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PONC STEWARDSHIP GRANT 2018
Waipi‘o Valley Lookout Parcel, TMK: 4-8-04:06
Final Report: Oct. 1, 2018 – December 31, 2019

Date: January 31, 2020

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TO: County of Hawai‘i Parks & Recreation Department

CC: Department of Finance, Property Management Division

Introduction

Continuation of stewardship at the Waipi‘o Valley Lookout PONC parcel (aka Thomas or Rice Property) by Pōhāhā I Ka Lani has resulted in the ongoing maintenance, improvement, and cultivation of the property for the Hawai‘i Island community for “outdoor recreation and education”¹ potential on the property. The first year of stewardship in 2016 was a resounding transformation of the property, and so far in 2018-2019 of this stewardship period, Pōhāhā I Ka Lani has been able to continue that momentum since the commencement of our 2018 Stewardship Grant on October 1, 2018, ending December 31, 2019.

Although the property is only approximately 1.8 acres, the property has required a tremendous amount of work to transform it towards something that is: 1) safe for general *public access*, minimizing concerns for liability risk to the County of Hawai‘i and Pōhāhā I Ka Lani on the property and along the roadways adjacent to the border; 2) an *open space* cultivated to be a wahi pana of the community for present usage & historic cultural understanding; and 3) a place of living beauty that stands as a functional kia ho‘omana‘o (monument) to the importance of *natural resource preservation*.

¹ Hawaii County Charter, 10-15

Organization Background Relative to Stewardship

As an organization whose founder has genealogical and deep cultural ties to Waipi‘o Valley, the stewardship of Koa‘ekea (Waipi‘o Valley PONC Lookout parcel) is a significant kuleana and blessing. Pōhāhā I Ka Lani refers to the parcel as Koa‘ekea, the traditional cultural place name. It is of significant importance to Waipi‘o Valley, the surrounding Kukuihaele & Honoka‘a communities, and for the entire Hawai‘i County public. Koa‘ekea is considered a traditional Hawaiian land section known as ‘ili, which is a smaller land section within the larger ahupua‘a, or land division from mountain to sea. Aptly named for the Koa‘ekea bird (indigenous white-tailed tropic bird, *Phaethon lepturus dorotheae*) that frequents the area, Koa‘ekea is also famous for being the ‘ili that ali‘i kaulana (famous chief) ‘Umi-a-Līloa entered into Waipi‘o Valley when returning as a man to eventually conquer the valley from his cruel brother Hākau². Koa‘ekea signifies an entry point into *he manawa pono (a pono time)* for Waipi‘o Valley in that time. Pōhāhā I Ka Lani believes that the revitalization of this ‘āina of Koa‘ekea will be the beginning of a new *manawa pono* for Waipi‘o Valley.

Stewardship History

In the 4 calendar years (3 stewardship grant periods), Pōhāhā I Ka Lani has overcome applying without a site walkthrough, time delays in the award process, lapses in stewardship, unanticipated immense amounts of buried trash, and regular heavy rains. No site walkthrough resulted in reallocation of funds to accommodate needed work such as excavation and trash removal. Time delays resulted in future year applications needing to be submitted without starting the first year’s stewardship, and stewardship extensions needing to be made to ensure maintenance of the site. Lapses in stewardship (March 2017 – May 8, 2017) resulted in large amounts of overgrowth of Guinea grass across the property and weeds in the native gardens. Unanticipated immense amounts of trash resulted in absorption of volunteer and community work day efforts, as well as reallocation of funds. Finally, heavy rains resulted in limited access and ability to work in the muddy conditions, with volunteer and contractor trucks getting stuck. Nonetheless, Pōhāhā I Ka Lani has persevered through volunteer efforts to continue to maintain and improve this cultural & community education site.

As shown in the Pōhāhā I Ka Lani PONC Application History table below, the ability to plan effectively has been difficult and extensions have been required to prevent unnecessary extra work from occurring due to lapses

² “He Mo‘olelo No ‘Umi”, Simeon Keliikaapuni, Dec. 9, 1861

in stewardship. In our most recent stewardship period from May 2017 to present based off of our August 2015 application, we received three extensions to continue the work while needing to use funds wisely during that time. We understand the limitations of County staffing dedicated to the PONC program and appreciate the continued opportunity to steward the special place that is Koa'ekea, the Waipi'o Valley Lookout PONC property.

Pohāhā I Ka Lani PONC Application History				
Application Date	Anticipated Project Period of Application	Actual Executed Project Period	Extension Period	Gap Period (Lapse in Stewardship)
August 2014	January 1, 2015 – December 31, 2015	January 8, 2016 – December 31, 2016 (12 months later than planned)	January 1, 2017 – February 28, 2017	March 1, 2017 – May 8, 2017 (2 month lapse) [Overgrowth of multiple areas previously cleared]
August 2015	NO APPLICATION SUBMITTED DUE TO DELAY & OVERLAP OF PREVIOUS APPLICATIONS.			
August 2016 (Note: Application submitted prior to 1 st stewardship agreement completed.)	January 1, 2017 – December 31, 2017	May 9, 2017 – December 31, 2017 (4 months later than planned)	Ext. #1: January 3, 2018 – March 31, 2018 Ext. #2: April 16, 2018 – June 30, 2018 Ext. #3: June 28, 2018 – August 31, 2018	September 1, 2018 – September 30, 2018 (One month lapse)
August 2017	January 1, 2018 – December 31, 2018	October 1, 2018 – September 30, 2019 (9 months later than planned)	October 1, 2019 – December 31, 2019	NO LAPSE DUE TO EXTENSION

August 2018	January 1, 2019 – December 31, 2019 [PREFERRED] OR July 1, 2019 – June 31, 2019 [PROJECTED]	January 2020 – December 2020 (12 months later than planned)	TBD	N/A – EXTENSIONS TO BE REQUESTED IF NEEDED.
August 2019	January 1, 2020 – December 31, 2020	TBD	TBD	N/A – EXTENSIONS TO BE REQUESTED IF NEEDED

NOTE: When stewardship periods are extended, awarded funds need to be utilized over a longer than anticipated award period, often requiring more volunteer hours, increase in supplies, and modifications project.

Property Issues with Access and Official Signage

Due to the “public access” designation of PONC parcels, the community desire to have access to the parcel, and the liability issues that are inherent to the property and it’s management, there has been ambiguity of the means by which the public can access the property and a restriction on the ability to install official signage that has already been made.

PONC parcels have no specific rules as to how the public can access the parcel, and the PONC stewardship organizations such as Pōhāhā I Ka Lani are the only active means by which activities occur on the property. This ambiguity has caused confusion with the community. Liability remains a large concern for the Parks & Recreation Department and Pōhāhā I Ka Lani, as the property is not a County designed and maintained public park with liability issues mitigated from the design and development stage, with established signage for safety and information. Adding more complexity, the Waipi‘o Lookout PONC property is the only PONC property that is designated as a park in the Hawaii County Code, yet it is not the same as all other County maintained parks.

After discussion with the Parks & Recreation Department, more specific rules for the Waipi‘o Lookout PONC property will be designated to have Pōhāhā I Ka Lani as the means for the public to access the property with Pōhāhā I Ka Lani staff present to host the public for education & participation

in stewardship while controlling liability risks directly. This process balances public access, liability, and the all volunteer efforts of the PONC stewardship organization, Pōhāhā I Ka Lani.

The already made signs can be installed likely after the County sign rules & procedures are modified in the near future. Below are the two signs that await installation since 2016.

A Public Open Spaces & Natural Resource Conservation (PONC) property

“...for public outdoor recreation & education...held in perpetuity for the
use and enjoyment of the people of Hawai‘i County ”
(Hawaii County Charter 10-15)



Waipi‘o Valley Lookout District of Hāmākua

County of Hawai‘i



Koa'ekea

Stewarded by

Pōhāhā I Ka Lani

a 501c3 non-profit organization
www.pohahaikalani.com



Designated Property Zones

The PONC parcel was mapped via the Hawai‘i County Property Tax Map website and Google Earth and marked with “zones” based on land features for reference and planning to more easily develop and implement a community based Site Re-vegetation Plan and Educational Plan.

Designated Zones & Descriptions

- ❖ Zone 1 – Large open area fronting lookout parking lot.
 - Slightly sloping area with established grass. 10% dirt/mud.
- ❖ Zone 2 – Flat Area below Resource Ranger Kiosk
 - Predominantly Guinea Grass, with standing Albizia stump and approx. 2-to-1 slop up to Zone 1.
- ❖ Zone 3 – Dirt Flats of Former House Platform
 - 90% dirt/mud with grass slowly establishing. Area where Ficus excavated last year.
- ❖ Zone 4 – Large Slope above Zone 3
 - Extends to top property boundary with varying slope. 90% dirt/mud. 10-20ft sheer drop towards Zone 5.
- ❖ Zone 5 – Land strip below Zone 3 & 4
 - Extension of Zone 1 with same elevation. 60% dirt/mud. Steep dirt slope downwards to Zone 6
- ❖ Zone 6 – Land strip below Zone 5
 - Narrow area between fence line, with steep dirt/mud slope upwards to Zone 5.
- ❖ Zone 7 – Generally unusable portion of property outside of fenceline.
 - 60-100ft steep slope downwards towards ditch & access road.

**Zone vegetation described below in “Progress on Objectives & Outcomes”*

Koa'ekea: Waipi'o Valley PONC Parcel



Dr. Ryan Perroy & Spatial Data
Analysis and Visualization Lab in
collaboration with Pōhāhā I Ka Lani



Aerial Mapping, December 2016

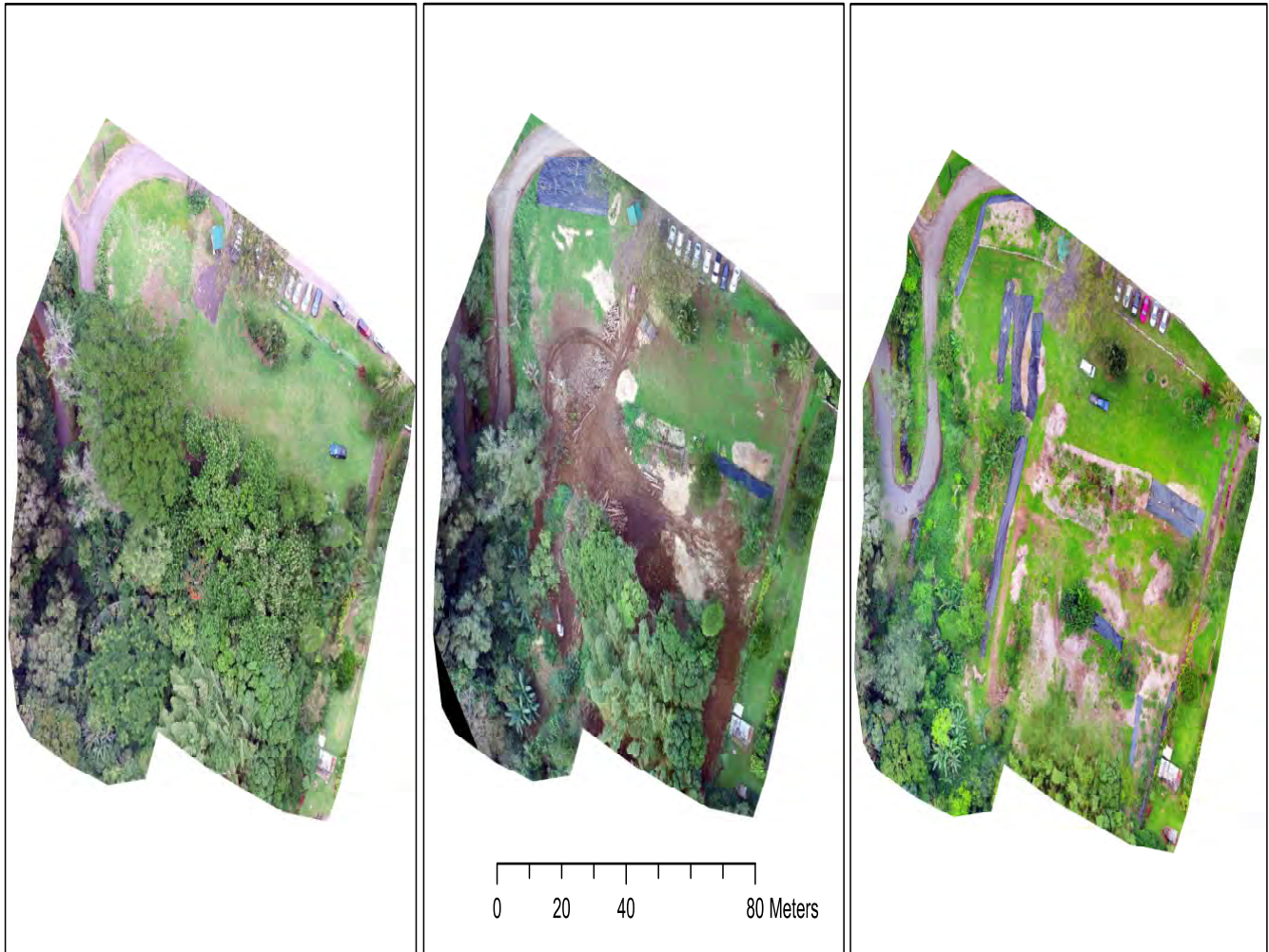
Tree canopy cover not reflective of current state of property, as trees in Zone 4 have been largely removed and bamboo thinned significantly.



Koa'ekea:

Waipi'o Valley PONC Parcel Progression

Under the Stewardship of Pōhāhā I Ka Lani



July 2016

January 2017

April 2018

2018 Stewardship Goal

Our goal for 2018 focuses on continuing the implementation of the previously proposed Native Re-Vegetation Plan and place-based Educational Plan, while continuing maintenance of the property and and improvement of each area of the property for safety and function.

Summary of Progress

The 2018 PONC Stewardship award had a late start as it began in October 2018 instead of January 2018. With the later execution of the stewardship contract, Pōhāhā I Ka Lani did its best to continue with its kuleana to mālama this wahi pana. We accomplished what we set out to do for 2018 and 2019. We anticipated the ending of 2018's grant period to be September 2019 but the grant was pushed back even longer to end in December 2019.

Since the commencement of the award in October 2018, the Waipi'o Valley PONC Lookout parcel aka Koa'ekea has:

- Continued to transform into a thriving open space for the public & community to come and learn of the cultural significance of the site and Waipi'o Valley, while participating in the stewardship work.
- Served as a place of protocol for community groups and schools, where an appropriate respect and reverence of Waipi'o Valley can be had from the PONC properties overlook area.
- Maintained and improved through grass & garden maintenance, tree work, re-vegetation, and trash removal.

2018 Stewardship Statistics (as of December 31, 2019)

Pohaha I Ka Lani Stewardship Statistics

- ❖ 77 Pōhāhā I Ka Lani volunteer stewardship workdays
 - Pōhāhā I Ka Lani members volunteer work to conduct site stewardship work and oversee hired contractors doing site work.
 - Site stewardship work includes mowing grass, weedwhacking, large weed maintenance (guinea grass & white shrimp plant bladed), weeding of garden & cleared areas, pickup trash, and miscellaneous tree work.

- Contractor oversight includes on on-site coordination of contractor work for accurate & safe completion.
- Site stewardship time estimated at 3,174 hours
- 1,000 hours plus of estimated Pōhāhā I Ka Lani volunteer hours for coordination, planning, site work, cooking, lesson plans, research and group hosting.
 - Pōhāhā I Ka Lani volunteer hours included:
 - Maintain or repair maintenance equipment
 - Acquire supplies to maintain property
 - Assure safety of acquired equipment and supplies
 - Inventory and assess current native plants
 - Plant propagated plants based on Revegetation Plan
 - Assess and inventory invasive species remaining on property.
 - Sponsor regular community workdays to reduce invasive species
 - Prepare for community schools, hālau hula and organizations i.e. research, development of lesson plans to accommodate different classes.
 - Implement Educational Plan including ongoing classes, workshops and weekend camps
 - Plan and coordinate gatherings and events.
 - Advertise gathering and events via social media
 - Host gatherings and events.
 - Coordinate and oversee independent contractors work on site.
 - Harvest from gardens at Koa‘ekea, from our farm in Waipi‘o Valley and gardens from our home to prepare healthy meals for on-going groups.
 - Work with traditional healers (kahuna) to better serve our groups i.e. teaching people health benefits of different plants and how to utilize them.
 - Donate food items from our family’s personal farms to replace stolen items (taro, taro leaves, pumpkins, ipu, a dozen of baby ‘ulu trees and other items from Koa‘ekea have been stolen from gardens planted by our youth groups). So kids do not get discourage, we donate such items to make up for the items that were stolen.

❖ 66 educational & stewardship group hostings

- Pōhāhā I Ka Lani member volunteer hosting of educational & stewardship group, including educational workshops
- ❖ TOTAL PŌHĀHĀ I KA LANI DAYS ON SITE: 77 DAYS (October 1, 2018 – December 31, 2019)

Participation Statistics

- ❖ 428 youth participants
 - Participants 18 or younger
- ❖ 630 adult participants
 - Participants 18 or older
- ❖ 1,058 total participants.
 - Youth + Adult participants
- ❖ 9 educational workshops held
 - Ti Leaf Lei Making with Carrol University
 - Office of Hawaiian Education Hā Summit Cultural Education Workshop
 - Hula and Mele Workshop & Workday with Kumu Ryan McCormack
 - Hawaii Community College Biology 156 Plant Workshop
 - Kanu O Ka ‘Āina Mele & Oli Workshop
 - Laupāhoehoe Seniors Lashing Workshop
 - Goldbelt Heritage Foundation Cultural Exchange Workshop (Alaskan Native Youth)
 - Big Island Farms Cultural Landstewardship Workshop
 - Lā‘au Lapa‘au Workshop with Kumu Ikaika Dombrignes
- ❖ 21 organizations participated in education and stewardship
 - University of Hawai‘i at Hilo Geography courses
 - Hawai‘i Community College courses:
 - Social Science 111 – Food, Water, Energy, Technology: Then & Now
 - Biology 156 – Natural History of the Hawaiian Islands
 - Service Learning Group



- University of Hawai‘i at Hilo Biology courses
- Carrol University of Wisconsin
- Honoka‘a High School
- Kanu O Ka ‘Āina
- Office of Hawaiian Education
- Laupāhoehoe Community Public Charter School
 - Seniors
 - Kindergardeners
- Kanu O Ka ‘Āina
- Office of Hawaiian Education teachers and administrators
- Goldbelt Heritage Foundation
- Hawaii Youth Conservation Corps KUPU Program
- Japanese youth program
- Kohala Center
- Hui Mālama i Ke Ala ‘Ūlili
- Big Island Farms
- Hawai‘i Academ of Arts & Sciences PCS
- Hawai‘i Preparatory Academy
- Hui Mālama Ola Nā ‘Ōiwi
- Rustic Pathways youth travel programs
- Share Aloha Foundation’s Mālamalomi program
- And community members from around the island.

Progress on Objectives/Outcomes

Descriptions of progress on objectives and indication of organizational volunteer, contracted services, and/or volunteer participants for work described.

1. Maintain Property

Our family needed to continue to volunteer large amounts of hours throughout the year due to delay of grant award. Since our family was having a baby (born in Decemebr 2018), we realized we needed

help with maintaining the site. With this, while writing our application for 2019, we requested for funds to be able to contract people to get some help and relieve our family from the continuous work needed to mālama iā Koa‘ekea. With 2019 being late and not starting until January 2020, a bulk of the work was left for our family to do as volunteers.

Funds for contracted services were procured for tree work, chipping, and machine work to clear logs and to grind down lower sections and trees to ensure areas would be more safe.

Maintenance of property has included:

- GRASS MAINTENANCE (Pōhāhā I Ka Lani volunteer & contracted services)
 - Mowing & string trimming of grass monthly, as property fronts the Waipi‘o Valley Lookout parking lot and is highly visible, so aesthetic appearance is crucial. Grass maintenance areas include:

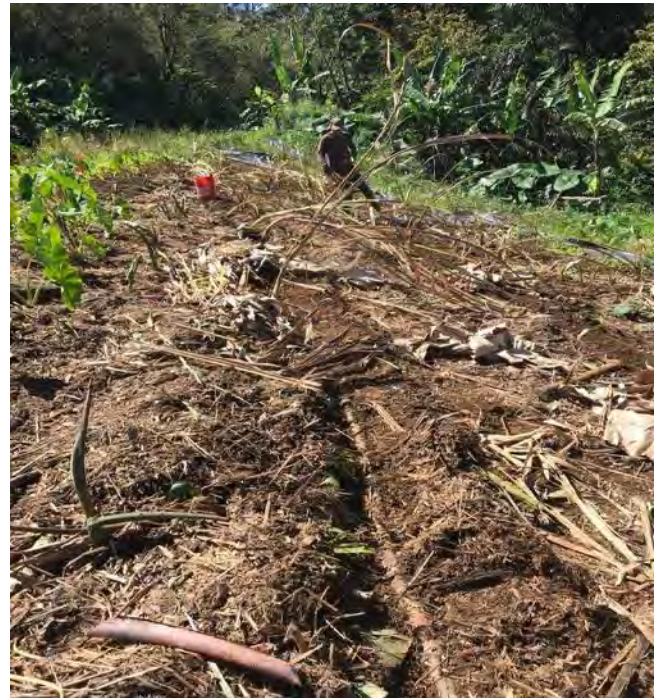


- Zone 1 - Section of parcel fronting Lookout parking & turnaround cleared and maintained from the beginning of the stewardship.
- Contracted services utilized for regular string trimming of fenceline.
 - Zone 2 - Small flat area facing the County lookout bathrooms cleared and now maintained.
- Contracted services utilized for regular string trimming of fenceline in early morning hours before parking lot traffic builds up.
 - Zone 3 - The former house platform (Zone 3) has been cleared of most invasive overgrowth is easily walkable.
- Blade cutting of tall guinea grass in Zones 2, 3, 5 & 6
 - Tall guinea grass is inviting for loitering, trash dumping, and defecation, especially during afterhours when the Resource Ranger is not there.



- NATIVE GARDEN & GENERAL PROPERTY MAINTENANCE (Pōhāhā I Ka Lani volunteer and stewardship volunteer participants)
 - Maintenance of the various native gardens around the property, including weeding, replanting, clearing up after windstorms, etc.
 - Spreading of woodchips by hand and rented equipment
 - Cleaning up of felled bamboo.
 - Installation and maintenance of weedmat
 - Clearing of loose rocks around hill sides.
 - See addendum for pictures.

- ESTABLISHMENT OF TAPERED HILLSIDE WITH VEGETATION (Pōhāhā I Ka Lani volunteer and stewardship volunteer participants)
 - Hillsides tapered in for safety in Summer 2018 were established with vetiver and sugarcane for soil stabilization.
 - Vetiver installed with Pacific Quest youth wilderness therapy program volunteers in August 2018
 - Sugarcane planted horizontal in multiple rows along topographic slope to hold soil in March 2018 with community volunteer.





- TREE WORK

- Large tree work continued, including:
 - Reduction trim & chipping of remaining large banyan & avocado stumps along Waipi‘o Valley Access Road (Contracted services)
- Trees were at the top of the dropoff directly over Waipi‘o Valley Access Road, and regrowth would be difficult to maintain without debris falling on road.
- Removal eliminated any chance of tree failure (fall over) affecting vehicle & foot traffic on the road, through damage or impediment of travel.





- Reduction of large leaning mango in Southwest corner of property
(Contracted services)
- Tree was leaning towards and threatening the Loo/Reed property adjacent to the South side of the property due to previous competition with invasive trees removed and bamboo stand reduced in 2016 and 2017.



- Removal of remaining large stump of Earpod tree on lower flats
 - Pōhāhā I Ka Lani volunteer felled remaining large trunks and primary trunk of stump.
- Removal of Royal Palms that crowd out macadmia nut trees and pruned avocado originally on site, and growing ‘ulu tree nearby.
- Chipping of various fallen and pruned branches around site.
- Maintenance of bamboo leaning & falling over property fenceline, along with management of regrowth.
 - Contractor used for stump grinding of large tree stumps also utilized with mulching bamboo area.





- Stump grinding of large tree stumps of felled trees from 2016 – 2019.
 - Stumps removed include 13 mangos, 6 Northfolk pine, and one Earpod





- THINNING & REMOVAL OF LARGE BAMBOO STAND

- Bamboo stand has been thinned multiple times due to continuously falling bamboo stalks, as the bamboo was previously sheltered from the wind by the numerous large mango and other invasive trees that have since been removed in 2016.
- Bamboo stalks continue to fall even after multiple thinnings and require clean up each time by Pōhāhā I Ka Lani organizational volunteers and other volunteers.
- Felled bamboo requires chipping or usage.
- Bamboo



- TRASH REMOVAL

- The property contained remnants of the vast amount of trash and abandoned vehicles strewn across the property found in Year 1, with unfinished trash removal from continuing.
- Trash removal included:
 - Miscellaneous glass, plastic, and other trash strewn across the property, discovered due to digging during maintenance & cultivation, as well as heavy rains uncovering glass.
 - Estimated 50 gallons of trash disposed of since October 1 2018.



- REPLACEMENT OF BAMBOO FENCING

- The replacement of the original bamboo horizontal pieces of the natural fence fronting Waipi‘o Valley Lookout was completed with volunteers from the Office of Hawaiian Education Hā Summit and Laupāhoehoe Community Public Charter School Class of 2019 seniors.
- The original pieces were old and brittle.



- New pieces were gathered from the PONC properties existing bamboo stand, allowing for sustainable replacement when needed in the future.



- SOIL TESTING

- Soil testing of seven (7) different areas around the site completed, with testing done by University of Hawai'i at Mānoa College of Tropical Agriculture and Human Resources Agricultural Diagnostic Service Center soil testing laboratory on O'ahu. (Samples shipped via the CTAHR Extension Office in Hilo.)
 - Seven (7) tested areas were:
 - Waipi'o Hillside Makai [Zone 6]
 - Waipi'o Hillside Mauka [Zone 6]
 - Upper Hillside Makai [Zone 5]
 - Upper Hillside Mauka [Zone 5]
 - Behind of Circle Banana Patch [Zone 4]
 - Norfolk Slope by Loo's (neighbor property) [Zone 4]
 - Honoka'a Side Road Garden [Zone 1]
 - These areas were selected based on their observed amounts of dumped trash and vehicles through the trash clean up phases of the stewardship in calendar years 2016 – 2019.
 - See map on next page with test sites labeled.
- Each testing area tested individually for the following soil qualities:
 - pH & Extractable Nutrients (Ca, Mg, P, K).
 - Extractable Micronutrients (Cu, Fe, Mn, Zn).
 - Metals (As, Cd, Cr, Cu, Fe, Mo, Ni, Pb, Se, Va, Zn).
 - Boron.

Koa'ekea: Waipi'o Valley PONC Parcel

Soil Sampling Map, December 2018

Soil Sample Areas #1 - #7

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Dr. Ryan Perroy & Spatial Data
Analysis and Visualization Lab in
collaboration with Pōhāhā I Ka Lani



○ Soil Sample Results

Soil Test Results															
pH & Extractable Nutrients (Ca, Mg, P, K), Extractable Micronutrients (Cu, Fe, Mn, Zn), and Boron															
LABNO	EXTRT*	DESCRIPTION	mmhos/cm		ppm, ug/g					%	%	mg/dm ³			
			pH	EC	P	K	Ca	Mg	B	N	TC	Mn	Fe	Cu	Zn
20-70		1 - Waipi'o Hillside Makai	5.9		91	145	1804	317	0.32			4.2	68	6.8	20
20-71		2 - Waipi'o Hillside Mauka	5.1		51	82	405	161	0.14			4.1	50	3.4	4.8
20-72		3 - Uppr Hillside Makai	5.9		157	232	3066	529	0.43			52	89	14	203
20-73		4 - Upper Hillside Mauka	5.6		64	356	1370	447	0.31			11	72	6.1	16
20-74		5 - Behind of Circle Banana Patch	6.9		163	435	6875	1051	0.49			7.2	147	7.0	40
20-75		6 - Norfolk Slope by Loo's	6.8		85	230	3762	332	0.28			8.0	71	6.6	56
20-76		7.- Honoka'a Side Road Garden	6.1		68	160	3270	922	0.61			18	171	6.1	13

▪ Analysis:

- Areas and test results in red are beyond *Generalized adequate soil test analysis levels for soils in Hawai'i*.
- Soil test results shows beyond adequate levels for crop cultivation of calcium at test site #4 and magnesium at test sites #4 and #5.
 - This is based on Hāmākua soils being light textured soils (*Soils of Hāmākua: Concepts in Soil Fertility*, Jonathan Deenik, UH Mānoa CTAHR) and the adequate levels of nutrients in Hawaii soils (*Plant Nutrient Management in Hawaii's Soils, Approaches for Tropical and Subtropical Agriculture*", J. A. Silva and R. Uchida, eds. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, ©2000)
 - Adequate levels of calcium for light soils is 3,000 – 4,000 ppm.
 - Honoka'a soils have been shown to have 1,880 ppm Calcium (Deenik).
 - Adequate levels of magnesium for light soils is 600 – 800 ppm.
- Higher than adequate levels of calcium and magnesium do not pose a hazard for plant crops to be cultivated and harvested for public consumption from the PONC property.
- Higher than adequate levels of calcium and magnesium would only pose challenges in the successful cultivation of crops due to their effects on the

availability of other nutrients, such as potassium and calcium. These effects would lessen over time with crop absorption, and could be safely modified with soil amendments such as biochar, cover cropping, green manure, mulching, and the addition of calcium carbonate, calcium sulphate, and potash to balance nutrient availabilities.

Soil Test Results												
Metals (As, Cd, Cr, Cu, Fe, Mo, Ni, Pb, Se, Va, Zn)												
ITEM	Sample Lab No.	Description	Anal. Code	ug/g						(ug/g = ppm)		
				As	Cd	Co	Cr	Cu	Ni	Pb	Se	Zn
1	201-0083	1 - Waipi'o Hillside Makai	S7	0.00	0.17	13.17	139.13	44.54	89.52	12.64	0.00	195.10
2	201-0084	2 - Waipi'o Hillside Mauka		0.00	0.02	16.56	211.40	40.13	154.87	0.00	0.00	155.25
3	201-0085	3 - Uppr Hillside Makai		0.00	1.08	12.84	149.89	71.46	102.37	183.74	0.00	814.12
4	201-0086	4 - Upper Hillside Mauka		0.00	0.33	15.82	191.78	42.79	146.97	4.11	0.00	250.01
5	201-0087	5 - Behind of Circle Banana Patch		0.00	0.39	6.33	69.91	42.22	17.72	45.48	0.00	225.64
6	201-0088	6 - Norfolk Slope by Loo's		0.00	0.25	9.60	52.47	51.82	52.41	2.05	0.00	309.92
7	201-0089	7.- Honoka'a Side Road Garden		0.00	0.00	11.44	86.94	37.57	9.34	42.83	0.00	127.11

- Analysis:
 - No high levels of toxic heavy metals such as Arsenic (As), Cadmium (Cd), Cobalt (Co), Chromium (Cr), Copper (Cu), Nickel (Ni), Lead (Pb), and Selenium (Se).
 - Areas and test results in red are beyond **Range of Total Content of Heavy Metals Found in Soils (Parts per Million-ppm)** for Zinc (Zn).
 - High levels of zinc are shown in test sites #3 and #6, where there was formerly large amounts of trash that has since been remove.
 - “Range of Total Content of Heavy Metals Found in Soils (Parts per Million-ppm)” for Zinc (Zn) is 0-300 ppm. (*Handbook of Trace Elements*, Pais, Istva‘n, J. Benton Jones, Jr., St. Lucie Press, 1997)
 - “High levels of zinc in soil may result from the improper disposal of zinc-containing wastes from metal manufacturing industries and electric utilities.” (Zinc, Environmental Health Fact Sheet, Illinois Department of Public Health)

- This is relates to the amounts of dumped trash, including metals and vehicles that were removed on the site in the first 3 calendar years of stewardship, i.e. 2016 – 2019.
 - “In soil, most of the zinc stays bound to the solid particles.” (Zinc, Environmental Health Fact Sheet, Illinois Department of Public Health)
 - Test site #3 and the surrounding areas will be designated as a non-food zone until bioremediation of the soil and further soil testing.
 - Bioremediation options include: phytoemdiation species of vetiver, Indian Mustard, and Sunflower; biochar; and microbial remediation (fungal and bacterial).
 - Plant tissue samples from plants such as bananas and kalo growing in test sites #3 and #6 will be looked at to send in for testing of Zn & Mg to determine if the zinc is staying bound to the soil particles or is being absorbed into plant tissue, therefore posing a health risk for consumption of plants from those areas.
- INTERIOR FENCING
 - Interior fencing along the hillside drop off that separates Zones 4 and Zone 5 reduces the potential for a stewardship participants and the public from falling down a steep slope and potentially getting injured.
 - Slope was tapered during the 2017 PONC Stewardship.
 - Fence runs vertical and parallel to the hillside drop off, with a gate at the bottom for PONC steward organization staff to access and maintain the drop off area.

2. Review and implement Native Revegetation Plan (which includes propagating and planting native species and reducing invasive species)

In the 1st year of stewardship, 2016, community surveys were done to getting general guidelines for a Native Revegetation Plan, including removal of invasive species and establishment of Native, indigenous, and beneficial plant species to reestablish a modern Native Hawaiian ecosystem.

Invasive species were largely removed through continued community workdays and organizational workdays. The primary invasive species that currently remain is Guinea Grass, the White Shrimp Plant, and Castor Bean, along with some other minor weeds. Some large tree work remained, including multiple Royal Palms, Norfolk, and Cook Island pines, along with dangerous Banyan and Avocado overhanging the Waipi‘o Valley Access Road. Also, large Chocolate Albizia stumps remain standing or felled. Guinea grass continues to need to be maintained and removed when time permits, with weed mat as an interim method to reduce its vigor.

Initial plantings occurred in the 1st year, and continuation of the Revegetation Plan occurred in 2018 & 2019. Although, now that much of the invasive tree canopy has been cleared, a Native canopy & shade mixture of ‘ulu, niu, and mai‘a is needing to grow to maturity in order to really sustain some of the more shade preferable Native & beneficial plants. Further planting for revegetation will continue through Pōhāhā I Ka Lani member volunteer and volunteer participants with group hostings.

- REMOVAL OF INVASIVE SPECIES & MAINTENANCE OF ESTABLISHED PLANTINGS
 - Thinning, chipping, and grinding of large bamboo stand for access, safety, and aesthetics (*Contracted services*)
 - Large bamboo stand (60ft width x 25ft length x 50ft height) had large sections of dead material, a large pile of bamboo debris from fenceline clearing, and many leaning shoots after being previously protected by Mango, Ficus, and other trees.
 - Clearing was done so as to remove dead bamboo, leaning shoots, and bamboo debris for safety and walkability of the area.
 - Maintenance of established gardens and plantings of Native & beneficial plants (*Pōhāhā I Ka Lani volunteer & volunteer participants*)
 - Gardens established in Year 1 (2016) of stewardship were maintained through weeding, mulching, and replanting if needed.
 - ‘Ulu (breadfruit, *Artocarpus altilis*) – Ma‘afala variety [Donated by Amy Greenwell Botanical Gardens], Otea, & fiti
 - Zone 1, 3 & 4

- Mai‘a (banana, *Musa paradisiaca*) – Huamoa variety [Donated by Amy Greenwell Botanical Gardens], and various indigenous varieties, including ‘Ele‘ele, Popoulu, Iholena, Feti, Hapai, and others.
 - Zone 1, 3, and 4
- Loulu (Native fan palm) – [Donated by Amy Greenwell Botanical Gardens]
- Kalo (*Colocasia esculenta*) – various indigenous varieties
- Uala (*Ipomea batatas*) – Currently unknown variety [Donated by community member]
- ‘Ōlena (*Curcuma domestica*) – Blue rhizome variety [Donated by community member]
- Kō (sugarcane, *Saccharum officinarum*) – various varieties of indigenous Kō
- Pili (pili grass, *Heteropogon contortus*) – a few small plantings for educationa and possible future use.
- Hibiscus (*Malvaceae sp.*) – various varieties of Native & indigenous hibiscus
- Niu (coconut, *Cocos nucifera*) - dwarf varieties for low growth and production.
 - Zone 3
- NEW PLANTINGS
 - Establishment of new plantings of Native & beneficial plants across property (*Pōhāhā I Ka Lani volunteer & volunteer participants*)
 - Kalo, mai‘a, and ko – various indigenous varieties
 - Replantings in Zone 1, 2, 3, 4, 5, and 6.
 - Maile & hibiscus in Zone 5.
 - Vetiver in zones 5 & 6.

3. Review and implement Educational Plan including offering regular classes, workshops and weekend camps

OVERVIEW

The current years project was titled “Ho‘omau Ka Hana No‘eau Project”, with co-support from Hawai‘i Tourism Authority Community Enrichment Program funding. In 2019, the Ho‘omau Ka Hana No‘eau o Waipi‘o Project goals were to: 1) collaborate with the community, County of Hawai‘I, and HIVB for educational brochures & signage for visitors; 2) continue community stewardship and presence through community & workdays; 3) designate & facilitate the front area as a cultural protocol site; and 4) hold community cultural workshops. Through achieving these

goals, the cultural heritage, rural feel, and community sense of place will be held at the ‘īpuka, or gateway, to Waipi‘o Valley at Koa‘ekea.

Pōhāhā I Ka Lani volunteer and educational/stewardship group hostings in the project facilitated the Waipi‘o Valley community, the broader Hawai‘i County community, neighbor island residents, and United States and international visitors in the process of clearing and maintaining the parcel.

To meet the aspects from the 2016 stewardship community surveys, educational and stewardship group hostings occurred in 2019 calendar year with hundreds of individuals and over a dozen organizations participated in the stewardship and education at Koa‘ekea.

The front area of the PONC property that faces Waipi‘o Valley is an ideal place for cultural protocol by cultural, community, and educational groups. A cultural protocol facilitator provided groups with the context of the PONC properties community led to purchase, stewardship of the site, connecting mo‘olelo of Koa‘ekea, and the rich heritage of Waipi‘o Valley. Cultural education describing the cultural significance of Koa‘ekea, Waipi‘o Valley, and the surrounding area was shared with participants. Mele (song) and oli (chant) were regularly done as protocol, setting the context before any stewardship work was done.

Participants were sheltered with temporary tents for lunch time gathering area, and for daylong shelter for any kūpuna and keiki. Meals on these group hostings were provided for. Group hostings are

Educational Aspects from Community Planning Survey’s of 2016 Pōhāhā I Ka Lani PONC Stewardship

- Community Meeting & Gathering place primarily for community associations, families, educational fairs, cultural workshops, and farmers market
 - Community gatherings to “foster community, inclusiveness, ‘ohana.”
- Gardens for community market, education, plant source for community, food for schools & community.
- Educational workshops of Waipi‘o knowledge sharing, cultural traditions and knowledge, farming techniques & knowledge, music, etc.
 - Community cultural & spiritual events.
- Visitor education of history, culture, sacredness, protocol, and safety.

intended to continue, with planting of areas to be done as areas are cleared, especially after tree work is complete, continuing the implementation of the Revegetation Plan.

EDUCATIONAL ACTIVITIES & HOSTINGS

The Ho‘omau Ka Hana No‘eau Project benefited the community and visitors by providing cultural education, service learning, cultural protocol, and cultural workshop opportunities for residents and visitors at the Waipi‘o Valley Lookout PONC parcel. Being a PONC parcel, which stands for Public Access, Open Space, & Natural Resource Conservation, the project helped to bring the purpose of these parcels to life through Pōhāhā I Ka Lani’s group hostings, workshops, and serving as a cultural protocol site. Due to the County of Hawai‘i not having clear guidelines for resident and visitor public usage of PONC parcels, Pōhāhā I Ka Lani’s programs at the Waipi‘o Lookout PONC parcel are the only current means for public usage of the property. PONC parcels were purchased for the intent of recreation and education in addition to the inherent protection of the land. The Ho‘omau Ka Hana No‘eau o Waipi‘o Project continued Pōhāhā I Ka Lani’s programs at the site that provides for cultural re-creation and education, with re-creation being the creation anew of a cultural space above Waipi‘o Valley where the legends of chiefs reference before they entered Waipi‘o Valley.

841 Hawai‘i Island residents and 41 neighbor island residents participated in the project, with participants coming from almost all the islands of Hawai‘i. The 824 Hawai‘i Island residents participated through the workdays, workshops, and group hostings. Hawai‘i Island group hostings came from ___ different groups, including UH Hilo and Hawai‘i Community College students, Big Island Invasive Species Council staff, Kaho‘iwai Teacher Education Program cohort members, Hilo based Hālau Hula Unukukukuku, Honoka‘a High School, Kanu O Ka ‘Āina, Hawai‘i Island Department of Education Teachers & Staff (Hā Summit workshop), Laupāhoehoe Community PCS seniors and kindergardeners, Hawai‘i Preparatory Academy, Hawai‘i Academy of Arts & Sciences students & staff, Arnott’s Lodge & Adventures, Big Island Farms agriculture interns, Kohala Center youth agriculture interns, KUPU Hawai‘i Youth Conservation Corps members, and Big Island residents & community members from Waipi‘o, Honoka‘a, Waimea, and Hilo. The 41 neighbor island residents came through groups, including: Department of Education Teachers & Staff (Hā Summit workshop), KUPU Hawai‘i Youth Conservation Corps members, staff leaders of the Japanese student group, Anthology Media Group staff, and Bishop Museum Guest Experience winners.

119 U.S. visitors participated in the project, including participating groups from Carrol University staff & students, mainland journalists, Goldbelt Heritage Foundation indigenous Alaskan youth program staff and youth, Big Island Farms agriculture interns, Rustic Pathways staff and youth, and visitors on island who participated in mālama ‘āina days with Hawai‘i Island resident friends.



64 international visitors participated in the project, including Japanese youth groups, Share Aloha Foundation’s Mālamalomi group, and Hawai‘i Preparatory Academy international students.

723 cultural participants including 567 Hawai‘i Island resident participants and 156 visitor participants, who got to utilize the premier protocol space at the Waipi‘o Valley Lookout that is on the PONC property, with a panoramic view of Waipi‘o Valley’s front floor and bay, the Pacific Ocean, and at times Maui in the distance. Some of these cultural protocol participants were participating in this program, entering Waipi‘o Valley, or heading to the Waipi‘o Valley rimlands.

Workshop provided cultural learning experiences of a lā‘au lapa‘au workshop, a hula workshop, ti leaf lei making workshop, cultural protocol workshop, cultural education and traditional lashing workshops. These workshops had resident participants from Hawai‘i Island and neighbor islands, as well as European visitors in the poi board making workshop.

SIGNAGE



The below signage has been put on the property to help facilitate education of participants and visitors.

ALOHA WAIPI'O

“Kaulana ku’u home puni Waipi’o”
Famous is my home, beloved Waipi’o
(Heha Waipi’o by Sam Li’a Kalainaina, Sr)
The people of Waipi’o love their home.

#ALOHAWAPIO

MĀLAMA WAIPI'O

“E mau ke ea o ka ‘aina i ka pono”
The life of the land is perpetuated in righteousness.
(Ka Na’i Aupuni by William Kaniho)
Care for Waipi’o and all land & waters.

#MALAMAWAPIO



KAPU WAIPĪ'O

“Aia i Waipi'o Paka'alana, Paepae kapu ia o Liloa”

In Waipi'o stands Paka'alana, The sacred platform of Liloa
(Name song of Kamehameha the Great)

To it's descendants, Waipi'o is sacred with it's land, waters, history & culture.

#KAPUWAPIO



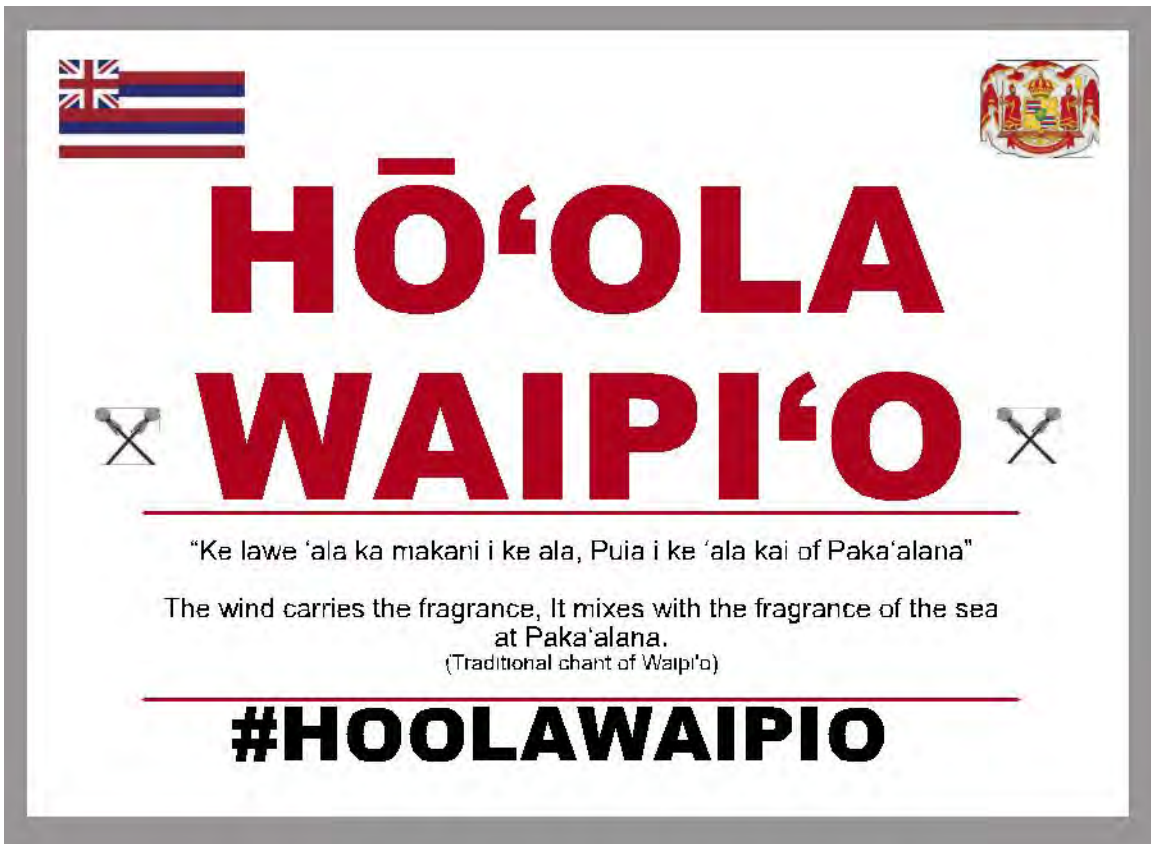
PALE WAIPĪ'O

“Kaulana na pua a'o Hawai'i, Kupa'a ma hope o ka 'aina”

Famous are the children of Hawai'i, Ever loyal to the land
(Kaulana Na Pua by Edith Kaho'ohiwaokalani Wnght Prendergrast)

Waipi'o is protected by those loyal to the land.

#PALEWAPIO



GREEN PRACTICES

All of the food cutlery, including plates, cups, and utensils, were biodegradable. The plates, napkins, and cutlery is being composted on the site, as there is garden spaces that the compost will serve as nutrients in the future.

Large drink jugs of water and other drinks (mamaki tea, etc.) were provided with participants encourage to bring hydroflasks, and biodegradable cups provided if needed.

Printing of flyers was minimized, with most marketing done via social media to reduce printed material waste.

Participant work gloves were utilized and then washed in a local laundry mat as many times as possible to reduce the waste of disposed of worn out work gloves

4. Plan and host community gatherings & events

Dozens of groups were hosted, hundreds of individuals participated, and numerous organizations were worked with to take part in the stewardship and educational activities of at the PONC parcel. See statistics above and listing below.

January 2019

- January 4, 2019 – Health and Nutrition Workshop with Carrol University in ‘olena harvesting & processing and ti leaf lei making.
- January 10, 2019 – Community ‘ohana mālama ‘āina
- January 20, 2019 – Community ‘ohana mālama ‘āina
- January 21, 2019 – Mālama ‘āina with Big Island Invasive Species Council staff and Kaho‘iwai Teacher Education Program 2019 cohort student.

February 2019

- February 18, 2019 – Sharing the mo‘olelo and history of Waipi‘o Valley with mainland journalist Ross Urken.
- February 21, 2019 – Community ‘ohana mālama ‘āina
- February 23, 2019 – Hula Workshop with Hilo-based hula hālau, Hālau Māunuunu. Sharing of ‘oli, hula, and mālama ‘āina.

March 2019

- March 9, 2019 – Community ‘ohana mālama ‘āina
- March 11, 2019 – Hawai‘i Community College Biology 156 class mālama ‘āina
- March 13, 2019 – Community ‘ohana mālama ‘āina
- March 14, 2019 – Sharing of mo‘olelo with Honoka‘a High School students by community member Deedee Ka‘iulani Pahio
- March 15, 2019 – Community ‘ohana mālama ‘āina
- March 16, 2019 – Community service mālama ‘āina with Hawai‘i Island resident

- March 17, 2019 – Protocol by Pōhāhā I Ka Lani Board of Directors and community members before blessing of Waipi‘o Valley rimlands.
- March 21, 2019 – Meeting with Hawai‘i County Research & Development tourism staff
- March 27, 2019 – Community ‘ohana mālama ‘āina
- March 29, 2019 – Kanu O Ka ‘Āina Lā ‘Ohana Hō‘ike Workshop, with sharing of mele, oli, and hula by preschool, elementary, middle, and high school haumāna.

April 2019

- April 4, 2019 – Community ‘ohana mālama ‘āina and preparation for upcoming Office of Hawaiian Education Hā Summit.
- April 5, 2019 – Traditional Hawaiian Lashing and Cultural Education Workshop Office of Hawaiian Education Hā Summit with Hawai‘i Department of Education educators, staff, and students from all islands of the State as a teacher professional development service learning day. Teachers, staff & students worked together to weed canoe crop gardens and lash bamboo fencing.
- April 15, 2019 – Traditional Hawaiian Lashing & Cultural Values Workshop with Laupāhoehoe Community Public Charter School (PCS) High School senior class as their capstone service learning huaka‘i (field trip), where they learned how to do lashing to complete repair bamboo fencing.
- April 18, 2019 – Laupāhoehoe Community Public Charter School (PCS) cultural protocol (oli) and mo‘olelo sharing.
- April 20, 2019 – Community ‘ohana mālama ‘āina
- April 25, 2019 – Community ‘ohana mālama ‘āina
- April 29, 2019 – Community ‘ohana mālama ‘āina

May 2019

- May 5, 2019 – Hawai‘i Preparatory Academy international student service learning program students met at the Waipi‘o Valley Lookout to learn mo‘olelo of Waipi‘o Valley and be present for cultural protocol before participating in our HTA Aloha ‘Āina Program funded project, Lehua Lulu‘u Pali.

- May 11, 2019 – Kumu Lā‘au Lapa‘au Ikaika Dombrigues met at site to plan upcoming workshop.
- May 18, 2019 – Community ‘ohana mālama ‘āina
- May 20, 2019 – Cultural protocol with Laupāhoehoe Public Charter School High School senior class before entering Waipi‘o Valley.
- May 30, 2019 – Hawai‘i Academy of Arts and Sciences K-12 students end of year huaka‘i.

June 2019

- June 1, 2019 – Mālama ‘Āina Day
- June 3, 2019 – Cultural exchange and protocol with Goldbelt Heritage Foundation Indigenous Alaskan student organization.
- June 5, 2019 – Community ‘ohana mālama ‘āina
- June 6, 2019 – Sharing of mo‘olelo with Arnott’s Lodge & Adventures staff
- June 8, 2019 – Community gathering
- June 18, 2019 - Community ‘ohana mālama ‘āina
- June 19, 2019 - Community ‘ohana mālama ‘āina
- June 20, 2019 - Community ‘ohana mālama ‘āina
- June 21, 2019 – Big Island Farms agricultural farms mālama ‘āina

July 2019

- July 4, 2019 – KUPU Hawai‘i Youth Conservation Corps & Honoka‘a High School protocol and mālama ‘āina in morning before descending in Waipi‘o Valley.
- July 5, 2019 – Hui Mālama i Ke Ala ‘Ūlili summer program of elementary and middle school youth doing cultural protocol and tending to gardens.
- July 8, 2019 – Lā‘au Lapa‘au Workshop with Kumu Ikaika Dombrigues
- July 11, 2019 – Kumu Ikaika Dombrigues providing Pōhāhā I Ka Lani staff with additional training in cultivation and harvesting of medicinal plants.
- July 12, 2019 – Kohala Center staff tending to native mai‘a (banana) varieties.

- July 13, 2019 – Poi Board Workshop for island residents to make a poi board from wood that came from the Waipi‘o Valley Lookout site.
- July 16, 2019 – Anthology Media Group staff and journalists visit for sharing of programs, mo‘olelo, and planting of medicinal plants (nī‘oi and awa).
- July 22, 2019 – KUPU HYCC tending to gardens before descending into Waipi‘o Valley.
- July 23, 2019 – KUPU HYCC tending to gardens before descending into Waipi‘o Valley.
- July 25, 2019 – KUPU HYCC tending to gardens before descending into Waipi‘o Valley.
- July 26, 2019 – KUPU HYCC tending to gardens before descending into Waipi‘o Valley.
- July 30, 2019 – Cultural protocol with Japanese visitor students

August 2019

- August 2, 2019 – Cultural protocol with Japanese visitor students
- August 4, 2019 – Removal of large trees for expansion of native gardens.
- August 7, 2019 – Rustic Pathways youth travel and service learning group tending to Native Gardens
- August 9, 2019 – Site preparation for next days Bishop Museum Guest Experience auction winner, including Bishop Museum staff and other Waipi‘o Valley taro farmers.
- August 10, 2019 – Cultural protocol with Bishop Museum Guest Experience auction winner, including Bishop Museum staff and other Waipi‘o Valley taro farmers.
- August 20, 2019 – Community ‘ohana mālama ‘āina picking up trash
- August 22, 2019 - Community ‘ohana mālama ‘āina maintaining slope stabilizing vetiver grass

September 2019

- September 8, 2019 – Community ‘ohana mālama ‘āina tending to native gardens
- September 15, 2019 – Community ‘ohana mālama ‘āina tending to native gardens

October 2019

- October 6, 2019 - European-based Hawaiian cultural learning organization, Share Aloha Foundation, lomilomi students tend to native gardens.
- October 26, 2019 – Hawai‘i Community College Service Learning Program mālama ‘āina.

November 2019

- November 10, 2019 – Poi Board Workshop with European-based Hawaiian cultural learning organization, Share Aloha Foundation, lomilomi students
- November 17, 2019 - Community ‘ohana mālama ‘āina tending to native gardens

December 2019

- December 6, 2019 – Cancelled group hosting with Hawai‘i Academy of Arts and Sciences due to forecasted heavy rains.

Project Improvement

The project could be improved through: #1) creation of dynamic ways to build community & visitor participation; #2) further involvement of more visitors, residents, partner organizations, community groups, and local businesses; #3) consistent non-PONC stewardship funding to provide for regular staffing to allow for more community and visitor cultural recreation and educational activities; and #4) securing of permits & outside funding to construct of permanent structures for weather protection.

Our PONC stewardship for the calendar year 2020 is supported by a HTA CEP awarded project that will work toward improvements #1 and #2 directly, developing an incentive program of on-site music with mālama ‘āina days that builds towards off-site fundraising concerts with participants receiving concert incentives. This would help build participation and partnerships, through the on-site and off-site music events.

Improvement #3 and #4 will happen through continued application and/or advocacy for outside, non-PONC funding as Pōhāhā I Ka Lani staff and construction of structures cannot be paid through PONC stewardship funding. Non-PONC could include dedicated non-PONC funds from HTA

funding, the County of Hawai'i for staff position, or other sources. Structures such as an outdoor traditional hale or gazebo would be ideal to have functions that are protected from the weather without needing to regularly setup and breakdown temporary shelter.

Budget & Expenditures Summary – Current as of January 31, 2020

PONC Funds Budget Expenditures			
Item	Amount Budgeted	Amount Expended	Amount Remaining
Personnel	\$0	\$0	\$0
Equipment	\$10,000	\$8,781.67	\$1,218.33
Independent Contractor Services	\$22,000	\$20,818.05	\$181.95
Equipment Rental & Maintenance	\$15,500	\$14,350.26	\$2,149.74
Food	\$8,000	\$7,664.12	\$335.88
Mileage Reimbursement	\$2,500	\$2,449.44	\$50.56
Honorarium	\$2,000	\$2,000.00	\$0.00
Postage	\$1,000	\$0.00	\$1,000.00
Printing & Copying	\$500	\$500.00	\$0.00
Supplies	\$6,000	\$10,936.46	(\$4,936.46)
Other Expenses- Indirect (10%)	\$6,750	\$6,750.00	\$0.00
Total	\$74,250.00	\$74,250.00	\$0.00

Budget Description

❖ Summary of Expenses by Budget Categories per Proposal:

➤ Equipment:

▪ Small Hand Tools:

- Various Landscaping Hand Tools: Machetes, Rakes, Picks, Pull saws, new and replacement wheelbarrows, and machete sharpeners.

- Enclosed Cargo trailer: 5x10 Haulmark Trailer with cargo tie downs and storage for transport of electronics, tables, tents, and other equipment and supplies for PONC workshops and events.

➤ Contracted Services

▪ Site Work

- Tree Services – felling, pruning, and chipping of various trees on property, including those along road way and others on property.
- Site Clearing & Greenwaste Hauling – movement and removal of green waste, mulch moving
- Forestry mulching of bamboo to remove bamboo stand that was continuously falling due to previously being sheltered from since removed trees. Area now flat and will be walkable with maintenance.

- Stump Grinding of tree stumps around property that were felled from beginning of stewardship to present, including numerous Norfolk Pines, Mangos, and the recently removed large Earpod tree.
- Site Maintenance – various site maintenance work including string trimming of property, garden maintenance.
- Group Hosting Preparation & Support
 - Fencing –Interior fencing to prevent access to a hill with dropoff. Drop-off has been tapered but the incline is still steep and fencing protects unwanted falls by public and volunteers.
 - Soil Testing – Soil testing of seven different areas around the site completed, with the each testing area testing individually. Each testing area tested for the following soil qualities: a) pH & Extractable Nutrients (Ca, Mg, P, K); b) Extractable Micronutrients (Cu, Fe, Mn, Zn); c) Metals (As, Cd, Cr, Cu, Fe, Mo, Ni, Pb, Se, Va, Zn); and d) Boron. Each soil quality test is individually charged.
- Equipment Rental & Maintenance
 - Truck Rental – daily rental of trucks for transport of materials, supplies, and equipment to site for stewardship and group hostings.
 - Equipment Rental – multiple rentals of small backhoe for mulch, rock, and vegetation moving.
 - Repair & Maintenance Services – parts & services for repair & maintenance of stewardship equipment, including trailer, chainsaw, trimmer, and mower repairs.
 - Water Hauling – none due to no water tank purchased in 2017 grant period.
- Food – food and refreshments for volunteers during stewardship and educational workshops.
- Mileage Reimbursement –personal SUV used to transport supplies for workdays and workshops, and when rented truck not available. 36 total trips x 126 miles/each x @ \$0.54/mile.
- Honorarium – gifts for donated In-Kind services (vetiver planting), workshop hosts, and regular volunteers.
- Postage – Soil samples able to be shipped to the University of Hawai‘i at Mānoa College of Tropical Agriculture and Human Resources Agricultural Diagnostic Service Centersoil testing laboratory via the CTAHR Extension Office in Hilo. No charge for shipping of the samples, which were heavy and weight.
- Printing & Copying – Printing of flyers for workdays to complement social media for advertisement of events.
- Supplies
 - Personal Protection Equipment: Gloves, Safety Glasses, Ear Plugs/Muffs, Chainsaw Chaps, helmet, etc.
 - Misc. Power Equipment Supplies: Chainsaw bars & chains, gas can, 2-cycle engine oil, trimmer line, tree felling supplies, etc.
 - Misc. Electrical Supplies – power cords, splitters, etc.
 - Misc. Supplies -

- Paper goods & other food supplies - for group hostings and educational workshops, including plates, napkins, forks, spoons, cups, plastic bags, aluminum foil, etc.
 - Printing & Copying, Office supplies, etc.
 - New & replacement temporary shelter (pop-tents) and canopy tents, including replacement covers. Multiple tents were damaged due to wind.
 - Table covers.
 - Water jugs.
 - Cleaning supplies for group hostings and workshops including: a) cleaning solutions for hands, tables, benches, etc; b)
 - Fuel, Vehicle: Travel to and from site by Pōhāhā I Ka Lani staff for: a) community, educational group, and organizational workdays; b) site surveying, planning, and preparation for workdays; c) hauling of equipment, including rental equipment; and d) hauling of weeded green waste and trash to transfer station for green waste mulching, metal recycling, and trash disposal.
 - Fuel, Power Equipment: gasoline for mowers, chainsaws, weed eaters, generator, and diesel for rented backhoe.
 - Plants: Native & beneficial plants, including hibiscus, maile, Hawaiian mistletoe, and others.
- Indirect Costs
- Liability Insurance
 - Accounting Services
 - Office Expenses
 - Website Fees
 - Office Utilities
 - Vehicle Expenses & Fees
 - Postage
 - Bank Fees

Pōhāhā I Ka Lani hereby submits the above report as a true reporting of the progress and accounting of the awarded PONC Stewardship Grant.

Name of Authorized Official: Jesse Keone Potter

Title of Authorized Official: Executive Director, Pōhāhā I Ka Lani

Signature: Jesse K. Potter

Date: January 31, 2020



Pōhāhā I Ka Lani

“to revitalize and advance indigenous Hawaiian culture”
a 501c3 non-profit organization

Flyer Media Promotion List, Jan – Dec 2019

- **June 1, 2019, Mālama ‘Āina Day**



Mālama ‘Āina

We will be gathering at Koa'ekea to mālama the different gardens at the site as we make way for our summer programs and workshops. If you are interested in attending, please email pohahaikalani@gmail.com.

Δ 10:00 am – 1 pm

Δ Lunch will be provided



County of Hawai'i



HTA: CEP



Pōhāhā I Ka Lani

Event by Pōhāhā I Ka Lani through authorization by the Hawaii County PONC Stewardship Grant and funding by Hawaii Tourism Authority Community Enrichment Program Grant “Ho'omau Ka Hana No'eau”

- July 8, 2019, Lā‘au Lapa‘au Workshop



Lā‘au Lapa‘au Workshop

With Po‘okela Ikaika Dombrigues

Our ancestors relied on the connectedness to nature and its healing powers. Come learn about the many different plants and their uses. As part of the day, we will also create a lā‘au lapa‘au garden.

△ We will begin at 10:00 a.m.

△ To Register Contact
pohahaikalani@gmail.com

△ Lunch will be provided



County of Hawai‘i



HTA: CEP



Pōhāhā I Ka Lani



a 501c3 non-profit

Event by Pōhāhā I Ka Lani through authorization by the Hawaii County PONC Stewardship Grant and funding by a Hawaii Tourism Authority Community Enrichment Program.

- July 13-14, 2019, Kalai Papa Ku‘i ‘Ai Workshop (Poi Board Making)



Kālai Papa Ku‘i ‘Ai Workshop

(Poi Board Workshop)

Δ We will be meeting up at 10:00 a.m. on both days.

Δ To Register Contact pohahaikalani@gmail.com Limited Space



County of Hawai‘i

HTA: CEP

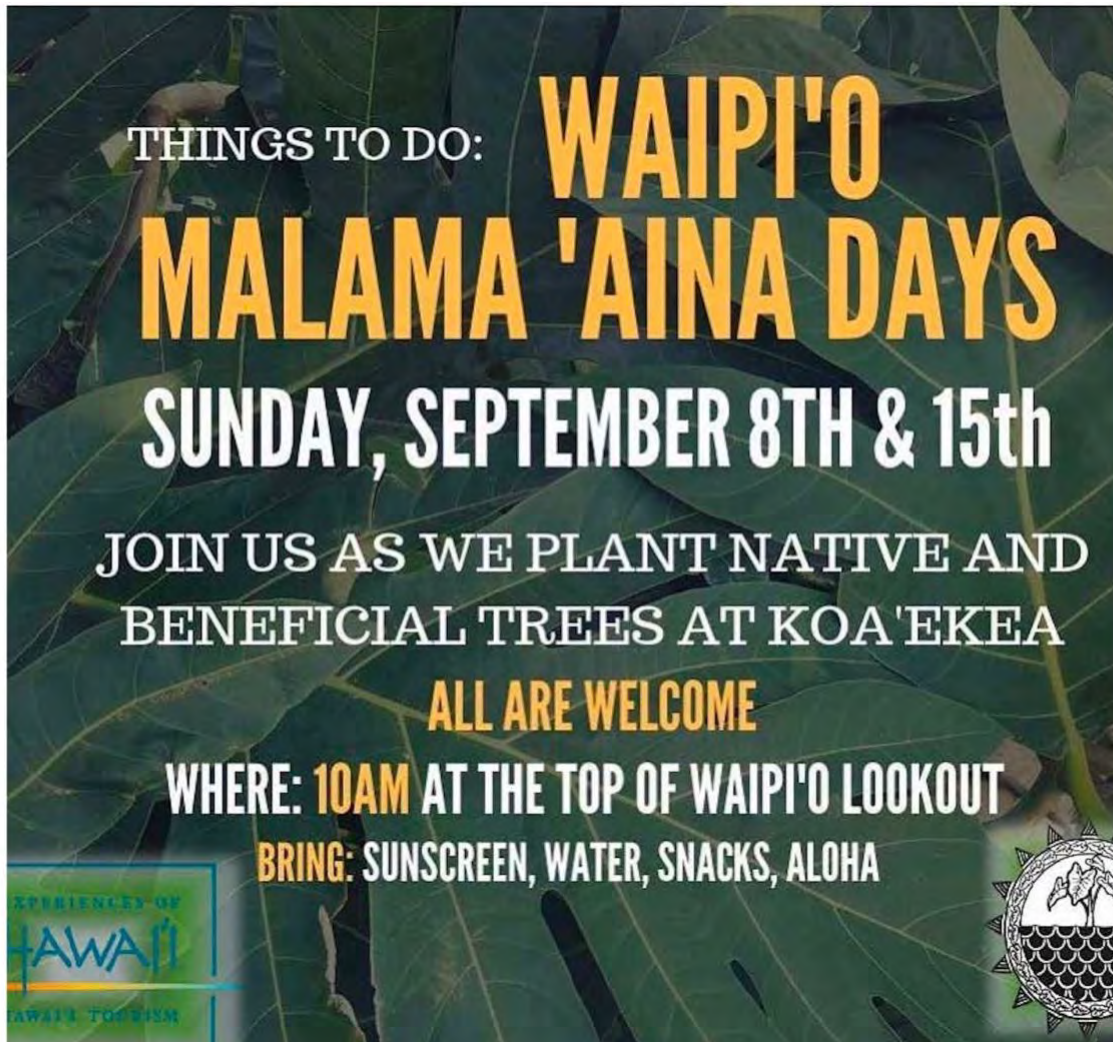
Pōhāhā I Ka Lani



a 501c3 non-profit

Event by Pōhāhā I Ka Lani through authorization by the Hawaii County PONC Stewardship Grant and funding by a Hawaii Tourism Authority Community Enrichment Program Grant.

- September 8th & 15th, 2019, Mālama ‘Āina Days



THINGS TO DO: **WAIPI'O**
MALAMA 'AINA DAYS
SUNDAY, SEPTEMBER 8TH & 15th
JOIN US AS WE PLANT NATIVE AND
BENEFICIAL TREES AT KOA'EKEA
ALL ARE WELCOME
WHERE: **10AM** AT THE TOP OF WAIPI'O LOOKOUT
BRING: SUNSCREEN, WATER, SNACKS, ALOHA

EXPERIENCES OF
HAWAII
HAWAII TOURISM

- September 15th, 2019, Mālama ‘Āina Days

What to Bring:

- Hydroflask
- Gloves
- Sunscreen

Lunch provided

Mālama ‘Āina Day @
Sunday, Sept. 15th
10am - pau
Koa'ekea
Waipi'o Valley Lookout

RSVP @ pohahaikalani@gmail.com

Pōhāhā | Ka Lani

EXPERIENCES OF
HAWAII
HAWAII TOURISM

County of Hawai'i

Kuleana of the Day: Mālama the native gardens and plant new mea 'ai (food crops).