Preserving Knowledge, Restoring Limu Abundance
Growing a Network of Limu Practitioners

by Josh McDaniel

Uncle Wally Ito is passionate about limu, or seaweed.

He says limu has always been an integral part of Hawaiian culture, with uses in food, medicine, and religious ceremonies.

In a traditional Hawaiian diet, limu was the third component of a nutritionally balanced diet along with fish and poi, providing an important source of minerals and vitamins. Limu, such as wawaeʻiole (Codium edule), manauea (Gracilaria coronopifolia), eleʻele (Ulva prolifera), kohu (Asparagopsis taxiformis), and līpoa (Dictyopteris plagiogramma), are still a common ingredient in many Hawaiian

dishes, adding flavor and spice to poke and stews.

“At one time there were countless different limu that were being consumed in Hawai‘i,” Uncle Wally says. “Today, we would be hard pressed to get a list of 20. So we’ve lost that knowledge of many kinds of limu.”

In 2014, Uncle Wally, along with Uncle Henry Chang Wo Jr., helped to organize a gathering of limu practitioners with the support of the nonprofit organization Kua‘āina Ulu ‘Auamo, or KUA, a community-based grassroots organization that supports creative and collective community-based solutions to problems stemming from environmental degradation in Hawai‘i.

Uncle Wally says the annual gathering (now in its sixth year) is an opportunity for limu practitioners to come together to nurture trust, accelerate knowledge sharing, and collaborate toward common goals.

Miwa Tamanaha, the co-director of KUA, says that the Limu Hui fits in with the organization’s place-based and Hawaiian-centered approach to stewardship.

“We believe that people in their communities are experts in their resources,” says Tamanaha. “So, fishers, farmers, and families that have been caring for a place for generations have a lot to offer conservation as a practice. This is Hawai‘i, so that means Hawaiian-centered practice and Hawaiian-centered knowledge.”

Uncle Wally says the Limu Hui is dedicated to finding and recruiting kupuna, or elders, who still gather limu and continue traditional practices. The hui is committed to passing on limu knowledge, educating people about limu, and supporting efforts to restore limu through community-based aquaculture and replanting.

Uncle Wally remembers, when he was young, going to Ewa Beach near the mouth of Pearl Harbor to collect limu manauea (Gracilaria coronopifolia). His mom, who

was Okinawan, pickled manauea in the Japanese namasu style with vinegar and sugar. “I grew up eating limu,” he says.

Uncle Wally says one of his favorite things to do is walk the shoreline and try different limu: “That way you get the full flavor and texture.”

Finding native limu has become more difficult in most parts of Hawai‘i. Ewa Beach, which Uncle Wally visited with his mother as a child, was once known as the Hale o Limu, or House of Limu, for the abundant varieties of limu available there. “Limu was just piled up on the beach,” he recalls, “but now it is difficult to find in Ewa.”

“If you talk to limu gatherers from urban areas in Honolulu or on Maui, they say that even 20 years ago there was still a lot of limu on the shoreline, but it has declined over the past two decades,” Uncle Wally says. “And if you talk to people who harvested limu 40 or 50 years ago, they will tell you it’s an even greater decline.”

The main culprits in the decrease of available limu are urbanization, improper harvesting, and shifting ocean conditions related to climate change. Native limu are also crowded out by the ubiquitous invasive “gorilla ogo” (Gracilaria salicornia), which has taken over many reefs around the islands.

Despite the decline, demand for edible limu has actually increased in recent decades with the surge in popularity of poke, both in Hawai‘i and on the continental U.S. Most of the limu found in poke bowls or in the grocery stores is red seaweed, either the invasive gorilla ogo or the native limu manauea, grown from commercial aquaculture operations across the islands that have been established in the past few decades to meet the growing demand.

Many limu varieties also have medicinal and ceremonial uses. Limu kala (Sargassum aquifolium) is used as a poultice to treat cuts and wounds from coral,

and kala, which means to forgive in Hawaiian. It also plays an important role in hoʻoponopono, a ritual to resolve disagreements between family members.

Uncle Wally says he learned from one kupuna of how the hoʻoponopono ceremony is done differently in Kalapana on Hawaiʻi Island. In this case, the two sides in conflict sit on a beach, and a lei made of limu kala is placed on their heads. The two people then stand up and walk into the water up to the point where the lei floats off their head, and all the conflict and trouble floats away with it. Then they come back, sit on the beach, and celebrate the end of the conflict.

He also tells of a legend from Maui of limu make-o-Hana, or the seaweed of death, that could only be found in one tide pool in eastern Maui. Only a few people knew the exact location of the pool and visiting it was taboo. However, warriors could break the taboo and visit the pool to dip their spears into the limu to access the lethal poison. According to the legend, all the warriors had to do was scratch their enemy with the poisoned tip and their enemy would die.

Limu knowledge and practices are still maintained, primarily by kupuna in rural, sometimes isolated, parts of the islands, but the scarcity of this once-abundant resource has made it difficult for practitioners to pass on their knowledge of where certain varieties of limu grow or how to prepare it for eating.

Maintaining Tradition on Molokaʻi

In 2014, when the KUA Limu Hui held their first “gathering of the gatherers” on Oʻahu, bringing together limu practitioners from all over the six main Hawaiian Islands, one of the limu experts who made the trip was Aunty Vani (Vivian Ainoa) from Molokaʻi.

At Aunty Vani’s home on the south side of Molokaʻi near the Aliʻi fishpond, she has been experimenting with growing a number of different limu, including limu eleʻele and limu pālahalaha (Ulva lactuca).

“I’m so fortunate, it’s right outside my back door,” says Aunty Vani. “And I don’t really have to go anywhere to gather limu except to get in my water outside.”

Blessed with a clear mountain stream, the bay in front of her home is brackish most of the time, and she says the green limu like ele‘ele thrive in the brackish water. Aunty Vani places different types of rocks and stones in the bay and observes how the different limu grow on those surfaces.

“I’ve been trying to generate my own limu from starting spores,” she says. “I experiment with placing new rocks in the water and observing how the limu grows. I’ve been documenting my work and sharing that with the hui.”

Aunty Vani also hosts groups of school kids at her house and shows them how to pick and clean the limu.

“You’ve got to massage the limu ele‘ele after you pick it,” she says. “That makes it really nice and silky. Then, all you do is add a little salt before you eat it.”

She says many of the kids she teaches are interested in collecting limu to sell, but she tells them limu is for sharing.

“I tell the kids once you get to the point where you start selling limu and it’s more commercial, the next thing you know, we won’t have it anymore because they will overpick,” she says. “I teach them to just give it to your family and to the kupuna. You’re going to feel so good when you share it.”

Engaging the Community

Uncle Wally works tirelessly to spread knowledge and awareness about limu, but he also supports community groups who have begun to replant limu. He cultivates limu in aquaculture tanks at the Ānuenue Fisheries Research Center run by the State of Hawai‘i Department of Land and Natural Resources – Division of Aquatic Resources, and then distributes it to community groups who are

organizing replanting events.

Since November 2017, the Waimanalo Limu Hui has been hosting monthly community planting events in Waimānalo Bay at Kaiona Beach Park on the east side of Oʻahu. The events regularly attract 75 community members who come out to spend the day working and enjoying the beach with their families.

“These events are growing the community,” says Ikaika Rogerson, president of the Waimānalo Limu Hui and one of the organizers of the event. “There are people that come every month, religiously. They believe in this and want to participate.”

Planting limu is labor intensive. The hui members start by making leis, with sprigs of limu braided into a base, such as raffia fiber. Then, they tie the leis to rocks that range in size from a softball to a basketball. The hui uses a raft constructed from a large inner tube and a piece of plywood to float the rock-anchored limu leis out into the bay for placement in strategic spots.

Rogerson says the planting efforts are having a positive effect on the bay.

“We are definitely seeing a whole lot more fish because as soon as we plant the limu, the fish come and eat them, which is fine because just like the birds spread plant seeds on land, the fish spread the limu spores,” he says. “We’re hoping the fish spread the spores throughout the bay and maybe over into the next town’s bay.”

The Waimānalo Limu Hui has also taken on the task of restoring the nearby Pāhonu fishpond in the bay. Every three months they combine limu planting with wall restoration of the fishpond. For those events, they get an average of 350 participants. The events have become so popular that even visitors have begun to show up to volunteer and participate.

Rogerson says fishpond restoration is part of the hui's efforts to take a more holistic view of the mauka to makai, or the mountain to ocean, connections. Many of the hui members are also involved in an organic farm in Waimānalo that specializes in medicinal plants, and others help with an ulu, or breadfruit, orchard.

"If we are talking about restoring something on the shoreline, it's a process that starts at the top of the mountain," says Uncle Wally. "Replanting is important, but the replanting events are also an opportunity to create awareness and understanding in the community that in order to bring back the limu, we have to restore the water—we have to recharge the aquifer."

No Limu, No Fish

Uncle Wally also points to the role of limu as a primary producer that is an essential part of the food web.

"Limu is the base. Just like on land where the primary producers are the plants and grasses that feed the cows—for the nearshore environment, it's limu," he says. "Limu creates a habitat for a lot of other invertebrates, such as small shrimp, and provides hiding places for fish. The loss of our limu beds is a huge part of the decline of our fishery. No limu, no fish."

"Many people want to restore the fishery, but they are looking at it from a top-down approach where they protect the fish, or put more fish into the ocean," Uncle Wally says. "I try to make the point: if you want the fishery to recover, start with the limu."

Everyone interviewed for this article said that the key to bringing back limu lies in increasing awareness among young people about their environment and their resources, and also in engaging the community to get involved.

"To me, planting limu is great, and I hope eventually it brings it back in Waimānalo Bay," says Rogerson. "But I think the whole community aspect is even

better, because if we can rally up 350 people to come and do manual labor, make limu leis and move rocks…well, I think that's the real accomplishment: growing the sense of community."

Miwa Tamanaha says that the work of the Limu Hui really captures the spirit of the Kuaʻāina Ulu ʻAuamo organization.

"Our name includes the metaphor of ʻAuamo, which is a carrying stick that goes across the shoulders," Tamanaha says. "By working together, we can carry our responsibilities together, and we can go farther together. We are building an unstoppable limu movement."

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