

# Go Native Hawai'i: Restoring Nature from Mauka to Makai

*By Paul Arinaga, Hawai'i Forest Institute Go Native Project Manager*

There was a time in Hawai'i Nei when nature stretched uninterrupted from mauka to makai. We'll never return to those days of pristine natural beauty—certainly not in densely populated urban areas of the “concrete jungle”. This is the harsh reality that has perhaps led some people to view urban areas as a “lost cause” and as separate from upland forests and other protected natural areas. That is no surprise: up to 95% of Hawai'i's dryland forest has been destroyed, and only 40% of our mesic forest remains. Despite the widespread destruction and the temptation to throw one's hands up in frustration, we have come to realize that nature in urban areas is important. As Hawai'i's official Forest Action Plan states: “Our islands' ecosystems are more dramatically and intricately connected than those on continents. Because of these tight connections, integrating urban forest issues into landscape and island-wide management efforts is necessary.”



Ko'oko'olau (*Bidens asymmetrica*), Endemic to Hawai'i Island. Photo: J.B. Friday.

While we cannot go back to the days of the past – and, indeed, some people may not want to – the Hawai'i Forest Institute and our community partners believe that there is another way forward.

Last year, with help from the Kaulunani Urban and Community Forestry Program of the DLNR Division of Forestry and Wildlife, we launched the “Go Native: Growing a Native Hawai'i Urban Forest” project. The project aims to promote the growing of native Hawaiian and “canoe” (Polynesian-introduced) plants by creating a series of videos and a quick reference guide. The videos will target a non-technical lay audience and will walk the viewer through the stages of creating or converting their landscape to native and canoe plants. The guide will enable gardeners, landscape architects, and others to identify the different native plants most suitable to their climate zone, personal tastes, gardening or landscaping experience, and other factors. It will provide clear guidance and take the guesswork out of planning and realizing a native urban landscape, and reduce frustrations caused by a lack of knowledge or prior experience.

The goal of this long-term effort is to create a series of “kipuka” or micro-forests within the urban and suburban core. Once we convince enough homeowners, renters, businesses and landscape architects to use more native Hawaiian and canoe plants in their landscaping, these native gardens can collectively become a human-made surrogate for the natural forests that once existed in abundance, particularly in dryland and mesic areas. Within a generation, we can create a Native Hawaiian Urban Forest Network.

The Native Hawaiian Urban Forest Network would offer innumerable benefits to Hawai'i's people and to the 'āina such as providing a refuge for native animals; wildlife corridors for native invertebrates, birds and bats; preserving genetic variation within plant and animal species; and enhancing cultural and spiritual links with the past. Creating the Native Hawaiian Urban Forest Network could also help to increase the redundancy, representation and resiliency of existing natural forests. If we build a Native Hawaiian Urban Forest Network of sufficient size and density, native birds and insects may even be able to extend their current ranges. In addition to benefiting wildlife, forests and the environment as a whole, growing native plants also requires less use of fertilizers, pesticides and water, and reduces air pollution. According to Heidi Leianuenue Bornhorst, author of *Growing Native Hawaiian Plants: A How-To Guide for the Gardener*, “many native plants, especially those native to coastal and dry forest areas will help reach Hawai'i's goal of reducing wasteful watering

practices (xeriphitic or drought-tolerant landscaping).” Contrary to common perception, there are native Hawaiian plants that are very hardy and can survive in harsh conditions. They may have a role to play as climate change impacts the state.

While we know where we want to go, the road to getting there is not always clear, and there will be bumps along the way. One major challenge we have discovered is the existing landscaping aesthetic. Many homeowners and businesses seem to prefer a well-manicured, highly controlled landscape. They may pay landscape architects to design and install "instant" landscaping that is relatively fixed in time. In contrast, creation of a series of native Hawaiian *kipuka* really involves a degree of “re-wilding”. Native Hawaiian gardens, such as the one planted and managed by local landscape architect Rick Quinn near the Shidler College of Business on the University of Hawaii at Mānoa campus, have evolved over time as the conditions in the garden such as tree shade and the soil biota have changed, and some plants have flourished while others have died off. The homeowner planting a native Hawaiian garden needs to be more open to change and to letting ecological succession play out. In this sense, gardening becomes a journey of experimentation and discovery rather than a one-time installation. At the same time, we have seen examples of flourishing gardens that use native Hawaiian plants, are well-manicured and do not change greatly over time. There is a continuum from highly controlled to wild, and where one lies on the continuum depends to a degree upon personal tastes and plant selection.

To some, the discussion of garden aesthetic may seem esoteric, but it has economic implications in the real world. Numerous experts with whom we have spoken have noted that the version of tropical or sub-tropical landscaping presented to tourists is often a generic one. A tourist can travel all over the world and see the same artificial version of “tropical paradise” that uses non-native plants such as *Monstera*. There is nothing unique or special about this homogenized version of nature. We believe that at a time when Hawaii is searching for a new model of tourism – and tourists are looking for authentic experiences – native Hawaiian and canoe plants have an important role to play. While they may not look like a tourist’s imagined picture of tropical paradise, native Hawaiian landscaping is authentic and appropriate to this place. If Hawaii would like tourists to spend more per capita, then perhaps we need to niche down rather than offer a commoditized experience that can be found anywhere in the world. Our native flora and fauna can play an important role in marketing Hawai‘i as a truly unique destination.

With additional funding from the Atherton Family Foundation, HFI has been creating the content for the quick reference guide, which is tentatively called the #GoNativeHawaii Growing Guide. The guide will enable users to look up their growing zone to find recommended combinations of plants they can grow, that fit the zone, and are more likely to flourish. It will also recommend plants based on other considerations such as the type



‘A‘ali‘i (*Dodonaea viscosa*).  
Endemic to Hawai‘i.  
Photo: J.B. Friday.

of space and landscape function and provide sample garden plans. We think of it as providing “cookie cutter recipes” yet enabling people to substitute some ingredients (plants) in case they want more or less of a particular “taste”. Diving into the details, we’ve discovered that this project requires making tradeoffs. Should we be strictly faithful to the original natural history of a particular area or include some plants that may only survive with human intervention (i.e. through regular watering and fertilizing)? Should we include plants that are endemic only to one island or only those found on all islands? Should we focus primarily on a limited palette of native plants that are easy to grow or suggest spectacular native plants that are more difficult to grow? While our aim is a re-wilding of urban landscapes and the restoration and interconnection of ecosystems, we recognize that many people still prefer landscaping that is well-manicured and controlled. We are trying to appeal to these tastes, while hoping that in the long-term people may become more open to a different garden aesthetic.

Seeing is believing, therefore we have started a sub-project to document sites around the state where people are growing native Hawaiian plants, sometimes in combination with canoe plants. We are also planning to launch a contest so that homeowners can show off their native Hawaiian landscaping and inspire others. Several experts in the community such as Dr. Sam Gon, Dr. Jonathan Price, Dr. Noa Lincoln, Dr. Carl Evensen, and well-known landscape architect Rick Quinn have provided invaluable feedback and advice. The vision of a Native Hawaiian Urban Forest Network will take time to unfold, but we believe it will be a positive development for Hawaii's economy, people, and 'āina.

---

Dr. Travis Idol, President of the Hawai'i Forest Institute and Professor of Tropical Forestry and Agroforestry, Department of Natural Resources and Environmental Management, The University of Hawaii at Mānoa  
Heather Simmons, Executive Director, Hawai'i Forest Institute  
Paul Arinaga, Go Native Project Manager, Hawai'i Forest Institute  
Hilary Parkinson, Go Native Subject Matter Consultant, Hawai'i Forest Institute

### **A Few of Hawaii's Native Plants**

Plants that arrived in a location by natural means though wind, wing or wave. Native plants can be endemic (unique to one place in the world) or indigenous (exist in different places with similar environments).



**'Ae'ae** *Bacopa monnieri*



**Alahe'e** *Psydrax odorata*



**Koai'a** *Acacia koaia*



**Māmaki** *Pipturus albidus*



**O'ahu Sedge** *Carex wahuensis*



**'Ōhi'a Lehua** *Metrosideros polymorpha*