

ACTION PLAN 2024–2028

Introduction

The Hawaiian Islands are home to some of the most unique and diverse ecosystems on our planet. Yet these ecosystems are also among the most threatened, with hundreds of native plant species in danger of extinction. Approximately 90% of our 1,376 native plants are endemic to Hawai'i, meaning they are not found anywhere else in the world. According to the International Union for Conservation of Nature (IUCN) Red List of Threatened Species (hereafter Red List) assessments, ~45% (629 species and subspecies) of Hawai'i's plants are threatened with extinction, and hundreds still need to be assessed. Among Hawai'i's extremely endangered plants are 268 plants with fewer than 50 individuals in the wild, managed by the Hawai'i Plant Prevention Extinction Program. Conservation programs in our state understand the need to collaborate to preserve and restore the plant life essential to the natural and cultural heritage of Hawai'i.

Every native Hawaiian plant has value. No matter how small or large, common or rare, popular or unknown, each is unique and precious. Native plants are the foundation of native ecosystems, and home to countless unique native animals, including snails, bats, birds, and insects. Loss of plant life degrades ecosystems that sustain all life, including humans. Severing ecological relationships has consequences that cascade through the natural environment and into our own.

Flourishing habitats that support native plants protect the watersheds that provide us with safe drinking water, prevent runoff from polluting our oceans, minimize dangerous flooding and wildfires, and buffer us against harmful effects of climate change, such as extreme weather events and declining air and water quality.

Native plants also have a fundamental role in Hawaiian culture. Conserving them supports traditional practices and preserves spiritual connections between people and the land. As the 'ōlelo no'eau, or Hawaiian proverb, states: I ola 'oe, i ola mākou nei—My life is dependent on yours, and your life is dependent on mine.

About Laukahi

Laukahi: The Hawai'i Plant Conservation Network, is a nonprofit organization that coordinates a voluntary alliance of agencies, organizations, and individuals dedicated to protecting native plant species in Hawai'i. The Network emerged from a statewide capacity assessment and the resulting Hawai is Strategy for Plant Conservation (Strategy). The Strategy focuses Laukahi's efforts on the protection of Species of Conservation Importance (SCI), which include all Hawai'i's rare plants and other ecologically and culturally important species. In 2024, the SCI list includes 878 plants (species, subspecies, and varieties). The urgency of this work has never been greater in the face of climate change and other threats to native habitat—and by working together we will advance plant conservation faster than by individual efforts alone.

Five-Year Action Plan

This plan continues to draw on the 2014 Strategy. The Strategy remains the foundation for Laukahi's goals and activities, and the 20 targets originally identified will continue to drive our work. By building on progress to date and gathering input from the Advisory Council and the Network participants, Laukahi developed this 2024–2028 Action Plan. Laukahi has made significant progress since launching in 2016. Initial funding supported the work of a full-time coordinator, and contributions from our partners have driven significant progress on projects identified in the Strategy and the previous action plans.

Plant conservation activities can be divided into two complementary components, *ex situ*, and *in situ*. *Ex situ* refers to activities in controlled facilities such as seed banks, tissue propagation labs, or botanical gardens, whereas *in situ* describes efforts in natural habitats and native ecosystems. While our earlier phases focused internally to organize and expand the Network, secure plant species *ex situ*, and summarize the progress of plant conservation, our next phase emphasizes integrating *ex situ* and *in situ* activities and centralizing information and resources for a variety of stakeholders. *Ex situ* collections support future *in situ* restoration, and *in situ* data can guide future *ex situ* collections. Other areas of plant conservation, such as research, education, outreach, and capacity building also rely on accurate, accessible information and resources.

FOCUS AREAS

Over the next five-year period, Laukahi will pursue six focus areas:

- 1. Grow the Network
- 2. Expand *ex situ* collections
- 3. Advance in situ analyses
- 4. Centralize data, tools, and methods
- 5. Engage with the community
- 6. Elevate our profile

TWO-YEAR TIMELINE & BUDGET

Whereas the content of this plan describes Network priorities and efforts expected to span the next five years and beyond, the final section of the plan includes a summary of operational objectives and identifies budget and fundraising needs through 2026. Progress on these objectives will guide annual planning efforts for the years that follow.

APPENDIX

While gathering feedback from the Laukahi Network, our partners shared many valuable ideas and projects. These projects, which are beyond the scope or timeline for this action plan, are summarized in an appendix, in case others wish to pursue them. Their feedback is also included from surveys, partner visits, and our 2022 Annual Meeting.

The appendix also includes links to previous Action Plans and the Hawai'i Strategy for Plant Conservation.

1. Grow the Network

Laukahi is the unifying force in plant conservation in Hawai'i. Since its launch in 2016, Laukahi has established a structure for an inclusive, voluntary, flexible network that draws upon the strengths and contributions of Hawai'i's conservation partners. The Network has 31 charter members and 11 other entities actively participating through data sharing, meetings, or collaboration on projects. Laukahi's established track record of collective projects serves as a nexus for continued relationship-building, future projects, and capacity-building, all with a focus on saving Hawai'i's native plants.

- NURTURE LEADERSHIP AND COLLABORATION. The Laukahi Advisory Council and staff will continue to provide direction for activities and stewardship of Network efforts. Laukahi will continuously recruit new members into the Network and into leadership roles on the Advisory Council, as appropriate and consistent with shared goals and capacities. Realizing our collective potential will require conscious efforts to engage our members, expand the Network, and build relationships with one another.
- Support Partnerships within Laukahi. Laukahi will continue to facilitate several specialized partnerships focused on specific aspects of plant conservation, including: the Hawai'i Seed Bank Partnership, Hawai'i Rare Plant Restoration Group, and Hawai'i Botanical Gardens Group. These partnerships and their priorities are important for developing our workforce, communicating information, aligning goals, sharing resources, and supporting collaboration to advance plant conservation in Hawai'i (Strategy targets 14, 15, and 16).
- COMMUNICATE, ASSEMBLE, AND STRATEGIZE. The Laukahi community will continue to grow by bringing together the Network, engaging members, and recruiting new partners. By gathering regularly, the plant conservation community's information and priorities become centralized. Laukahi will facilitate partnership meetings and regular communications (newsletters, social media, and emails). This informs and engages members, builds relationships, shares resources, sets strategic directions, and highlights progress.
- GROW CONSERVATIONISTS. Growing the next generation of the plant conservation workforce affects all focus areas in this plan and illuminates the diverse disciplines needed in plant conservation. To understand the current capacity and identify gaps, Laukahi will continue surveying the Network to document the numbers of partners, facilities, and staff for Strategy targets 14, 15, and 16. To further support training in plant conservation in Hawai'i, we will support partners developing applied conservation trainings. Given the information and resources the Network centralizes, Laukahi will liaise between the academic community and practitioners.
- RAISE FUNDS. To organize and complete this action plan, the Laukahi program is seeking long-term funding for the Network Coordinator position, as well as the attached budget to support Network activities. Additionally, this plan is intended to serve as a reference for members to communicate collaborative priorities to solicit funding support for their own projects or activities within the partnerships.

2. Expand *ex situ* collections

The Hawai'i Seed Bank Partnership was the original foundation of the Laukahi Network and continues to be a core element of Laukahi's work. We began with a focus on *ex situ* efforts to secure seed collections needed for restoration, and now Hawai'i surpasses the global target for maintaining seeds and other plant collections to help prevent extinctions. Our next phase aims to expand the types of collections and diversity they contain, support disaster preparedness of *ex situ* partners, and connect *ex situ* materials for restoration needs.

- ASSESS EX SITU COLLECTIONS. The ex situ assessment requires a periodic update as materials are withdrawn from and deposited to collections, as materials age, and to quantify progress towards Strategy targets 8 and 10. In future ex situ assessments, we will continue identifying gaps for SCI, flag aging inventory, and include additional valuable collections, such as pollen, spores, cryogenic collections, and genetic repositories. By assessing ex situ materials, Laukahi identifies gaps and areas to improve the collections and their curation, and communicates those needs to our partners to inform their decisions and prioritize new collections.
- DEVELOP METACOLLECTIONS. Collections for many SCI are irreplaceable. An entire collection representative of a particular SCI needs to be replicated across multiple botanic gardens and stewarded collaboratively to share the curation and expenses. This includes many botanic gardens outside of Hawai'i who curate or have an interest in curating many SCI. Laukahi will repeat the Species Curation Project, selecting 5–10 taxa to review, develop, and implement curation best practices. While doing so, Laukahi will find lead institutions that maintain large collections of the focal taxon and can assist in coordinated conservation actions across institutions, such as strategic crosses or duplicating materials.
- INVEST IN DISASTER PREPAREDNESS. The Laukahi Network of seed bank partners and other *ex situ* facilities are vulnerable to environmental threats. Investing in preparedness for hurricanes and other natural disasters is a pressing infrastructure priority. The Network will evaluate risks to *ex situ* facilities by assessing disaster preparedness plans.
- Connect EX SITU MATERIALS WITH IN SITU NEEDS. Laukahi is well-placed to inform initiatives to restore native forests because we maintain a master inventory of all native plant materials stored in seed banks, nurseries, and gardens. This inventory will be a foundation for responding to specific needs such as natural disasters and serves as a foundation to build the native seed supply chain. We recommend developing a new Laukahi position, a Statewide Coordinator, to utilize this information and support the development of a native plant materials supply chain for these needs. Laukahi will add restoration species recommended by the Hawai'i Native Seed Strategy Working Group and restoration practitioners to SCI and connect partners to establish and use ex situ collections to meet restoration needs..

3. Advance in situ analyses

Laukahi launched the first phase of our *in situ* assessment in 2023. We have the necessary spatial datasets and processes to quantify conservation efforts in the field by analyzing where conservation takes place and needs to take place. Once we complete the assessment and communicate our findings to partners, we will focus on capacity-building by developing best management practices and centralized tools, such as improved seed zones. Our next phase aims to integrate *in situ* and *ex situ* information by tying together *ex situ* summaries and geospatial data of species.

- ASSESS IN SITU DATASETS. The in situ assessment aims to analyze management of—and threats to—SCI and Important Plant Areas (IPA; sites with botanical richness or an assembly of rare, endemic, or threatened species and habitats) for Strategy targets 5, 6, 7, and 13. Partners have provided much of the spatial data for the in situ assessment, though information about the status and protection of plant populations remains incomplete. Laukahi will identify gaps in datasets regarding threats and highlight management and case studies that outline key issues.
- SUPPORT CAPACITY-BUILDING FOR HABITAT PROTECTION. Capacity for habitat protection will improve as plant conservation needs are integrated with broader mapping projects. Evaluating IPAs are possible with broader datasets. Our evaluations identify gaps or inconsistencies in datasets and capacity, such as tracking rodent control efforts across the landscape. As in our ex situ work, Laukahi communicates and addresses needs by building capacity through the Network's data collection standards and management practices.
- INTEGRATE EX SITU AND IN SITU INFORMATION. The Laukahi Network will begin integrating ex situ and in situ information because these activities must dovetail, informing each other of priorities and needs. Our role will evolve, integrating these two suites of activities by building interactive, online tools that inform partners and stakeholders of collection needs by species, island, and population. Follow-up activities from the in situ assessment will put collections needs on the map. This will help prioritize collection efforts by IPAs and identify important stakeholders for those collections (Network members, landowners).
- IMPROVE SEED ZONES. A seed zone is an area where it is known or assumed that plant materials can be transferred with little risk of being poorly adapted to their new location. In conservation, it can serve as a general guide for gene conservation, native plant restoration, and the development of native plant materials (e.g., plants, seeds). Hawai'i can benefit from improved, provisional seed zone maps to strengthen connections and align our activities to the National Seed Zone maps to the Laukahi website were created for 'ōhi'a seed collections. The Network will further provide provisional seed zone maps for the conservation community to use for general restoration activities, publicly available on the Laukahi website. We aim for an improved interface where users can view the provisional seed zone maps and identify zones where SCI species occur.

4. Centralize data, tools, and methods

Aggregated, statewide information about the conservation status of rare species enables collaborative approaches for assessing opportunities, identifying gaps in species or geographic coverage, and making data-informed decisions. Laukahi manages a database, an <u>online dashboard</u>, and public resources on our website to facilitate the sharing of data (e.g., seed collections, native plant conservation assessments) and guides (e.g., best practices, standardized data entry forms). This action plan will revisit the research agenda for plant conservation and expand database functionality, reports, and analytics to incorporate new activities and unique datasets.

- DEVELOP METHODS AND SHARE RESOURCES. Alongside our role in facilitating data-sharing, Laukahi utilizes the Network to create standardized methods and enhance data recording practices across conservation partners (e.g., Guidelines for Living Collections and the Hawai'i Seed Bank User's Guide) to consistently and objectively address targets in the Strategy. The best practices and shared resources from the Hawai'i Rare Plant and Restoration Group build the expertise and capacity of our local workforce in plant conservation.
- DEVELOP THE DATABASE AND ANALYTICS. We have reached our first milestones in expanding database functionality and producing dynamic reports to show progress in the Strategy. The next steps in our database plan include incorporating geospatial information (Strategy target 3), tracking metacollection data of *ex situ* collections, and adding Hawaiian names of plants (Strategy target 20). Together, these tools help Laukahi identify opportunities, gaps, and progress, both in specific geographic areas and statewide.
- FACILITATE A RESEARCH AGENDA. Laukahi's unique role as a network can facilitate research collaboration and maintain a shared agenda, as outlined in Strategy target 4. The goal is to support researchers and practitioners in developing shared research plans that improve on-the-ground management practices for plant conservation. Laukahi's role is to curate a list of research topics, assess gaps, and promote connections between the researchers and practitioners to increase the production of applied conservation research. This role would benefit from Laukahi staff or Network partners who can conduct a gap analysis, identify researchers with the capacity to take on new projects, facilitate connections, and measure progress.

5. Engage with the community

The Laukahi Network can provide materials and tools to support public engagement for plant conservation. In the next five years, we will provide summarized materials on plant conservation to educators and outreach teams, policymakers, and businesses to maximize and support their impact. We believe it is effective to support these key groups to communicate a sense of urgency and responsibility within the community. Laukahi will collaborate with The Hawai'i Botanical Gardens Group to track and improve public outreach and develop meaningful biocultural projects for the community.

- SUPPORT THE EDUCATORS. To prepare the next generation of conservationists, Laukahi will focus on supporting educators by providing them with the resources they need. To meet Strategy targets 17 and 18, we will pinpoint gaps in curricula, monitor progress, and establish an Educator Resource Page on the Laukahi website. Furthermore, we aspire to identify opportunities for broader initiatives, such as an Educators Hui or integration into Hawai'i's Career Pathways, thereby expanding our reach into the public school system across Hawai'i.
- CONNECT TO CULTURAL PRACTICES. The Network acknowledges the need for its work to be grounded in Hawaiian knowledge, values, and practices and to engage with cultural practitioners for guidance. In a new project titled Nā Inoa Meaulu, we aim to do that by working with practitioners to summarize resources identifying Hawaiian names of native plants (Strategy target 20). We hope this project is the first of many supporting indigenous and local knowledge and traditions regarding native plants.
- COMMUNITY COMMUNICATIONS. Online communications and community events are great opportunities to reach new audiences and educate people about plant conservation in Hawai'i. Laukahi will continue online communications (newsletters and social media) to inform the public of our activities, the status of Hawai'i's native plants, and to develop guidelines for online communications. We will attend and track community events, with the goal of informing new audiences about Hawai'i's native plants.
- ENGAGE WITH POLICYMAKERS. With its diverse set of partners, Laukahi can be a voice to advocate for
 conservation actions that span ex situ and in situ conservation efforts. Laukahi can provide
 conservation summaries or factsheets on the native flora for policymakers needing up-to-date,
 accurate information.
- ENGAGE WITH BUSINESSES. The business sector spans a vast range of potential stakeholders. For Strategy target 19, Laukahi will support the Native Plant Material working group to understand needs and goals, and help develop capacity to supply plants in ways that do not threaten wild populations. Laukahi will seek new partners, such as the Landscaping Industry Council of Hawai'i.

6. Elevate our profile

Laukahi was formed in alignment with the Global Strategy for Plant Conservation and launched to coincide with Hawai'i hosting the IUCN World Conservation Congress (WCC) in 2016. The WCC raised Hawai'i's profile among global conservation networks and we continue to pursue national and international resources to support local conservation. We do this by engaging in partnerships, participating in national and international meetings, and completing IUCN Red List assessments. In doing so, we are an active alliance within global networks and represent a plant conservation hub in Oceania.

- STRENGTHEN CONNECTIONS IN PACIFIC ISLANDS. Islands across the Pacific face similar threats to plants and ecosystems from invasive species and climate change, yet small size and isolation inhibit many from building capacity to fight these threats alone. Laukahi represents an opportunity to build reciprocal relationships with partners across the Pacific. Laukahi will seek new partners, such as the New Zealand Plant Conservation Network and the Australian Network for Plant Conservation, to collaborate on best management practices and new technology to advance plant conservation for the region.
- PURSUE GLOBAL PARTNERSHIPS. When Hawai'i's efforts merge with global partners, it elevates the work in our islands and provides access to global resources that support local priorities. Laukahi will continue to pursue national and international partnerships and represent Hawai'i's plant conservation community with Botanic Gardens Conservation International, NatureServe, IUCN, Center for Plant Conservation, the Plant Conservation Alliance, and other opportunities that can benefit our work at home.
- SEND DELEGATIONS TO REPRESENT HAWAI'I. Participation in national and international conservation gatherings and events allows Hawai'i to remain at the forefront of the conservation movement. Laukahi intends to send a delegation of Hawai'i-based participants to at least one conservation gathering every year. Examples of such gatherings include the Center for Plant Conservation's National Meeting, Global Botanical Gardens Conference, Kew's State of the World's Plants, and the WCC.
- ADD HAWAIIAN PLANTS TO THE RED LIST. The IUCN maintains a global list of more than 157,190 species, 28% of which are threatened with extinction. It is the global authority on the conservation status of species worldwide and is an important medium for Hawai'i to raise international awareness of the need to protect the rich and threatened biodiversity of our islands. The assessments are important references that inform national and local conservation agencies of species that require further protection and regulation. Many organizations use the Red List to guide funding priorities for conservation, and up-to-date listing may make more funds available for Hawai'i's plants. This initiative addresses Strategy Targets 2 and 11. We will continue to complete assessments for the remaining 574 endemic plant taxa that have not yet been published.

Two-Year Work Plan & Budget

This section of the Network plan translates the priorities described in the previous pages into specific, measurable actions to guide efforts over the next two years. The work plan includes:

- OBJECTIVES. The lists of objectives, categorized within each of the six focus areas, are intended to serve as both a roadmap for the Network over the next two years and checklist to measure and report progress to members. The six focus areas are: 1) Grow the Network, 2) Expand *ex situ* collections, 3) Advance *in situ* analyses, 4) Centralize data, tools, and methods, 5) Engage the community, and 6) Elevate our profile.
- TIMING. Laukahi expects timing to shift as the work progresses and new opportunities emerge. This work plan is a guide that will be continuously updated, and the general tasks listed beyond year two will require further development.
- LEAD. In the current version of the two-year work plan, the Laukahi Coordinator holds the lead role for most of the listed objectives. The coordinator will hire additional staff or contract work as funds are available and with the approval of advisors.

202	4 OBJECTIVES:	LEAD
1	Complete 5-year Action Plan	Coordinator
	Fill vacant Advisory Council seats	Coordinator
	Hold annual network gathering and quarterly partnerships meetings	Coordinator
	Secure funding for network coordination and operation	Coordinator
	Repeat network workforce survey	Coordinator
2	Complete ex situ assessment	Coordinator
	Describe position and fundraise for Native Plant Material Coordination	Coordinator, Partners
	Organize repeating species curation projects for one collection and 5 target species	Coordinator
3	Complete in situ assessment	Contractor
	Develop best management practice to support future assessment	Partners
	Develop maps and dashboards for plant species lists	Contractor, Coordinator
	Fundraise for developing data management and seed zone maps	Coordinator
4	Describe position and fundraise for Research Agenda Coordinator	Coordinator, Partners
	Complete database, dashboard, and website updates	Contractors
	Develop plans for next phase of database development	Coordinator, Contractor
5	Fundraise for Support the Educators and Nā Inoa Meaulu projects	Coordinator, Partners
	Continue online outreach and community events	Coordinator, Partners
	Develop factsheets for policymakers	Coordinator, Partners
	Investigate student position to start data entry for Nā Inoa Meaulu	Coordinator, Student, Partners
6	Complete 10 new Red List assessments	Hawaiian Plant Specialist Group
	Engage with national partners at Center for Plant Conservation	Coordinator
	Identify international meeting to send Hawaiʻi delegations; fundraise	Coordinator

2025 OBJECTIVES: LEAD		
	2025 OBJECTIVES:	LEAD

1	Hold annual meeting and quarterly partnerships meetings	Coordinator
	Engage members in network reflection / assessment	Coordinator
	Develop three-year budget for 2026–2028	Coordinator
	Raise funds needed through 2027	Coordinator
	Further describe and develop Rare Plant Course project	Coordinator, Partners
2	Plan survey on disaster preparedness for rare plant facilities	Coordinator
	Fundraise for Native Plant Material and Metacollection Coordination	Coordinator, Partners
	Repeat species curation project for one collection and 5 target	
	species	Coordinator
3	Describe and initiate development of improved seed zone maps	Coordinator, Contractor
	Continue developing online tools to integrate in situ and ex situ	
	information	Contractor
4	Fundraise for next database phase	Coordinator
4	Fundraise for next database phase Fundraise for additional website support for projects	Coordinator Coordinator
4	·	
5	Fundraise for additional website support for projects	Coordinator
	Fundraise for additional website support for projects Support partnerships developing best management practices	Coordinator Coordinator
	Fundraise for additional website support for projects Support partnerships developing best management practices Visit partners for Support the Educators project; develop website	Coordinator Coordinator Partners, Contractor
	Fundraise for additional website support for projects Support partnerships developing best management practices Visit partners for Support the Educators project; develop website Continue online outreach and community events	Coordinator Coordinator Partners, Contractor Coordinator, Partners
	Fundraise for additional website support for projects Support partnerships developing best management practices Visit partners for Support the Educators project; develop website Continue online outreach and community events Attend Landscaping Industry Council of Hawai'i meeting	Coordinator Coordinator Partners, Contractor Coordinator, Partners Coordinator
5	Fundraise for additional website support for projects Support partnerships developing best management practices Visit partners for Support the Educators project; develop website Continue online outreach and community events Attend Landscaping Industry Council of Hawai'i meeting Hire intern and continue data entry for Nā Inoa Meaulu	Coordinator Coordinator Partners, Contractor Coordinator, Partners Coordinator Coordinator
5	Fundraise for additional website support for projects Support partnerships developing best management practices Visit partners for Support the Educators project; develop website Continue online outreach and community events Attend Landscaping Industry Council of Hawai'i meeting Hire intern and continue data entry for Nā Inoa Meaulu Complete 10 new Red List assessments	Coordinator Coordinator Partners, Contractor Coordinator, Partners Coordinator Coordinator Hawaiian Plant Specialist Group

202	6 – 2028 OBJECTIVES (to be updated with greater detail in 2025):	LEAD
1	Raise funds needed through 2029	Coordinator
	Hold annual meeting and quarterly partnerships meetings	Coordinator
	Add and expand diversity of members	Coordinator
2	Survey ex situ facilities disaster preparedness plans	Coordinator
	Repeat species curation project for one collection and 5 target	
	species	Coordinator
3	Implement recommendations in in situ assessment	Coordinator, Partners
	Continue developing shared geospatial tools for partners	Contractor
	Continue expanding landowner and manager network partners	Coordinator
4	Continue expanding database, dashboards, and website to centralize	
	information	Contractors
	Supporting partnerships to develop best management practices	Coordinator
5	Continue developing resources for educators	Coordinator, partners
	Expand Nā Inoa Meaulu to include additional information	Coordinator, partners
6	Engage with national and international partners at gatherings	Coordinator
	Continue Red List assessments	Hawaiian Plant Specialist Group

BUDGET. The budget corresponding to each year's work plan identifies the projected financial need, broken into secured funds, in-kind contributions, and fundraising goal for each item.

- LAUKAHI CORE PROGRAMMING BUDGET. The Network Coordinator is a full-time position that coordinates and facilitates the activities of the Laukahi Network. This position leads fundraising, executes projects, manages finances, builds relationships, facilitates communications, reports on progress in the Strategy, and represents the Network as an ambassador. The priority initiatives include organizing the annual meeting, visiting partners, completing *ex situ* assessments, developing best practices, and completing Red List assessments. Budget required ranges from \$110,000-\$160,000 per year.
- DATABASE AND DASHBOARD DEVELOPMENT. The Laukahi database and dashboards provide dynamic, easy to access, centralized information for Network partners and the general public. This budget includes contract work to provide continual support of Laukahi's database and dashboard, providing maintenance of digital tools, support for resolving reported bugs, and implementing new features. Budget required ranges from \$10,000-\$50,000 per year.
- IN SITU ASSESSMENT. Information from this suite of spatial products guides Network partners to make informed decisions in land management and in situ restoration. This budget includes contract work to create additional spatial products, such as species lists and maps, additional species vignettes, tables and data of species ranges, important plant areas, threats, and management. Budget required ranges from \$10,000-\$50,000 per year.
- NATIVE PLANT MATERIAL COORDINATION. A unified center and clear strategy for this effort would assist in securing funding, tracking progress, uniting efforts and collaboration, and ensuring alignment with the National Seed Strategy and Seed of Success. Full time position to support the development of a native plant materials supply chain in Hawai'i to support restoration efforts across the islands. Budget required ranges from \$150,000-\$250,000 per year.
- Nā INOA MEAULU. This is a scalable project with many aspects ranging from student intern data entry activities through contracting 'ōlelo Hawai'i speakers and practitioners to research Hawaiian names of plants and engage the community in larger discussions. These activities ground plant conservation in Hawaiian knowledge and support engaging with cultural practitioners. Budget required ranges from \$15,000-\$200,000 per year.
- RESEARCH AGENDA COORDINATION. A unified research agenda would address prioritized research needs of conservation practitioners and advance plant conservation. Full time position to conduct a gap analysis, assess the capacity of the research community, facilitate connections, visit partners, create a shared research plan, and measure progress across topics. Budget required ranges from \$100,000-\$200,000 per year.
- SUPPORT THE EDUCATORS. This publicly available online resource will give educators materials to support teaching the subjects of natural history and conservation of native plants. The scale of activity could expand to coordinating an Educators Hui and alignment with programs of the Department of Education. This budget supports Laukahi partners to visit teachers and partners, review and create educational materials, contract with a web developer to create the platform, and support Laukahi staff to coordinate activities as project manager. Budget required ranges from \$25,000–\$150,000 per year.
- **EX SITU METACOLLECTIONS.** This could be a new full-time position considering the highly endangered flora of Hawai'i and the urgent need to secure the genetic diversity of each species. This budget ranges from contract work to develop the Laukahi database, a new position to support the development of metacollection data management and coordinate activities among partners of rare plants, and support of partner visits. Budget required ranges from \$20,000-\$150,000 per year.
- SEED ZONES. Publicly available seed zone maps guide restoration efforts of numerous conservation programs in the state. This budget supports a contract to develop improved seed zone maps, Laukahi staff time to identify key species and solicit feedback from users, and software costs and development required to create the seed zone maps. Budget required ranges from \$30,000-\$125,000.

Appendix

While gathering feedback from the Laukahi Network, our partners shared a plethora of valuable ideas and projects. These projects are beyond the scope or timeline for this action plan, but are summarized online here, if others are interested in pursuing. The summary includes project ideas, feedback from partner visits, and SWOT analysis from 2023 Annual Meeting.

Link to 2016 Action Plan.

Link to 2019 Action Plan.

Link to the <u>Hawai'i Strategy for Plant Conservation</u> document.