




# Sustainability and Resilience Strategies: Hawai'i Land Trust

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## Hawai'i Land Trust: Approaches to Sustainability and Social-Ecological Resilience.

- Mission of the Hawai'i Land Trust: To protect and steward the lands that sustain Hawai'i, and to perpetuate Hawaiian values by connecting people with 'āina.
- Vision: I ola ka 'āina, i ola kākou nei. Hawai'i's lands thrive and nourish its people.



# Hawai'i Land Trust Guiding Principles:

- He ali`i ka `aina, he kaula ke kanaka: The land is the chief, humans are the servants;
  - Huli na lima i ka lepo, Ma`ona ka `opu: By turning your hands into the soil, you will be well-fed.
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High Energy Marine Inundation Events (Large Storms Tsunamis) pose a significant threat to the Coastal Ecosystems of our Protected Lands: March 11, 2011 Tsunami







# Tsunami and High Energy Marine Inundation Resilience at Waihe'e

- Waterbird habitat in the wetlands and the fishpond are the Land Trust's top protection and resilience priorities;
- Both are subject to catastrophic saltwater inundation and tsunamis because of their proximity to the coast;
- While a forested bioshield will afford some protection from wave energy, the fringing reef fronting the Waihe'e Refuge remains a critical element in attenuating wave energy (photo below);
- Resilience measures should focus on both establishing the forested bioshield and protecting reef health by reducing terrestrial sedimentation;

# What is a Forested Bioshield?

- A deliberately designed forest, preferably of native tree and shrub species;



Restore native species (trees and Shrubs) to reduce sediment in-flow and inundation into the wetlands.





Protect the Reef in front of the Waihe'e Refuge: Coral Reefs are critical in protecting shorelines from storms and tsunamis;





## Focus on Resilience and Sustainability:

### Steps:

1. Identify known threats, such as storms and tsunamis;
2. Explore options for reducing their impacts.
3. Identify the nexus between social and ecological benefits.
4. Implement the identified strategies.

- Benefits of forested bioshields: Restored and resilient ecosystems that holds species useful for cultural practices (lauhala weaving, loulu thatching, la'au lapa'au, etc.)
- Restoration of lo'i kalo: lo'i kalo capture up to 90% of sediment before it reaches the coral reefs. Lo'i kalo provides up to 25k pounds of sustainable, locally grown food per acre.
- Healthy coral reefs provide abundant fish and limu that add to the health of the community, while also serving as a barrier to coastal erosion during storms and tsunamis.



Questions?

