THE OUTDOOR CIRCLE

ESTABLISHED 1912

One Million Trees & Counting

Investing in a Greener Future for Hawai‘i

A Statewide Portfolio of Environmental Conservation and Urban & Community Forestry Programs

1,000,000+ Trees Planted • Rooted in Hawai‘i **Since 1912** • Statewide

Prepared by The Outdoor Circle

www.outdoorcircle.org | June 2026

For more than a century, we at The Outdoor Circle have worked to protect the beauty, health, and character of Hawai‘i. Founded in 1912 to preserve the islands from visual blight and environmental degradation, our work today has evolved into a coordinated statewide effort to strengthen communities, restore urban forests, advance research and public policy, educate future leaders, and help Hawai‘i adapt to growing environmental and climate-related challenges. Through tree planting and restoration events, advocacy, education, and research, we approach environmental stewardship as an interconnected system rooted in one simple belief: healthy trees and healthy communities go hand in hand.

Each year our statewide tree distribution and Arbor Day programs place thousands of fruit, native, ornamental, and canopy trees directly into the hands of residents, schools, and communities, where they reduce urban heat, absorb stormwater runoff, improve air quality, support biodiversity, strengthen food security, and foster stronger connections between people and place. Demand often exceeds supply within hours, reflecting the strong public desire for greener, healthier communities. We also work closely with schools, campuses, and community sites to ensure trees are treated not simply as landscaping, but as essential green infrastructure—past projects at locations such as Jarrett Middle School and Windward Community College help address flooding, excessive heat, and unequal access to green space, while agroforestry initiatives connect stewardship with education, nutrition, and long-term resilience. At the same time we remain deeply committed to protecting Hawai‘i's exceptional, historic, and culturally significant trees through both our Exceptional Tree and Banyan Drive Restoration Initiatives, which allow us to highlight, protect, and care for these ecological, cultural, and historical living landmarks.

Perhaps most importantly, we strive to respond compassionately and effectively during times of crisis. In communities affected by natural disasters on Maui, Kaua‘i, O‘ahu, and Hawai‘i Island, we have supported recovery efforts through tree distributions and restoration projects that help restore not only landscapes, but also hope, healing, and community connection. Working alongside partners such as the Arbor Day Foundation, FedEx, United Airlines, Verizon, State Farm, Enterprise, and others, we continue to demonstrate that environmental stewardship can simultaneously strengthen resilience, public health, cultural identity, and community well-being. With your support, we will help shape a future where Hawai‘i's natural beauty, environmental health, and communities continue to thrive together.

Overview of The Outdoor Circle’s Environmental Conservation and Urban and Community Forestry Programs

The following proposed programs represent a comprehensive statewide effort to strengthen Hawai‘i's environmental resilience, urban forests, cultural landscapes, and community well-being through tree planting, conservation, research, education, and climate adaptation initiatives. Since 1912, we have planted and distributed more than one million trees throughout Hawai‘i, and we now seek to build on that legacy with programs designed to address food security, urban heat, biodiversity loss, flooding,

wildfire recovery, and public health. The initiatives we are proposing range from large-scale community tree giveaways and public-school agroforestry systems to scientific research projects involving climate-resilient urban forests, green roof and wall technologies, and pest management for historic trees. Across all of these efforts, we position trees and green infrastructure not simply as aesthetic amenities, but as essential public infrastructure that provide environmental, cultural, economic, and human health benefits for communities statewide.

Our signature proposed projects include the modernization of Hawai‘i's Exceptional Tree Map to re-document and analyze more than 1,400 legally protected trees statewide, the publication of a new *Majesty III* book highlighting Hawai‘i's most iconic exceptional trees, and the preservation and restoration of the historic Banyan Drive grove in Hilo through scientific treatment programs and companion replanting efforts. We also plan to transform underutilized public spaces into greener, healthier environments through initiatives such as the restoration of Hale‘iwa's Weed Circle and statewide public-school tree planting and agroforestry projects. Many of these proposed programs would incorporate cultural stewardship, scientific monitoring, workforce development, and educational curricula that reconnect students and communities with mālama ‘āina traditions and long-term environmental stewardship.

The portfolio we are proposing also demonstrates a strong emphasis on climate resilience, ecological research, and disaster recovery. Planned programs include climate-adaptive urban forestry research using Species Distribution Models to identify climate-resilient tree species for Hawai‘i, a green roof and living wall research partnership with the University of Hawai‘i focused on urban agriculture and cooling technologies, and multiple Lahaina wildfire recovery initiatives involving food-producing tree giveaways, watershed restoration, and community planting events. These projects would integrate community engagement, scientific research, public education, and long-term vision in order to create scalable models for sustainability and resilience across the islands. Collectively, the programs we are proposing reflect a systems-based approach that combines conservation, urban forestry, public health, education, food security, and climate adaptation into a unified vision for Hawai‘i's environmental future.

Table 1. Tree Planting and Maintenance Costs Applicable to Most Projects

Tree Size	Cost Per Tree	Maintenance Costs Based on Number of Trees (Regardless of Size)
Tree Plantings 1-gal	$100/tree (minimum one year of maintenance required)	1–15 trees = $7,500/year maintenance (min 1-year of maintenance)
Tree Plantings 5-gal	$175/tree (minimum one year of maintenance required)	16–30 trees = $15,000/year maintenance (min 1-year of maintenance)
Tree Plantings 10-gal	$350/tree (minimum one year of maintenance required)	31–45 trees = $22,500/year maintenance (min 1-year of maintenance)
Tree Plantings 15-gal	$500/tree (minimum one year of maintenance required)	46–60 trees = $30,000/year maintenance (min 1-year of maintenance)
Tree Plantings 25-gal	$700/tree (minimum one year of maintenance required)	61–75 trees = $37,500/year maintenance (min 1-year of maintenance)

1) Community Tree Giveaways and Planting Events Throughout Hawai‘i

The Outdoor Circle has planted and given away over 1 million trees since its inception in 1912. Several thousand trees have been freely provided to communities throughout Hawai‘i since 2019 alone, accomplished in partnership with our many branches and with the generous support of entities such as United Airlines, FedEx, Verizon, State Farm, Enterprise Car Rental, The Arbor Day Foundation, and many more. These events have been wildly popular with the public, with events running of nearly 1,000 free fruit trees in under an hour. Year-after-year these events continue to draw more individuals and support from local communities who want to improve their local urban forests to provide increased shade, mitigate flooding, improve biodiversity, facilitate better human health, and many other environmental and cultural ecosystem services that trees provide. An additional benefit of these tree giveaways is that food insecurity issues are improved as the majority of the trees provided at these events are fruit and food producing tree species, which provide healthy sustenance options grown at one’s own home which can also be shared with friends and family.

The Outdoor Circle proposes the implementation of tree giveaways and plantings throughout Hawai‘i to achieve the aforementioned benefits. The costs below are inclusive of all project aspects including purchasing the trees, delivery, preparing and hosting the event, follow-up reporting, and for tree planting events, maintenance for at

least one year. These projects are scalable, modifiable, and specific species desired can be chosen (i.e., fruit/food, shade, ornamentals, natives, etc.).

Tree Giveaways

Tree Giveaways (1-3 gal) (fruit/food, shade, ornamental, native species etc.)	$70/tree

Tree Plantings

Tree Size	Cost Per Tree	Maintenance Costs Based on Number of Trees (Regardless of Size)
Tree Plantings 1-gal	$100/tree (minimum one year of maintenance required)	1–15 trees = $7,500/year maintenance (min 1-year of maintenance)
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2) Exceptional Tree Map 3.0 - 12-Year Anniversary Update

The Outdoor Circle proposes a 12-year anniversary update to its iconic “Exceptional Tree Map” that will update all baseline data originally collected in 2014 for the over 1,400 exceptional trees throughout Hawai‘i. Metrics to be collected at all accessible exceptional trees throughout the state include: height, diameter, crown spread, health, and ecosystem services. The Outdoor Circle’s Exceptional Tree Map is the only one of its kind in Hawai‘i and is a widely used educational resource to promote these trees, the exceptional characteristics they represent, and the many benefits they provide to communities throughout Hawai‘i.

The project cost of $100,000 includes gathering all required data from Hawai‘i’s 1,400+ exceptional trees, interisland travel to gather these metrics, data analysis and ecosystem service quantification, and building a new, more modern map. Public

presentations, as well as academic and industry conference presentations highlighting the map will also be included as part of this project.

Additional Information

The development of Exceptional Tree Map 3.0 marks a significant advancement in the digitization and accessibility of Hawai‘i’s most important tree assets. By systematically converting nomination records into usable datasets, the project transforms a historically static registry into a dynamic, data-driven resource. This shift reflects a broader move toward transparency, public engagement, and informed decision-making.

The inclusion of selection criteria, age estimates, geospatial data, and updated metrics enhances both the scientific and educational value of the program. It enables policymakers, researchers, and the public to better understand the distribution and significance of exceptional trees, while also supporting more rigorous evaluation and increased nominations. The project effectively bridges historical documentation with modern analytical tools.

Strategically, this initiative positions TOC as both a steward and a knowledge leader in urban forestry, helping to promote and improve one of the nation’s strongest tree protection programs by positively influencing policy, increasing nominations, and strengthening protections for these irreplicable trees.

3) Majesty III Book – Exceptional Trees of Hawaii

This project proposes the creation of a third Majesty book highlighting Hawai‘i’s Exceptional Trees. This would be the first installment since Majesty II was released in the early 1990s and would be researched and written by Dr. Myles Ritchie, a global expert in exceptional/heritage tree programs who is also the Chair of the Arborist Advisory Committee for the City and County of Honolulu, in addition to the Programs Director of The Outdoor Circle. This book would feature exceptional trees across all four counties and provide historical, cultural, botanical, environmental, and other important data pertaining to these trees, alongside high-quality images, set in a hardcopy coffee table format. The first two Majesty books were popular in Hawai‘i, throughout the United States, and abroad in locations such as Australia and Canada. This book would serve two critical functions. First, it would help with education and outreach efforts to promote Hawai‘i’s Exceptional Tree Program, with the hopes of greater recognition of these trees and ultimately more nominations to increase the number of trees legally protected by this program. Second, it would help convey one of The Outdoor Circle’s key legacy projects to a wide audience. The cost of this project would range between $50,000-$100,000 depending on the quantity of books ordered, but includes all aspects including research, writing, layout and design, printing, shipping, and promotion.

4) ABCs of Agroforestry Systems in School Throughout Hawai‘i

Overview

This project proposes the creation, design, and implementation of agroforestry systems and corresponding curricula at three Hawai‘i public schools. Students will gain hands-on STEM education, cultural and environmental knowledge, leadership opportunities, and practical agricultural skills rooted in mālama ‘āina (to care for the land) agroforestry traditions. Schools will benefit from cooler campuses, increased tree canopy, improved biodiversity, and locally grown food resources. Communities will gain new green spaces, intergenerational learning opportunities, and stronger local resilience.

Additional Information

For more than a century, The Outdoor Circle has worked to protect and expand Hawai‘i’s urban forests, planting and giving away hundreds of thousands of trees across the islands while advocating for healthier, greener communities. Building on this legacy, The Outdoor Circle is launching an innovative school agroforestry initiative designed to reconnect Hawai‘i’s youth with nature, improve food security, strengthen environmental resilience in underserved communities, and produce an environmental curriculum to be used at public schools statewide.

This two-year pilot program will establish agroforestry systems at two public schools on O‘ahu and one on Hawai‘i Island, creating a scalable model that can eventually expand statewide. Students, teachers, families, and surrounding community members will participate in designing, planting, maintaining, and harvesting diverse tree-based food systems featuring culturally significant and climate-resilient species such as ‘ulu (breadfruit), banana, mango, avocado, coconut, mountain apple, kukui, milo, and kamani.

The project directly addresses multiple urgent challenges facing Hawai‘i’s children and communities, including food insecurity, climate change, low urban tree canopy, extreme heat, flooding, and the growing disconnect between children and the natural world. Research consistently shows that exposure to trees and gardens improves student health, behavior, academic performance, mental well-being, and social development. Hawai‘i families are also facing alarming rates of food insecurity, with nearly half reporting difficulty accessing sufficient nutritious food.

The program’s impact extends far beyond tree planting. Students will gain hands-on STEM education, cultural and environmental knowledge, leadership opportunities, and practical agricultural skills rooted in mālama ‘āina (to care for the land) agroforestry traditions. Schools will benefit from cooler campuses, increased tree canopy, improved biodiversity, and locally grown food resources. Communities will gain new green spaces, intergenerational learning opportunities, and stronger local resilience.

The Outdoor Circle's long-term vision is to create a replicable statewide framework for public-school agroforestry systems throughout Hawai‘i. With only a small fraction of Hawai‘i public schools currently maintaining gardens, this project represents an opportunity to transform underutilized school grounds into living classrooms and productive community assets.

Funding support will help develop the statewide implementation template, install the pilot agroforests, create school-specific curricula, provide community workshops, and sustain ongoing maintenance and evaluation. Investing in this project will help cultivate healthier students, stronger communities, expanded urban canopy, increased food resilience, and a new generation of environmental stewards for Hawai‘i.

The cost of this project including all aspects (see attached budget narrative) is $122,970.50.

5) Greening Hawai‘i's Public Schools with Shade, Fruit, Ornamental, and Native Trees

This project would see shade, fruit, ornamental, and native species of trees planted at public schools throughout Hawai‘i. The premise is similar to the ABC's of Agroforestry project above, although this project solely focuses on tree plantings and does not also comprise a uniquely designed environmentally based curriculum. However, students, faculty, and community members who wish to learn about the tree species planted and the correct way to maintain/care for them will be invited to free workshop sessions so that they can assist with taking care of these trees and others throughout their communities.

The costs included in the table below are inclusive of all project aspects including purchasing the trees, delivery, preparing and hosting the event, follow-up reporting, and maintenance for at least one year. These projects are scalable, modifiable, and specific species desired can be chosen (i.e., fruit/food, shade, ornamentals, natives, etc.).

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Tree Plantings 25-gal	$700/tree (minimum one year of maintenance required)	61–75 trees = $37,500/year maintenance (min 1-year of maintenance)

6) Lahaina Fire Recovery Tree Planting/Giveaway

This project is a community-based disaster recovery and urban reforestation initiative designed to support the long-term recovery of Lahaina following the devastating August 8, 2023 Maui wildfires. Organized by The Outdoor Circle in partnership with Treecovery, the project focuses on restoring Lahaina's lost urban canopy through a large-scale tree up-potting event that will prepare 500 fruit- and food-producing trees for future planting throughout the community. The effort responds not only to the loss of more than 21,000 trees in Lahaina, but also to broader concerns about climate resilience, food insecurity, heat reduction, and community healing in the aftermath of one of the deadliest and most destructive disasters in Hawai‘i's history.

The proposed event will take place at the Royal Lahaina Resort and involve volunteers transplanting young trees from smaller nursery containers into larger pots so they can continue growing at Treecovery's grow hub until damaged areas of Lahaina are ready for replanting. Species selected for the project were based on community surveys and include a wide variety of citrus, avocado, mango, breadfruit, lychee, mountain apple, banana, macadamia nut, and other edible trees intended to strengthen both the urban forest and local food resilience. The event will also serve as a major public engagement and educational opportunity, beginning with a traditional Hawaiian blessing, followed by cultural and environmental presentations about Lahaina's recovery, tree care

instruction, and optional tours of Lahaina's historic Indian banyan tree that survived the fires and remains protected under Hawai'i's Exceptional Tree Program.

Beyond the immediate planting effort, the project is intended to demonstrate how urban forestry and green infrastructure can play a central role in disaster recovery and long-term community resilience. Trees are an essential form of green infrastructure that provide cooling, stormwater management, carbon sequestration, food production, public health benefits, and emotional restoration for affected communities. This initiative is designed to be scalable and collaborative, involving volunteers, local nonprofits, cultural practitioners, arboricultural expertise, and future maintenance planning to ensure long-term success. With a proposed budget of $50,000, the project combines ecological restoration, food security, cultural stewardship, and public engagement into a highly visible effort to help restore Lahaina's landscape and sense of place for future generations.

7) Reforesting the Lahaina Watershed – Fire Recovery Efforts

This project is a post-wildfire reforestation and food security initiative designed to help restore the Lahaina region following the catastrophic August 8, 2023 Maui fires. Led by The Outdoor Circle in partnership with Treecovery, the project proposes a volunteer-based tree planting event in the West Maui mountains near Lahaina, where participants will plant more than 100 fruit- and food-producing trees on land leased to Treecovery adjacent to Hua Momona Farms. The effort is intended not only to replace part of the more than 21,000 trees lost in the fires, but also to create a resilient long-term food resource for the Lahaina community through species such as avocado, mango, breadfruit, citrus, lychee, mountain apple, and macadamia nut.

This project implements restoration efforts from both an ecological and community recovery perspective. In addition to helping address food insecurity worsened by the fires, the new trees are intended to provide watershed stabilization, stormwater retention, aquifer recharge, increased canopy cover, biodiversity enhancement, and wildfire mitigation through the suppression of invasive grass fuels. Furthermore, this project is more relevant than ever due to the devastating Kona low storms that impacted Maui in March 2026. Located within the Lahaina watershed, the planting site has been selected for its favorable climate and growing conditions and is envisioned as a long-term community resource maintained by Treecovery for at least two years following planting.

The event itself is designed as both a hands-on restoration effort and a culturally grounded educational experience. Volunteers will participate in a Native Hawaiian blessing, receive training on proper planting and tree care techniques, and help install the trees while learning about their environmental and cultural significance. The project

also includes community-building components such as shared meals, educational discussions, and long-term stewardship planning. With a proposed budget of approximately $31,000, the initiative combines disaster recovery, urban forestry, sustainable agriculture, cultural engagement, and climate resilience into a highly visible demonstration of how ecological restoration can support both environmental and human recovery after major natural disasters.

8) Hawai‘i Arboriculture and Urban Forestry Conference Series

This project proposes the implementation of a four-part arboriculture and urban forestry conference series on the Big Island, Maui, Kaua‘i, and O‘ahu. Each conference would be able to accommodate 100-200 attendees where they would attend lectures, workshops, and field excursions led by arboriculture and urban forestry stakeholders from industry leaders, academics, nonprofits, community groups, and government agencies. The intent is to disseminate arboriculture and urban forestry best management practices to tree professionals throughout the state, while also connecting different stakeholder groups so future collaborations can take place to improve Hawai‘i’s urban forests.

The total cost of this project is $300,000 and includes reserving venues, participant lunches and snacks, designing programmatic content, confirming guest speakers and field excursion leaders, proposing working groups for those in attendance to volunteer for, and conducting a survey of conference participants to learn challenges and desired solutions to common arboriculture and urban forestry problems. The Outdoor Circle would also coordinate working groups formed at the conferences for one-year after the conference series concludes.

Additional Information

The Outdoor Circle proposes conducting four arboriculture and urban forestry conference series throughout the state of Hawai‘i. A series of two-day events will be conducted on the Big Island, Maui, Kaua‘i, and O‘ahu, with approximately 100 participants on the Big Island, Maui, and Kaua‘i, and 200 participants on O‘ahu. The purpose is to bring together urban forestry stakeholders from each county to discuss arboriculture and urban forestry best practices, concerns, solutions, and share current projects and available resources. A primary focus of this conference series is to ensure that networking within and between the public, private, nonprofit, and public sectors take place which will result in subsequent collaborations.

Each conference series event would consist of lectures, workshops, and in-the-field excursions. Lectures would be provided by arboriculture and urban forestry industry professionals, academics, nonprofits, community groups, and government agency representatives to convey up-to-date best practices, research findings, and projects

from Hawai‘i and around the world to ensure tree professionals in Hawai‘i have the most up-to-date information on tree management protocols. The provided workshops would allow stakeholder groups to share arboriculture and urban forestry challenges and solutions faced within their county through group activities with the goal of disseminating knowledge, establishing connections between sectors, and sharing expertise and resources. The field excursions would showcase ISA certified pruning and maintenance practices, along with tree risk assessment protocols and examples of warning signs used to identify trees of concern.

The Outdoor Circle would coordinate all aspects of this project, including reserving venues, participant lunches and snacks, programmatic content, confirming guest speakers and field excursion leaders, proposing working groups for those in attendance to volunteer for, and conducting a survey of conference participants to learn challenges and desired solutions to common arboriculture and urban forestry problems. The Outdoor Circle would also coordinate working groups formed at the conferences for one-year after the conference series concludes.

Final Products

- Conduct four arboriculture and urban forestry conferences throughout Hawai‘i
- Provide coordination support for working groups established at the conferences
- Survey of conference attendees to identify arboriculture and urban forestry challenges faced by Hawai‘i tree professionals and associated stakeholders

Potential Partners

- Outdoor Circle Branches Throughout the State
- University of Hawai‘i at Mānoa – Tropical Landscape and Human Interaction Lab - Dr. Andrew Kaufman (lecture and survey support)
- Maui Green and Beautiful (lecture and workshop support)
- Department of Land and Natural Resources (e.g., Hawai‘i Climate Change Mitigation & Adaptation Commission; DOFAW)
- Department of Health
- Department of Transportation
- O‘ahu Metropolitan Planning Organization
- Maui Metropolitan Planning Organization
- Honolulu Dept of Parks and Rec, Dept of Facility Maintenance, Dept of Planning & Permitting, Dept of Design and Construction
- Mayors’ Arborist Advisory Committees and Permitted Interaction Groups
- Tree focused non-profits (e.g., The Outdoor Circle, Trees for Honolulu’s Future)

- ʻĀina-based and educational non-profit community partners (e.g., Mālama Puʻuloa, Mālama Learning Center, Mālama Maunalua, Healthy Climate Communities)
- University of Hawaiʻi System (e.g., Mānoa, West Oʻahu, community colleges)
- Professional associations (Aloha Arborists Association, ISA)

9) Future Proofing Hawaiʻi's Urban Forests from the Impacts of Climate Change: Investigating a new palette of trees that thrive in changing conditions and produce the greatest benefits for Hawaiʻi's communities

This study seeks to identify new tree species that should thrive in Hawaiʻi as the impacts of climate change are felt. This would be accomplished through a two phase process. First, Species Distribution Models (SDMs) will be used to identify tree species that should adapt well to Hawaiʻi's changing temperatures, precipitation rates, and high severity storm events. Second, the most promising species identified by the SDMs will be planted throughout Honolulu, Hawaiʻi to verify the study's initial findings. The result will be an expanded plant palette of self-sustaining trees that facilitate more resilient urban forests throughout the state and maximize the human health, ecosystem services, and cultural benefits for all of Hawaiʻi's communities.

Additional Information

Hawaiʻi is already facing noticeable impacts from climate change, the severity of which is only expected to worsen as we move closer to 2100. Honolulu has seen an increase in temperature of 2.6°F since 1950, with this value predicted to increase by another 1.8°F to 7.2°F towards the end of the century (City and County of Honolulu, 2025). This has been further compounded by changing precipitation rates which have begun to result in more extreme drought and flooding events that have led to water availability and wildfire issues (Center for Climate Integrity, 2024). A recent study conducted in Hawaiʻi showed that approximately two-thirds of the 39 native and invasive species examined, many of which were native species, will have their habitat range reduced based on predicted climate scenarios for the state (Camp et al., 2022). Planting resilient tree species can help to mitigate many of the predicted climate change impacts in Hawaiʻi. It is well established that trees are vital form of green infrastructure that cool environments, stabilize soils, promote aquifer recharging, reduce flooding, promote biodiversity, are essential components of society and cultures, and have profound benefits on human health. Identifying climate-resilient species can provide these benefits and more, including outcompeting invasive species and reducing wildfire risks, which are needed now more than ever in Hawaiʻi's rapidly changing climate.

Methodology

Phase One – Species Distribution Models - $50,000

An initial literature review of Species Distribution Model (SDM) studies in Hawai‘i and other tropical and sub-tropical areas will be examined to produce a short list of ideal candidate species to be examined further. All of these species will have SDM models produced for various Representative Concentration Pathway (RCP) scenarios (i.e., 2040, 2070, and 2090) resulting in the likely range of each species in Hawai‘i for each climate change projection, which can then be used to produce a resiliency matrix for each RCP scenario. The specific SDM methodology followed will be similar to that used by Camp et al. (2022). The only cost to implement phase one would be TOC staff time, amounting to $50,000.

Phase Two – Outplanting in Urban Honolulu, Hawai‘i – Variable

The top three species that fare well in the SDM RCP scenarios would be selected for outplanting as street and park trees in urban Honolulu, Hawai‘i to determine their real-world resiliency. 35 specimens per species would be planted to allow statistical significance to be quantified for the gathered aboveground biomass metrics (i.e., height, DSH, crown spread, Live Crown Ratio, health, vigor, canopy color, and structural quality). These trees would be monitored every three months by the study’s researchers. These metrics would be cross referenced with the number of severe heat, drought, flooding, and other storm events that take place throughout the study’s duration to help determine species resiliency from acute and chronic climate change impacts in Hawai‘i. The cost quoted by the City and County of Honolulu to plant these trees as street/park trees and maintain them for two years is $5,500 per tree. The number of trees planted per species can be scaled up or down, although any less than 30 trees per species prevents statistically significant generalizations from being made. Alternatively, TOC could incorporate these trees as part of their planting programs. The costs included in the table below are inclusive of all project aspects including purchasing the trees, delivery, preparing and hosting the event, follow-up reporting, and maintenance for at least one year. These projects are scalable, modifiable, and specific species desired can be chosen (i.e., fruit/food, shade, ornamentals, natives, etc.).

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10) Determining the Public's Perception of Urban Trees: A case study from Oʻahu, Hawaiʻi

This research project is a collaborative study led by The Outdoor Circle, the University of Hawaiʻi, and the University of Copenhagen that seeks to better understand how residents of Oʻahu perceive urban trees and urban forestry initiatives within Hawaiʻi's unique multicultural and socio-ecological context. The project recognizes that urban trees are essential green infrastructure that contribute to climate resilience, public health, biodiversity, stormwater mitigation, and equitable access to green spaces, yet support for expanding urban canopy depends heavily on community attitudes, cultural perspectives, and lived experiences. Rooted in Hawaiʻi's cultural landscape and informed by Native Hawaiian values and history, the study examines how diverse demographic groups across Honolulu understand the benefits, challenges, and role of trees in their communities.

The project was developed in response to alarming trends showing significant urban canopy loss on Oʻahu, including the loss of more than 76,000 trees between 2012 and 2016, much of it occurring incrementally on private lands. The project combines qualitative and quantitative methods including surveys, interviews, focus groups, and geospatial analysis to investigate how residents perceive urban forests, what benefits and concerns they associate with trees, and what barriers may exist to increasing urban canopy. Survey topics include community satisfaction with existing greenspace, support

for street and park trees, willingness to plant or maintain trees, preferred methods of urban forestry education, and perceptions surrounding issues such as maintenance costs, safety, infrastructure conflicts, and cultural values associated with trees. The study also incorporates demographic data such as age, ethnicity, zip code, property ownership, and years living on Oʻahu in order to better understand how attitudes vary across communities and social groups.

Ultimately, this project aims to provide empirical data that can help guide more inclusive, culturally informed, and socially equitable urban forestry policies and programs across Oʻahu. By identifying patterns in public attitudes and understanding how historical land use changes, urbanization, and cultural dynamics shape perceptions of trees, the study seeks to help urban foresters, planners, policymakers, and environmental organizations design strategies that generate greater community buy-in and long-term support for urban canopy expansion. The findings are intended to inform future ordinances, legislation, outreach campaigns, educational initiatives, and urban greening programs while strengthening Oʻahu's resilience to climate change, heat, flooding, biodiversity loss, and declining urban canopy cover. This study can be replicated on all of Hawaiʻi's islands to form a more complete and holistic understanding of public perceptions towards Hawaiʻi's urban forests. The cost of this two-year program is $100,000 and includes personnel, supplies, data analysis, report generation, public presentations, and education and outreach materials for policymakers, industry professionals, nonprofits, academics, and the general public.

11) Reimagining Weed Circle – The Gateway to Haleʻiwa Town

This project proposes the planting of at least 15 trees within the "Weed Circle" greenspace area located at the southern entrance to Haleʻiwa town.

The circle is named for the Weed family, a longtime North Shore family with deep ties to the community. For decades the parcel was dry, dusty and visually barren - essentially a utilitarian traffic node. In the early 2000s, two major community organizations transformed it. The North Shore Outdoor Circle (NSOC) worked with the Haleʻiwa Main Street to secure grants and permits, design landscape and irrigation plans, and organize community planting days. However, in 2023, many of the trees within Weed Circle began to show signs of stress due to irrigation failure, prompting new fundraising and restoration efforts by the NSOC. As of today, the NSOC has acquired a grant to replace the irrigation system, which will be installed this summer (2026), but there now lacks trees for this once beautiful gateway to Oʻahu's historic and world-famous North Shore. This grant would allow us to replace the trees that have died and also add more. We would like to create a showcase that would give residents and visitors a sense of pride when they approach our little town.

The Outdoor Circle would like to plant a large anchor tree in the middle of Weed Circle, such as a Moreton Bay Fig, Weeping Fig, or Monkeypod, and also add varieties of plumeria and other flowering plants (e.g., gold trees, rainbow shower trees, etc.) around the edges. Additional tree species being considered include the following: Southern Magnolia, Kou, Colvillea Racemosa, Tahitian Gardenia, Tabebuia Aurea, Plumeria, Crown Flower, Wili Willi, etc. The newly installed irrigation system will ensure these trees are watered properly and we also have an arborist we are working with who will conduct all necessary pruning and treatments if necessary.

For an average cost of $667 per tree (5-25 gal in size) this would facilitate the purchase of the tree, delivery, professional installation by a certified arborist (including staking, mulch, and the use of heavy machinery to dig the holes), supplies, tools, maintenance for the first year, and facilitation support. With five-acres of space located within Weed Circle, a significant number of trees could be planted in this area, and while 15 trees is the minimum desired quantity for this project, this number could be increased significantly depending on funding.

12) Coconut Palm Sanctuary Proposal – Kailua, Oahu

This proposal responds to the widespread threat posed by the Coconut Rhinoceros Beetle (CRB), which has significantly impacted Hawai‘i’s palm, banana, taro, papaya, hala, and other tree species populations. By establishing a protected coconut sanctuary within an existing Outdoor Circle educational and vocational program at the Women’s Community Correctional Center in Kailua on Oahu, the different genetic material for various varieties and cultivars of coconut trees will be preserved for future outplanting once CRB is better managed. The sanctuary aims would protect these coconut varieties through non-chemical methods, specifically tree netting. This approach reflects a strategic emphasis on long-term restoration rather than short-term mitigation. The integration with the existing Outdoor Circle “Learning to Grow” program provides participants with valuable skills that they can use once released, while also contributing to the project’s maintenance and success.

From a strategic perspective, the initiative functions as a targeted preservation effort with broader implications for statewide recovery that also incorporates conservation aspects, workforce development, STEM curricula, and social rehabilitation. This multi-layered approach enhances both ecological and social impact. While limited in scale, it addresses a critical gap by safeguarding coconut genetic resources that will be essential for future replanting efforts. Its success depends on broader pest management efforts, but it represents a proactive step toward long-term resilience.

The costs included in the following table are inclusive of all project aspects including purchasing the trees, delivery, preparing and hosting the event, follow-up reporting, and

maintenance for at least one year. These projects are scalable, modifiable, and specific species desired can be chosen (i.e., fruit/food, shade, ornamentals, natives, etc.).

Tree Size	Cost Per Tree	Maintenance Costs Based on Number of Trees (Regardless of Size)
Tree Plantings 1-gal	$100/tree (minimum one year of maintenance required)	1–15 trees = $7,500/year maintenance (min 1-year of maintenance)
Tree Plantings 5-gal	$175/tree (minimum one year of maintenance required)	16–30 trees = $15,000/year maintenance (min 1-year of maintenance)
Tree Plantings 10-gal	$350/tree (minimum one year of maintenance required)	31–45 trees = $22,500/year maintenance (min 1-year of maintenance)
Tree Plantings 15-gal	$500/tree (minimum one year of maintenance required)	46–60 trees = $30,000/year maintenance (min 1-year of maintenance)
Tree Plantings 25-gal	$700/tree (minimum one year of maintenance required)	61–75 trees = $37,500/year maintenance (min 1-year of maintenance)

13) Green and Cool Hawai‘i – Green Roof and Wall Research Study

The proposed “Green and Cool Hawai‘i” project is a research and demonstration initiative led by The Outdoor Circle and Dr. Andy Kaufman at the University of Hawai‘i’s College of Tropical Agriculture and Human Resources (CTAHR). The project seeks to evaluate green roofs and living wall technologies as tools for urban agriculture, climate resilience, and sustainable development in Hawai‘i. Inspired in part by Hawai‘i legislative interest in rooftop agriculture and urban greening, the initiative responds to growing concerns about food security, urban heat islands, stormwater runoff, rising energy costs, and climate change impacts such as severe flooding. The project positions green infrastructure not only as an environmental solution, but also as a way to create new economic opportunities for farmers, landscape professionals, nurseries, and urban agriculture stakeholders.

At the core of the project is a research and demonstration facility at CTAHR’s Hale Tuahine Research Center consisting of five experimental “ecosheds” equipped with different green roof and living wall systems. These systems are designed to test a wide range of edible crops, native Hawai‘ian plants, medicinal species, and non-invasive ornamentals under Hawai‘i’s climatic conditions. Outdoor Circle and University of Hawai‘i researchers will measure variables such as stormwater retention, heat

reduction, soil moisture, plant growth, crop productivity, and energy performance while also comparing vertical farming systems to conventional terrestrial agriculture. The project combines scientific monitoring with practical field demonstrations, workshops, and training programs so that current and future agricultural producers, landscape professionals, and urban planners can gain hands-on experience with the design, installation, maintenance, and performance of these emerging technologies.

The broader goal of the project is to establish Hawai‘i as a leader in tropical green infrastructure research while generating the technical data necessary to support wider implementation and future grant funding opportunities. Expected outcomes include identifying the most suitable plant species, soil media, and system designs for Hawai‘i; quantifying environmental benefits such as reduced runoff and cooling effects; and educating both industry professionals and the public about the economic and ecological value of green technologies. The project also aims to serve as a living laboratory for students and researchers while helping guide future urban sustainability policies and investments throughout Hawai‘i and other tropical regions. With an estimated cost of approximately $100,000, the initiative emphasizes both research capacity-building and practical community outreach through workshops, publications, field days, and stakeholder partnerships. The project’s cost includes all personnel, supplies, plant materials, community and industry workshops, and education and outreach materials.

14) Banyan Drive Tree Preservation & Restoration Program

This project is a long-term conservation and restoration initiative focused on preserving the historic banyan tree grove along Banyan Drive in Hilo while strengthening the area’s environmental resilience and urban canopy for future generations. The iconic grove of historic Banyan trees is not simply a collection of trees, but rather a form of critical green infrastructure that provides ecosystem services including stormwater mitigation, urban heat reduction, carbon sequestration, improved public health, and economic and aesthetic value for East Hawai‘i. This project emphasizes that these trees have served as a cultural and visual landmark since the 1930s and continue to function as a gateway to Hilo and the Waiakea Peninsula for residents and visitors alike.

The core of this project involves the treatment of 46 historic banyan trees suffering from stem-gall wasps, leaf-gall wasps, and lobate lac scale infestations through a structured multi-year arboricultural treatment program. Four separate treatment regimens utilizing Safari (dinotefuran) and Tree-age (emamectin benzoate) systemics will be tested across different trees in staggered sequences to evaluate effectiveness. Treatments will occur every six months, with each tree receiving three total treatment applications accompanied by four comprehensive arborist reports documenting tree health, pest severity, environmental conditions, and overall performance. This project also includes detailed scientific monitoring, including twig sampling and analysis coordinated with Dr.

Myles Ritchie and the University of Hawai‘i, in order to quantify pest reduction and treatment outcomes over time.

Beyond immediate preservation efforts, the initiative also includes the planting of 49 companion banyan trees resistant to gall wasps in order to ensure long-term canopy succession as the original trees eventually age out. These companion trees will receive ongoing maintenance including irrigation, mulching, pruning, and monitoring during establishment. This project envisions Banyan Drive as a living example of sustainable urban forestry and climate-adaptive infrastructure, demonstrating how proactive tree care and strategic replanting can protect public spaces, preserve cultural identity, and provide environmental benefits for decades to come. Through certified arborist oversight, scientific data collection, public stewardship, and long-range planning, this project seeks to secure the future of one of Hawai‘i Island’s most recognizable and historically significant urban tree landscapes.

The total cost of the project would be $230,000 and includes all components including designs, supplies, trees, maintenance of the trees, project management, and community education and outreach.

15) University of Hawai‘i at Manoa – Natural Resource and Environmental Management (NREM) 301 Lecture and Lab Tree “Valuing Trees” Module

This program represents a long-term investment in human capital, training students to understand and quantify the benefits of trees from environmental, ecological, cultural, historical, social, and economic perspectives. By integrating academic coursework with practical data collection, it prepares participants for careers in urban forestry and environmental management.

The use of industry standard tools and methodologies ensures that students gain relevant skills, while the partnership with the university enhances credibility. The program’s continuity over the past eight years indicates its success and institutional integration.

Strategically, this initiative addresses a critical gap in workforce development. It ensures that future professionals are equipped to manage and expand Hawai‘i’s urban forests, supporting the sustainability of all other initiatives.

The total cost of this project would be $10,000 and includes designing and implementing all required coursework and assignments, as well as five guest lecture and lab sessions at the University of Hawai‘i for the Natural Resources and Environmental Management 301 course.