Tucker** has a passion for marine science and conservation that stems from an innate childhood curiosity about the sea. Her research interests are centered in marine ecology and evolution and she is currently exploring them in the field of marine microbiology. As a PhD student in the Marine Biology Graduate Program based in Michael Rappé's lab at the Hawai'i Institute of Marine Biology, her dissertation research is focused on examining the dynamics of marine microbial metabolisms in Kāne'ohe Bay across different spatial and temporal scales. She is passionate about science communication, travel, learning languages, swimming, SCUBA and Bob's Pizza in Kailua.

## Tags

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