

Kaulunani Accomplishments

Twenty Years of Urban and Community Forestry in Hawai'i





Kaulunani Urban and Community Forestry Program

November 22, 2013

*Advisory Council
to the
Division of Forestry and
Wildlife*

*Chair David Sakoda
County of Maui*

*Irene Sprecher
Division of Forestry and Wildlife*

*Roxanne Adams
University of Hawai'i*

*Jennifer Barrett
Island Connect Consulting*

*Leonard Bisel
Leonard Bisel & Associates*

*Heidi Bornhorst
HawaiiScapes*

*Kevin Eckert
Arbor Global LLC*

*Katie Friday
US Forest Service*

*Lelan Nishek
Kauai Nursery and Landscaping*

*Andy Kaufman
University of Hawai'i*

*Michael Kraus
Tree Works, Inc.*

*Marti Townsend
The Outdoor Circle*

**Jolie Wanger & Colleen
Carroll**
*Technical Support/Volunteer
Coordinator*

Teresa Trueman-Madriaga
Program Coordinator

It has been a pleasure and an honor to be part of the Kaulunani Urban and Community Forestry program's success over the past 20 years. From the early beginnings of discovering what is "urban and community forestry", to forming the Council, to developing and refining the grant program, to having many accomplishments behind us, it has been an amazing journey.

Over the years Kaulunani awarded 376 projects \$2,677,791 which was matched with \$7,080,627 in cash and in-kind contributions. Broken down by project type - there are 190 tree planting projects, 111 education projects and 75 Arbor Day projects.

In the early years urban and community forestry was seen as a new science with little research supporting the industry and as a career path it was definitely new.

Today there is a tremendous amount of research and most cities have certified arborists maintaining their trees. Urban forestry and "green infrastructure" are part of the very fabric of a city.

We hope that you enjoy reading selected reviews about Kaulunani's accomplishments and the profound success of our partners and projects. We continue to seek out partners and look for funding to achieve our goals that ultimately improve Hawaii's urban and community forests.


TERESA TRUEMAN-MADRIAGA
Kaulunani Program Manager

Overview

A traditional definition of Urban Forestry is the care of plants in the areas where we live, work, and play. Kaulunani focuses on urban tree health, tree care and increasing the number of healthy trees in the ground on all of the Hawaiian islands. Kaulunani also excels at identifying and implementing projects that address critical issues that cross boundaries and impact the health of trees in the national and state forests, as well as the coastal strand and near shore reef.

The Kaulunani Urban and Community Forestry Program, in just 20 years has expanded their reach far beyond the traditional interpretation of urban forestry by spearheading projects such as the Hawaii-Pacific Weed Risk Assessment, the Urban Tree Canopy Assessments and PlantPono Website all of which have far reaching impacts across the state of Hawaii. The outcomes of these projects have a direct impact on our urban, conservation lands, water and the health and quality of life of our resident and visiting population.

Below, we highlighted several projects to demonstrate the cascading effects of

this exceptional Hawaii urban forestry program in three areas: Education, Outreach and Tree Planting. The projects highlighted below demonstrate the innovative thinking and far reaching impacts of Kaulunani's visionary team and the projects they elected to support.

Educational and Technical Tools

Hawaii-Pacific Weed Risk Assessment [HP-WRA]

Kaulunani Support: Five Grant Awards, Coordination

Funding: \$250,455

Matching: \$247,888

Dates: 2001-2006

In 2001, Kaulunani hosted a gathering of urban foresters, botanists, conservationists and educators to discuss the relationship between invasive species in urban areas and wild land areas. This collaborative working group recommended an integrated course of action to reduce the negative impacts of invasive species on the native ecosystems. The Hawaii-Pacific Weed Risk Assessment [HP-WRA] was developed with the intent of identifying plants that pose a high weed risk in Hawaii and on other Pacific Islands. By the time this urban forestry

In 2013 Kaulunani was awarded the PlantPono/ Invasive Plants Advocacy Award from the Landscape Industry Council of Hawaii for having the vision to support the Hawaii-Pacific Weed Risk Assessment.



Hawaii Pacific Weed Risk Assessment System

49 questions

- domestication ?
- climate/distribution ?
- weed elsewhere ?
- undesirable traits ?
- plant type ?
- reproduction ?
- dispersal ?
- persistence attributes ?





"The Weed Risk Assessment provides a way to standardize what plants could be a problem and what plants could be okay. It takes the personal bias out of the decision and utilizes a standard with a 90% degree of accuracy to determine the invasiveness or lack of in introductions and existing species."

Charles Chimera
Weed Risk Assessment Specialist
Hawaii Invasive Species Council



project was completed in 2004, more than 600 plants had been analyzed and given a weed risk score. As of October 2013, 1486 plant species have been screened using the WRA. Presently, the HP-WRA is widely used and recognized as one of the primary measurement systems predicting invasive plant probability across all ecosystems in Hawai'i.

The WRA continues to have an ever-increasing significance for the health of forests in urban and conservation lands. For example on March 03, 2000, the Maui County Council adopted the resolution "That it will not condone the purchase, planting, growing, sale, or distribution of invasive alien plant species on County-owned or leased properties, or in conjunction with any County-funded project." This resolution is ultimately what led to the use of the WRA to verify all plants in the Maui County Planting Plan. Having a system in place allowed Maui County to lead by example in promoting the use of noninvasive plants in all future plantings on public lands. This is one of the first government agencies to adopt the WRA.

"Kaulunani functioned as a non-biased voice between conservation

and the landscape/nursery industry to look at how a Weed Risk Assessment would be valuable as a decision-making tool in our state. They brought in the resources necessary to fund the initial work, and used their relationships with industry to open the dialog. Here in the islands we are so vulnerable to invasive plant introductions. Awareness and use of the HPWRA is our only and best source of protection."

Christy Martin
Public Information Officer
CGAPS - Coordinating Group on
Alien Pest Species

Plant Pono Website

www.plantpono.org

Kaulunani Support: Grant Award

Funding: \$21,862

Matching: \$25,438

Dates: 2009-2014

The PlantPono Website is the education and outreach component to the WRA. The WRA provides the science and the PlantPono Website makes this information available to an audience that might not be reached otherwise such as landscapers, homeowners and

developers. Kaulunani's leadership and funding helped create the foundation for this primary information source used today protect our urban, conservation and coastal lands from invasive plant introductions.

"Both the conservation community and the landscape industry are the two communities most likely impacted by the continued use and wide spread adoption of the weed risk assessment and the desire to "Plant Pono." If we can prevent the introduction of the next Miconia, the next fireweed, or the next fountain grass, potentially every community in the islands would benefit--whether you value native ecosystems, are a farmer or rancher trying to make a living, or are a resident living in an area prone to fire."

Charles Chimera
Weed Risk Assessment Specialist
Hawaii Invasive Species Council

Conservation leaders and land managers are a natural audience for use of the Weed Risk Assessment and PlantPono Website. Today, our Hawaii Landscape Industry Council members are also

huge adopters of system to the extent that they will not feature a plant in their bimonthly magazine until it has gone through the system and passes scrutiny. Of the 378 assessment requests received from January 2012 to October 2013, 15% were from private individuals, 47% were from industry-related groups (landscape, nursery, botanical gardens etc.), and the remaining 38% were from conservation groups or government agencies who use this in planning their land management strategies. The PlantPono Website is currently adding components that will allow easier access and dialogue for homeowners and gardeners.

"We have made so much progress on awareness of invasive plants, and I firmly believe that we could not have accomplished any of it without Kaulunani. From the first workshop at Kilauea Military Camp in 2001, to supporting funds for screenings, supporting outreach via the WRA liaison and workshops on each island, to the development of the Plant Pono site, Kaulunani has been more than a funding source. This has been, and continues to be, a relationship based on the common goal of protecting Hawaii from the impacts of invasive



Making Good Planting Decisions For Our 'Āina

Protect the 'Āina

Together We Can Make a Difference

www.plantpono.org



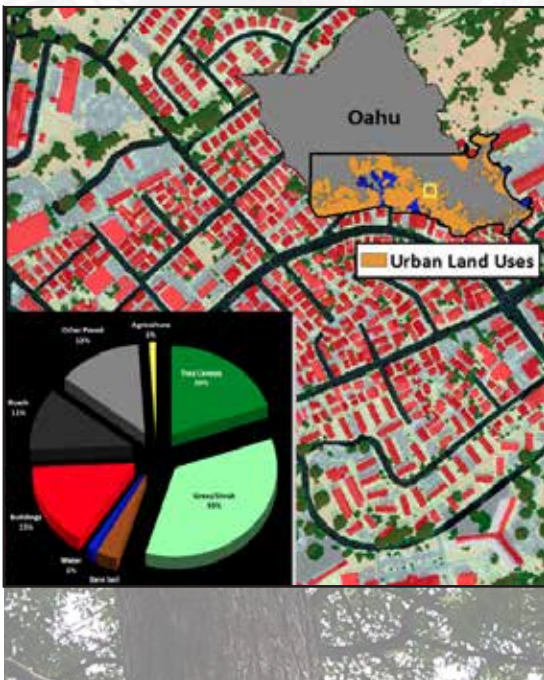
"We have made so much progress on awareness of invasive plants, and I firmly believe that we could not have accomplished any of it without Kaulunani."

Christy Martin, CGAPS





Below: Urban Land Uses displayed using the UTC Assessment spatial analysis tool



plants. Kaulunani owns this success just as much, if not more, than we do!

Christy Martin
Public Information Officer
CGAPS - Coordinating Group on
Alien Pest Species

Urban Tree Canopy Assessment

Funded in whole or part by State and Private Forestry, branch of the U.S. Forest Service, Department of Agriculture, Region 5

Awarded: \$126,000

Matched: \$126,000

Dates: 2010 - 2012

Smart Trees Pacific and Kaulunani worked with the University of Vermont's Spatial Analysis Lab, using aerial photo, satellite and LIDAR imagery, to extract and map the tree canopy and other ground surface features for analysis. The resulting Urban Tree Canopy Assessment of 250 square miles of southern Oahu, from Barbers Point to Kaneohe, allows users to locate, and calculate the distribution and height of tree canopy data in relation with other relevant data such as rainfall, soil, climate and demographics.

This Urban Tree Canopy Assessment (UTC) provides us with a wealth of knowledge on Oahu's Urban Tree Canopy. This assessment offers a wide range of applications for different audiences, for example, the Hawaii Department of Transportation airport division uses this new data to map tree height in the landing path; Lyon Arboretum for their planting and ground plot design; University of Hawaii to map their campus canopy, NOAA C-CAP to verify their next coastal surface feature release in 2013-2014, and Smart Trees Pacific uses it for iTree Hydro to model the impacts of Green Infrastructure in urban watershed. This assessment also has potential for use by developers and planners to strategically plan how trees are incorporated in projects.

“What the UTC does that is so new is it unifies the planned world with our urban forest. For years we have had a huge library of drawings in CAD with the buildings and hardscape but, until now, we never integrated the biological plant world at the same level, with the same tools. Now, we actually can see the relationships and work with built and natural environment together side

by side to develop a healthier green infrastructure for our islands.”

Wai Yiu Lee, GIS Consultant and Analyst

Education and Tree Planting

Coastal Readiness

Kaulunani Support: Grant Award

Funding: \$150,000

Matching: \$125,000

Dates: 2006-2014

“For me the coastal area is one of the prime urban forestry areas--this is where we live, where tourism is integrated with the natural environment. We are part of it. Part of my work is to help people remember how important plants are to all of us economically, socially, and health wise.”

Andy Kauffman ASLA, MLA, Ph.D.
Associate. Professor, Landscape Specialist,
Department of Tropical Plant and Soil Sciences, University of Hawaii at Manoa

Kaulunani, concerned about the severe damage from tsunamis’, assembled

a committee of experts to investigate the issue in Hawai`i and as of 2013 has supported three phases of this investigation. Currently the project is poised to implement a demonstration coastal planting project on the island of Oahu.

Effects from devastating tsunamis in the Indian Ocean showed that coastal communities with high tree density and appropriate species selection were not only more defensible to intense storms, but also more resilient. The disasters resulted not only from the tsunamis themselves but also from the lack of coastal area preparedness for storm events. The scope of work includes a global literature review of the role of vegetation and engineered defenses in coastal areas for the protection of people against tsunamis, hurricanes, cyclones and typhoons; investigation of vegetation in Hawai`i and in Samoa right after the 2009 tsunami; and the current demonstration project underway to determine what kinds of trees, specifically, will help to protect our coastal areas in Hawaii from strong storms.

In January 2010, we made observations



The Hawaii team shared with the Samoan community the story of how two coastal villages directly adjacent to each other in American Samoa survived the storm. One with their coastal strand vegetation intact had very little damage, while a neighboring village that had removed much of their vegetation suffered severe damage, loss of life and property.

The Samoan children listening were so moved by the story that they immediately began planting trees.





“Celebrations of Arbor Day in Hawaii span over 100 years. Without Kaulunani's involvement Arbor Day in Hawaii as a celebration of trees would probably not be as widespread and well attended.”

Jackie Ralya
Certified Arborist, Horticulturist,
Retired Kaulunani Volunteer
Coordinator



Arbor Day Tree Giveaway at the Honolulu Urban Garden Center

on Upolu to identify interactions between the September 29, 2009 tsunami and coastal vegetation. One surprising benefit from this investigation occurred in American Samoa. The Hawaii team shared with the Samoan community the story of how two coastal villages directly adjacent to each other in American Samoa survived the storm. One with their coastal strand vegetation intact had very little damage, while a neighboring village that had removed much of their vegetation suffered severe damage, loss of life and property. The Samoan children listening were so moved by the story that they immediately began planting trees. The Samoan government also was so impressed that they created a goal of planting one million trees in one year.

“This project will have benefits for the entire Pacific Rim. At a very basic level we are just putting back what nature did before us.”

Andy Kauffman ASLA, MLA, Ph.D.
Associate Professor/Landscape
Specialist, University of Hawaii at
Manoa, CTAHR

Arbor Day Activities

Kaulunani Support: Grant Awards,
Coordination

Funding: \$316,756

Matching: \$1,090,596

Dates: 2002 - 2013

Arbor Day is the one-day, formally designated across our entire nation to honor, plant and enjoy trees. In Hawaii, Arbor Day has been celebrated for over 100 years. Arbor Day in Hawaii officially got its beginnings on November 3rd 1905 when Territorial Governor George R. Carter proclaimed it Arbor Day. School children participated by singing songs, reciting poetry, making speeches and planting trees and shrubs on school grounds. The government nursery, now DLNR gave away 3500 trees to over 150 schools. The first tree planted to commemorate Arbor Day was an ulu tree at McKinley High School on Oahu.

In 1992 Hawaii Electric Company (HECO) in conjunction with Kaulunani decided Arbor Day was so important that they would continue the tradition and support the establishment of tree giveaways and education events on all the major islands. Kaulunani and HECO began their first Arbor Day 21 years

ago with just 300 trees and only on the island of Oahu. Today 7,000 – 8,000 trees are given away each year across the state. In just the past 10 years (2002-2012) Kaulunani has sponsored over 60 giveaways on the islands of Hawaii, Kauai, Maui and Oahu. Community leaders on each island host the events providing plants, professionals who teach how to plant and care for the trees, education, volunteers and even compost and mulch.

“Arbor Day is very important to urban forests in Hawaii. It is an easy way for people to connect with trees and learn about on the value and importance of trees. Arbor Day is something our kupuna (elders) remember and a very important way that people and children can connect to the urban forest by receiving a free tree, learning how to care for it, helping to give away the trees or just sitting under a tree with their families having a picnic.”

Jackie Ralya
Certified Arborist, Horticulturist,
Retired Kaulunani Volunteer
Coordinator

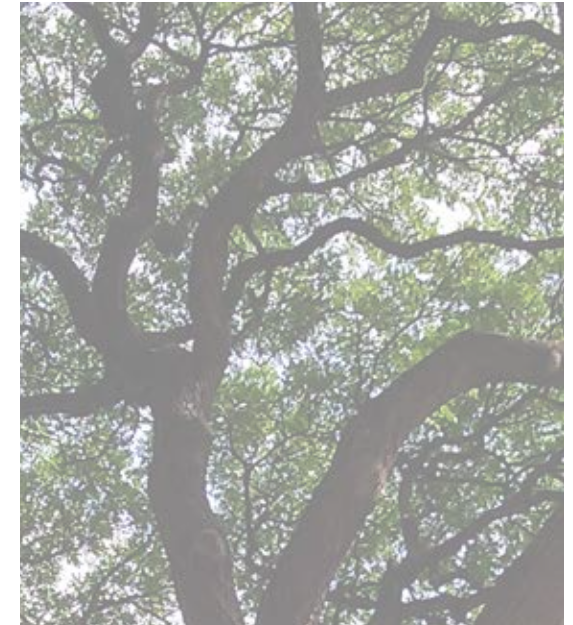
Tree Planting Projects

Kawananakoa Middle School

Kaulunani Support: Two Grant Awards
Funding: \$17, 214
Matching: \$58,038
Dates: 2011-2014

Kawananakoa Middle School is located in Nuuanu, a densely populated part of the city in downtown Honolulu just a few blocks from the freeway. A key to the success of this project is the school from the beginning involved the local community, politicians, landscape professionals and even the Senator. The group did not rush through planning the project, they made it a priority to be inclusive and design the project not just for the school, but for everyone surrounding the school as well. Integrating the plantings into the social fabric of the neighborhood took more effort and more time and as a result more people are involved and the project has a bigger impact. The campus is open and local residents can come in to enjoy the shade of the trees and the beauty of the campus.

The idea of creating a native Hawaiian arboretum on the campus arose from the



Kawananakoa Middle School

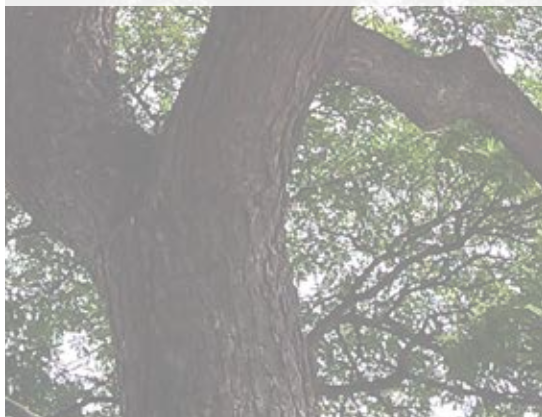
The idea of creating a native Hawaiian arboretum on the campus arose from the community visioning process and a desire to strengthen the school's connections with its' native Hawaiian legacy.





“Kaulunani made it possible for us to begin the project by providing the funds that allowed us to buy the first native trees. Kaulunani continues to support us today, most recently with the creation and installation of interpretive signage describing the plantings.”

*Dr. Richard Linn Stevens
Coordinator, Hawaii Veterans'
Cemetery Reforestation Project*



community visioning process and a desire to strengthen the school's connections with its' native Hawaiian legacy. From the very beginning they integrated the school plantings with the fabric of the school day. Professionals including horticulturists, arborists and landscapers were brought in to hold discussions with the entire campus about how to plant a tree, how to grow healthy trees and the benefits of trees. Some of these students had never handled a shovel or planted a tree. As a result the students value the campus trees. Today, when the outgoing president of the 6th grade is nearly complete with their term, they hold a ceremony where the current leader passes the `o`o stick to the next person with the promise to mālama the trees.

On May 10th 2013, the entire Kawanānakoā Middle School Community (875 students, 48 teachers and additional support staff) planted an additional 24 native trees on the school grounds. Industry leaders once again visited the school to work with the students in small groups emphasizing the importance of native trees and their care.

This is one of the best planned and cared for tree planting projects

Kaulunani has supported. In just three years the school campus is filled with trees that are not only thriving, they are also highly valued by the community.

Jackie Ralya
Certified Arborist, Horticulturist,
Retired Kaulunani Volunteer
Coordinator

West Hawai`i Veterans Cemetery

Kaulunani Support: Two Grant Awards

Funding: \$16,600

Matching: \$29,025

Date: 2004-2014

The Cemetery was established in 1995, but adequate provisions were not made for maintenance and it quickly began to go downhill in appearance. Goats roamed freely, gravesites were untended, and the community was not very pleased with this. In 2004 a local Boy Scout leader recruited golf course superintendents and veterans to begin working on revitalizing the site. Students at the UH Center at West Hawaii decided the Cemetery was optimal for a dryland reforestation project and joined in.

Today, the site has gone from “boothill”

to Shrine Status, which is the highest award given by the VA to State Veterans' Cemeteries. The Cemetery has received over 40 awards and grants since 2005. In the midst of the Cemetery is a hill that covers nearly three acres. This area was selected for the dryland reforestation project. Kaulunani provided the first plant grant at the same time that NRCS provided funding to fence in the 62-acre site. When invasive fountain grass, which was cloaking the hill, was removed, native and other useful plants started sprouting. There were many botanical surprises, including 'ilima, which sprouted all over the hill and is now a substantial part of the landscape.

A core volunteer group has grown from just a few people to hundreds, who volunteer to plant and weed. As a result, today the site is filled with beauty. The restoration project has planted over 10,500 native plants since 2005. Today, the project continues to grow, with a greenhouse scheduled for completion in fall of 2013. This will be used by the Cemetery as well as nearby West Hawaii Explorations Academy Charter School to grow plants for their school campus.

Led by their school partners, the West Hawaii Veterans Cemetery Reforestation Project has become the "frontier of science" on how to restore dryland plants in Hawaii. Kaulunani made this possible by providing funds to buy the first native trees, and Kaulunani continues to support the project today, most recently with a beautiful and interpretive sign, "In remembrance is healing," which describes the plantings and the lowland dry forest and the community's efforts to heal the land.

"In remembrance is healing"



The West Hawaii Veterans Cemetery Reforestation Project has become the "frontier of science" on how to restore dryland plants in Hawai'i. Kaulunani made this possible by providing funds to buy the first native trees, and Kaulunani continues to support the project today.



Who We Are

Smart Trees Pacific* (STP) began in 1998 with an intention of being a fundraising arm to the State's urban and community forestry program. STP also worked with other urban partners to raise urban forestry awareness in the State. In 2011 STP was selected to manage **Kaulunani**, the State's urban and community forestry program, which included the Council, staffing, grant program, outreach, the urban forest action plan, and responsibility for growing partners, relationships and new funding sources. STP brings years of experience in urban forestry with a knowledgeable and dedicated board and staff.

The **Kaulunani Council** acts in an advisory capacity to the State Forester. The Council provides guidance and direction for the Kaulunani program; provides recommendations of strategies in the Forest Action Plan including assessments of urban and community forest resources, strategies and partnerships; reviews and makes recommendations regarding sub grant awards, educational and marketing initiatives; and may review the annual Federal grant proposal, as well as other Federal or nonfederal funding opportunities.

*Friends of Hawaii's Urban Forest DBA Smart Trees Pacific

This work is being funded entirely or in part by the Kaulunani Urban and Community Forestry Program of the DLNR Division of Forestry and Wildlife; and State and Private Forestry, branch of the U.S. Forest Service, Department of Agriculture, Region 5. This institution is an equal opportunity provider and employer.



For more information about Kaulunani's programs and cost-share grants please visit the Kaulunani website or contact the staff:

<https://dlnr.hawaii.gov/forestry/>

Program Staff:

Teresa Trueman-Madraiga
Program Manager
(808) 672-3383
ttn@smarttreespacific.org

Jolie Wanger
Program Coordinator
(808) 395-7765;
jwanger@smarttreespacific.org

Colleen Carrol, Ed.D.
Education and Outreach
Coordinator
(808) 634-3021
ccaroll@smarttreespacific.org

Written by Colleen Carroll, Ed.D.
Design by Jolie Wanger