

The Functional Forest

Innovation in Forest Restoration

The concept of the functional forest originated with researchers working on the Liko Nā Pilina project in Hilo.

These pioneering scientists found that integrating faster-growing non-invasive species provided valuable ecosystem functions to nurture and protect the slower-growing natives.

They received the Bradshaw Medal for their innovative work. We are grateful for their creativity and perseverance:

- Susan Cordell, Director, USDA Institute of Pacific Islands Forestry
- Laura Warman, also with the Institute
- Rebecca Ostertag, UH Hilo professor of Forest Ecology
- Jené Michaud, UH Hilo professor of Hydrology

Mahalo for not giving up!

For more information on their work:

<https://hilo.hawaii.edu/depts/biology/news/1541>

<https://www.hawaii.edu/likonapilina/>



MAHALOS!



PONO ACRES was funded by a USDA SARE (sustainable agriculture research and education) grant. Dr. Susan Cordell was our technical advisor. Dr. Becky Ostertag also assisted with advising and provided student volunteers to help with planting. Emma Stierhoff organized the student volunteers. Master gardener, Kim Weisenborn helped with planting. Kalani Ah Quin, farm manager and owner of Kalanikine Design, volunteered many hours of labor; terracing, clearing, planting & weeding. Fir Emmanuel was our chief plant propagation specialist.

SHARI TRESKY
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PONO ACRES FUNCTIONAL FOREST
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PONO *ACRES

A Functional Forest Demonstration Project

*Agroforestry conservation reserves for
eco-economic sustainability



A functional forest integrates native plants with symbiotic species in a thriving ecosystem. Pono Acres shows farmers, homesteaders and gardeners how to integrate productive crops for subsistence and income, while also offering a home for native plants and wildlife.





<https://www.ponoacres.org>

is our website, with pictures and information on how to establish your own functional forest, including suggestions for plants that grow well in rainy, lower elevations.

Ask your local nurseries, neighbors, and cooperative extension staff, for ideas on plants that grow best in your particular micro-climate.

Useful information on natives trees and plants can be found online at:

<http://nativeplants.hawaii.edu/index/>
<https://plantpono.org/>

Information about reduced property tax for functional forest dedication can be found at:

<https://www.hilt.org/blog/county-of-hawaii-native-expands-forest-dedication-program>

STEPS TO ESTABLISH YOUR FOREST

Each property is unique, and may or may not require extensive clearing. An excavator can selectively clear undesirable plants, while leaving chosen plants intact. Erosion control, weed control and soil fertility are all important factors to consider. The goal is a self-sustaining ecosystem, with less and less need for maintenance.



LAND CLEARING & PREPARATION:

Kalanikine Design used an excavator to clear and terrace the site. We waited for weeds to sprout and pulled them before planting ground cover. If you need excavator work, Kalani can be reached at 808-209-1421.



Kalani on an excavator rented from Home Depot



Terracing the steep hillside along the stream banks

SPECIES SELECTION & PURCHASE:

ESP Nursery: <https://espnurseries.com/>
 Mala Laau: <https://malalaauhawaii.com/>
 Lehua Lena: 808-938-4179
 Aileen's: <http://aileensnursery.com>
 Wailea Spring Farm: 808-896-4121



Ohi'a is the foundation of the native forest, a sacred tree.



Mamaki, used for a delicious tea and medicinal plant

PLANTING & MAINTENANCE:

We can all help save Ohi'a, which is in danger from the ROD fungus. Vetiver will prevent erosion on hilly areas. Perennial peanut also helps prevent erosion and weeds, and preserves moisture in the soil.



A'hinahina surrounded by perennial peanut - no weeds!



Vetiver along stream banks to prevent erosion