



MAUI NUI BOTANICAL GARDENS



Conserving Hawaiian Plants & Cultural Heritage | Summer 2021 Newsletter | Volume 54

Vulnerability of Coastal Dune Plants to Sea Level Rise

by Dr. Kasey Barton,
School of Life Sciences,
UH-Mānoa

Beaches are an integral part of life in Hawai'i. Providing recreation, tranquility, a site for celebration and mourning, and even sustenance, coastal areas are critical for our well-being. Coastal areas such as sandy dunes also provide critical habitat for coastal animals such as nesting seabirds and yellow-faced bees (*Hylaeus* genus). Coastal dunes have some of the most diverse native plant communities in Hawai'i, and dune plants stabilize beaches, reducing erosion and providing resistance during big storm and wave events. Some coastal dune plants like naupaka (*Scaevola taccada*) are probably recognizable to many as they are commonly used for landscaping in urban and suburban areas. Other common dune plants include pōhuehue, an indigenous morning glory (*Ipomoea pes-caprae*), pā'ūohi'iaka (*Jacquemontia sandwicensis*), and 'aki'aki grass (*Sporobolus virginicus*). Some coastal dunes in Hawai'i are also increasingly invaded by noxious species such as the thorned kiawe (*Prosopis pallida*) and the allelopathic ironwood (*Casuarina equisetifolia*).

Conserving native coastal dune plants is a conservation priority, which depends on understanding the ecology of dune species. Coastal environments are inherently stressful for plants. High solar radiation, intense winds, and trampling from human activities pose persistent challenges to plant survival and growth. In addition, periodic and unpredictable events such as big storms and king tides can devastate dune habitats. These are routine stressors that coastal dune plants face and, as a consequence, they have evolved traits and growth strategies to maximize stress tolerance. However, coastal environments are changing, and dune plants are increasingly threatened by climate change and habitat loss due to coastal erosion. For low-lying coastal zones, sea level rise poses a serious threat, leading to increasing salt water intrusion below the sand where roots access freshwater lenses. A crucial question is whether coastal dune plants can tolerate increasing salinity, at least well enough to migrate inland as the sandy beaches erode due to sea level rise.

It seems likely that coastal dune plants can tolerate exposure to high salinity. After all, they routinely experience high tides and salt spray. However, most coastal dune plants depend on desalinization from rain, and roots access fresh water deep in the sand. Because climate change is leading to sea level rise as well as reduced rainfall across the Hawaiian Islands, it remains unclear whether native dune plants can tolerate the simultaneous stress of more salinity and less rainfall. Since 2016, my lab at the School of Life Sciences at the University of Hawai'i at Mānoa has been investigating salinity tolerance in native coastal dune plants with the goal of characterizing general patterns across species. Together with Tamara Sherrill at Maui Nui Botanical Gardens, and Dustin Wolkis and Seana Walsh at the National Tropical Botanical Garden, we have received a SeaGrant award to further investigate salinity tolerance of coastal dune plants, with particular focus on young plant stages (seeds

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Garden News

Workshops: Both Virtual & In-Person

We are only four months into the year and have already held seven cultural workshops! One virtual workshop was hosted by the talented Becky Lau, who led participants in weaving kūpe'e lau hala (lau hala bracelets) over Zoom. A special guest appearance by kumu hula and musician Cody Pueo Pata introduced us to the special mo'olelo of lau hala. We then followed along with Becky at home using the provided materials. This was followed up by an in-person, outdoor workshop with former educator Gail Kuba, who showed us how to select, process, and use lau hala (*Pandanus* leaves) for weaving from the MNBG

trees. Kuba gave a free bonus class at a subsequent Saturday for those who wanted more practice. Other in-person classes taught members how to turn a beautiful wooden mallet with Nalu Andrade of Na Maka Kahiko; the special qualities of the 'Ele'ele group of kalo with Hawaiian Cultivars Manager Namea Hoshino; and traditional, contemporary, and advanced ulana niu (coconut leaf weaving) with U'i Kahue and Mario Siatris of Maui Grown 808. All in-person workshops are outdoors, distanced, and masked. Check out our upcoming virtual and in-person workshop schedule below and at <https://mnbgbg.org/calendar/>.



Gail Kuba (right) leading our "Processing Lau Hala for Ulana" Workshop in early April. Participants learned how to select, harvest, de-thorn, process, and cut lau hala into strips for weaving.

Upcoming Workshops

Pre-registration is required for all workshops.

Email info@mnbgbg.org or call 808-249-2798 to register.

Space is limited for both in-person and virtual workshops. For in-person workshops, participants will be required to follow all current State of Hawai'i COVID-19 mandates.

Research Presentation: Hawaiian 'Uala Varieties (Live Webinar)

Saturday, July 10th | 10am–11am

Hawaiian 'Uala (Sweet Potato) varieties have not been extensively characterized since E.S. Handy's archipelago-wide collections from Hawaiian farmers in the early 20th century, and the conservation status of what was likely well over 100 Hawaiian cultivars remains unclear today. A recent study titled [Characterizing the Diversity of Hawai'i Sweet Potatoes](#) published in the *Journal of Economic Botany* attempts to understand, through molecular tools, the relatedness and genetic diversity of old Hawaiian cultivars of 'uala relative to other varieties in local cultivation.

In this live online presentation, Aurora K. Kagawa-Viviani and Dr. Ted Radovitch will share the findings of their research to better understand Hawaiian 'uala varieties using information on plant genetics and characteristics.

Following the presentation, we invite audience members to join an open discussion to reflect on what this tells us about Hawaiian agricultural and cultural history and to suggest ideas to support future increased local cultivation of a diversity of 'uala for home and commercial production.

Aurora K. Kagawa-Viviani is an ecohydrology researcher on a joint project of the UH-Hilo Hawai'i Cooperative Studies Unit, USGS-Pacific Island Ecosystems Research Center, and the UH Mānoa Water Resources Research Center.

Theodore J.K. Radovitch, Ph.D., is an Extension Specialist, Researcher & Professor at the University of Hawai'i at Mānoa for the Department of Tropical Plant and Soil Sciences.

Cost: Suggested donation of \$10.

Kulolo Workshop with Namea Hoshino (In-Person)

Saturday, July 17th | 9am–12pm

Kulolo is a Hawaiian dessert staple made from freshly steamed kalo (taro), coconut milk, sugar, and little else. MNBG Hawaiian Cultivars Manager, Namea Hoshino, will teach participants to make kulolo using three different kalo varieties!

Cost: \$25 for current MNBG members, \$50 for new members.

Imu Building Workshop with Ikaika Nakahashi (In-Person)

Saturday, July 31st (10am–6pm)
& Sunday, August 1st (8am–11am)

This two-day, in-depth workshop will teach many aspects and benefits of cooking in an imu (traditional Hawaiian underground oven). Hands-on instruction will include how to plan, build, and cook from an imu. Imu cooking is a healthy and delicious method of food preparation that perpetuates the Hawaiian culture and sustainability.

Cost: \$100 for current MNBG members, \$125 for new members.

Kapa Dyes from Native Plants with Lisa Schattenburg-Raymond & Lei Ishikawa (Live Webinar)

Saturday, August 14th | 9am–11am

Join Lisa and Lei in a master class as they share their extensive Hawaiian dye knowledge. In this live webinar participants will take a deeper dive, with more detailed information, and new research than was provided in previous workshops. Lisa and Lei will share their innovative processing techniques and unpublished research on select plants with demonstrations on harvesting, processing, and application of the resulting dyes as well as information on natural additives and fixatives used to manipulate color. These dyes are traditional for kapa (Hawaiian bark-cloth), but can also be used for other materials

Cost: \$25 for current MNBG members, \$50 for new members.

Living Wreath Making with Native Plants (In-Person)

Saturday, December 4th

Two Sessions: 9am–12pm & 1pm–4pm

Native plants provide more than just food and habitat for wildlife: they also provide great beauty all year long! Learn to make a living wreath from Native Hawaiian plants just in time for the Holidays. This workshop will be led by MNBG Executive Director Tamara Sherrill

Cost: \$55 for new members, \$30 for current MNBG members.



Keiki Tours Return to MNBG

During last year's pandemic, field trips organized by local schools were cancelled. Historically, MNBG hosted about 70 visits a year with groups of up to 100 haumana (students). We spent 2020 training new docents to give ethnobotany tours, and now have six new, active alaka'i kuhi (docents). Recently, Keiki o Ka 'Āina Family Learning Center (KOKA) chose Maui Nui Botanical Gardens as a huaka'i (field trip) site for April. Because the preschool program is not yet allowed to gather in groups, tours were scheduled individually by MNBG with each 'ohana (family). Our docents dusted off supplies and learned how to adapt the ethnobotany tour they learned to preschool age keiki (children). After a crash course in leaf rubbings, safety scissors, and newspaper pots, we are thrilled to be able to host small group keiki activities again.

If you are ready to take a family field trip, you can schedule a tour on our website under "Garden Programs": <https://mnbg.org/docent-led-group-tours/>

Fred Baldwin Foundation Grant Supports the Return of Service-Learning Students to MNBG

The Fred Baldwin Memorial Foundation granted MNBG \$7,000 to support high school and college student outdoor service learning in native Hawaiian seed storage and plant propagation. In addition to the usual Weed & Pot Club activities every Wednesday morning, staff will train and supervise student

volunteers in preparing wild collected seeds for drying and propagating native plants from the Garden's plant collection. In 2020, the Seed Storage Program at Maui Nui Botanical Gardens worked with 18 conservation land managers to collect, clean, process, record, germination test, dry, package, and store nearly 200 seed collections, 93% of which were wild collected. More than 4,000 native plants and Hawaiian cultivars were donated to conservation partners, farmers, and Maui residents. This year we hope to provide safe outdoor spaces for students seeking to fulfill graduation requirements by volunteering. Space is limited; students enrolled in high school or college who need volunteer hours are encouraged to call Maui Nui Botanical Gardens at 808-249-2798.

comprehensive understanding of coastal dune vulnerability to sea level rise. Considering the evidence to date that many dune plants are sensitive to salinity, we are developing seed bank collections of native dune species at MNBG and NTBG to provide the propagules for future restoration and possible assisted migration inland where coastal erosion and increased salinity won't threaten the persistence of these native species. Banking seeds now while dune communities are still diverse offers a promising approach to ensure conservation of these critical Hawaiian ecosystems in the future.

Lemuomakili (Vigna marina), one of 16 native coastal species undergoing salinity testing trials at the UH-Mānoa greenhouse. Image by Anna Mc Cormick.



Lā 'Ulu 2021 Saturday, September 4th & Sunday, September 5th

After a one-year hiatus, Lā 'Ulu (Breadfruit Day) will be returning in 2021 thanks to a \$10,000 'Ahahui Grant from the Office of Hawaiian Affairs (OHA).

The event will be held on Saturday, September 4 and Sunday, September 5, 2021 at MNBG (150 Kanaloa Ave., Kahului) with presentations throughout the week leading up to the event. The purpose of the event is to provide outreach about the use of 'ulu (breadfruit) to Maui residents and the Native Hawaiian community by showcasing the history of traditional Hawaiian 'ulu cultivation, publicizing local businesses and nonprofits that promote 'ulu cultivation and 'ulu products, and exhibiting horticulture, harvesting, handling, storage, cooking demonstrations and recipes using 'ulu. The free event celebrates the harvest season for Hawaiian 'ulu, kinolau (physical form) of Kū, as a symbol of a provider's kuleana (responsibility) for caring for and feeding their family.

For more information on the event or to participate, visit mnbg.org, follow @mauinuibg or contact MNBG at (808) 249-2798.

COASTAL DUNE PLANTS Continued from Page 1

and seedlings), which tend to be the most sensitive to salt stress.

Using an experimental approach that simulates increased salinity by watering plants with ocean water, and observing responses in growth and survival, we aim to identify species that are very tolerant, providing robust species for restoration efforts, as well as to identify vulnerable species that will need to be prioritized for intensive management to conserve. Among the twelve species tested to date, we are observing considerable variation in salinity tolerance, and the most tolerant native species is alaweo (*Che-ropodium oahuense*), while the most sensitive species is lemuomakili (*Vigna marina*). Our future efforts will continue to expand the species tested for a more



Conservation Partnerships

MNBG to Provide 'Ōhi'a Lehua Seeds for ROD Resistant Tree Project

For the past several years, MNBG has been part of a statewide initiative to collect, process, and store for long term viability representative 'ōhi'a lehua (*Metrosideros* sp.) seed samples from as many different seed zones on Maui as possible. This project has facilitated collections from over 1300 'ōhi'a trees across the main Hawaiian islands since 2016, including over 220 trees on Maui. However, many uncollected gap areas remain. In 2021 MNBG staff, Kupu members, and volunteers will focus on collecting in those gap areas. The project is a partnership with Kalehua Seed Conservation Consulting and the Hawai'i Agricultural Research Center (HARC) with the goal of providing wide Maui population representation to supply Rapid 'Ōhi'a Death (ROD) resistant tree research.

Research indicates that natural genetic resistance to ROD may exist in wild populations and that the frequency of resistance could be increased through selection and breeding. A screening protocol to assess 'ōhi'a seedlings for resistance to ROD has

been developed by the 'Ōhi'a Disease Resistance Program. HARC will send portions of seed accessions, or seed packets that each represent individual trees collected on Maui, to ODRP on Hawai'i Island to identify ROD resistant 'ōhi'a seed sources for use in watershed restoration on Maui. The seedlings will only be tested on Hawai'i Island, where ROD is widespread. Seed accessions are identified as having natural ROD resistance in these Big Island trials can then be withdrawn from the remaining portion of the accession from the MNBG seed bank to grow out and plant naturally ROD resistant seed orchards on Maui. HARC has already successfully established disease resistant koa orchards and will leverage these to help establish 'ōhi'a seed orchards in multiple ecoregions across the island. Former Lyon Arboretum Seed Conservation Lab Manager, Marian Chau, built a collections framework including taxonomy, sampling strategy, collection goals, and data management via an open source application to allow standardized collection by volunteers. She also created Hawai'i's first provisional seed zones. Seed Storage Technician Cathy Davenport, under Marian's guidance, has been training, providing collection kits, and accompanying Maui watershed partnership and other conservation crews into the gap areas to collect healthy seeds. The seeds are brought to MNBG for cleaning, counting/ weighing, drying, and cold storage which can extend their viability by many years. Land managers must give permission for the collected seeds to be used for research. MNBG volunteer and Vice President Diane Carr, Kupu members Mālia Reghi and Jordan Tabura, and other community volunteers have been assisting with the labor intensive work.



Top: Kupu Member Jordan Tabura (front) and MNBG Horticulturalist Emmely Felipe collecting 'ōhi'a lehua seeds. **Bottom:** Kupu Member Mālia Reghi processing 'ōhi'a seeds.

Native Hawaiian Plant Month

by Emmely Felipe, Horticulturalist, MNBG

From little shrubs growing makai (sea) to the tallest trees up mauka (mountain), Hawai'i is home to an amazing array of native plants which are found nowhere else in the world. Unfortunately, Hawai'i is dubbed the "endangered species capital of the world". Native biota are sensitive to ecosystems change. Many species have declined with the introduction of invasive species and urban development that have devastated these plants. According to Hawai'i's DOFAW Rare Plant Program as of last year, 366 Native Hawaiian plants are listed as 'endangered' or 'threatened' and an additional 48 species are proposed as endangered.

In February 2020, with the recognition of the importance and urgent need to protect Hawai'i's endangered and threatened plants, Governor David

Ige proclaimed that April is "Native Hawaiian Plant Month." This proclamation recognizes the work being done by many conservation organizations, scientists, government officials, and Native Hawaiians who are working hard to protect, conserve, and educate others about the importance of Hawai'i's unique Hawaiian plants and environment.

To celebrate Native Hawaiian Plant Month, I posted a photo every day in April through MNBG social media platforms that shared my knowledge and experience with Native Hawaiian plants. Some of the endangered plants I featured were ko'olua'ula (*Abutilon menziesii*), 'ohai (*Sesbania tomentosa*), and naupaka papa (*Scaevola coriacea*).

As a community, it is important to establish a sense of pilina (relationship) to help take care of our moku (island). We need to have a wider understanding to conserve, appreciate and respect Hawai'i's native species that play a key role in Hawaiian ecosystems and culture. We can all do our part to mālama 'āina by planting natives in your own landscape, volunteer in native plant restoration efforts and educate yourself and others about Hawai'i's native plants.



Follow @mauinubg on Facebook and Instagram for more content from MNBG.

Seeds Sprout After 120 Years!

by Cathy Davenport, Seed Storage Technician, MNBG

Dr. William James Beal began a study in 1879 to test seed dormancy. 142 years later the study is still going on, much longer than he expected.

The study's purpose was to help farmers in Michigan know how long weed seeds would keep sprouting. Farmers spent endless frustrating hours clearing out weeds.

A clear glass bottle was filled with over 1,000 seeds mixed with sand. This bottle had 50 seeds from 21 different species. He made 20 of these bottles, using well over 20,000 seeds. The 20 bottles were buried in sand, slanting downward, with the mouths left open so that water would not get into the bottle during rains.

Dr. Beal planned to excavate a bottle every fifth year to test for germination. This happened for 40 years (8 bottles). In 1920 the excavations were increased to every 10 years. In 1990 the excavations were increased to every 20 years. Twice a flu epidemic delayed the excavation for one year. Once in 1918, and again in 2020. After 142 years the 16th bottle was excavated in April 2021.

Buried in a secret location on Michigan State University campus, botanists head out at night to excavate a bottle. The bottle needs to be excavated at night so that sunlight will not enter the other clear glass bottles and stimulate the seeds into germination. The botanists use green lights.

Seeds dormant for 120 years sprouted. *Verbascum blattaria* (a mullein) was the most prolific. *Malva rotundifolia* also germinated. Both species matured to produce flowers and viable seed.

A naturally occurring long-term dormancy-breaking event happened in Haleakalā National Park near Hosmer's Grove in the 1980's after a hurricane and tropical storm came through.

A large area of non-native pine trees that had been there over 50 years came down in the storms. A few years later the Park service removed the fallen trees. This changed the environment enough to create conditions breaking dormancy of seeds which had been in the soil below the trees. Up sprang hundreds of the rare native Hawaiian iris (*Sisyrinchium acre*). Over time the iris proliferated into a larger area. The iris is endemic, found only in the Hawaiian Islands. More specifically, found only on Haleakalā and Hawai'i island. Although it is not an endangered species, Laukahi, the Hawai'i Plant Conservation Network and others have designated it as a Species of Conservation Importance.

The iris has a Hawaiian name that translates to 'the grass that causes the skin to turn red'. Mau'u hō'ula 'ili. Some people have skin susceptible to being tattooed with the leaves. Sometimes the tattoo will fade away.

At the MNBG Seed Bank, the purpose of knowing how long the seeds of a species can remain dormant in storage is important for the our role in conservation ecology, restoration and mitigation of extinction.



Pa'u o hi'iaka (*Jacquemontia sandwicensis* 'Puhala Bay')

Maui Pā'ū o hi'iaka Variety Named in HortScience

A particularly lovely selection of the endemic pā'ū o hi'iaka (*Jacquemontia sandwicensis*) has been officially named as the cultivated variety, cv. 'Puhala Bay,' in the journal HortScience. This paper titled "*Jacquemontia sandwicensis* 'Puhala Bay': A Compact Maui Island Selection of Pā'ūohi'iaka with Gray-green Wavy Leaves" was a joint publication by Dr. Orville C. Baldos and his student at the University of Hawaii at Mānoa and the Maui Nui Botanical Gardens. It is available as an open access article at: <https://doi.org/10.21273/HORTSCI15761-21>

Pā'ū o hi'iaka is known for having lots of local variation depending on the area it inhabits. Baldos and his student compared several different accessions from wild and cultivated sources from Oahu, Hawai'i, and Maui. Originally collected by Maui Nui Botanical Gardens on Maui's north shore, the cultivar, 'Puhala Bay' has densely pubescent, grayish-green leaves with wavy leaf margins and violet blue flowers. It exhibits a more compact growth habit due to short internode lengths and responded better to pruning by producing more lateral branches compared with other accessions grown by Baldos and his student. This growth habit makes it perfect for hanging baskets.

Plants should begin to become available later this year if you want to try a native hanging basket.

Noenoe Ua Kea o Hāna

The Famed Misty White Rains of Hāna by Robert W. Hobdy

Hawaiians loved to celebrate the special qualities of their homeland in chants and songs, focusing on storied places, famous chiefs and historical events. Every district was also characterized by a special wind and rain.

Hāna is one such place with a rich history, many famous chiefs and numerous special places. One favorite song begins with the verse “noenoe ua kea o Hāna, hoapili o ka Mālualua” (misty white rain of Hāna companion of the mālualua breeze). I had long sought to witness and recognize an example of such a misty white rain that would justify this special focus.

One year my wife and I made a weekend trip to Hāna to take in the annual Kalo Festival and its associated special events. The morning before the opening of the Kalo Festival, a dawn ‘awa ceremony was scheduled to be held on the lawn in front of Helene Hall above Kapueokahi Bay. A gathering of about fifty people had quietly assembled for this solemn traditional ceremony. The participants were arranged in a semi-circle around the ‘awa bowl, seated in traditional malo. The ceremony began with the mixing of the ‘awa in the ‘awa bowl in preparation for its presentation to the participants.

As this was in progress, I noticed a low misty cloud forming over the bay and that it was beginning to drift slowly shoreward. We were soon enveloped in this cloud. The cloud was



Kapueokahi - Hāna Bay

made up of a very fine mist that was just moist enough to dampen the skin with refreshing coolness. The early morning sun shone through the mist, causing it to sparkle. I noticed one of the ceremony participants, my friend Blue Lono, his skin shining with the dampness, put his head back, and with closed eyes, breath in the refreshing coolness in an obviously spiritual state.

I suddenly realized that what I was observing was none other than the famous noenoe ua kea o Hāna. I turned to my old friends ‘Aimoku and Lehua Pali, who were standing beside me, and in a very quiet voice said “this is the noenoe ua kea o Hāna”. As the effect intensified, I quietly repeated myself in a more animated voice.

‘Aimoku and Lehua immediately began singing

that first verse in a barely audible voice. The misty cloud soon diminished and evaporated over the land, revealing a bright, clear Hāna morning once again. The experience was both exhilarating and spiritual in effect and one that I will forever cherish.

Sometime later, while I was reading some of Samuel M. Kamakau’s writings, I found his explanation of the noenoe ua kea o Hāna and a description of how and at what time of day the cloud formed, how it moved onshore, its effects and how it dissipated. This description exactly matched what we all experienced that morning in Hāna. It also reinforced my appreciation for Hawaiian spiritual sensitivities.



Ko'oko'olau (*Bidens mauiensis*) by Forest & Kim Starr

Love native plants? Follow us online!

Join us every Monday and Thursday (except holidays) online for our weekly plant giveaways and sales. Both are posted on our website (mnb.org) and social media platforms when available.

Follow @mauinuibg  

Plant Giveaways | Monday

Featured giveaway plants are placed under the MNBG sign and are always first come, first served.

Pop-Up Plant Sales | Thursday

A selection of plants are available for purchase from our office deck. Plants vary from week to week. DM us via social media (@mauinuibg) or call 808-249-2798 to reserve.

With Gratitude from Our Garden

- Becky Lau for donating time to teach a workshop.
- Diane Carr for printing of membership cards.
- Janet Allan for jeweler's loupes to magnify plants on keiki tours.
- Jeff Gray for mulch.
- Jeri Dipietro and Valerie Lasciak for Contact Organics Herbicide.
- Maggie Sniffen for stools, paper goods, and gloves.
- Malafu Tree Services for mulch.
- Maui County Dept. of Parks and Recreation for assistance with water conservation.
- Hawai'i Agricultural Research Center and Kalehua Seed Conservation Consulting for 'ōhi'a field collecting kits.
- Maui United Way for PPE.
- Paula Loomis for lau hala mats and horse manure.
- Pat & George Borg for cement and clay pots.
- Pueo Pata for his guest appearance at our Kūpe'e Lau Hala Workshop to explain mo'olelo about lau hala.
- Sandy Viloria for paper goods.
- Vilma Seiler for canned juice and gloves.

MNBG's Contributions to the Community

- Weekly Community Giveaways of hala, kamani, noni, 'uala, ti, pōhinahina, 'ilie'e, kalo huli, lū'au leaf, pili, naio papa, pā'ū o hi'iaka, nehe (*suc.*), 'ākulikuli, and 'ilima
- Haiku Elementary School (hame, nehe (both), pā'ū o hi'iaka, 'āweoweo)
- Haiku School PTA ('ulu tree)
- Hawaiian Islands Land Trust Waihe'e Coastal Restoration Site (ma'o, nehe (*int.*), naio)
- Kamehameha Schools ('a'ali'i seeds)
- Kamehameha Schools Paukūkalo Preschool (kalo huli)
- Keālia Pond National Wildlife Refuge ('Ala'ala wai nui wahine, *Carex wahuensis*, *Cyperus phleoides*, hala, koai'a, kupukupu, mau'u 'aki'aki, nanea, nehe (*suc.*), 'ōhai)
- Kipuka Olowalu (kō laukona, kō honua'ula, kō pilimai, and 'ōhi'a lehua)
- Ku'ia Educational Center (kalo huli)
- Maui Nui Seabird Recovery Project (*Lysimachia mauritiana*, ko'oko'olau, kipukai, 'āweoweo, 'ōhelo kai, 'ākulikuli, *Kadua lit.*, pā'ū o hi'iaka, mau'u 'aki'aki)
- Plant Extinction Prevention Program (dwarf naupaka)

Mahalo to Our Interns & Volunteers

- ARCC Gap Participants
- Current KUPU Conservation Leadership Program Members
- Naoko Ban
- Marlon Basilio
- Sophia Butler
- Tim Hageman
- Tarrah Hidalgo
- Jamilyn Higa & Joshua Higa
- Dylan Kane (EMWP)
- Maui Invasive Species Committee (MISC)
- MNBG's Weed & Pot Club
- Native Hawaiian Plant Society
- Kaipo Park
- Joseph Pascua
- Karen Pollard
- Mālie Reghi
- Vanessa Scott
- Kadian Shaw
- Jordan Tabura
- Pam Valos
- Kevin Yoshida

Wish List

MNBG is currently in search of the following items to help support our conservation goals. Please call us at (808) 249-2798 or email us at info@mnbg.org if you are willing to donate any of the following items.

- Dehydrator
- Garden gloves (all sizes)
- Hand pruners (clippers)
- HawaiianMiles (for interisland travel for staff training)
- Medium sized picks
- Outdoor tables & chairs
- PowerPoint projector
- Rakes (leaf or landscaping)
- Shovels
- Sickles
- Umbrellas

Check out MNBG's Amazon Wish List:
<http://a.co/eWBZKw3>

Note: We are no longer accepting drop offs of used plastic pots. If you have new or used cement or ceramic pots to donate, please give us a call and we will be happy to arrange a pick up.



Mahalo Weed & Pot Club for all you do!

- | | | |
|---------------------|---------------------|-------------------------|
| • Gloria Adlawan | • Paul Kastner | • Vilma Seiler |
| • Janet Allan | • Valerie Lasciak | • Anna Mae Shishido |
| • Darryl Amaral | • Becky Lau | • Maggie Sniffen |
| • Diane Carr | • Irene Newhouse | • Mālie Unabia-Verkerke |
| • Kimo Conant Eagle | • Jill Painter | • Sandy Viloria |
| • Erica Hoime | • Marilyn Ratcliffe | |
| • Tom Huber | • Jennifer Rose | |

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Kupu Members

Mālia Reghi

Jordan Tabura

Current Grantors

AHS Foundation, Anonymous, County of Maui Office of Economic Development, County of Maui Department of Parks and Recreation, E Kūpaku ka ʻĀina, Fred Baldwin Memorial Foundation, Hawaii Community Foundation, the Kaulunani Program of the DLNR Division of Forestry and Wildlife, Maui Nui Community Fund, Office of Hawaiian Affairs, the USDA Forest Service, and the Zadoc W. and Lawrence N. Brown Foundation.

Current Donors

HONORARY LIFETIME

Anne Carter

Maui EKO Systems

Jim Moriyasu

Kiope Raymond

& Lisa Schattenburg-Raymond

Ma'o Hau Hele (\$1,000–\$4,999)

George & Janet Allan

Edward & Jennifer Baldwin

Lesley & Pawel Czechowicz

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Papa Ola Lokahi

William & Dorothy Pyle

Jennifer & Charlie Rose

Melanie Ito & Charles Wilkinson

Zadoc W. Brown & Lawrence N.

Brown Foundation

ʻIliahi (\$500–\$999)

Ann Barclay Rovner

Deborah Brown

Diane Carr & Steve London

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Foster & Lemoine Radford

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Michael Williams & Linda Love

ʻIlima (\$50–\$499)

Jessica Aasved

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George & Janet Allan

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 Charlie Lamoureux
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MAUI NUI BOTANICAL GARDENS

Location

150 Kanaloa Ave., Keōpūolani Park, Kahului
Across from the War Memorial Sports Complex

Hours of Operation

Tuesday–Saturday, 8am–4pm*
 Closed Sunday, Monday, and Major Holidays
 *Weather permitting

Group Reservations

Reservations are required for group activities.

Contact Information

Mailing: P.O. Box 6040, Kahului, HI 96733
 Phone: (808) 249-2798
 Fax: (808) 249-0325
 Email: info@mnb.org
 Web: www.mnb.org

Mission Statement

The mission of the Maui Nui Botanical Gardens is to foster appreciation and understanding of Maui Nui's plants and their role in Hawaiian cultural expression by providing a gathering place for discovery, education, and conservation.

Save a Tree!

If you would like to receive your newsletters via email, please email us at info@mnb.org. You may also view them on our website: mnb.org.

We are extremely grateful to all who have made donations the Gardens over the years. We make every effort to assure an accurate membership list; however, if your name was omitted or misspelled, please contact us at info@mnb.org and we will be happy to update our records.

Follow Us!

Follow MNBG on social media for the latest information on:

- Workshops
- Plant Sales
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Maui Nui Botanical Gardens

P.O. Box 6040

Kahului, HI 96733

Lā 'Ulu is coming! Visit mnbg.org



Hala signifies a time of transition.

During this time of rapid change, please consider helping us make up for revenue losses as a result of the pandemic.

Donate

Donations of monetary or in-kind contributions are greatly appreciated. To contribute, please fill out the enclosed donation envelope, call 249-2798, or donate online at mnbg.org.

Membership

Yearly memberships help to fund important botanical and educational programs, research and conservation efforts. Fill out the enclosed donation envelope or call 249-2798 to become a member.

Leave a Legacy

Play a lasting part in protecting Hawai'i's native plants through planned giving. Consider making a bequest to the Maui Nui Botanical Gardens in your will or trust.

Learn More

Our work conserving Native Hawaiian plants through seed storage and crop cultivar collections is highlighted in a short video created during our closure. Visit mnbg.org to see the people and projects that need your support.

Mahalo to Forest & Kim Starr for their photo.

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