

Maui Niu Revitalization Visit

Community Coconut Project - Kaulunani Urban Forestry Program

Kupu ka niu kupu ke kanaka.
 When coconuts grow, humanity thrives.
 (He Pule Niu, 1897)

Kaulunani Urban Forestry Project	Indrajit Gunasekara	Community Coconut Project
	Kehau Kahele Madali	Community Coconut Project
Niu Now Hui	Dr. Manu Aluli Meyer	Konohiki – Kūlana o Kapolei, UHWO Haku Ho‘oponopono
	Jesse Mikasobe Kealiinohomoku	Indigenous Food System Manager at ‘Elepaio Social Services, Waianae Comp Health Center
	Mahi La Pierre	Cultural Practitioner and Artisan of ūkēkē and ‘apu
	Kekaula Hanohano	Field Operations Specialist for Mālama Learning Center, Ethnobotanist, Mahi‘ai
	Malu Cassidy	Licensed Clinical Social Worker
Destination	Maui Island	Sites visited: Wai‘ehu, Ka‘ehu, Honua‘ula, Palauea, Waihe‘e, Waikapū, Kapoho, Hāna, Koali, Kīpahulu
Number of Days	6 Total (Friday-Sunday: Paeloko Monday – Wednesday: Hāna)	
Total Project Hours	436+ Total hours: First 3 days, 6 of us from O‘ahu joined by Ikaika Nakahashi. Worked 12 hrs. per day, joined by 4 GoFarm staff for 8hr days. For Hāna, 4 of us joined by Aunty Vicky Durand for 8hr per day for 3 days.	
Total Site Visitations	Visited 15 coconut sites including 4 ancient uluniu	
Total Participants	Reached over 120 participants during different coconut activities.	

We envision coconut as a relationship rooted in community and aloha ‘āina. ~ Niu Now



Purpose of Community Coconut Program's Visit to Maui

October 18-24, 2024

The Community Coconut Program and Niu Now visited West and East Maui in response to two separate invitations and requests. The first three days we visited Paeloko and surrounding areas (Kapuna, Kapoho, Waiehu, Waihe'e). We were invited by Ikaika Nakahashi, a Hawaiian Cultural Practitioner, Maui Nui Botanical Gardens Board President, and Lecturer of Hawaiian Ethnobotany at the University of Hawai'i Maui College. This is the second invitation Niu Now received to conduct niu workshops in Maui. Earlier this year we held a similar workshop for a group of 100+ participants (Jan 2024) at Maui Nui Botanical Gardens. This was the first visit to a neighboring island as part of the Kaulunani Community Coconut Project. It was also an extension of our first niu workshop with a special focus on basic protocol in setting up a niu germplasm system (documented coconut nursery system).

The second part of this visit was to Hāna, where we were invited by Aunty Vicky Durand, Co-Founder and Executive Director of Koali Niu Project. By partnering with Niu Now, Koali Niu Project has established a niu genebank to safeguard some of the threatened and endangered niu varieties. During this visit we extended this genebank by adding additions of eight niu seedlings which encompassed three different distinguished niu varieties (two varieties from Wai'anae, O'ahu). We then inspected the maintenance of this newly growing uluniu and continued to visit more uluniu in Kīpahulu and consulted with Mahale Farms in Hāna re: niu and uluniu.

We visited Maui with a specific interest to investigate "niu kafa," the elongated niu varieties around the Paeloko area, inspired by a Hawaiian mo'olelo that discussed the Hawaiian demi-god, Maui. "Maui observes the sun from Wailohi and sees where it rises. He fashions strong cord of coconut fiber from Pe'eloko (Paeloko) at Waihee" (Beckwith, P. 231, 1940). We feel strongly that this mo'olelo is a direct account connecting people with their history as well as describing the characteristics of niu varieties in Maui. The surrounding ancient uluniu of Paeloko was a

place of resource and materials in the making of the *kaula* (rope) used to capture ka lā (sun) in order for Maui's mother's kapa to dry.



Uncle Wim Vanderly + mo'opuna



Mahi LaPierre + Miki'ala Pua'a Freitas sharing ho'oiho



Niu momona

Visit to Wai'ehu, Paeloko and Waihe'e - Day 1:

Upon arrival, we visited Wai'ehu home garden owned by Uncle Wim Vanderly where we observed about 40 coconut trees of at least 6 different varieties. One of the varieties of tall niu in this location showed exceptional characteristics with dark green fruits and notably longer fronds with longer petioles and inflorescences that appeared to be longer than those of regular trees. Another variety that captured our attention was a tall tree with upward short fronds with notably tight leaflets. In this location, we collected seed niu from 3 trees of 2 dwarf niu varieties which were introduced to us as the Sāmoan coconut. The seed niu we collected were taken to Paeloko to be used in our niu nursery demonstration. To note, to commonly label dwarf coconut trees as Sāmoan coconut is a misleading concept in Hawai'i especially for the purpose of



commercializing coconut trees. Like many other

Papa 'ehā learning how to recognize malo'o (seed niu). Paeloko, Maui | Pā'a Kula

Pacific Islands, there are several different kinds of dwarf coconut varieties in Hawaii, some of which are also known as *niu poko* in 'olelo Hawai'i.

Around noon, we came to Paeloko to meet the keiki of Pā'a Kula, a Hawaiian Immersion school. They were on a huaka'i to Paeloko to be part of our niu demonstration. About 40 haumāna in fourth grade joined us. We had collected a set of niu (malo'o and oka'a) from our previous location which we used for this demonstration. The demonstration highlighted how to recognize the malo'o stage (seed niu) and how to extract coconut husk fiber for rope making.

Next, we visited Ka'ehu in Wai'ehu, an uluniu managed by Uncle Duke Sevilla. This was our second visit to this site where this grove has about 8 different varieties and forms of over 60 full grown coconut trees of various ages and sizes. This area is also historically known for its royal uluniu system. We collected one variety of seed niu for our nursery demonstration and picked some 100 coconuts of different varieties and maturing stages for the niu workshop.



Uncle Duck explaining us the cultural significance of Ka'ehu Uluniu

We ended the evening with a visit to Kapuna Farms in Waihe‘e with Miki‘ala Pua‘a Freitas. Her ‘ohana ‘āina that she caretakes started out as a personal journey of self-identity and has allowed her kaiāulu to find themselves though mālama ‘āina as well. A former muay thai fighter, she is now a farmer of many acres of lo‘i kalo, niu, and other Indigenous Hawaiian plants. We investigated the coconut trees in the area with special focus to find niu kafa, some specialized for large quantities of husk, specified for making rope. We picked up niu from one of the oldest trees at the Kapuna Farms, a tree about 80 years of age, but was not able to see the proper shape of the fruits as they were severely damaged by coconut mites. By looking at some of the aged fruits (oka‘a) on the ground; those coconuts appeared to be large and elliptic in shape. On the way down from the farms next to Mikiala’s home we spotted a green dwarf coconut tree with “fused leaves”. The leaflets appeared to be tightly fused, and only very few trees we have seen throughout Hawai‘i have had strictly fused leaflets (see Figure 2). In addition, we traveled mauka to the top of Paeloko to investigate another old uluniu bordered by a macadamia nut farm. There were about 8 tall coconut trees and most appeared to have medium to small ovate dark green fruits.



Tree with long petioles at Wai‘ehu



Tree with fused leaves at Waihe‘e

During that day, we had an opportunity to sit down and to have a *kūkākūkā* (talk story) with Auntie Pūlama Collier and Auntie Manu in-between our visitations; it really shifted the perspective on digging deeper rather than scratching the surface on some niu related terminologies. One example is that we had previously been working on educational outreach materials and one was labeled *Pō‘aiapuni Ola o ka Niu*, literally meaning Life Cycle of the Coconut. Auntie Pūlama explains that *pō‘aiapuni* is a circle in the sense that it just connects, not something that is ongoing. Therefore, her advice was to rename it to just *Ke Ola Niu*. Instead of

focusing on the circle aspect, we would refer to the sense of life, which has many meanings. We were able to listen to deeper understand Hawaiian terminologies and their philosophical meanings. Different terminologies are now used, for example, the elongated coconut is referred to as *Niu Loloa* and round shaped coconuts as *Niu Poepoe*. It was a blessing to be able to have these intimate conversations and build greater *'ike niu* – coconut knowledge.



After our tour of Kapuna Farms



Miki'ala with mai'a



Kuahu o Ololani

Visit to Kapoho and Waikapū - Day 2

One of our hosts, Ikaika, arranged for us to spend the first three nights at Palauea Cultural Preserve located on Mākena Alanui in the ahupua'a of Palauea. This 20-acre lot is situated in southeast Maui, within the moku of Honua'ula. The day started off with some hana and the hui was up bright and early cutting grass, clearing weeds and resetting *pōhaku* on the *heiau* as a sort of *kahiau* (service) for being able to stay at such a beautiful place. We were able to mālama the *pōhinahina*, a'ali'i, maiapilo and many other Native Hawaiian plants on the property.

Kia'i Collier invited us to visit Kapoho, Waihe'e Coastal Dunes and Wetland Refuge. Kia'i is a Maui educator and a steward at Hawaii Land Trust (HILT). According to the HILT website, the location we visited is an "active restoration enhancing critical native wildlife habitat while preserving one of the most significant cultural sites in Hawai'i, once populated with two thriving Hawaiian villages, Kapoho and Kapokea." Kia'i invited us to investigate the site in Kapoho to consider establishing a specially selected area within the 277 acres of 'āina. Currently there are only a handful of coconut trees present. We discussed how to plant this new uluniu with the focus being the historical and cultural values of the area, as well as how functionality would be supported by strategically planting specific niu varieties in this grove. When asked what he envisions accomplishing through this practice, Kia'i hopes to have niu varieties planted that are suited best for cultural practices. He prioritizes varieties with: good fronds for weaving, different shapes of nuts for 'apu making, and water that is sweet for drinking. We investigated the potential site for planting the uluniu and determined that the site Kia'i selected would allow us to plant 160 to 180 coconut trees.



Welcoming ‘awa ceremony hosted by Ikaika (left to right; Indrajit, Kekaula, Kehau, Mahi, Ikaika, Pilialoa).

The timeline set for this uluniu planting project is as follows:

- By December 2024, clear the site and prepare to mark the perimeter to dig holes for planting niu.
- By February 2025, complete the site preparation by applying mulch and compost. This will support moisture retention, control weeds, and be a final step to get everything ready for planting.
- By March 2025 (rainy season) start planting and have a set plan for watering if needed.

Locating the planting material collection, seedling selection, and documentation process are still in ongoing discussion. We agreed upon the following methodology for this uluniu:

- Use the Polymotu planting methodology as we previously applied in the Kūkaniloko, O‘ahu and Ho‘olehua, Moloka‘i uluniu planting. In this case, we will separate the planting area based on the uluniu location where those niu keiki (planting material) came from.
- Niu keiki for this grove will be identified by:
 1. Generating niu seedlings, selecting a specific set of seed niu with desirable characteristics and germinating them in a documented nursery setting.
 2. Visiting known ancient uluniu around Maui to pick up some of the available seedlings with desirable characteristics. Then, matching them with parent trees’ germ color (will be documented).
 3. Based on this information we will create an uluniu map for this grove.

This discussion around uluniu is continuing and we've already begun to collect and germinate some of the rare varieties of seed niu during our visit to Hāna, Maui. We also began to investigate possible sites to collect potential niu seedlings and to build partnerships with the community members who are able to support this process.

Another interesting story we learned during this visit was that two of the *kumu niu* were struck by lightning near this location – Kapoho. They were then taken down, separated, cut into blocks and worked on, one mauka, one makai and brought back together after being made into pahu. Kia'i, Kealoha Ishikawa, and some other friends were able to kāko‘o them and worked on these indigenous instruments. According to the Ishikawa family, the sound of the pahu was referred to as the *leo* or the voice and the drum was a visual representation of its mouth. Pahu was the ancestral link connecting us through mele and hula, the many pillars upholding Hawaiian culture.

We then visited Noho‘ana Farms with Hōkūao Pellegrino. There, we investigated four coconut trees in that site and spotted a peculiar coconut tree whose oddities involved producing large nuts with no *iwi* (shell). Hōkūao was ready to chop this tree down as he understood it was worthless to have a coconut tree that produces hollow coconuts and without much value for the use of food. We were able to share that Dr. Roland Bourdeix had mentioned a Tahitian mo‘olelo that described such varieties of niu as the ones that “got eaten by the moon.” He explained that some Tahitian ancestral niu varieties were traditionally grown for the specific value of husk. After witnessing this unusual tree and connecting it to the cultural mo‘olelo of this area, we can understand those niu varieties may have been utilized more for producing *‘aha* (cordage) and *kaula* (rope) as the hollowed fruits leave more room for producing quality *pulu* (husk). This was the fourth tree in this farm we gathered niu from. It stood at the entrance of the farm to the right of the mailbox. We collected four malo‘o seeds which were then given back to Hōkūao. He now has this profound knowledge and a changed perspective on this exceptional kumu niu that stood over 4 decades in his ‘āina. On another note, during one of the last visits to Maui, Gunasekara and Bourdeix recorded another coconut tree with very similar characteristics standing in a private property between Hāna and Koali.



Niu Kafa “eaten by the moon” - Waikapū, Maui



Hōkūao Pellegrino & Hui

We ended the day with dropping off over 200 niu gathered throughout the past two days and briefly laid out the site for the workshop. We created an accurate demonstration of the stages of maturity from ‘ō‘io, haohao, ‘ilikole, o‘o, malo‘o, hō‘oiho, and ōka‘a in which each stage had at least 3 bunches of fruit (about 20-30 coconuts). We created other stations including a place for participants to make ‘aha by pounding niu in the ‘ilikole stage and a station to weave hīna‘i (basket), pāpale (hat), and other objects that can be made from launiu – coconut leaves.



Personal pahu of Ishikawa ‘Ohana (left)



Lighting struck trees turned to pahu (right)

Paeloko - Day 3 Summary

This was the official day of Niu Workshop in Paeloko, Maui! There was a culmination of activities happening at once. The workshop started with cultural protocols led by ‘Ohana Ishikawa where a beautiful rendition of Maui Capturing the Sun ma ka ‘ōlelo Hawai‘i was narrated by Auntie Lei’s daughter with her nieces, nephews, and cousins as the actors/actresses. The use of Niu Hiwa, the original variety of Hawaiian niu, was discussed as Maui had used it to make the rope that lassoed ka lā. These histories connect us not only to our culture but to each other and ‘āina as Mt. Haleakalā located in Nānākuli, O‘ahu was where it also took place. It gives us that understanding of the importance that niu plays in connecting our people to each other and to the ‘āina.



Proactive community engagement throughout the day during the workshop at Paeloko

There were approximately 70-80 people who attended this workshop. After an introduction to the stages of maturity of the niu, we opened each niu stage and then passed it around for the people to eat and drink. To taste the difference of the younger stages to the more mature and understand the sweetness and which stages were for eating. Below are some pictures of the process; picking the seed, soaking the scarified husk, preparing the soil for planting. (Kehau, Kekaula, Jesse, and Indrajit).



Kehau (left picture) observing the varieties, Kekaula (middle picture) transporting soaked malo'o and Jesse and the group (right picture) laying the foundation for the niu nursery planting.



Preparing the lua (hole) for the kumu niu planting placed by Aunty Lei Ishikawa.

The workshop started at 9:00 am and continued until 2:00 pm where we conducted several hands-on activities and explained various facts about coconuts. We utilized Western science-based and Indigenous classifications of niu including both Hawaiian and Sri Lankan understandings. The workshop focused on 4 main areas but expanded through questions and rich discussions:

1. Recognition of niu genetic diversity and understanding of niu varieties with desirable characteristics and their uses.
2. Recognition of niu fruit and husk maturity stages and their functional applications,
3. Seed niu documentation and preparation process,
4. Training on setting up the structure of a niu nursery system, and
5. Successful niu planting techniques for dry land, which included an introduction to using coconut husk as a tool to harvest rain and for water retention, for providing essential nutrients (especially potassium), and for planting in a way aligned with environments experiencing climate change.



‘Ike Niu Workshop with Kaulunani Coconut Community Project and Niu Now - Paeloko, Maui

In addition, demonstrations were given on coconut husk preparation for cordage making and some launiu weavings. During the workshop, community members asked questions and we answered them in detail to the best of our ability. Most of the participants continued to stay till the end of the workshop, sharing their sincere appreciations, requesting to stay connected, and expressed the desire to plant more niu and to learn more about the use of coconut as a vital resource. The workshop had those from the neighboring islands as well as those who traveled down the winding road of Hāna, taking over 3 hours (one way) just to attend this workshop. We were also able to lay down 49 seeds in the Paeloko niu nursery and plant a kumu niu that was laid by Aunty Lei Ishikawa and blessed by her ‘ohana alongside Aunty Manu Aluli Meyer.



Sharing niu phases to taste



Niu without shell, good for kaula



Setting the niu nursery – 49 planted

Hāna Visitation

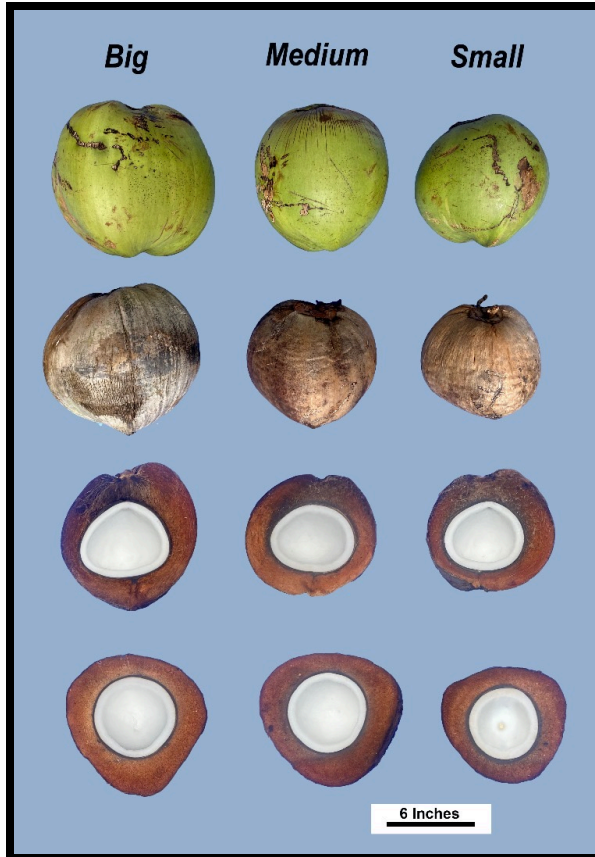
The Community Coconut Project and Niu Now are supporting the establishment of a local coconut genebank known as the Koali Niu Project. As this project is one of the very first of its kind and still at the beginning stages, our visit was necessary to provide technical support and to measure the progress of this project. In addition, during our previous visits, we've investigated several ancient uluniu and have documented some of the exceptionally unique coconut varieties of Hawai'i (see the pictures below). We see the expansion of 'ike niu and the collective efforts of community members eager to recognize, obtain and acknowledge all that niu encompasses.



Hawaiian Green Spicata Niu Variety we documented in Maui

We also visited Kīpahulu and investigated niu around the Palapala Ho‘omau Congregational Church and surrounding area. We were able to identify and document the existence of one of the original coconut varieties known as *Spicata coconut* (figure 12). The Spicata niu variety has a uniquely structured inflorescence with mainly zero to two spikelets. All the female and male flowers are directly attached to the main axis. Due to this unique shape and absence of spikelets, the total number of female flowers far outweighs the amounts of male flowers in the inflorescence in comparison to an ordinary coconut inflorescence. In addition, previously we experienced that the Spicata seed germination remains very low, unlike many other coconut varieties. According to the International Coconut Genetic Resource Network (COGENT) even globally the spicata coconut varieties are found to be very rare and even recognized to be endangered. Therefore, the Community Coconut Project and Niu Now support the Koali Niu Project by finding rare varieties of niu as well as guiding them with best practices on proper gene banking of these niu varieties. In addition, we've utilized this genebank to act as a holding ground for safeguarding Wai‘anae coconut diversity against the imminent threat and rapid spread of Coconut Rhinoceros Beetle (CRB) on the coast of West O‘ahu.

During a previous visit to Hāna in April 2024, we took 2 different varieties of 6 seed niu (4 seeds from one and 2 from another) that were categorized as “old types of Hawaiian niu” from Wai‘anae, O‘ahu. The reason for building such a category is that our ethnobotanical documentation provides strong ethnographic evidence to have clear lineage to be pre-European contact trees in Hawai‘i and a high likelihood that these trees are in genetic isolation from the later introduced coconut varieties. Out of those 6 seed nuts, 5 of them were germinated and planted in a cluster separate to other trees that are already in this genebank. In addition, we planted 3 other seedlings of the same variety from Hāna green elongated large niu variety in a separate motu (cluster). In addition, this genebank is also designed to be an agroforestry where mai‘a, ‘ulu, kalo, ‘uala, papaya and varieties of other Polynesian introduced plants also stand in between growing niu keiki.



Two notable green tall niu varieties from Hāna, Maui

Our visit to Hāna was honored by community members inviting us to visit their ‘āina. Waihua Pū hosted our visit to his ‘Ohana uluniu of Wailoa in the ahupua‘a of Koali. This is one of the ancient uluniu of Hāna that is mentioned in some well-known local mele.



Land pearapartion at Koali Niu



Visit to Mahale Farms

We met up with Mikala and visited Mahele farms in Hāna where they had a young uluniu with about 40 newly maturing coconut trees. Those trees are a local collection with planting material

from the surrounding areas in Hāna. Mikala pointed out to us one of orange and two “pink husk” niu varieties. We noted one of his young coconut trees with the youngest leaves turning brown really showing some early symptoms of a pathogen infestation. We noted that kumu niu was being affected by a pathogen known as phytophthora and advised him to remove it as soon as possible before it spread into other trees. Within 2 days of our visit, Mikala notified us that he had removed the tree and the tree crown was badly damaged by phytophthora infestation (see the picture below).



Some early signs of phytophthora (L) and the same tree how it affects the tree crown (R) at Mahale farms, Maui

On Hāna Highway passing Paia, we noticed several sites with coconut trees that are being attacked by this tree crown rotting disease, but action to remove them to prevent further spreading of this pathogen may be something to discuss more widely.

Another highlight of our visit to Hana is that while talking with Mikala we learned that Koukouai (kalo) is a perennial stream in Kīpahulu Valley, found on two separate occasions at different elevations of Koukouai St. First, spotted by uncle Terry Lind, a kua‘āina of Kīpahulu born and raised, youngest of six boys. At the time he was head of fencing, animal control, trails, and most everything in the depths of the valley. He brought it to Kapahu (Kīpahulu ‘Ohana), lo‘i farmed by his oldest brother uncle John Lind and Michael Minn who started Pōhaku Inc in the 70’s to get kānaka back on family land by planting kalo. The huli was brought around 2008. Then Mikala’s best friend and farm mentor, Seth Raabe, was hiking up Palikea flats and saw kalo growing from the face of the waterfall. He proceeded to grab two huli and brought it back to Mahale Farm in 2010. There it was planted around the same time Uncle Terry brought it to the lo‘i. In 2013, it threw a sport ‘ohā that was black with no lihi. It was grown out to observe if the mutation would hold, which it did, then it reverted back to the pink form with distinct black lihi a few times. It was then determined that the "Koukouai sport" or black koukouai is indistinguishable from Lauoa ‘Ele‘ele ula. Both types were submitted to the Lyon Arboretum at

the request of uncle Jerry, aunty Penny Levin and Nellie from the University of Hawai‘i (this conversation was experienced by Jesse Piliialoha Mikasobe-Kealiinohomoku).

Our third day at Koali consisted of some hana at Aunty Vicky’s hale. We huki’d over 50lbs. of kalo, a combination of mana ‘ulu and moi. The huli was then split amongst Aunty Vicky and brother Waihua Pū, in which was donated to the community and shared at the Annual Hāna Festival. We further assisted Aunty Vicky to spread out some of the special kalo varieties growing on her property. She has a total of eight kalo varieties growing on her property: ‘Ele‘ele Mākoko, Lehua ‘Oni‘oni‘o, Mana ‘Ulu, Moi, Kuohu, Piko Uaua, Piliialoha, and ‘Ula‘ula Poni. The planting of these varieties at Koali Niu is a form of food system restoration where kalo has not been the ground in the last 100-200 years. By planting and giving them back to the soil, we are honoring Hawaiian cultural roots and the people in the area as we strive for food system resilience as niu, kalo is also a nutrient dense staple crop of Hawai‘i.

Mahalo nui loa and sincere acknowledgement:

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Our host, Vicky Durand, Koali Niu Project
Pu‘uhonua Society - Executive Director Emma Broderick
‘Ohana Collier - Aunty Pūlama, Līhau Collier, Kia‘i Collier
Kapuna Farms – Miki‘ala Pua‘a Freites
Noho‘ana Farms
Hōkūao Pellegrino and ‘ohana
Uncle Wim Vanderly
Uncle Duke Sevilla
Mahi LaPierre, Kekaula Hanohano, Malu Cassidy
Paeloko Learning Center Staff
‘Ohana Ishikawa - Dr. Lori Lei Ishikawa, Leilei Ishikawa
Waihua Pū
Mahale Farms - ‘Ohana