Biocultural Restoration Guide
For Pia Valley in the Ahupua‘a of Niu
PRESENTATION FLOW

Introduction + Methods
Biocultural Framework
Community Voices
Target Sites
Weed Risk Assessment/Ranking
Recommendations

What to Expect
Introduction + Methods

PROTECT & PRESERVE HAWAI‘I

1. Gather Community Input
2. Come up with Invasive Species Management Strategy
3. Apply Community and Cultural Values to Management Strategies
Biocultural Framework

The revival of both environmental and human cultural aspects of a place.
Applicability to Hawai'i

- Hawai'i has a rich diversity of both native ecosystems and native culture

- Kānaka maoli (Native Hawaiians) have developed intimate and reciprocal relationships with their environment

- Concepts of conservation, protection, and respect of the natural world interwoven into every aspect of the Hawaiian lifestyle
HAWAIIAN CULTURAL VALUES OF PEOPLE AND LAND

AUʻĀPAʻAPAʻA

KULEANA

ALOHA ʻĀINA

ʻĀINA MOMONA

HOʻOKAMAʻĀINA

HE ALIʻI KA ʻĀINA
HE KAUWĀ KE KANAKA
Collective Perspective

VOICES FROM THE COMMUNITY

Sense of Place

Maunalua Community

Importance of Wai

Challenges
“Without knowing the historical background, I don’t think you can bring to fruition the true nature of the area.”

“This whole side [of Pia Valley] has been degraded for so long... we have these little kipuka’s left... a little bit of time left for these remaining elepaio and stands of native trees that are barely hanging on in the back where people haven’t grazed upon. That’s why it is important to me, because I see how doable it is.”

“The reason why people are driven to create positive change...why people developed deep relationships to place and a sense of ‘āina is because they are realizing that resources are becoming more scarce. We don’t see as many fish, or native birds, or trees... as areas become more and more developed, we lose more of our natural land. So we focus on concepts like sustainability or abundance of resources... If we don’t manage or take care of our resources now, then we’re going to lose them.”
People who continuously volunteer in Maunalua are primarily residence of the Maunalua community. They are students from elementary to college, parents, teachers, kūpuna, and multigenerational families who have lived and grown up within the area...

"The Maunalua Bay area still has families that have lived here for generations... still have ancestral connections to place and gatherings... to care for the environment, it’s almost common sense."
“Water is crucial! Our kūpuna are really amazing because they say waiwai. Waiwai is richness, or to be rich... in ancient times, our rich came from water which gave us life.”

“People follow the water. Our chiefs followed the water, and much of this area was rich with chiefs...

“Kānewai spring is the piko of mauka to makai.” Recent developments, however, have severed this water connection and “ruined the ecosystem and the nearshore area.”
CHALLENGES OF RESTORATION

“Don’t make it look **too inviting**, otherwise you will invite the whole world and the valley is not set up to handle that.”

“Teenagers going up having fires, partying... That's a threat to our native ecosystem. We need someone watching over everything.”

“Herbicide should be used **away from streams...**”

“Lots of **cultural sites**, so shouldn’t be overrun. These sites are **fragile**, so who we share these sites with is important! **Tourism should stay out**. This is about **sustainability and community**.”

“What happens after restoration? Does that mean gathering? Hiking? **What can the community use?**”
UTILIZE RESOURCES

“There are so many resources, so start using them and managing them. Doesn’t matter if it’s native or nonnative [species], they are still resources. The schools and families from Niu [Valley] would be leading and benefiting from that effort.”

GROW RESOURCES

“Grow medicine! When we grow all our resources, all our native birds and things will come back.”

PROTECT RESOURCES

“Pia Valley could become a refugia for species, especially ones found in the Southern Ko‘olaus...[like] a segway for endangered plants.”
BUILD BRIDGES

“It’s about bringing community, conservation, and culture together to build bridges not walls.”

EDUCATION

“Education is a big component to restoration... learning activities should be implemented, like establishing an interpretive trail.”

WORK TOGETHER

“To control pigs, work with the hunters... they are part of the effort, not a separate effort. [Hunting] is a really valuable practice... The people that know the valley the best are the hunters...so they should be a part of any effort that happens.”
AʻALIʻI GROVE
- Partially rocky terrain, and it is situated on the flat valley floor on the eastern side (Koko Head side) of the trail.

RED SLOPE
- Remnants of an old scar located on the slopes of Kulepeamoa Ridge (eastern side of Pia Valley).
- Consists of exposed red soil, some native vegetation
- Steep terrain, major soil erosion
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<th>Common Name</th>
<th>WRA Score</th>
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INVASIVE SPECIES REMOVAL TECHNIQUES

- **NON-CHEMICAL**
  - Organic Mulching
  - Manual Hand-pulling
  - Power Tools
  - Soil Solarization

- **CHEMICAL**
  - Clip and Drip
  - Girdling
  - Foliar Spray
  - Incision Point Application (IPA)
Aʻaliʻi Grove Recommendations

Management Strategies

- KIPUKA-STYLE RESTORATION
- HYBRID APPROACH
- INTEGRATED WEED MANAGEMENT
- REAFFORESTATION

Invasive Species Removal Strategies

NON-CHEMICAL
1. Hand Pulling
2. Power Tools
3. Organic Mulching
4. Soil Solarization

CHEMICAL
1. Clip and Drip
2. Foliar Spray
Red Slope

Recommendations

Management Strategies

- KIPUKA-STYLE RESTORATION
- INTEGRATED WEED MANAGEMENT

Invasive Species Removal Strategies

NON-CHEMICAL
1. Hand Pulling
2. Power Tools
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CHEMICAL
1. Clip and Drip
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BROADER APPLICATIONS

NATIVE REFORESTATION

COMMUNITY ENGAGEMENT

COLLABORATIONS
Acknowledgements

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MAHALO
ANY QUESTIONS?