E Aloha, E Mālama, E Kiaʻi ʻĀina

Native Hawaiian Natural Resource Management
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THE AHUPUA`A OF KAUAI

*Research Note:
Boundaries shown according to best available evidence. Continuing work with archaeology and genetics may prompt periodic revisions. Shown here for the first time are 15 “traditional” ahupua`a between Wainiha and Waipouli, area of whose names and boundaries are uncertain.*
• ‘Ohana – Family
• Diverse
• Integrated
• Adaptive
Polynesian Settlement Pattern

(Mitchell 1982, Kirch and McCoy 2007)
What are we talking about?

ʻAina – That Which Feeds
Kiaʻi ‘Āina – Guardian
Mālama ‘Āina – Care Take
Hoa ‘Āina – Bound to Land
Kupa ‘Āina – One familiar with the land
(of the place)
Makaʻāinana – (person that attends the land)
‘Ōiwi – One with bones in the land
Konohiki – To invite ability
How did Hawaiians Interact, Relate to and Care for their Environment?

Understanding Relevance in Contemporary Times
I Ka Wa Ma
Mua,
I Ka Wa Ma
Hope
How Do We Know?

• Archaeology
• Secondary Sources
• Handful of Hawaiian Scholars (Malo, Kamakau, Pūkuʻi)
• Moʻolelo / Oli / ‘Olelo No‘eau (Stories/ Chants/ Proverbs)
• HAWAIIAN LANGUAGE NEWSPAPERS

• KŪPUNA (Elders)

• YOUNG SCHOLARS

• PRACTICE
• ‘Ohana – Family
• Mountain to Sea
• Diverse
• Adaptive
AKUA KINOLAU
(Many Forms)
Living - Mana
ʻOhā - ʻOhana (Family)
hanai Aku, hanai mai
`Ai † `Āina
• ‘Ohana – Family
• Integrated
• Diverse
• Place Specific
• Adaptive
300 Varieties
(Winter 2013)
Place Names

Mānoa

Pālolo

Nuʻuanu

Waikīkī

Punahou
Nā Makani o Oʻahu-nui-a-Lua: Wind Names of Oʻahu, from Moses Kuaea Nakuina’s *The Wind Gourd of Laʻamaomao*

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Ahupua’a: Land division usually extending from the uplands to the sea.

Produced by Kapōmaika‘i Stone, Lindsey Spencer, and Jāsonia Ellinwood for Kahua A‘o: A Learning Foundation. Map from the Hawai‘i State Geographic Information System.

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Coastline boundary
Ahupua’a boundary
Place name
Wind name

6 miles
Place Names

“There was no place that had a name for no reason” (Kamakau)
• ‘Ohana – Family

• Integrated

Mountain to Sea

• Diverse

• Adaptive
Health of Ocean Starts in the Mountains

Reef Flat Along the South Coast of Moloka’i (Photograph by Ed Misaki)
Ecological and Social System
Wao Akua – Realm of the Gods
Wao Kānaka – Realm of the People
Collective Sufficiency
Pālena
Yet...
• ‘Ohana – Family
• Mountain to Sea
• Diverse
• Adaptive

Best Practices
Trial And Error

Burney & Kikuchi 2006
Decline of the Hawaiian Avifauna

Number of Surviving Species of Endemic Birds:

- AD 400: 107 species
- AD 1778: 55 species
- AD 2003: 31 species
- Not now endangered: 11 species
Cultivating Abundance

Today’s Population

Taro Lo‘i

Hanalei River valley & irrigated taro wetland system
Leeward Kohala dryland agricultural system. Field walls run parallel to contours over an area of 60 km². (Vitousek et al. 2004)
The distribution of irrigated taro wetland systems (blue) & rainfed dryland agricultural systems (orange) across the Hawaiian archipelago.

(Vitousek et al. 2004)
Restoration (ʻĀina and People)
Types of Hawaiian Fishponds

- **Loko kuapā**: seashore ponds with stone walls built on reef

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**Figure 5**: Loko kuapā. (Modified Kikuchi, 1976)

**Figure 8**: Side view of a mākāhā. Line A-B indicates water level. (Summers, 1964)

**Figure 9**: Top view of ‘auwai o ka mākāhā. (Summers, 1964)

**Figure 10**: Drawing of typical mākāhā area in fishpond wall. (Modified from Kelly, 1975)
Walls angled to diffuse wave energy

Gate allows water exchange w/ pond, prevents larger fish from escaping

Efforts underway to enable Kaloko Fishpond to be used for aquaculture
Types of Fishponds

FIGURE 4: Six main types of Hawaiian Fishponds. (Apple and Kikuchi 1975)
Figure 4. “Makoa,” an illustration of the Hawaiian fish couriers who carried fresh fish over long distances from royal ponds to the travelling court of ancient Hawaiian kings. Print: Dietrich Varez, Volcano, HI.
Key Points

• ‘Ohana CONNECTED
  People = Resources

• DIVERSE
  Adapted to Place

• INTEGRATED
  Ma uka - ma kai
  Ecological and Social

• ADAPTIVE Best Practices
  Trial and Error over Time