

Ho'oulu Nāulu



Received at 12/04/2025 ADEPT
meeting from Uhiwai O Haleakala

UHIWAI
O HALEAKALĀ



The Naulu cloud looking east

NAULU

A Major Lifeforce of Honuaula

Kane- Wind, Cloud, Rains,
Heat, Plants

The many names and
contributors-

Ocean- Alenuihaha,
Alalakeiki, Kealaikahiki

Places- Kaupo, Kahikinui,
Honuaula, Puu makua, Puu
mahoe, Moaulanui,
Kealaikahiki, Kanahena, Puu
Lihau, Ulupalakua

Rains- Hinelii, Naulu, Noe,
Lihauula, Ohu, Kilihune,
Ililani

Sanctification because of
Life.



Naulu Koa at Puu Mahoe

WAIAKA- the reflection

As it is above, so below.
Forward marching together.

Ahu - The Ko'a- Connect the dots- Partnerships and collaboration

Kilo- Understanding the Resources- Legacy- Continuance

Aha- Doing our part

Hana Kaulike- Sweat Equity + Preserverance

Aloha- Exchange with the Environment



Hakioawa towards maui
Naulu above



Kaipuakane Koa at Moaulanui

Auwahi, Maui

“Auwahi is a wahi pana”

“One becomes many”

“Where rigor overlaps with relevance”

“Leeward Haleakalā is the epicenter of extinction in the Pacific”

“Mo bettah we try something; we already know what happens when we try nothing”

“When you think you know, you have no idea”



Kahikinui, auwahi ka makani!
Nana aku au ia Kona,
Me he kua lei ahi la ka moku;
Me he lawa uli e, la, no
Ku'u kai pa-u hala-ka
I ka lae o Hana-malo
Me he olohe ili polohiwa,
Ke ku a mauna,
Ma ka ewa lewa Hawaii.
Me he ihu leiwi la, ka moku,
Kou mauna, kou palamoa:
Kau a waha mai Mauna-kea
A me Mauna-loa,
Ke ku a Maile-hahei.
Uluna mai Mauna Kilohana
I ka poohiwi o Hu'e-hu'e



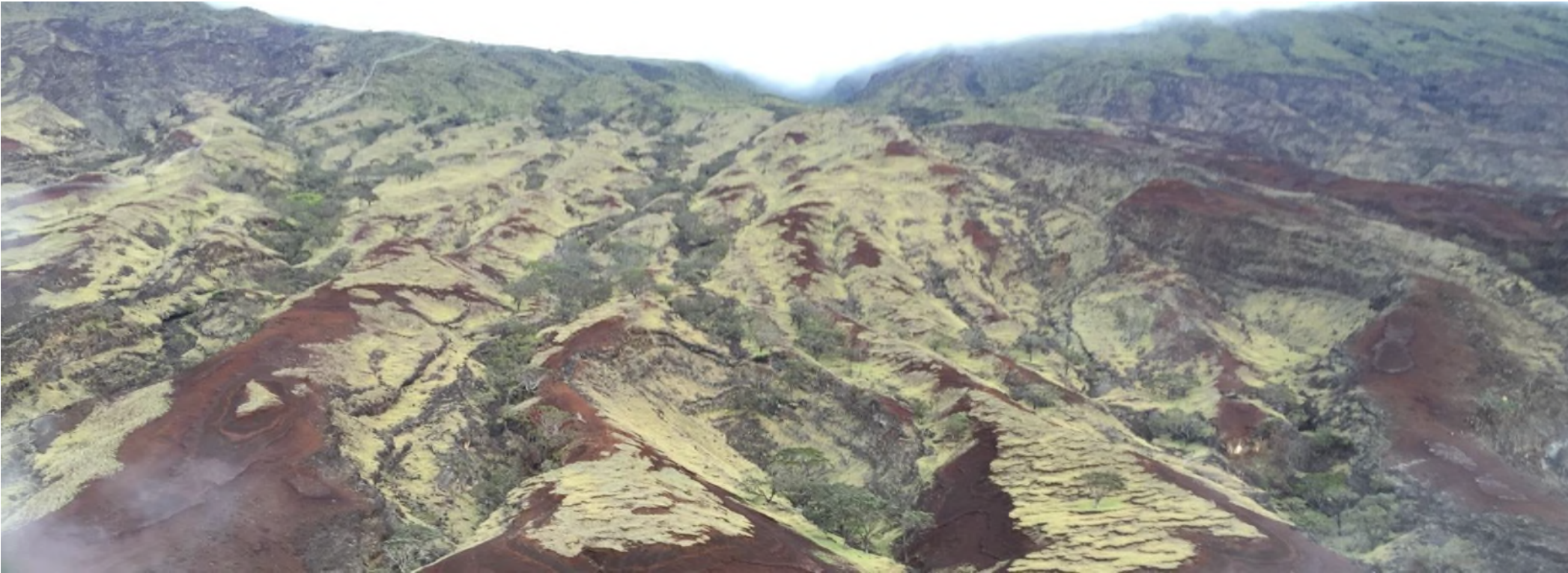
Kahikinui, land of wind-driven smoke!
 Mine eyes gaze with longing on Kona;
 A fire-wreath glows aback of the district,
 And a robe of wonderful green
 Like the sea that has aproned my loins
 Off the point of Hana-malo
 A dark burnished form is Hawaii,
 To one who stands on the mountain
 A hamper swung down from heaven,
 A beautiful carven shape is the island
 Thy mountains, thy splendor of herbage:
 Mauna-kea and Loa
 stand apart (in glory)
 To him who looks from Maile-hahei;
 And Kilohana pillows for rest
 On the shoulder of Hu'e-hu'e.

Emerson (1965) recounts the following *mele hoipoipo* (love song) personifying a lover as land forms of leeward East Maui and Hawai'i island:

Mohala i ka wai ka maka o ka pua

Unfolded by the water are the faces of flowers

Only 5% of remnant native forest on Leeward Haleakalā remains



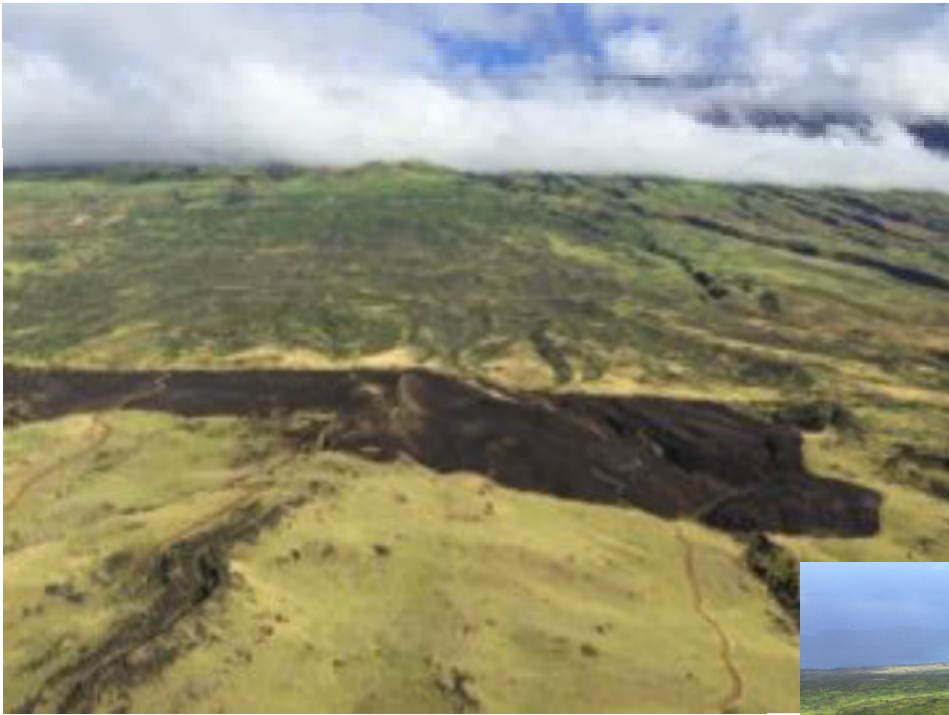
Erosion



Introduced, unmanaged animals



Fire, drought, invasive grasses, etc.



Storms, winds, suppression of seed bank, pathogens,
loss of ecosystem function







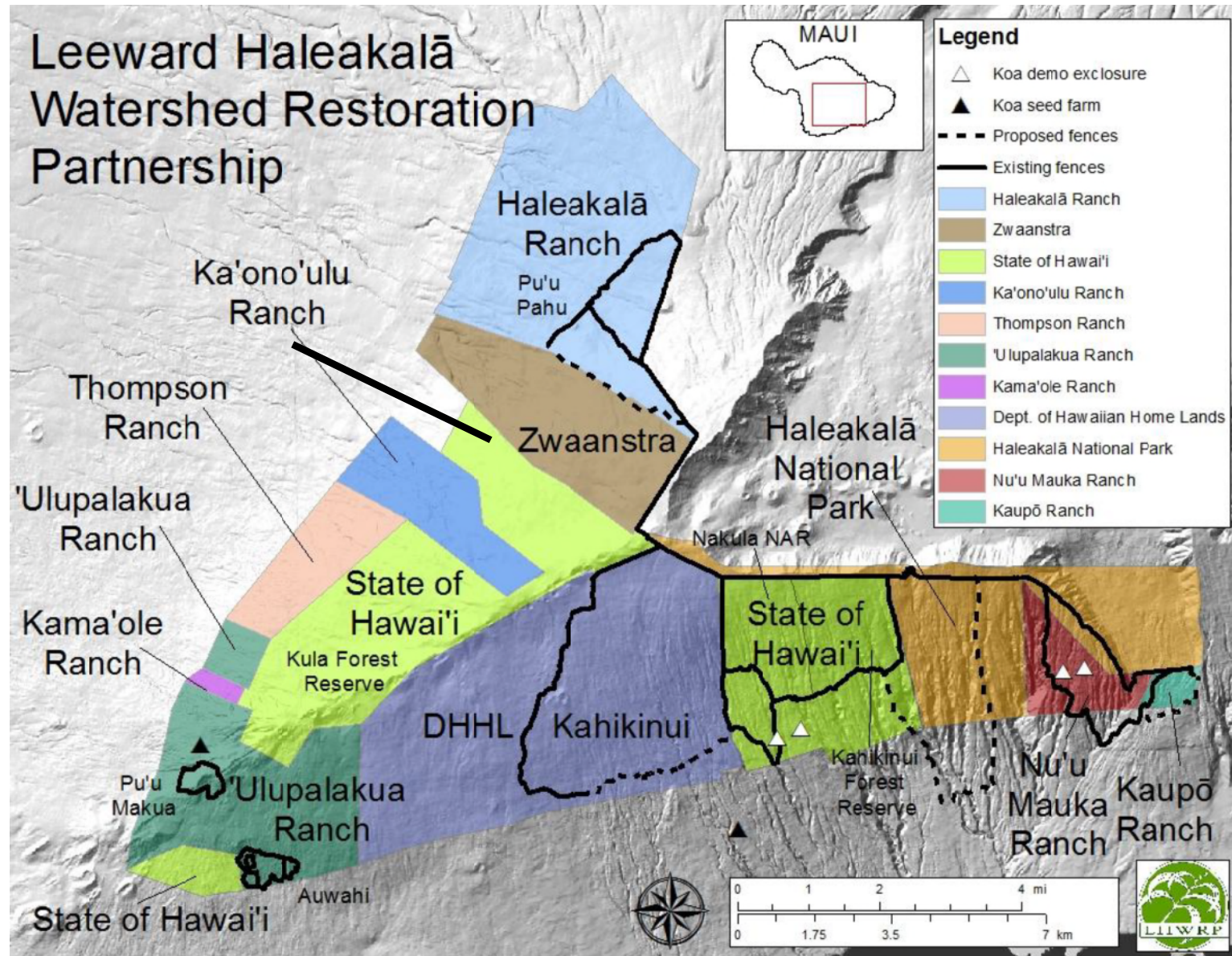


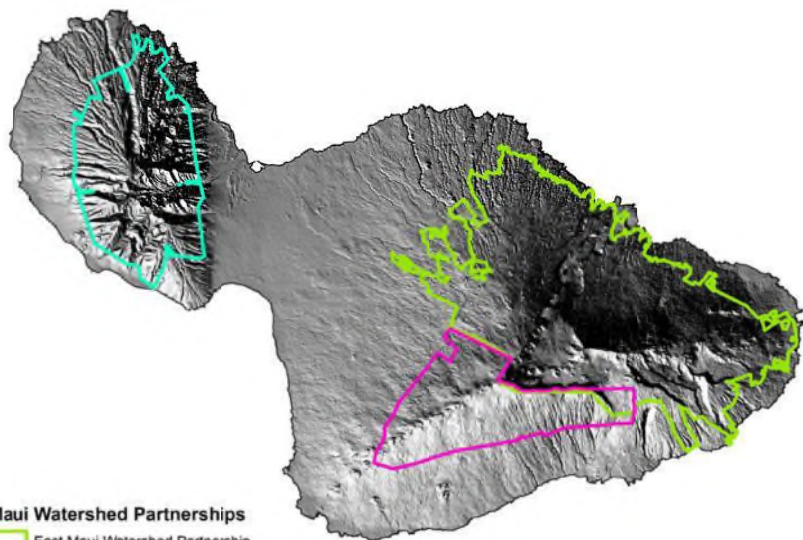


**One becomes
many...**

**2004:
10 acres fenced
at Auwahi 1**

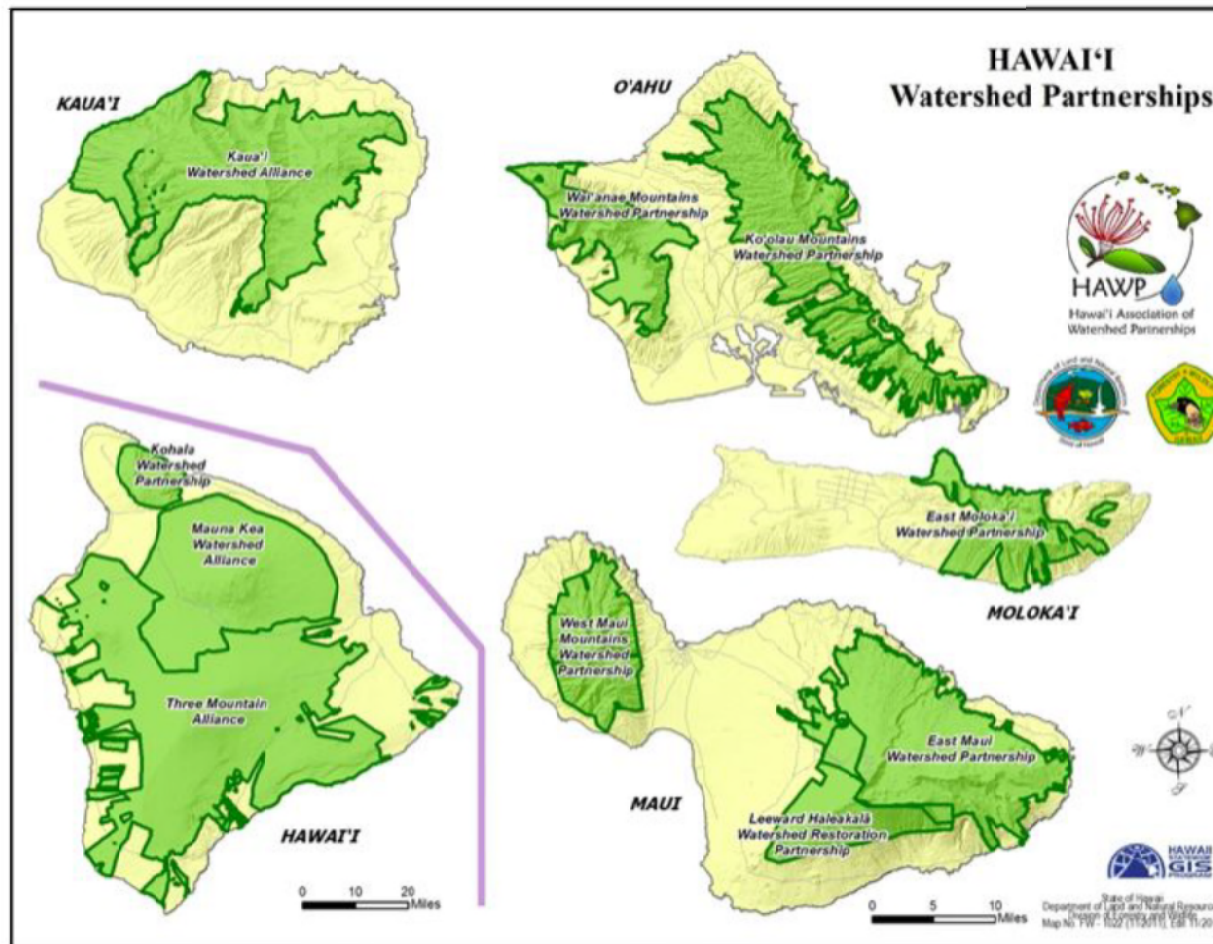
**2019:
12,721 acres
fenced in
LHWRP**



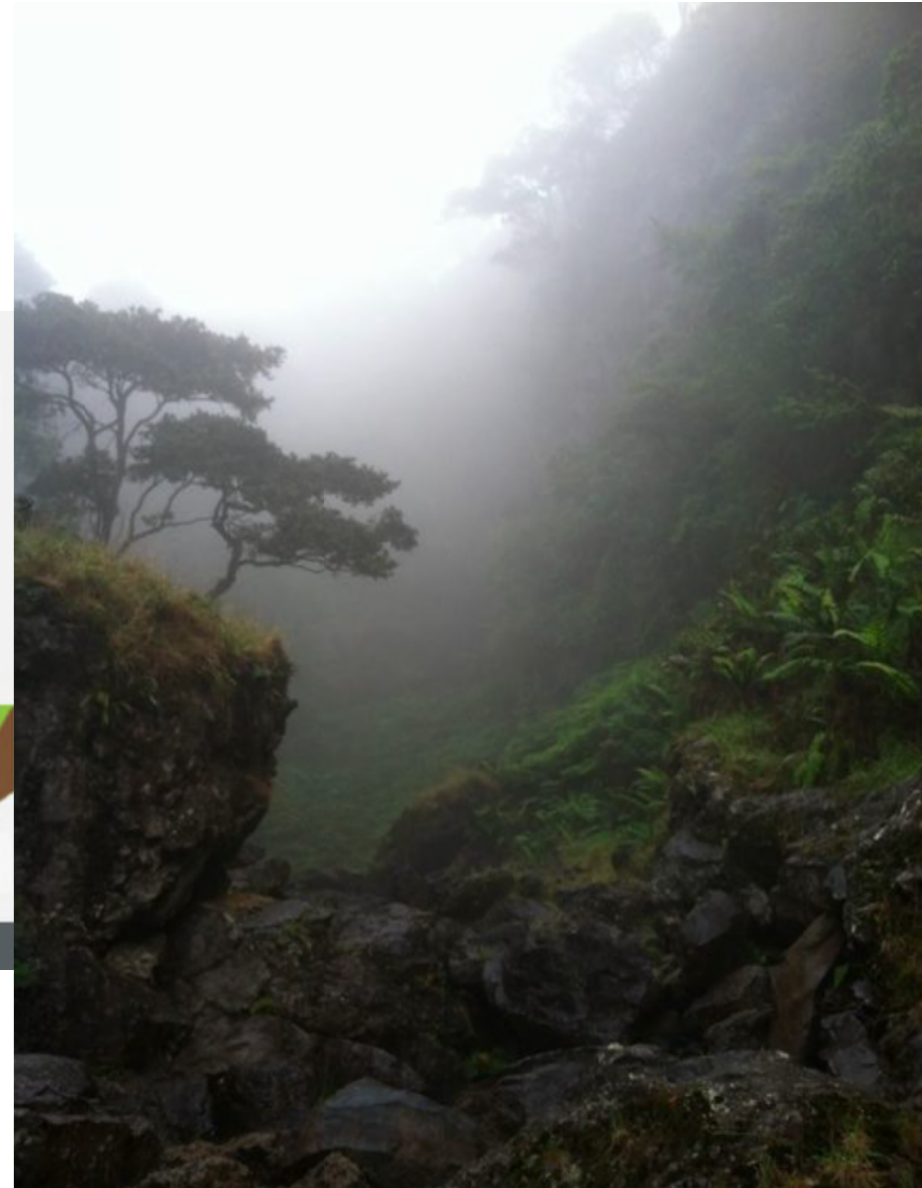
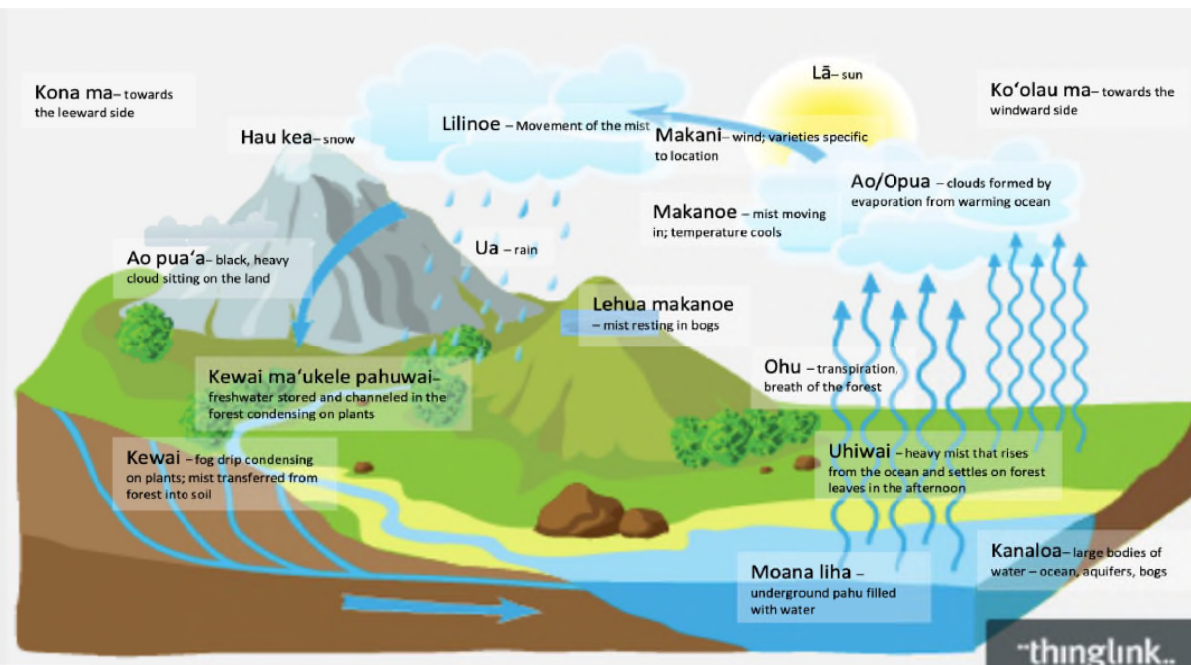


Maui Watershed Partnerships

- East Maui Watershed Partnership
- Leeward Haleakala Watershed Restoration Partnership
- Mauna Kahālāwai Watershed Partnership



What is Uhiwai?

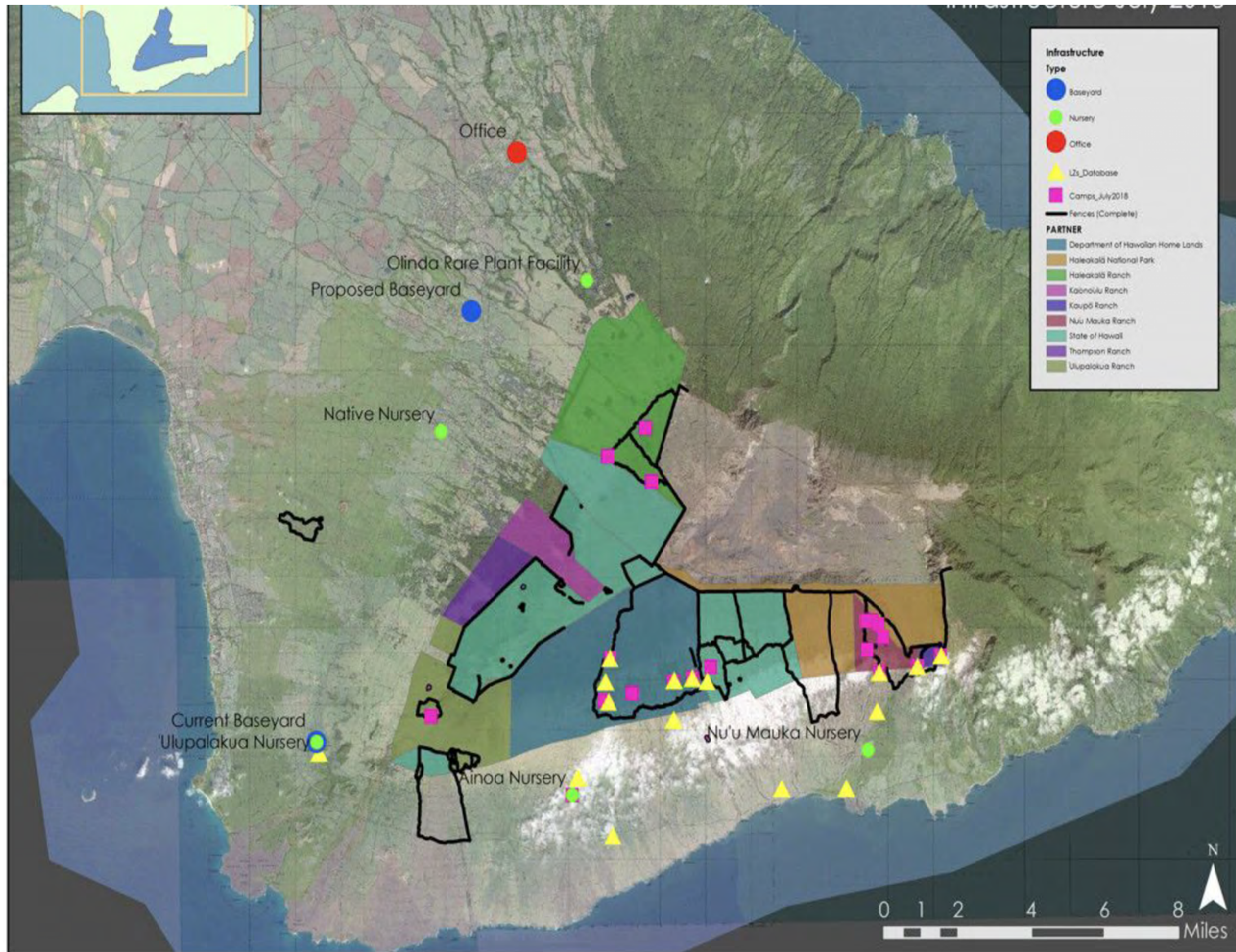


Uhiwai is our team, our Board, volunteers, community, landowners, colleagues, funders

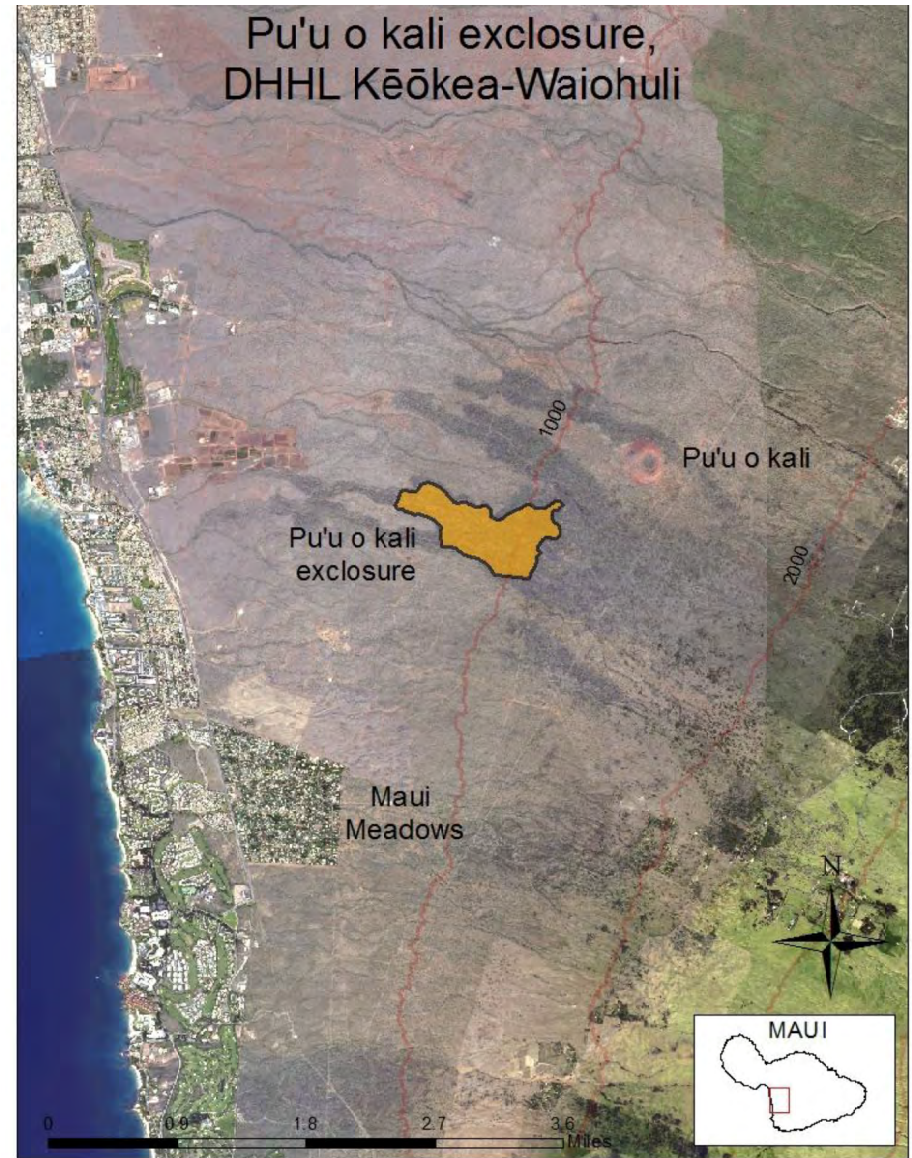
Audrey Tamashiro-Kamii, Donna Borge, Maeva Tahauri, Ka'aina Kekiwi, Ainoa Ka'iaokamalie, Isaiah Auwelo, Rusty Lenihan, Jodi Kalama-Worley, Pohai Kaikala, Andrea Buckman; Robert Santos, Andy Graham, Akua Po, Kaliko Spenser



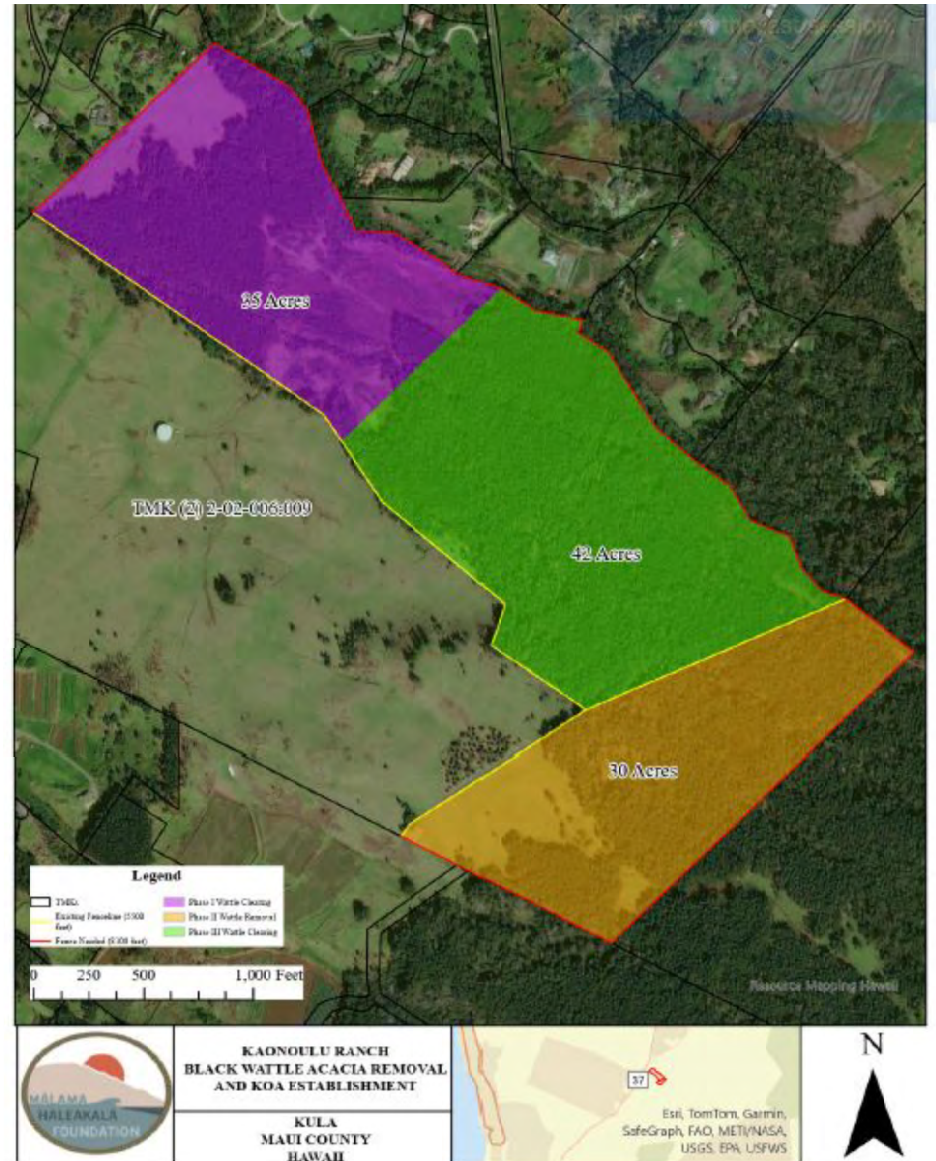
Category	Pre-Uhiwai (Sponsored Project)	Uhiwai
Largest Core Award	\$200,000 (single year)	\$1,500,000 (5-year)
Average core award	\$190,000	\$250,000
# of Multi-year grants	2	4
Duration of Award	2 years	2-5 years
Main Funder Types	State / County	Federal/State/Private Foundations/County
Hiring Process	6-9 months	10 days
Pay Rates	Based on pay schedule corresponding to Job classification	Determined by Uhiwai based on fair/current industry wages and approved by Board and funder; no retirement yet
Travel	Requires 45 day notice	Can be arranged as soon as needed
Vehicle / Equipment Procurement	2-5 months	2-5 days
Time Period for Leases / ROEs	Limited to duration of funds - N/A; cannot own/retain vehicles, key equipment	5 years - sufficient for Federal / Private funding sources; can purchase and own trucks, secure loans



DHHL - Pu'u-o-kali



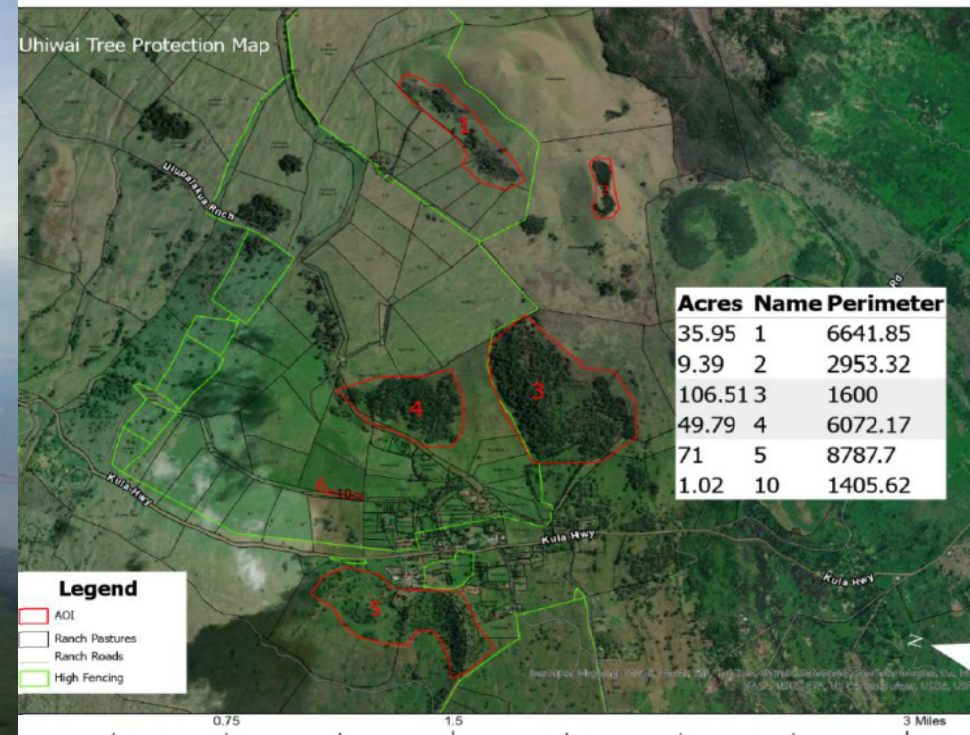
Ka'ono'ulu Ranch



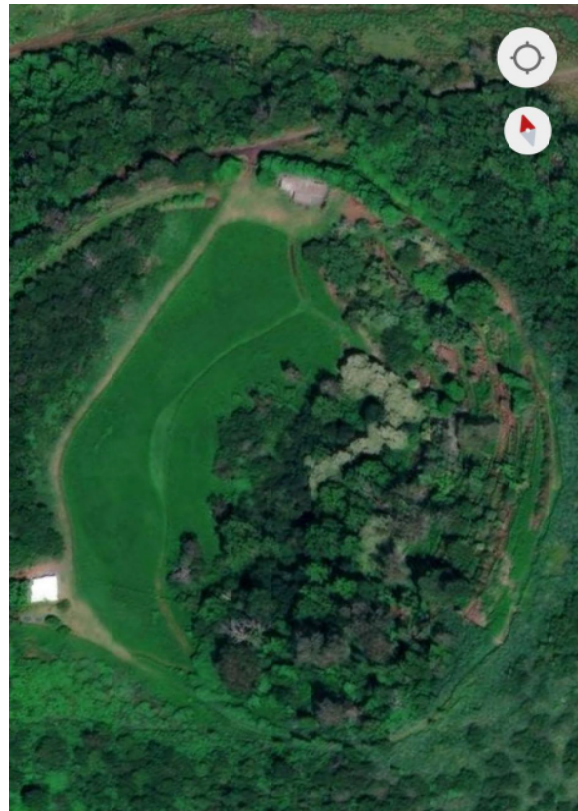
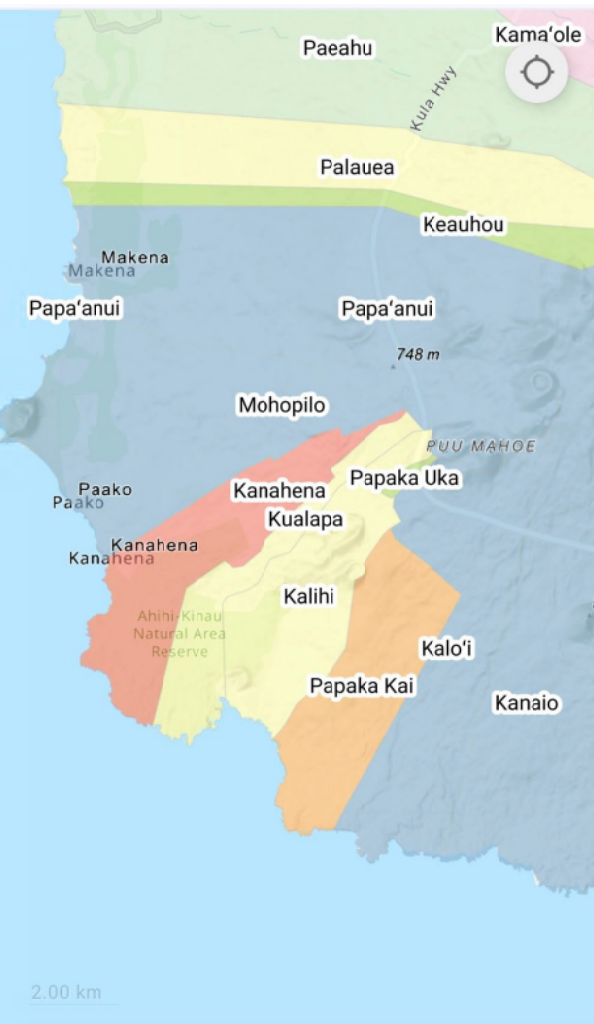
Waiohuli



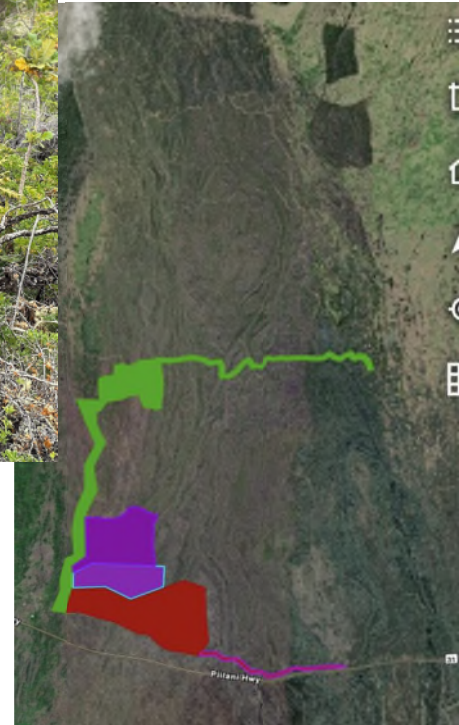
'Ulupalakua Ranch



DT Fleming Arboretum at Pu'u Mahoe



Kanaio Natural Area Reserve



‘Ahihi Kina’u Natural Area Reserve



DHHL-Kahikinui



Kahikinui Next Steps

DLNR Ungulate Removal

Fence Maintenance and Repair

Seed Collection

Greenbreak Planting

Invasive Plant Control

Fog Drip Capture

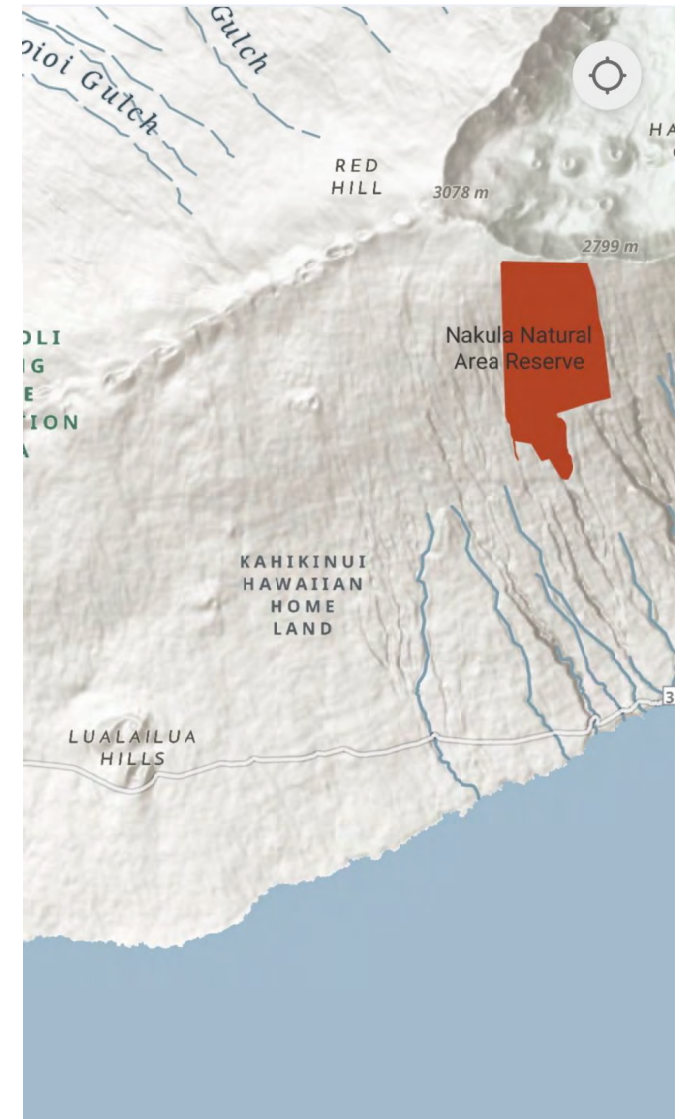
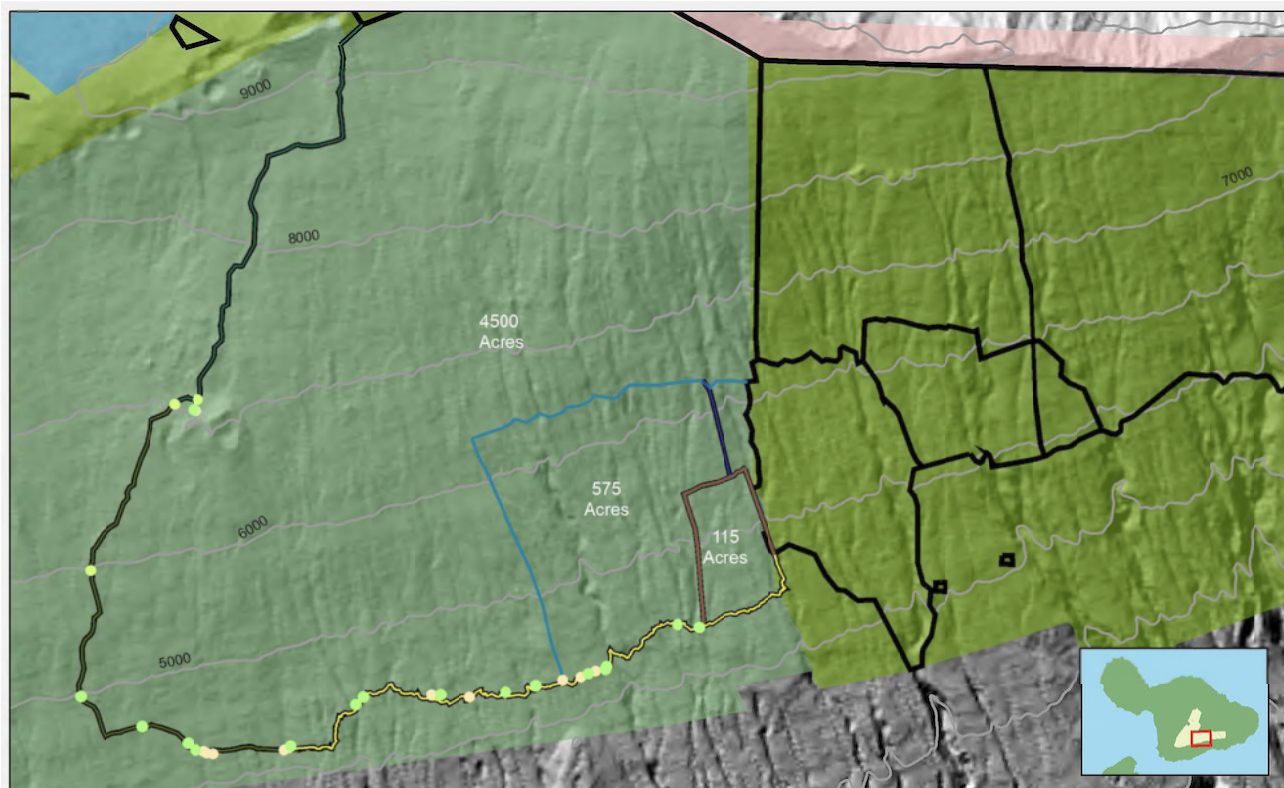
Reservoir/Water Source Repair

DHHL - KOOK - Uhiwai ROE

Dryland Forest Protection

Phase 2 Watershed Protection

Nākula Natural Area Reserve







Kahikinui Forest Reserve



Kūlia i ka nu‘u

Nu‘u Mauka Restoration



Diversified and inclusive outreach



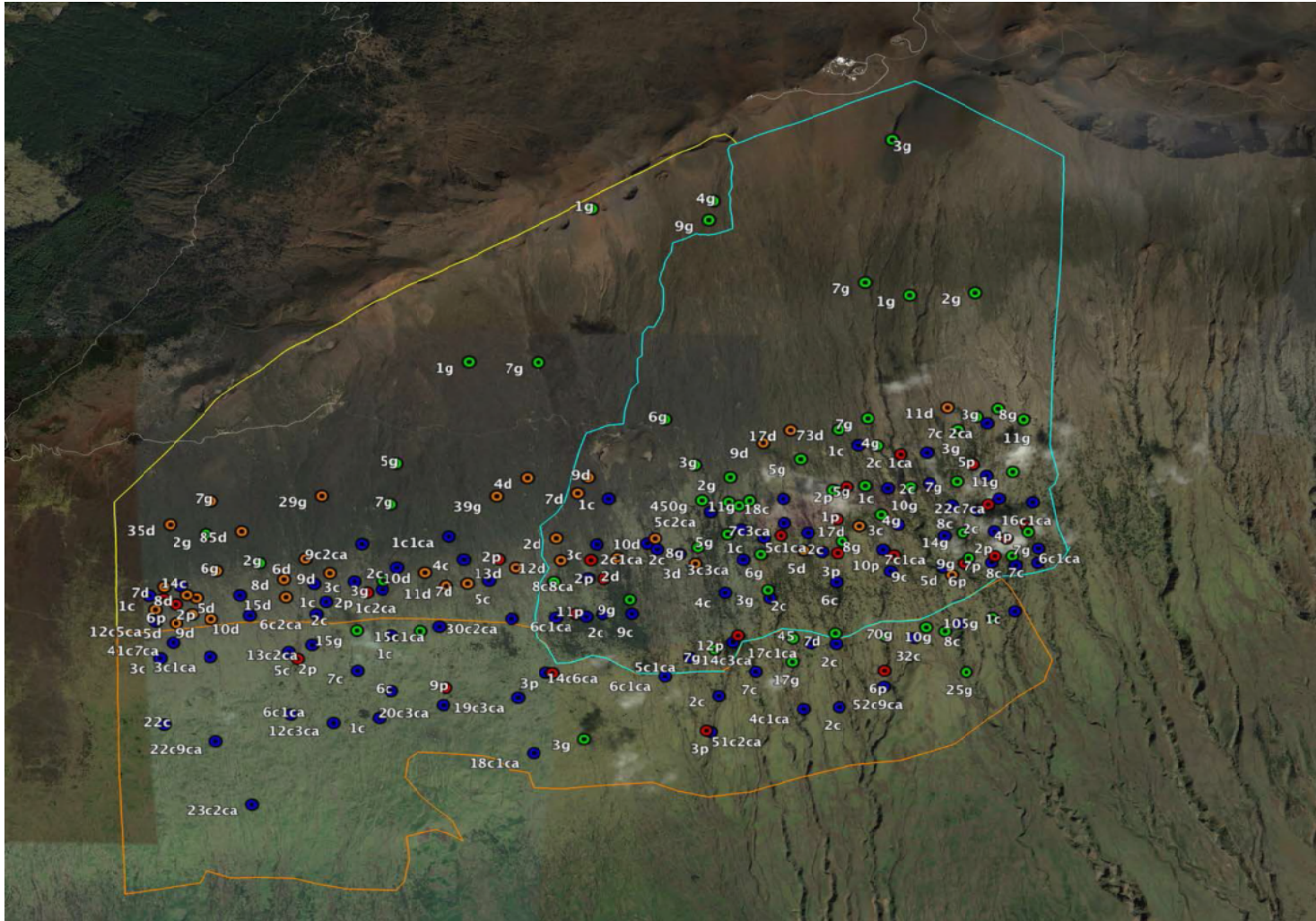
Partners in Education



- University of Hawai'i (Hilo, Mānoa, Maui)
- Kamehameha Schools
 - Pūnana Leo
- Makawao Elementary
 - Maui Economic Opportunities
 - Seabury Hall
- Montessori of Maui
 - KUPU
- Haleakalā Waldorf



Innovative utilization of resources for community benefit

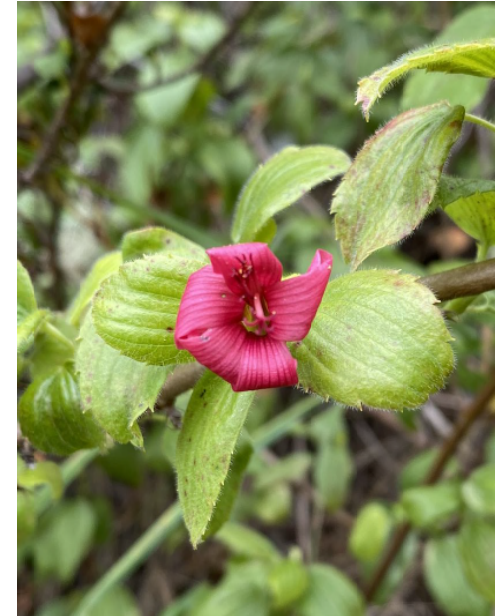


Details matter



He keiki aloha nā mea kanu

Beloved children are the plants

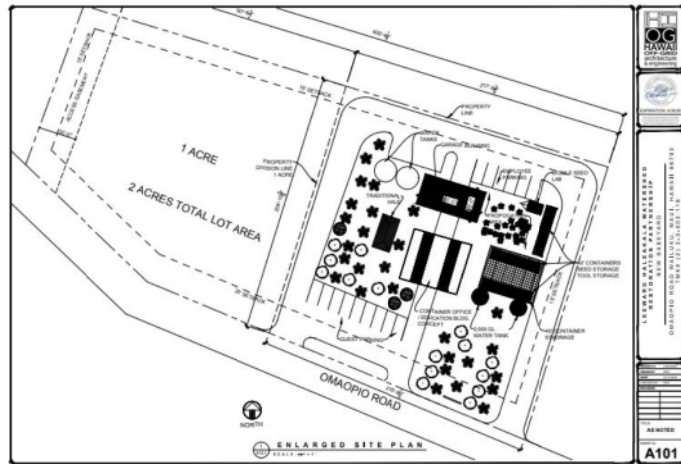


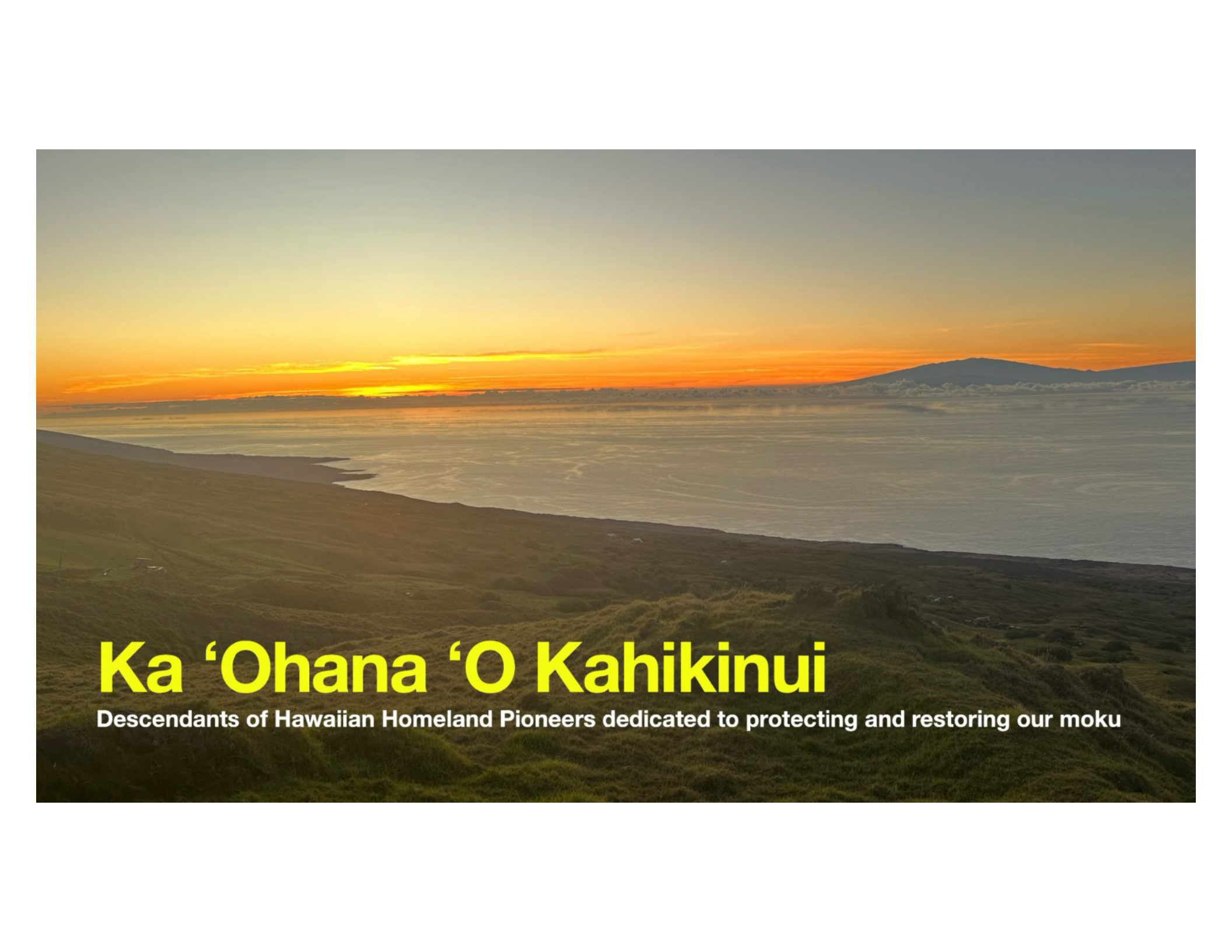
Site	Seedlings
Nu'u	21,000
Nākula NAR	10,400
Waiohuli	17,500
Seed Farms	4,000
Kahikinui	34,200
Total	87,100

Uhiwai Project Costs

- Cost to plant 1 acre
 - Seedlings for 1 acre - \$5,600 - \$7,000 (800 - 1,000 seedlings)
 - **1 Day Trip Front Country - \$16,000 (crew of 6, seedlings)**
 - **1 Week Camp Trip Backcountry - \$30,000 (crew of 6, helicopter, seedlings)**
- Other Costs
 - Propagation Deposit 50% up front and 50% upon pick up of seedlings
 - Training and Professional Development - \$3,500 / staff (heli, chainsaw, pesticides, rappelling, firearms, 4x4, WFA, CPR)
 - Staff Gear - \$1,200 / staff (boots, rain gear, PPE, camping gear, etc.)
 - Helicopter time approaching \$2,000/hr; a camp or planting trip requires 4 hours
- Internship Program (6 months) \$12,000 / (12 months) \$24,000. Training, gear, and staff supervision costs not included.
- Outreach and Volunteer Program - \$120,000 (outreach staff, supplies, gear)
- Professional fees - \$25,000 (accounting, tax preparation, audit)
- Utilities, Communications, Sanitation - \$12,500
- Water Delivery - \$1,000 (4,000 gallons)

DLNR - Uhiwai baseyard





Ka 'Ōhana 'O Kahikinui

Descendants of Hawaiian Homeland Pioneers dedicated to protecting and restoring our moku

Kahikinui Homestead

Awarded in 1999

- Mahalo to our Kahikinui Pioneers, who literally paved the way for generations of Kanaka to benefit from their efforts.
- Established the foundational principles that continue to guide our community today



County Grants

- County Grant 1, 2 & 3 Completed
- Applying for County Grant 4
\$35,00 - Finish interior of our Community center, and install a exterior toilet & septic system
- Mahalo to Warren & Lokahi Team
- Mahalo to George Namauu
- Mahalo to our Firewise team
- Mahalo to the broadband team for providing us with a Starlink system





DHHL Fog Drip 2

\$100K

**DHHL Fog Drop 1 - Water Tank Project
COMPLETED July 2024 10k under budget.**

DHHL Fog Drip 2 - The scope of work continues with this second DHHL grant, effectively extending the project to the end of 2027. We have purchased 95% of our materials.

New collected data shows that 2000 gallons of water can be collected in a single fog day



Maui Hikina Cohort Federal Grant

\$150K

Fog drip, cloud harvesting completion. We have been approved and granted the full amount.

We are ready for Phase 2 - installing the overland pipe.

And also, site prep and installation of the fog drip system, with the mesh netting consisting of 14' in height by 300' in length X 2.

We will be requesting an expanded license to encompass the fog drip capture site and overland pipeline





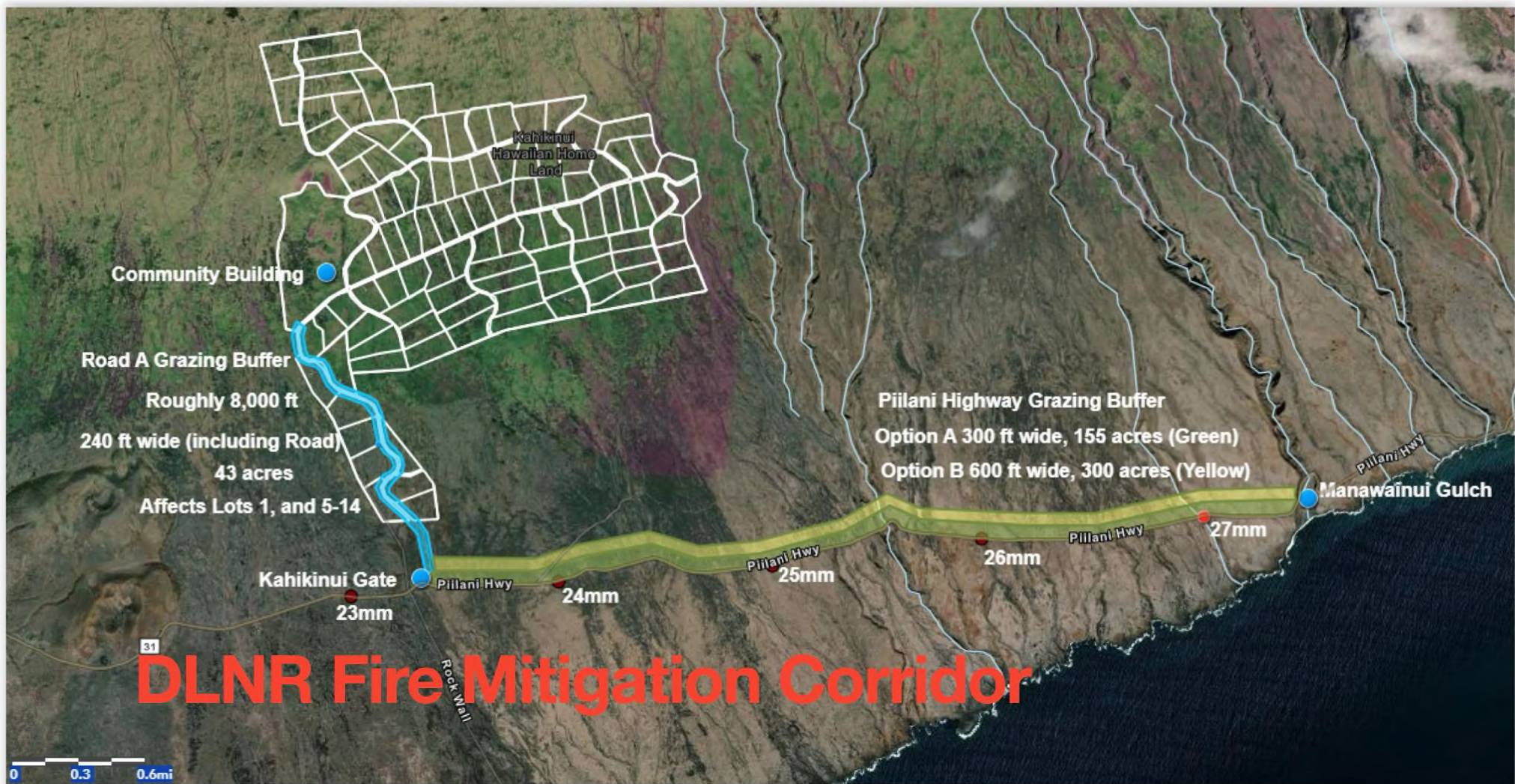
- OVERLAND WATERLINE PIPELINE
- EXISTING MINOR CONTOUR LINE (100' INTERVAL)

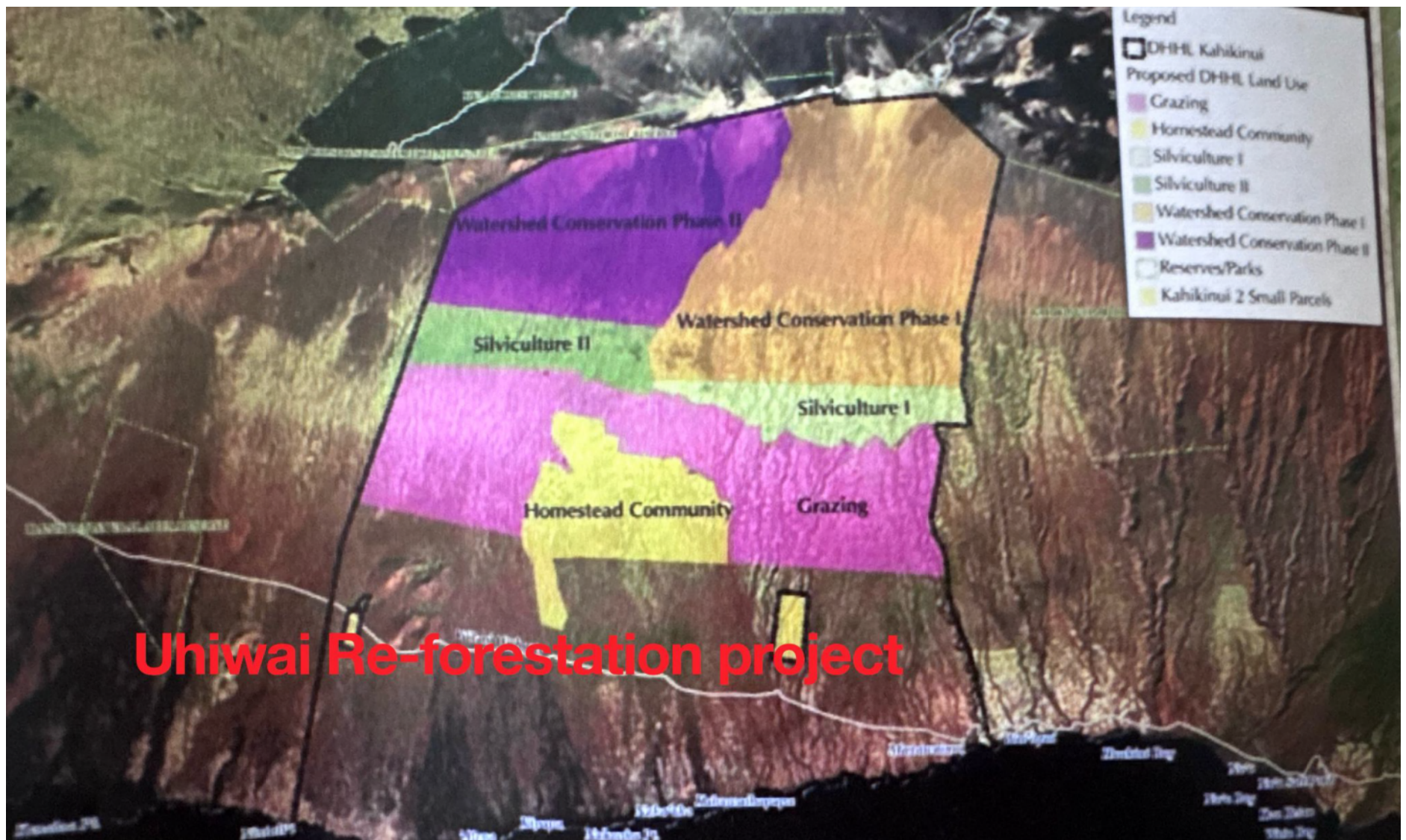


OVERALL SITE PLAN

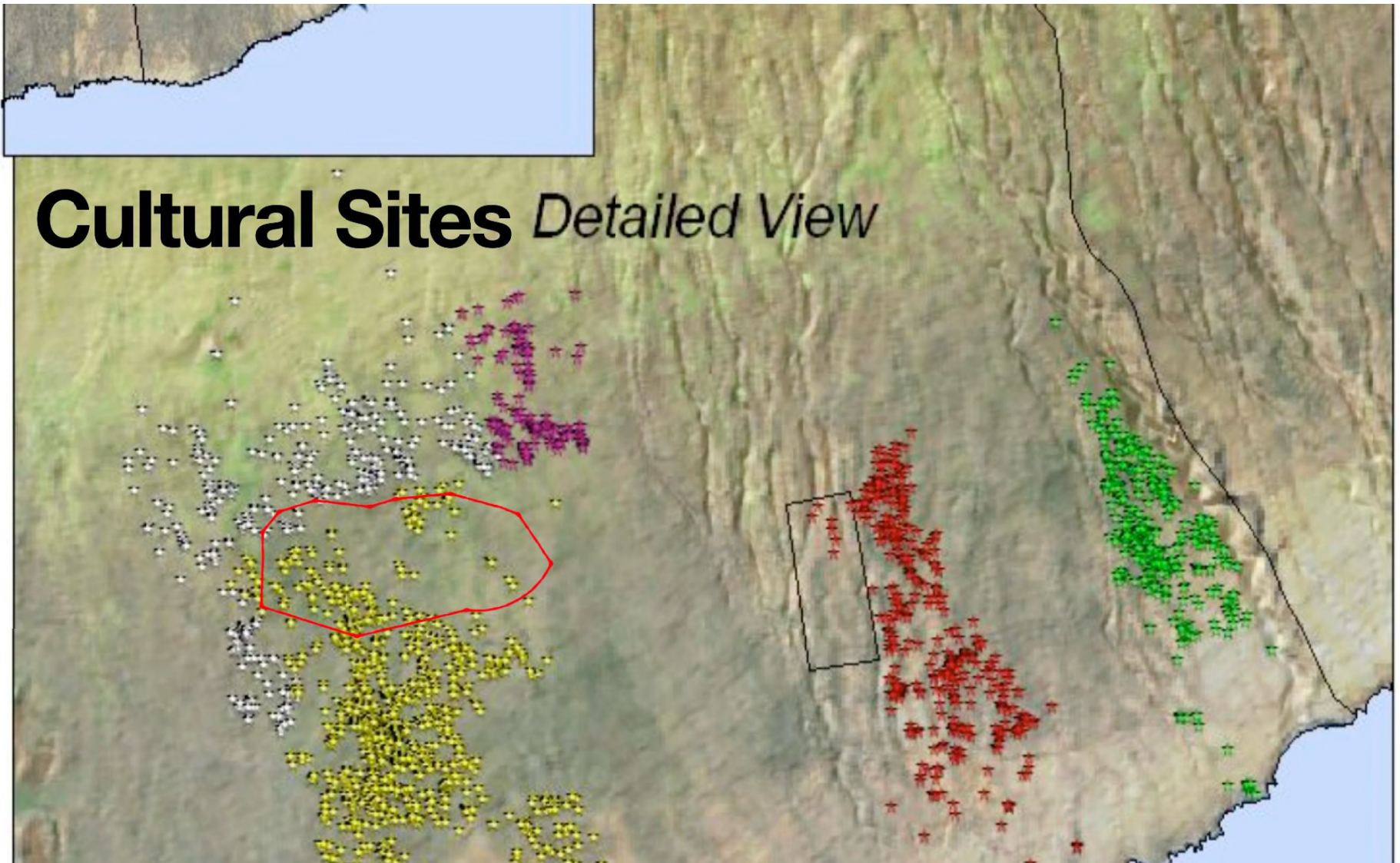
0 0.03 0.06 0.12 0.19 0.25

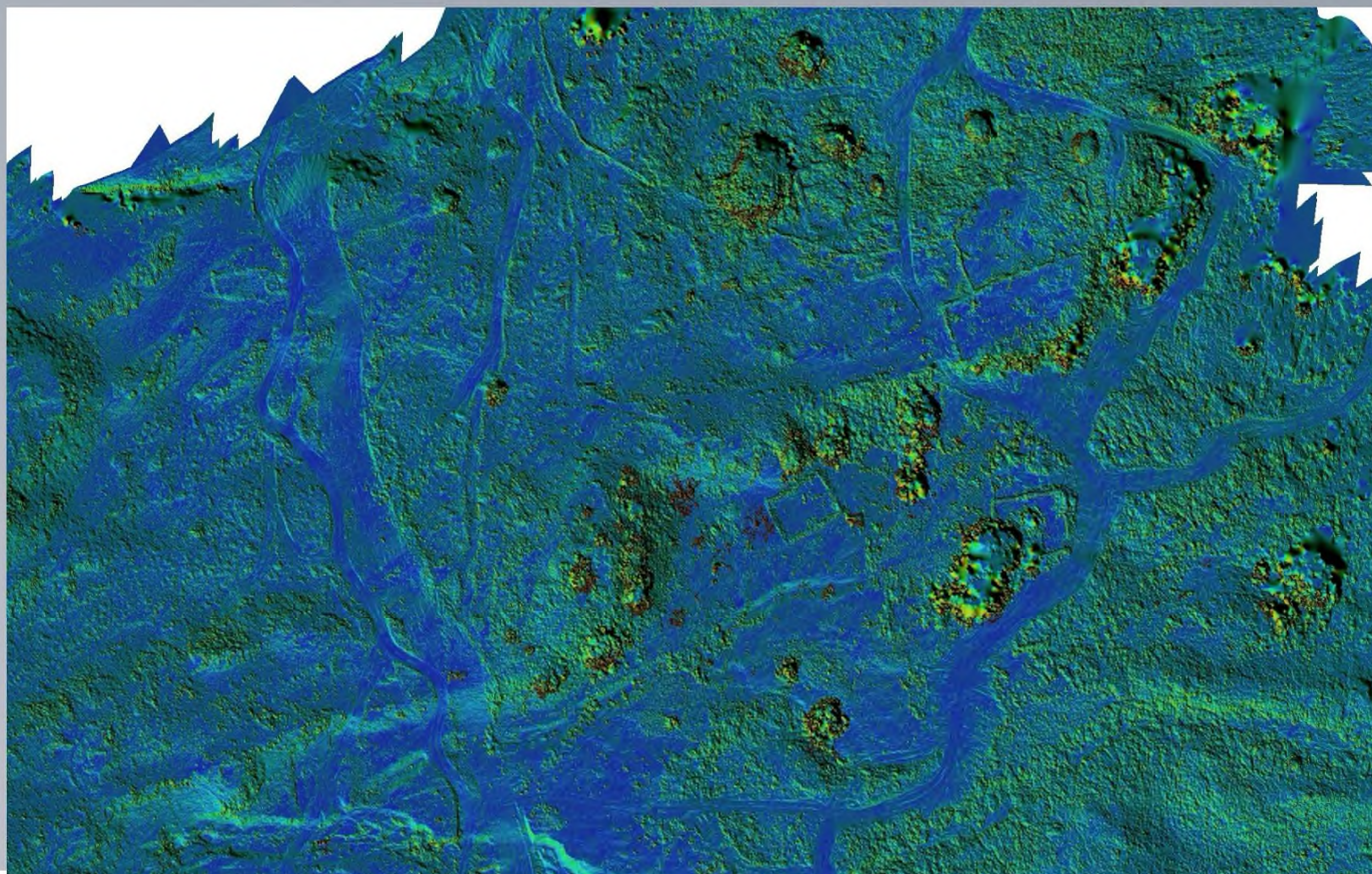
KAHIKINUI FOG CAPTURE SYSTEM
Kahikinui, Maui, Hawaii
TMK: (2) 1-9-001:003





Cultural Sites *Detailed View*





Mahalo!



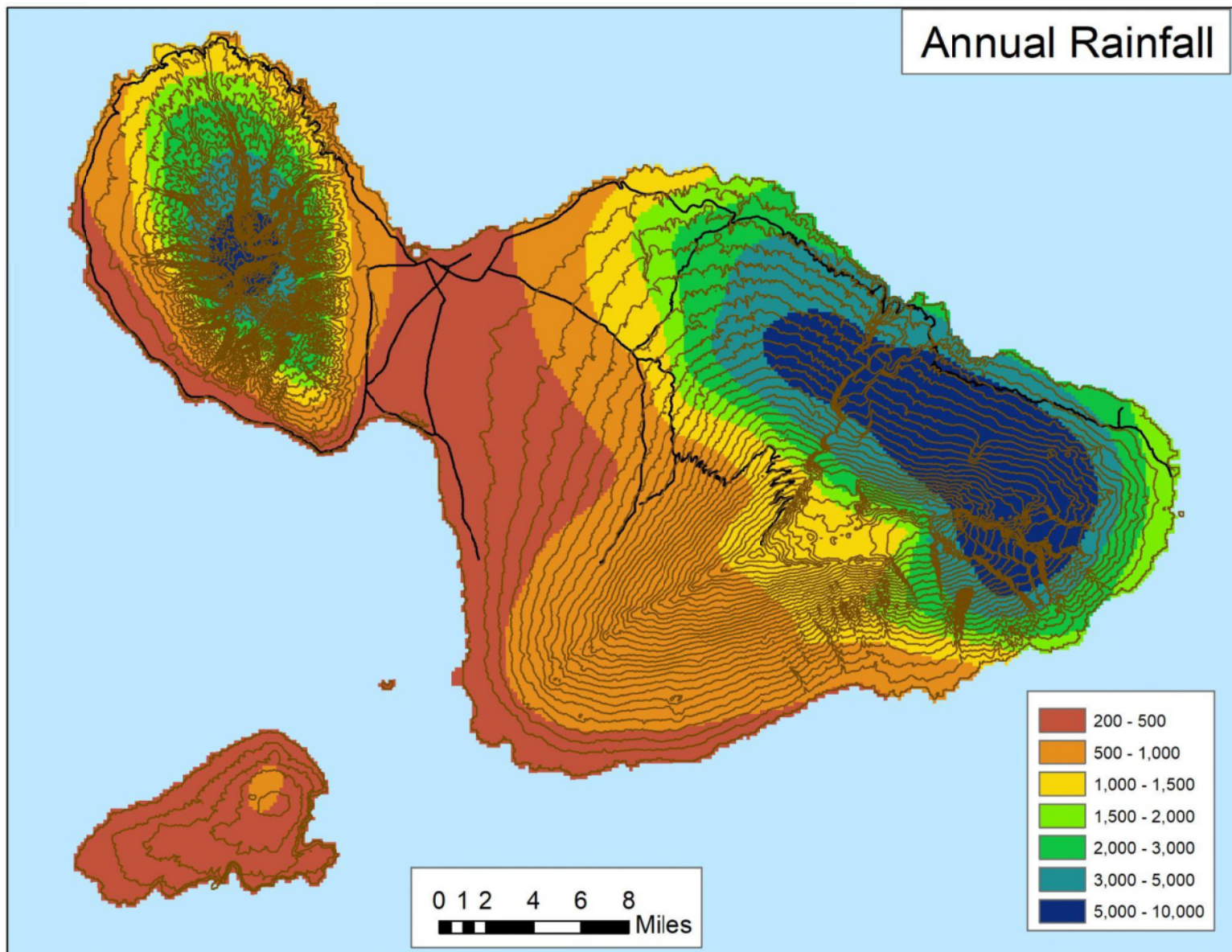


HO‘OULU NĀULU

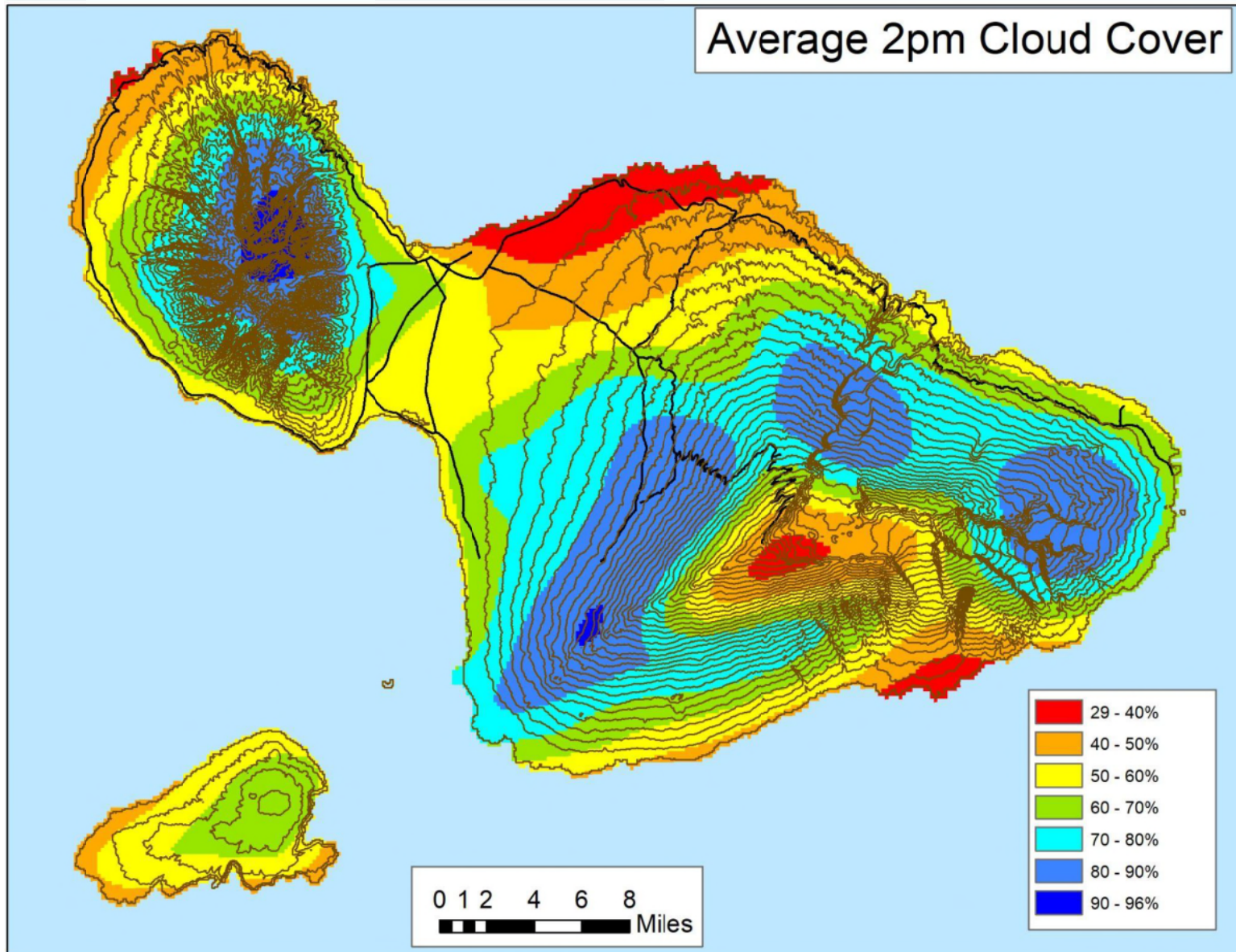
“Ola hou ka ‘āina i ka wai a ka nāulu”
The land is revived by the water of the nāulu



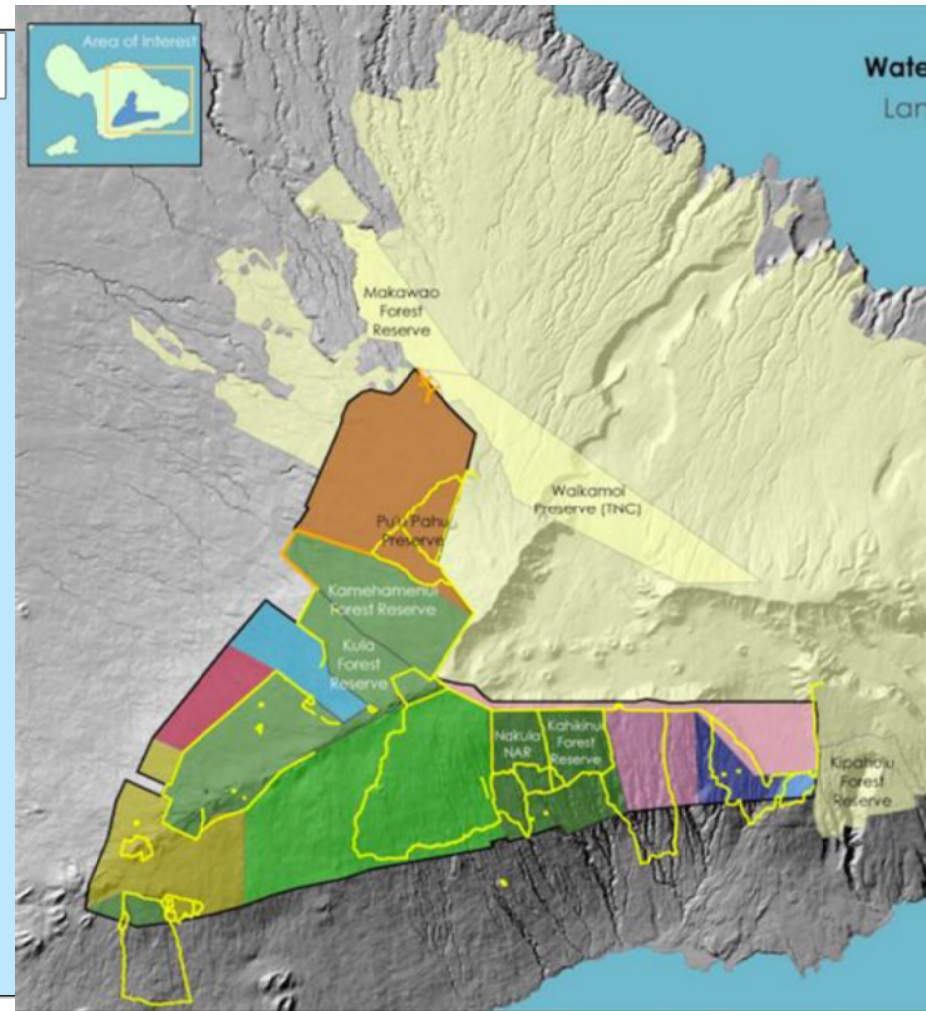
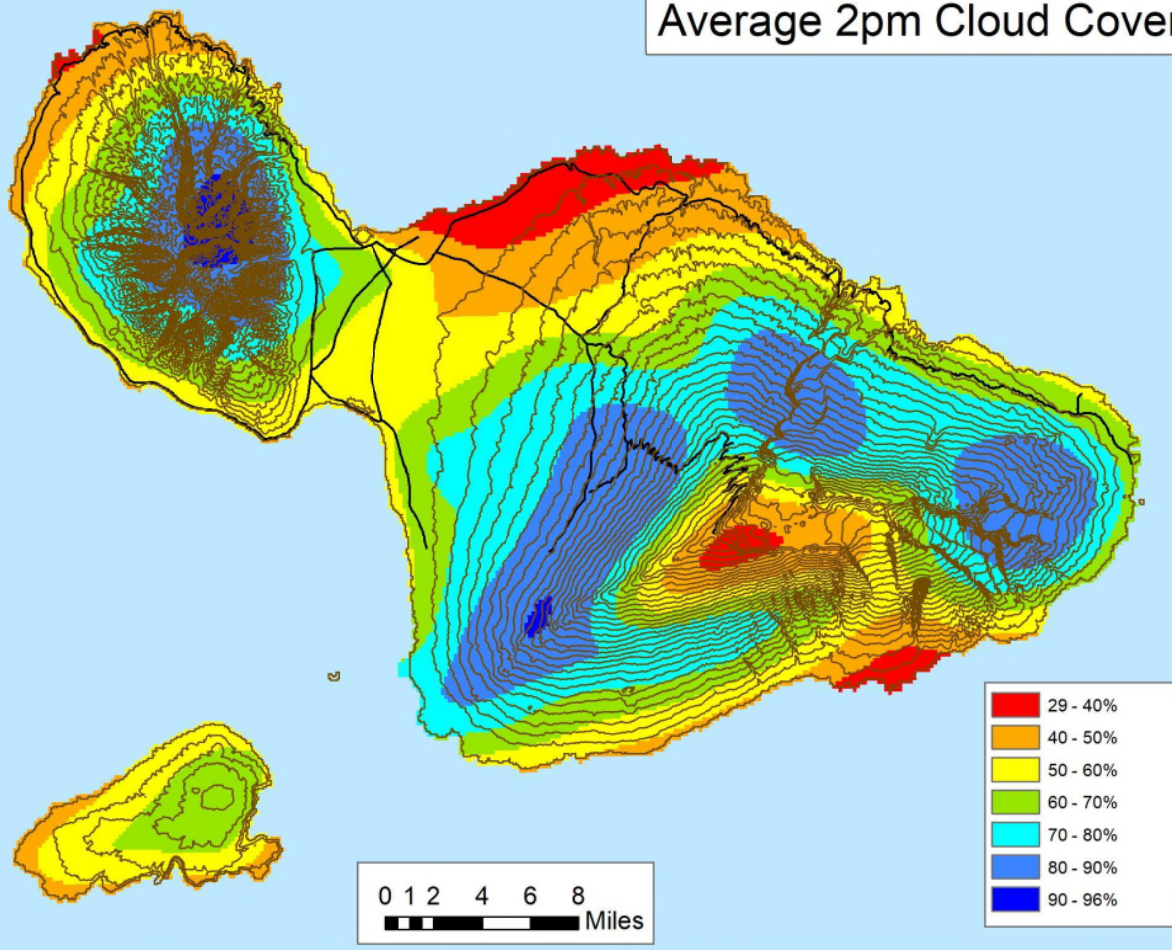
Annual Rainfall



Average 2pm Cloud Cover

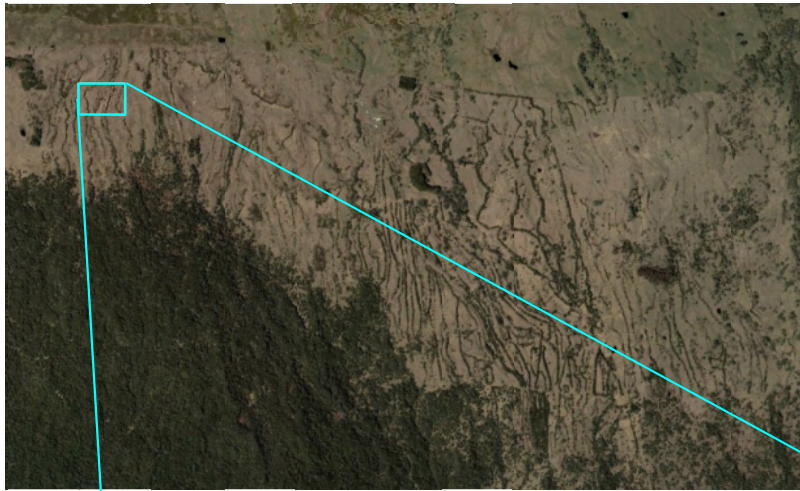


Average 2pm Cloud Cover



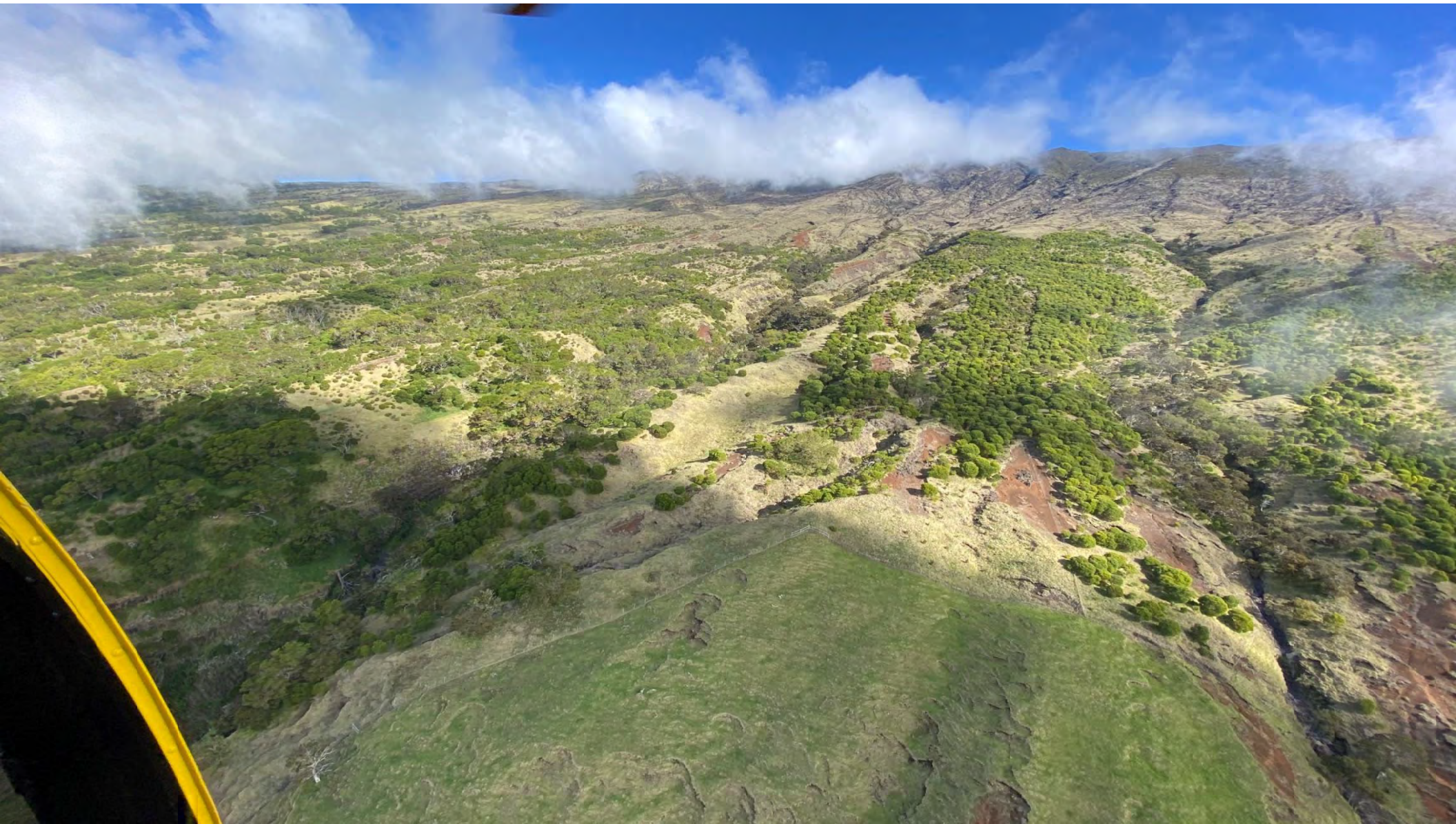
Reforestation at Hakalau NWR

2004



2024









Next steps

Safety

Full-time staff

Training

Access

Seed collection

Water

Transportation

Seedlings

Planning



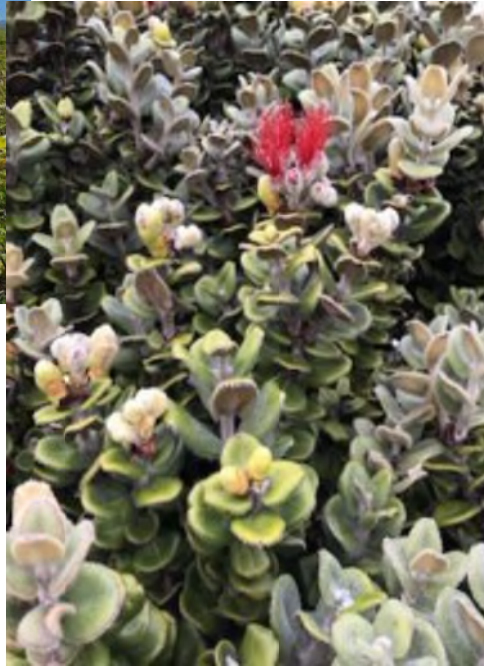
He wa'a he moku, he moku he wa'a



Planning

- 6-months funding to start
- Convene partners
- Synthesize existing plans
- Engage collaborators
- Consult community
- Explore complementary funding
- 4-year action plan and budget
- Start ASAP in January 2026

Meanwhile...Seeds, seed farms, seed storage



Leverage funding, collaborate, do the work, monitor, inspire, repeat



Capacity Building

Access - 5 year ROE+

Training = safety

Dedicated staff = safety

Internships/professional development pathways and gear

Equitable wages and benefits; job security to attract and retain dedicated people

Water

Reliable funding for essential operations (wifi, sanitation, vehicles, PPE)

Communication and knowledge exchange - landowners, community, colleagues

Contingency funds - fence repairs, animal ingress, disease, staff turnover, pandemics

Water

Investment in culture, science, and community



Mahalo

E ho'omau i nā moku koa o Maui

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Akua Po, *Owner of Po Brothers Inc. and Board Member of Uhiwai O Haleakalā*
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