

Hawaii Grown

# Indigenous Management Of Hawaii's Fishponds Is Getting A High Tech Upgrade

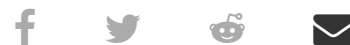
Climate change has emerged as a modern challenge for the guardians of these traditional food sources.



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By Thomas Heaton   / January 18, 2023

 Reading time: 4 minutes.



Grassroots efforts to restore Hawaiian fishponds across the state will soon benefit from high-tech sensor technology intended to make them more resilient to climate change.

The [Loko I'a and Coastal Monitoring Project](#) officially launched on Tuesday, will integrate modern sensor technology into everyday efforts at up to 30 fishpond restoration projects across Oahu and Maui County.

Three local organizations — Purple Mai'a Foundation, Kua'aina Ulu 'Auamo, and Hohonu — teamed up for the \$400,000 congressionally funded project.

The data will provide a baseline from which fishpond practitioners will be able to tailor their practices to their conditions, whether that would be

focusing on shell fish, limu (seaweeds) or fish cultivation.



Fishponds such as Paepae O He'eia rely on volunteers to perform a lot of their restoration work. With better forecasting their work can be safer and more efficient.

The early stages of the project are focused on canvassing the fishpond restoration community for their data needs, from water levels to water clarity, according to Kea'a Davis of Purple Mai'a.

Davis, the educational nonprofit's lead product and design strategist says the project will rely heavily on collaboration with the fishpond community because the sensor data will be [regularly collated and updated on a data dashboard](#) the community can access.

That means working with [Kua'aina Ulu 'Auamo](#), a collective of Indigenous groups that includes about 40 traditional fishpond projects, to find out what data the communities need and how they would want to use it.

The sea level sensor technology was developed by Hohonu, a public-private company partially owned by the University of Hawaii, devoted to making once prohibitively expensive technology more accessible at the local level. The sensor technology has been widely used on the East Coast to help anticipate flooding events.

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“These practitioners have their process for observing and caring for the places they watch over,” Davis said. “This is just another tool that fits into their tool kit.”

Fishponds, or loko i‘a were once an integral facet of the traditional ahupuaa land division system, in which Native Hawaiians worked with the land from mountains to sea. [There were almost 500 loko i‘a across the archipelago before western contact](#), which supported entire communities of people, but were later neglected or overlooked.

Traditionally knowledge would have been passed down through generations of people who lived next to the fishponds and had a more intimate relationships with loko i‘a.

Brenda Asuncion, KUA’s Hui Malama Loko I‘a Coordinator says integrating sensors can accelerate caretakers and practitioners relearning of traditional fishpond maintenance.



Hohonu CEO and University of Hawaii Associate Professor Brian Glazer works with a sensor at Waikalua Loko I'a.

“A lot of people that work at fishponds recognize that they are trying to relearn these environments and systems,” Asuncion said. “I think the folks that do this work recognize that they’re facing those barriers that are a result of a lack of recognition of traditional management and the importance of fishponds in our landscape.”

Because this project is congressionally funded and supported by the National Oceanic and Atmospheric Administration, it could signify a shift, Asuncion says.

**“The Hawaiians had it right 400 years ago.” — Hohonu CEO Brian Glazer.**

Hohonu CEO and UH Associate Professor Brian Glazer says the project aspires to align with the hundreds of years of knowledge behind fishpond management.

“The Hawaiians had it right 400 years ago,” Glazer said. “We have to take that understanding of what a healthy ahupuaa (watershed) looks like and take that forward, as a beacon and example.”

For now, fishpond practitioners have to factor in the effects of erratic ocean conditions and unusual weather.

Glazer says that using the sensor technology that was once “as foreign as Mars Rovers,” hyperlocal forecasting can take place and these fishponds will become a more sustainable food source.

The project is expected to be completed by the end of March when all fishponds are expected to have sensors installed.

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About the Author



**Thomas Heaton** [✉](#) [📡](#)

Thomas Heaton is a reporter for Civil Beat. You can reach him by email at [theaton@civilbeat.org](mailto:theaton@civilbeat.org) or follow him on Twitter at [@thomasheaton](https://twitter.com/thomasheaton)

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