



2018 Annual Report



2018 ANNUAL REPORT

TABLE OF CONTENTS

Letter from our Leadership	3
Conservation	6
<i>From Ma Uka to Ma Kai</i>	
Education	10
<i>From Classroom to Context</i>	
Rural Economic Development	16
<i>From Seeds to Local Food Systems</i>	
Leadership Pathways	23
<i>From Hawai'i, for Hawai'i</i>	
Partners and Supporters	28
Financial Matters	30
<i>For the Fiscal Year Ending June 30, 2018</i>	
Board of Directors, Staff, and Volunteers	31
Endnotes	33

In loving memory of Dr. Earl Bakken and Monty Richards, Jr.

LETTER FROM OUR LEADERSHIP

Aloha friends,

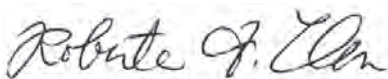
In the 18 years since The Kohala Center opened its doors, we've been referred to as everything from a research institution and a think tank to catalysts and community partners. And while we humbly appreciate these definitions, one question we have continued to ask ourselves is: "What are we?"

Admittedly, The Kohala Center has played all of the aforementioned roles at certain times and to varying degrees. All of our programs and efforts over the years have three things in common: all are borne out of needs and aspirations expressed by the communities we serve, all are crafted and refined based on ancestral and contemporary research and knowledge, and all are conducted with the goal of contributing to a healthier and more resilient future for Hawai'i and its people.

The Kohala Center began fiscal year 2018 with new leadership, and with it a fresh perspective on our organization's past and aspirations for its future. While many of our initiatives continue to focus on and serve communities throughout Hawai'i Island (and even across the island chain), this year we made a commitment to strengthen our connection to Kohala: our place of origin, our namesake, our source of wisdom and inspiration. Among the first questions we asked were, "What does it mean to put Kohala at the center of The Kohala Center?" and "What does it mean to be of a place, rather than merely in a place?" We also recognized that in order for our efforts to be sustainable in and beyond Kohala and to have generational impact, we needed to forge real relationships with each other and Hawai'i. As part of our conservation, education, and rural economic development work, our staff has also devoted time to engaging with Kohala through mo'olelo (oral histories), mele oli (chants), hana (hands-on work), and kilo (observation). In order to guide others toward deeper engagement and leadership, we first needed to ground ourselves in place and in aloha 'āina (love of the land), and realize our own individual and collective leadership potential.

So rather than answer the question, "What are we?" we choose to answer the question, "Why are we here?" We are here to respectfully engage Kohala and Hawai'i Island as sources of vast knowledge so that we may love and care for the 'āina and our communities in perpetuity. To deepen our kinship with our natural and cultural landscape to become more skilled aloha 'āina stewards, teachers, practitioners, and leaders. To turn ancestral and contemporary research and knowledge into action for the health and well-being of all. And to follow the pathways that reconnect us back to our food, water, people and place to find a state of pono for Hawai'i once again.

Mahalo nui loa,



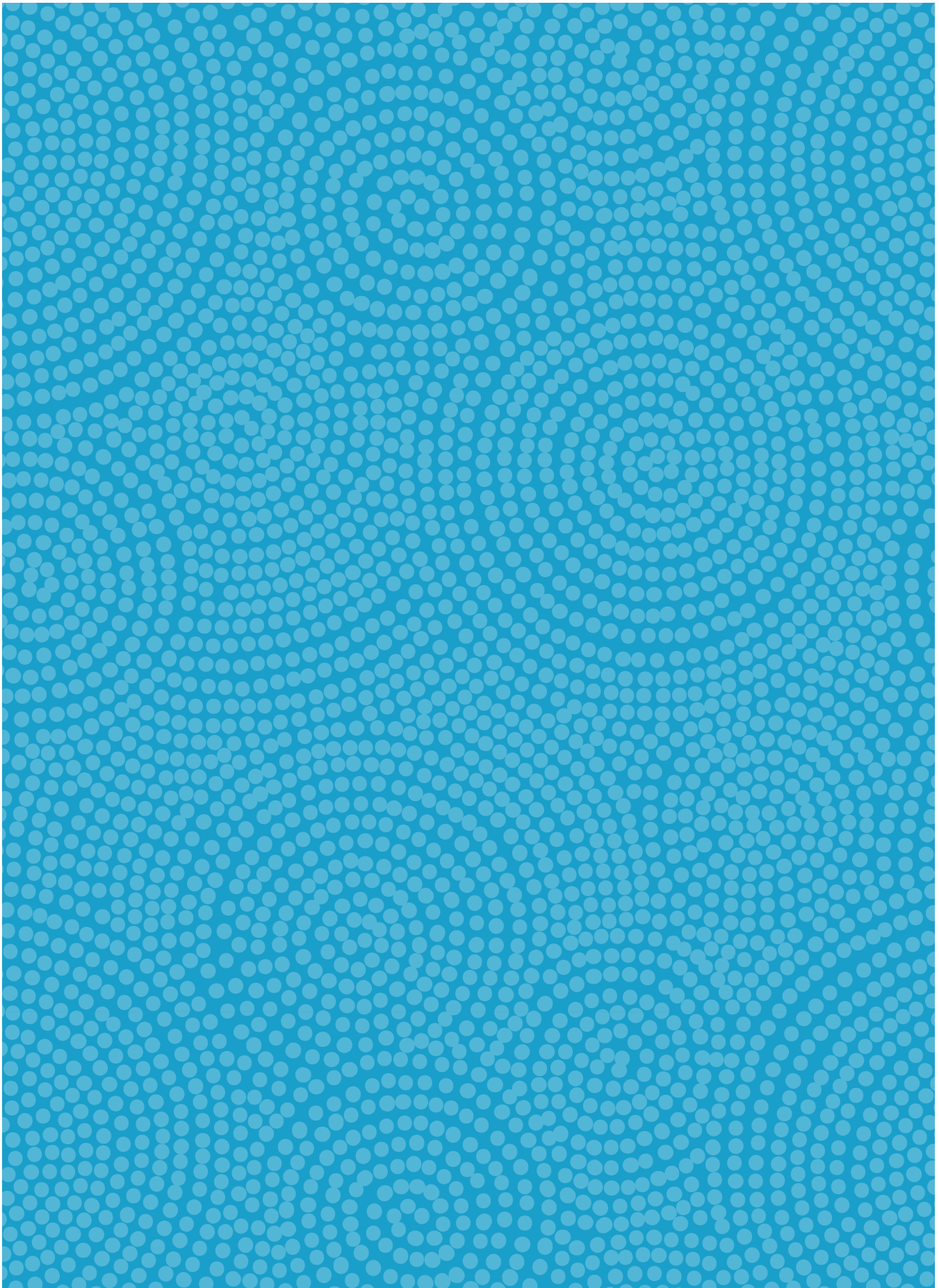
Roberta F. Chu
Chairperson, Board of Directors



Cheryl Ka'uhane Lupenui
President and Chief Executive Officer



Left to right: Cheryl Ka'uhane Lupenui, Roberta F. Chu





CONSERVATION

From Ma Uka to Ma Kai

At the core of all of The Kohala Center's efforts is the 'āina itself: its soils, forests, streams, and all of the elements of the natural world that feed and sustain us. More than a century of community and industrial growth in Hawai'i has placed demands on the islands' natural resources, often with little to no regard for indigenous relationships or stewardship practices. The health and well-being of our islands and its people are dependent on revitalizing and caring for the 'āina. Doing so in a manner that incorporates both contemporary and ancestral research and knowledge is essential to our very survival.

Nowhere is the direct connection between summits and seas more apparent than in island societies like Hawai'i. Islanders have known for generations that

resource management practices ma uka (upland) have an impact on the environment ma kai (coastal regions). Yet today, fluctuating ocean temperatures, increasingly powerful weather events, overfishing, and recreational activities ma kai are influencing environmental and economic stability ma uka in ways our forebears never witnessed.

The Hawaiian word for water, wai, is the foundation of the Hawaiian understanding of wealth and abundance: waiwai. Our two primary conservation initiatives, Kohala Watershed Partnership and Kahalu'u Bay Education Center, offer pathways from wai to waiwai, recognizing that caring for Hawai'i's forests and reefs is key to ensuring generational supplies of water and Hawai'i's future health and prosperity.

MA UKA:

Watershed restoration and erosion control

Native Hawaiians hold a deep, familial kinship with nature, recognizing that by caring for the ‘āina, the ‘āina will care for the people. As contact with and the presence of other worldviews have continued to increase, many of Hawai‘i’s natural resources have been commoditized or cleared for the sake of development, resulting over time in an estimated loss of half of the islands’ native forests.¹ Today our forests and native ecosystems remain increasingly threatened by the land and resource demands of industries and a growing population, as well as invasive species and new environmental health threats like Rapid ‘Ōhi‘a Death (ROD).

Our **Kohala Watershed Partnership** (KWP) program seeks to restore and maintain nearly 18,000 acres on



Kohala Mountain using effective land-management approaches guided by ancestral principles of aloha ‘āina. We work in partnership with landowners, managers of public lands, funders, and community members to approach comprehensive conservation activities on a moku (regional) scale rather than per property. The execution of our adaptive watershed management plan includes controlling invasive plants and feral ungulates, installing and maintaining miles of fenceline to keep ungulates out of sensitive areas, clearing and fortifying sediment check dams that keep topsoil

and debris from reaching the ocean, monitoring and containing the spread of ROD, and planting native trees and shrubs to reduce erosion and reverse native habitat loss.

In the past some of this work has been accomplished with the assistance of community members through volunteer workdays. Inspired by the wisdom of the ‘ōlelo no‘eau (Hawaiian proverb) “ma ka hana ka ‘ike” (in working, one learns),² this year we began to transition to Hoa‘āina Days, investing in guiding hoa‘āina, or loving caretakers, who wish to know the land, deepen their stewardship knowledge,



and become advocates and leaders who can inspire others. Hoa'aina Days afford community members with opportunities to learn about the historical, ecological, and cultural significance of places on Kohala Mountain, the natural cycles and processes that kept the original ecosystem in balance, and to deepen kinship with 'aina by participating in activities to help us both heal.

Through collaborations and learning experiences, we aspire to develop forest-to-reef stewards who will lead the charge to ensure North Hawai'i's native forests and water resources flourish in perpetuity.



KEY ACCOMPLISHMENTS

Expanded watershed management area from 8,000 acres to more than **18,000** acres, extending work ma kai to also focus on coastal ecosystems

Removed **116** feral goats from restoration units

Erected **seven** miles of new ungulate-proof fence in Kawaihae I and Honokoa watersheds

Continued to inspect and maintain **34.5** miles of existing fence, including **3,787** feet damaged during 2015 fire and flooding event

Planted **3,197** native 'a'ali'i, koai'a, māmane, 'iliahi, and 'ōhi'a

Cleared **108.5** tons of debris from **16** sediment check dams, restoring dams' capacity to sequester **203** tons of sediment

MA KAI:

Reef protection and revitalization

In 2006 the residents of Kahalu'u, a community roughly 60 miles southwest of Kohala, approached The Kohala Center for help. Tiny Kahalu'u Bay, once teeming with colorful fish and vibrant coral reefs, was deteriorating as a result of swimmers and snorkelers feeding and touching marine life and unknowingly trampling the corals to death. Years earlier community residents created ReefTeach, a volunteer-driven reef stewardship program designed to educate bay visitors on how to enjoy the bay without damaging its fragile ecosystem, and they sought our help to formalize and manage the program. Recognizing the need for a full-time presence at the bay, we opened **Kahalu'u Bay Education Center (KBEC)** through a partnership with the County of Hawai'i to provide visitor education and daily,



on-site management of Kahalu'u Beach Park. To this day KBEC continues to serve as home base for ReefTeach, reaching more than 53,000 bay visitors annually through a passionate team of stewards who wish to help protect the bay while deepening their scientific and cultural knowledge about marine ecosystems.

While ReefTeach has primarily focused on influencing human interactions with marine life both on-site at the bay and through community outreach, this year we expanded educational efforts to address another significant factor affecting coral health: sunscreen. Laboratory studies have shown that at least two chemicals commonly found in commercial sunscreens—oxybenzone and octinoxate—inhibit the growth and reproduction of coral reefs.³ As the Hawai'i State Legislature was contemplating a bill to ban the local sale of sunscreens containing these two chemicals, we launched a reef-friendly sun protection campaign to educate visitors about the harmful effects of chemical-based sunscreens and encourage the use of sun-protective clothing and mineral-based alternatives. At the campaign launch we took several water samples to determine the prevalence of oxybenzone in the



Photo courtesy of Jason Murray

bay; we will re-test the water in 2019 to determine if our campaign has helped to reduce those levels.

This year we also took a proactive step to explore innovative approaches to regenerate corals damaged by climate change. A bleaching event in 2015, during which seawater in Kahalu'u Bay reached a peak temperature of 91° F (33° C), resulted in the death of more than 50% of coral in the bay. Using traditional ecological knowledge, kilo, and the kaulana mahina (Hawaiian moon calendar), we anticipated that Kahalu'u's cauliflower corals would spawn shortly after the Kulu and Lā'au Kūkahī moons set in mid-spring. Thanks to our partnership with the County of Hawai'i, we were able to close Kahalu'u Beach Park on some of these mornings,

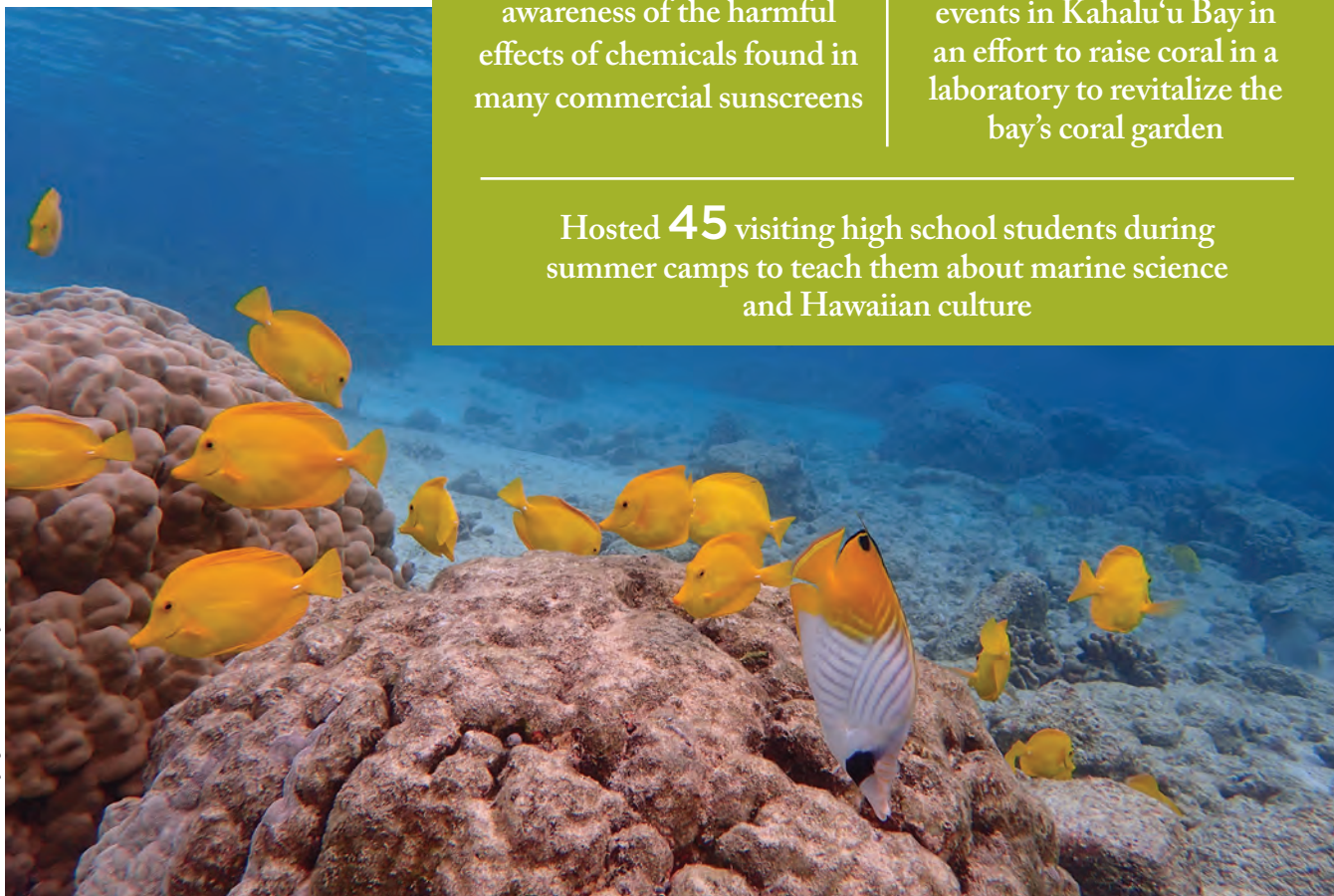


Photo courtesy of Bo Pardau

allowing the coral to spawn undisturbed and for small teams of *hoā‘āina* to collect coral gametes to raise in a laboratory. Currently more than 100 cauliflower coral keiki are thriving in a nursery at the Legacy Reef Foundation in Kailua-Kona. Over the next several years we will work with our research partners to relocate these corals in hopes of rebuilding healthy coral populations in Kahalu‘u Bay and along the Kona-Kohala Coast.

As Kahalu‘u Bay’s popularity with visitors and residents continues to grow, reef protocols remain a critical component of our efforts to protect vulnerable marine ecosystems. Additional factors affecting marine health, such as nonpoint source pollution and climate change, are driving our expanded research and educational efforts to yield even greater positive impacts, both locally and globally.

Photo courtesy of John O’Leary



KEY ACCOMPLISHMENTS

Continued to work with more than **150** ReefTeach and Citizen Science volunteers to educate **53,000** visitors about reef etiquette and to monitor the bay’s water quality

Collected nearly **300** bottles of harmful sunscreen, distributed more than **800** samples of reef-friendly sunscreen, and educated nearly **3,000** Kahalu‘u Bay visitors and students

Hosted more than **400** students from West Hawai‘i schools to teach them about water quality monitoring, kilo, reef ecology, and healthy marine ecosystems

Launched a reef-friendly sun protection campaign to increase awareness of the harmful effects of chemicals found in many commercial sunscreens

Collected more than **60,000** cauliflower coral gametes during spawning events in Kahalu‘u Bay in an effort to raise coral in a laboratory to revitalize the bay’s coral garden

Hosted **45** visiting high school students during summer camps to teach them about marine science and Hawaiian culture

EDUCATION

From Classroom to Context

There is a national movement in education to shift how we prepare today's students to become the adaptive leaders who will shape our future. Evolving approaches include creating more equitable learning environments that value relationships; student voice; deeper, more personalized learning; and on-going, demonstrated proficiency of knowledge. These modern pedagogies offer opportunities for our traditional, indigenous models of education to flourish once again.

Research studies suggest that rural, Hawaiian, and Pacific Islander students are best served and motivated by place-based, project-based, hands-on activities and challenging science instruction, especially when their investigations address real-world problems in culturally relevant terms.^{4,5} The Kohala Center's educational programs were created to help Hawai'i's teachers re-establish and strengthen students' connections with 'āina, culture, and place. Our educational pathway begins with Hāloa, reaching far back in Hawai'i's genealogy to

the origins of its ancestral knowledge, and carries us forward to a set of six outcomes, called Nā Hopena A'o (or HĀ, meaning "breath" in Hawaiian). These outcomes, developed by the Hawai'i Department of Education, set intention to designing learning environments that lead to a stronger sense of **B**elonging, **R**esponsibility, **E**xcellence, **A**loha, **T**otal well-being, and **H**awai'i (BREATH) for learners across all grade levels.

We offer financial, logistical, and curriculum resources to island schools so they can provide outdoor educational opportunities that combine contemporary core subjects and Hawaiian understandings of the natural world. Watersheds, school gardens, and even volcanoes become living classrooms for our curricula, developed to guide teachers and students toward becoming kama'āina—persons intimately familiar with their environs—by cultivating a sense of place and nurturing cultural and ecological proficiency.



OUTDOOR LEARNING JOURNEYS:

Watershed classrooms

Our **Hawai'i Meaningful Environmental Education for Teachers (HI-MEET)** program provides professional development training and resources for middle and high school educators to conduct place-based field research with their students.

This year we released *Huli Āina Kumu Wai*, a 212-page watershed investigations curriculum manual developed in collaboration with past program participants and education specialists. Nineteen teachers from Hawai'i Island and O'ahu participated in this year's HI-MEET program, receiving training on the curriculum manual and guidance on how to conduct field trips, research projects, and presentations with their students. The year culminated with a symposium in Waimea, at which 12 student teams presented their field research projects and findings to each other and the community and participants evaluated the overall program. Teachers reported that their knowledge about and ability to integrate Hawaiian culture and āina-based pedagogy in their classrooms increased significantly, as did their levels of confidence to provide hands-on experiences for their students in Earth and climate sciences. Student feedback indicated increased interest in environmental issues, Hawaiian cultural protocol and practices, and STEM-related careers as a result of the program, and expressed appreciation for opportunities to learn from the āina.

Our **Ke Kumu Āina** programs provide K-12 educators and students with a variety of one- and three-week intercession and school year-length opportunities to teach and learn from the āina in their communities.





Through field investigations, immersion experiences, and professional development sessions, Ke Kumu 'Āina offers 'āina-based education support for teachers and schools to create optimal learning environments for all learners across standards-based content with intention to strengthen HĀ outcomes. Underpinning the programs is a “kākou” (all of us) philosophy, with environmental professionals, cultural specialists, high school student-leaders, and community members guiding place- and culture-based field investigations to help teachers, students, and their families deepen their kinship with Kohala and become kama'āina.

This year we launched our two-year **Ke Kumu 'Āina Forest Stewardship Program**, serving four middle schools in the moku of Kohala. At each school two teachers and their classes sharpen their understanding of science through the restoration of degraded landscapes in the Kohala and Mauna Kea watersheds through the propagation, outplanting, and monitoring of native forest plants. Participants learn the ancestral practice of kilo to assess and measure various conditions and progressions at the sites each time they visit, as well as mele oli and cultural protocols for entering, engaging with, and departing natural spaces.

KEY ACCOMPLISHMENTS

Served **564** students, teachers, and family members through our field investigation programs

Planted **1,893** native plants and **nine** different native forest species with students, teachers, and community members in the Kohala and Mauna Kea watersheds

Completed and published *Huli 'Āina Kumu Wai*, a field investigations manual for Hawai'i middle and high school teachers

Held a HI-MEET Youth Symposium in Waimea, at which **11** teachers and **31** students from Hawai'i Island and O'ahu presented their field investigation projects



NOURISHING MIND AND BODY:

Garden classrooms

Since 2007 we have advocated for the revival of school learning gardens to provide students with outdoor classrooms in which they can deepen their understanding of core subjects while learning about agriculture, food systems, improved nutrition, and how to grow their own fresh fruits and vegetables. Programs we developed over the last 11 years, such as the **Hawai'i Island School Garden Network** and the **Hawai'i Farm to School and School Garden Hui**, have served more than 100 schools and thousands of students across the islands, providing models and frameworks for schools and other community-based organizations statewide to assume leadership of these garden-based education efforts.

In partnership with Māla'ai: The Culinary Garden of Waimea Middle School and Pacific Resources for Education and Learning (PREL), we organized a half-day professional development workshop for Hawai'i Island garden educators covering garden protocols, setting up systems based on best practices, and integrating curriculum. Through this partnership we also offered our annual **Kū 'Āina Pā** school garden teacher training program this summer in Hilo, introducing 20 educators to our Hawai'i School Garden Curriculum Map. Created to facilitate the incorporation of Common Core, Next Generation Science Standards, and Hawai'i Health Standards into garden classroom activities, this year's training also included strategies to integrate the Curriculum

Map with the Department of Education's HĀ cultural framework. The trainings addressed four fundamental components of teaching and learning in a school garden: a sense of place, living soil and living plant, nourishment, and nature's design.

The 2018–2019 school year marked our fifth year serving as the host site for the national **FoodCorps** program in Hawai'i. FoodCorps' reach in the islands expanded this year to support 16 sites in underserved communities on Hawai'i Island and O'ahu. Service members assisted public and charter schools and community organizations to develop and strengthen school garden and nutrition education programs, including creating pathways to increase the amount of fresh, locally sourced foods in school cafeterias.



KEY ACCOMPLISHMENTS

Ten emerging food system leaders on Hawai'i Island and O'ahu helped **4,000** K-12 students in **16** schools deepen their connections with 'āina and local food through the Hawai'i Island School Garden Network and FoodCorps Hawai'i

Twenty Hawai'i Island classroom teachers participated in Kū 'Āina Pā to integrate garden activities and the new Nā Hopena A'o (HĀ) outcomes framework into their academic instruction

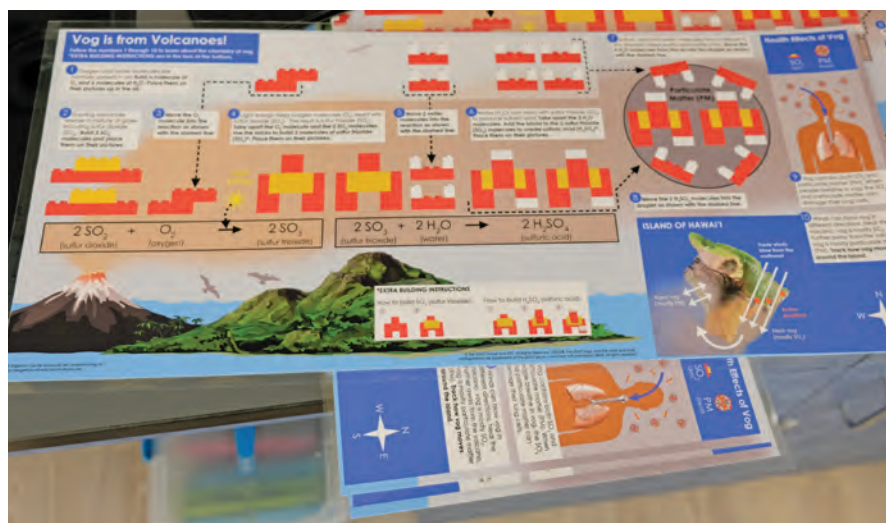
PELE AS TEACHER:

Hawai'i Island Vog Network

In 2016 we launched a research partnership with the Massachusetts Institute of Technology (MIT) Department of Civil and Environmental Engineering to install a network of low-cost air quality sensors across Hawai'i Island. Given Kilauea's near-constant volcanic emissions, known as vog, over the past 35 years, Hawai'i Island offers MIT researchers an ideal environment to test and refine the sensors, which are capable of detecting sulfur dioxide and particulate matter such as sulfuric acid, before making them available to communities worldwide.

The **Hawai'i Island Vog Network's** 28 sensors are installed at schools and health clinics around the island and provide real-time air quality data at voginfo.com. This year we also launched a professional development component for teachers to use vog to further students' understanding of STEM subjects by connecting with a natural process on their home island. The network and its sensors provide teachers and students with real-world, hands-on engagement with environmental science, chemistry, technology, and data analysis by focusing on a natural phenomenon in their own backyard.

In partnership with MIT researchers and educators, we conducted a vog workshop for 21 Hawai'i Island teachers to leverage the network to strengthen STEM curriculum at their schools. Attendees learned how to teach chemistry using LEGO molecule kits developed by MIT and generated ideas for research projects they could conduct with their students. The workshop also included a cultural curriculum component, highlighting Native Hawaiian perspectives of the volcano and vog and how they surfaced in



traditional observations of volcanic activity as well as mele oli and hula.

The workshop not only provided culture-based, scientific curriculum resources and ideas, it also prompted participants to consider vog from an indigenous perspective. As one participant noted, "I no longer see vog as a pollutant, but as a natural indicator that the 'āina is very much alive and breathing."





KEY ACCOMPLISHMENTS

Introduced the Hawai'i Island Vog Network to educators, healthcare agencies, and scientists by conducting information sessions at **three** schools, **four** health clinics, and W. M. Keck Observatory

Helped facilitate the installation of **28** sulfur dioxide and particulate matter sensors around Hawai'i Island to feed real-time air quality data to a publicly accessible website

Conducted an eight-hour Vog Workshop for Educators, at which **28** teachers learned how to use ancestral knowledge, real-time data, and familiar tools to conduct lessons with their students

RURAL ECONOMIC DEVELOPMENT

From Local Seeds to Local Food Systems

We believe that restoring our natural environments, and advancing holistic educational models for the people of Hawai'i to rediscover kinship with place and culture, are two essential pathways that can move our island society closer to a state of pono. Healthy 'āina and deeper connections with where our food comes from can also help us foster a more diversified, island-based economy, particularly in rural areas.

With Hawai'i importing an estimated 90% of its food⁶ from at least 2,300 miles away and tourism being the largest private-sector contributor to Hawai'i's economy, our islands are highly vulnerable to national and global instabilities that can compromise food supplies, transportation channels, and visitor spending. Our rural economic development initiatives focus primarily on strengthening Hawai'i's agricultural sector,

from growing and distributing locally adapted seeds to training and inspiring new farmers, educating and assisting local food producers, and strengthening community-based food systems that increase security and prosperity.

These efforts support the viability of food producers, entrepreneurs, consumers, and beneficiaries with pathways from 'āina to 'ai pono: from nurturing that land that grows our food to nourishing ourselves and each other. By approaching our economic and food system development efforts with the understanding that human health and the health of the 'āina are inextricably connected, we aspire to cultivate maka'āina, citizens deeply rooted in Hawai'i who are creating abundance in their communities in sustainable ways.



SEEDS:

The source of food security

Hawai'i's tropical climate affords farmers and gardeners the ability to grow food virtually year round. With very few seed varieties developed locally and available commercially, however, growers have had to order seeds—most of which were developed for other regions—from out of state, or obtain harvested seeds from friends and neighbors.

We launched our **Hawai'i Public Seed Initiative** in 2007 to help revive the art of seed saving and sharing and to educate and support seed stewards across the Hawaiian Islands. The Initiative organized community seed exchanges and workshops to help growers identify crop varieties that fared well in Hawai'i's tropical climates and soils, in hopes of one day developing seed varieties better suited to local growing conditions.

Out of the Initiative grew the **Hawai'i Seed Growers Network**, a community of farmers and gardeners on four islands. Committed to using organic, non-GMO methods to selectively breed crop varieties that perform well in their locales, the growers are also improving the health and fertility of Hawai'i's soils. This year we helped the Network launch its online marketplace, hawaiiseedgrowersnetwork.com, where local growers can purchase 33 varieties of fruit, vegetable, and flower seeds like Hawaiian Sunray Sweet Pepper and 'Ele'ele Bush Bean.



Every purchase keeps dollars in our economy while supporting Hawai'i's seed growers and contributing to local food production. In 2019 the Network will continue to work on increasing seed inventory and varieties and train more growers through a mentoring program.



KEY ACCOMPLISHMENTS

Held “Hawai‘i Seed Fest: Local Seeds for Local Needs” community events for the second year in a row in East and West Hawai‘i Island, Maui, and O‘ahu to connect communities with local seed growers

Launched HawaiiSeedGrowersNetwork.com, offering **33** varieties (and growing) of locally produced and adapted seeds

Sold **746** seed packets to **140** local buyers, resulting in **\$3,572** in income for Hawai‘i seed growers

Convened a three-day gathering of **nine** Hawai‘i seed practitioners to expand capacities of Hawai‘i Seed Growers Network members



FARMERS:

Training Hawai'i's future food producers

A key component in reducing Hawai'i's dependence on imported food is ensuring that a pipeline of trained and skilled farmers and ranchers is "shovel-ready." With the average age of farmers in Hawai'i at 60.4 years old and the number of local farmers over 65 being 13 times greater than the number of farmers under 34,⁷ establishing a new generation of food producers is critical to our islands' long-term food security.

In 2012 the U.S. Department of Agriculture (USDA) increased its investment in farmer training programs across the United States, and our **Beginning Farmer-Rancher Development Program** was one of the first funded with USDA support. This year we hosted our seventh cohort of island residents interested in learning the complexities of starting an operating a successful farm business. Our 18-session, 120-hour course covers multiple aspects of running a successful farm such as soil fertility management, plant nutrition, livestock production, composting and cover cropping, pest management, marketing, business planning, financing, and more. The course begins in Kohala with an introduction to the area's historical dryland field system before moving into classroom and field instruction. Our 14-acre demonstration farm in Honoka'a serves as a hands-on classroom in which students build relationships with soil and learn how to build fertility by employing sustainable approaches such as agroforestry and intercropping.

Introducing youth to career pathways in agriculture is essential to inspiring Hawai'i's future food producers. Since 2014 we have offered one- and two-week programs for local high school students to visit and work on farms to learn more

about local agriculture and food systems. This year these efforts evolved into the **Ōhāhā High School AgriCULTURE Program**, offering a deeper focus on Hawaiian farming and stewardship practices. A weeklong experience in which 'āina and kānaka (people) flourish together, the enhanced program emphasizes ancestral values such as 'ohana (family), respect for kūpuna (elders) and their 'ike (knowledge), and the 'āina itself. Students visit lo'i kalo (wetland taro farms), loko i'a (traditional Hawaiian fishponds), and organizations engaged in perpetuating Hawaiian agriculture, as well as food businesses such as a local poultry farm and a butcher shop. Grounded in deepening relationships and kuleana to 'āina, 'ohana, and community, we hope to awaken and

motivate future generations of mahi 'ai (farmers) who will contribute to creating abundance to enhance local food security.



KEY ACCOMPLISHMENTS

Introduced **35**
high school students to
indigenous agricultural
methods and local
food production

Graduated **13** students from
the seventh cohort of our
Beginning Farmer-Rancher
Development Program,
bringing the total number of
program graduates to **168**

FOOD SYSTEMS:

Building capacity for a more secure and equitable future

Increasing local food production in Hawai'i as a means to reduce our dependence on imports is a goal long sought by many organizations across the islands. Ensuring that Hawai'i's food producers and communities can truly benefit from an abundance of locally produced food requires a broader focus on building community-based food systems that weave together agriculture, economics, nutrition, and public health.

Many of Hawai'i's emerging and experienced food producers and rural businesses face challenges in accessing resources that can help them start, grow, and maintain their operations. With Hawai'i frequently cited as one of the most challenging states in which to run a business,⁸ owners often struggle

with access to land, capital, business and financial planning, accounting, and technical assistance.

Providing critical resources to Hawai'i's food producers not only strengthens and diversifies our local economies, it also contributes to fostering healthier communities. We view investing in agriculture and food systems as a strategy for improving economic resilience as well as public health and nutrition.

We launched our **Rural and Cooperative Business Development Services** (RCBDS) program in 2011 to help Hawai'i's rural business owners access resources they need to succeed. With a primary focus on food producers, RCBDS staff and consultants offer expertise in cooperative development, business capitalization, business and market planning, farm accounting, grant writing, record keeping, organic production education, and food safety. Services are delivered through workshops, site visits, one-on-one technical assistance, and coaching to provide businesses with expertise and resources to advance their knowledge, mastery, and impact.

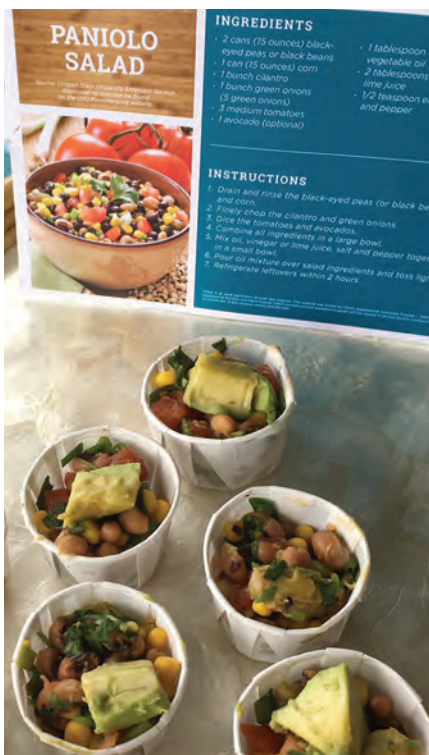
Through a combination of public and private funding, RCBDS infuses capital into local economies through grants and loans, helping small businesses increase their capacities so they can provide more goods and services to their communities. Some of this year's beneficiaries include farmers and a butcher shop that were able to purchase essential equipment to improve their productivity and profit potential, farmers impacted by natural disasters on Kaua'i and Hawai'i Island to help them recover their operations and replace equipment, and food producers who received low- and no-interest loans through our Hawai'i Food Producers Fund and Kahiau Rural Business Development Microloan Program.

Grant support from the U.S. Department of Agriculture, Farm Service Agency, Small Business Administration, and the Hawaii Department of Agriculture enable our business practitioners to provide consulting services and educational programs that improve the business acumen and stability of Hawai'i's rural enterprises. This year clients and community members benefited from training in accounting and financial literacy, obtained assistance in securing land leases, and received business plan coaching and financial planning assistance to be "lender-ready" when applying for



loans or financing. Our team also helped a family refinance its debt into a more manageable-term loan so they could keep their farm, and worked with certified-organic food producers to renew and maintain their certifications and obtain reimbursements for their recertification costs.

Opening and enabling market pathways for farmers to distribute their produce not only increases their income potential, it can also improve food security and influence health outcomes. An estimated 54% of K-12 students enrolled in Hawai'i public institutions qualify for free or reduced-cost meals;⁹ for many of these students the most well-balanced meals they receive each day come from school cafeterias. We have continued our work with the **'Aina Pono: Hawai'i's Farm to School Initiative** to increase the volume of locally grown food procured by public and charter schools, providing producers with a significant sales channel and keiki with access to fresher, more nutritious food. First piloted in three Kohala public schools in 2017, the State's farm to school program expanded this year to include two additional schools in



Central O'ahu, increasing the number of students served fivefold.

Successful food systems ensure that all members of the communities they serve have access to quality sustenance and knowledge about nutrition and healthy diets. For years we have collaborated with The Food Basket, Hawai'i Island's food bank, to ensure local produce makes its way to lower-income populations and that they receive education on how to prepare it. This year we helped The Food Basket launch a mobile market program, Da Bus, to deliver and distribute food directly to island residents who need it most. The mobile van also provided emergency assistance and delivery of food supplies during the island's natural disasters this year. In partnership with The Food Basket, we also continued to offer healthy-cooking demonstrations to kūpuna and

low-income island residents through **Supplemental Nutrition Assistance Program Education (SNAP-Ed)**. These events included instruction on how to prepare fresh, healthy meals; samples of the day's featured recipe; sets of recipe cards; vegetable seeds and plants; and advice on how they can grow food at home.

As part of an effort to connect local food systems and community-based food leaders, we assisted with the development of a white paper, ***Good Food for All: Advancing Health Equity Through Hawai'i's Food System***. The report defines the connections between Hawai'i's health and agricultural sectors and makes recommendations as to how to foster community economic development by investing in systems that promote equitable access to fresh, locally produced food.

KEY ACCOMPLISHMENTS

Co-released
*Good Food for All:
Advancing Health
Equity Through
Hawai'i's Food
System* in partnership
with state agencies
and food equity
organizations

Provided technical assistance and
consulting services to **165**
local businesses, entrepreneurs, and
nonprofit organizations

Assisted in the launch of **four**
new cooperative businesses and
provided technical assistance to
15 existing co-ops

Conducted **18**
cooking and
nutrition
demonstrations
highlighting
healthy, locally
grown, or easily
procured vegetables
to seniors and low-
income residents in
East Hawai'i

Awarded **\$146,000**
in low- and no-interest
microloans to **16** businesses

Helped **33** clients complete
grant and loan applications,
resulting in acquisition of
\$1,999,070
for rural businesses

Helped 'Aina Pono: Hawai'i's Farm to School Initiative
expand to a second pilot site in Mililani, O'ahu,
increasing number of students served from **780** to **3,900**
and local food procurement from **3** to **15** percent
while decreasing costs by **\$108,000**



LEADERSHIP PATHWAYS

From Hawai‘i, for Hawai‘i

A pathway can last for generations when there are enough reasons and people to follow along its way. Similarly, leadership carries and sustains communities and the kuleana to shared purpose throughout their journeys. While The Kohala Center has invested in the promotion of native Hawaiian intellectual leadership in research and academic institutions for over a decade, this year we set intention to create a culture for shared leadership and to strengthen our relationships to place and community. These emerging efforts come from a philosophy that we can only realize a state of pono by encouraging and cultivating Hawai‘i-based leaders—including our own staff—who can inspire and motivate their colleagues, neighbors, and ‘ohana to recognize and contribute to fulfilling our shared kuleana to these islands we call home. For Hawai‘i, our leadership practices come from Hawai‘i.

From day one our mission has been to respectfully engage the Island of Hawai‘i as a model *of* and *for* the world. After nearly 20 years of crafting ‘āina-

based programs for the well-being of communities on Hawai‘i Island and, in many cases, across the Hawaiian Islands, we have sharpened our focus on Kohala as our home and as a place where ideas inspired by the needs and aspirations expressed by our community take shape and launch. An ‘ōlelo no‘eau, “Lele o Kohala me he lupe la,” or “Kohala soars as a kite,” pays tribute to Kohala as a place often revered as a leader in doing good work.¹⁰

In restoring and strengthening our own relationship with ka moku o Kohala, we hope to inspire people of all ages and skill levels to lead by following ala—a Hawaiian word that can mean “path” or “trail” as well as “to awaken”—to become alaka‘i, or leaders and guides. By following the examples and wisdom of Kohala’s ancestors, we also aspire to become kupa‘āina, multi-generational citizens of the land, who will join together and share in the kuleana of leading Hawai‘i forward toward a resilient and sustainable future.



Photo courtesy of Andrew Richard Hara

NĀ ‘ŌIWI:

Intellectual leaders for Hawai‘i’s future

Our focus on leadership began in 2008 with the creation of the Mellon-Hawai‘i Doctoral and Postdoctoral Fellowship Program, in collaboration with The Andrew W. Mellon Foundation and Kamehameha Schools. Renamed the **Hawaiian Scholars Doctoral Fellowship Program** in 2017, our efforts sought to increase the representation of Kānaka ‘Ōiwi (native Hawaiian) scholars in academia and research institutions, publications, policymaking, and advocacy in order to advance knowledge of Hawai‘i’s natural and cultural landscape, Hawaiian history, politics, and society.

Our tenth cohort of Hawaiian scholars featured a scientist and an engineer: Narrissa P. Spies, a doctoral candidate in zoology, and Lelemia Irvine, who completed his Ph.D. in civil and environmental engineering at the close of 2018. Both received \$45,000 and mentorship during the 2017–2018 academic year, enabling them to focus on completing and defending their dissertations.

Spies was born and raised on Hawai‘i Island and received her bachelor’s and master’s degrees at the University of Hawai‘i at Hilo. Her research investigates, at a molecular level, how certain species of coral are thriving despite stress. After decades of ecosystem degradation in Honolulu Harbor, compounded by a massive molasses spill in 2013, Spies observed two resilient coral species that continue to thrive in the harbor. Her efforts focus on understanding the conditions under which these corals continue to adapt to stress and regenerate, in hopes of unlocking clues that could benefit corals struggling to survive in other parts of Hawai‘i and the world.



KEY ACCOMPLISHMENTS

Supported **21** doctoral fellows to complete their dissertations and earn doctoral degrees

Ten fellows have obtained tenure

Supported **15** postdoctoral fellows to publish scholarly articles and complete their first manuscripts

Sixteen books have been published by fellows to date

Born and raised in Wai‘anae, O‘ahu, Irvine received his bachelor’s and two master’s degrees from the University of Hawai‘i at Mānoa. His dissertation focuses on developing a better understanding of low-impact development and green infrastructure approaches using computational fluid dynamics and 3-D modeling techniques to solve engineering challenges. Through his research Irvine hopes to find new ways to increase sustainable landscapes, communities, villages, and cities. As an example, Irvine is investigating bioswales technology as a means to improve stormwater management, protect Hawai‘i’s terrestrial and marine

ecosystems from non-point source pollutants, and reduce the potential for urban flooding.

Over the past ten years these fellowship programs have fostered a multidisciplinary community of 37 indigenous intellectuals poised to lead Hawai‘i’s educational and research institutions, generate and disseminate new knowledge, and influence the way Hawai‘i and the world understand Hawai‘i’s past, present, and future. It is our hope that these leaders will enliven discourse, advance indigenous perspectives, and inspire Hawai‘i’s rising scholars to aspire to greater heights.

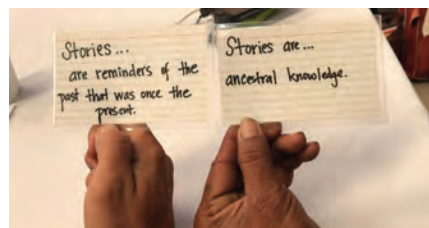
KEAWEWAI:

Nourishing community-based leaders and practitioners

In 2014 The Kohala Center received an astounding and unexpected gift: nearly 60 acres of land on Kohala Mountain. Jim Posner, a supporter of our restoration work in the Kohala watershed, stated of his donation that “[t]he spirit of this gift represents a convergence of vision from the ancient and recent past onward into the future, outward to the world at large, and beyond what we imagine today. The Kohala Center is ideally suited to steward the ranch to the next level. I wanted the land to be a productive and welcoming place for the purposes of conservation, propagation, education, expression, communion, and ‘funion’.”

Based on our research of the land’s storied past, we honor this beloved place, its waterways, its kin, and its ali’i (chief), Keaweikekahiali’iokamoku, by calling forth its ancestral name, Keawewai. Located at the convergence of winds that sweep up, down, and around Kohala Mountain and of two vital streams carrying precious water from forests ma uka to the parched shores of Kawaihae, this ‘āina entrusted to us has become a place of convergence for our staff and partners, for community leaders and practitioners, and for Hawaiian, Western, and other cultural sources of wisdom.

This year we hosted nearly 30 gatherings at Keawewai, ranging from opportunities for our staff to expand their cultural and ecological knowledge to convenings of diverse philanthropic and intellectual leaders dedicated to fostering a more resilient, sustainable future for Hawai‘i. Each of these events held the intention of providing a welcoming, inspiring place for practitioners to sharpen their leadership skills, teach and learn from each other, and build relationships that support them to fulfill their kuleana when they return to the ‘āina and communities they serve.



We continue to mālama (care for) Keawewai by removing invasive vegetation and planting native trees, cultivating canoe crops, and engaging in agricultural practices that restore its vitality and abundance. Our efforts to nurture the ‘āina, and guide those who visit to learn from and assist in its rejuvenation, positions Keawewai to be a leader in and of itself, demonstrating how ‘āina can be restored and managed in ways that benefit communities, honor cultural traditions, facilitate learning, and deepen reverence for the natural world. Keawewai inspires us, and those who visit, to move from being “in” a place to understanding what it means to be “of” a place. It is a place for us to contemplate, collaborate, and demonstrate solutions that serve as models for our work in Kohala and beyond.

KOHALA WAI:

Guiding learners along water's journey

Kohala is the birthplace of legendary leaders, innovative ideas, and, as the island's oldest moku, Hawai'i Island itself. We revere Kohala as kupuna and a vast source of cultural and ecological knowledge capable of inspiring and guiding the leaders, community efforts, and policy decisions that will determine Hawai'i's future. Recognizing that Kohala Mountain is North Hawai'i's primary source of water and home to some of Hawai'i's few remaining native flora and fauna, we are creating a field guide for leaders, educators, and communities to deepen their understanding of where our water comes from and its remarkable journey from the sky above to the sea below.



“Wai: Source of Life” will tell the story of how a native forest on Kohala Mountain captures, retains, and directs water. Through research, historical documents, and mo’olelo of established community members, we are composing a ka’ao (legendary tale) about wai (and waiwai) by tracing the origin and pathway of a specific stream in the ahupua’a of Kawaihae in leeward Kohala. The guide will emphasize the significance of native forest ecosystems as a source of water and life in our natural world, and the threats posed by invasive plants and animals, feral ungulates, wildfires, land management practices, and growing demand.

While most of Kohala’s residents live within a few miles of one of the most unique and imperiled ecosystems on

the planet, only a few hold intimate knowledge about this special place. The book will include rich photography to help readers visualize the native forests of Kohala, most of which are difficult for the general public to access. It will also instill an appreciation of the Hawaiian worldview of upland forests as sacred realms of akua (gods, spirits), where natural processes take place that ensure the health of the ‘āina and the people it sustains. Our intention is to weave imagery, mele, mo’olelo, and science into a life-long resource that can be enjoyed by students of all ages, and will inspire generations of advocates for Hawaiian forests, native species, natural life cycles, and aloha ‘āina.

HĀ ASSESSMENT FOR LEARNING:

Enabling all learners to succeed

When we speak of promoting “ancestral knowledge,” what do we mean? Although there is not a singular “Hawaiian school of thought,” we embrace the core values identified by the Hawai‘i State Department of Education (HiDOE), community leaders, educators, parents, and nonprofit organizations to guide students’ journeys toward establishing a solid kinship with Hawai‘i, its culture, its people, and the ‘āina itself.

This year The Kohala Center partnered with HiDOE’s Office of Hawaiian Education to help shape the direction of a Hawaiian educational pathway in public education. A goal of the agency is to foster a public education system that “embod[ies] Hawaiian values, language, culture, and history as a foundation to prepare students for success in college, career, and communities locally and globally” and provide support for teachers and administrators. In collaboration with students, educators,

and other community partners, we are discovering and developing approaches to strengthen the outcomes of Nā Hopena A’o (HĀ)—Belonging, Responsibility, Excellence, Aloha, Total Well-Being, and Hawai‘i—through instructional practices and hands-on learning. In April 2019 Keawewai will serve as a host and demonstration site for HĀ partners to further this work.

By engaging Hawai‘i as a foundation for learning, students and teachers—regardless of age, ethnicity, or time spent in the islands—can deepen connection to place and instill a sense of shared kuleana to care for Hawai‘i, honor and understand its past, and advocate for its future.



Photos courtesy of Hawaiiki Etherton

PARTNERS & SUPPORTERS

We are grateful to our partners and supporters who enable our work. Our efforts would not be possible without the people and organizations that support us and our mission.

All partners and supporters listed below contributed to our efforts between July 1, 2017 and June 30, 2018. *Mahalo nui loa* for your support and for believing in us.

\$25,000 and above

Ceres Trust
Deviants from the Norm Fund of the Hawai'i
Community Foundation
The Dorrance Family Foundation
Hawai'i Community Foundation
HMSA Foundation
Honu'apo
Kahiau Foundation
Kaiser Foundation Health Plan, Inc.
Kamehameha Schools
Medtronic
National Fish and Wildlife Foundation
The Posner Foundation of Pittsburgh
State of Hawaii Department of Health
State of Hawaii Department of Land and Natural
Resources
Ulupono Fund of the Hawaii Community
Foundation (HCF)
United States Department of Agriculture
United States Department of Commerce
United States Environmental Protection Agency
United States Small Business Administration
University of Hawai'i

\$10,000 to \$24,999

AgriLogic Consulting, LLC
Anonymous
County of Hawai'i, Department of Research and
Development
Kaimas Foundation
Laurence H. Dorcy Hawaiian Foundation
Massachusetts Institute of Technology
Robert Wood Johnson Foundation
Dick and Sharon Shlegeris
State of Hawaii Department of Agriculture
United States Department of Defense
WHH Foundation
Wilderness Ventures, LLC

\$5,000 to \$9,999

Bank of Hawaii Foundation, Monty Richards
Hawai'i Island Community Award
United States Department of the Interior

\$2,500 to \$4,999

Anonymous
Balbi Brooks
Hawai'i Public Health Institute
Constance and Capt. Gary Monell

\$1,000 to \$2,499

Roberta and Newton Chu
Betsy Cole
Harbor Gallery
Stuart and Christine Lau
Rob and Cindy Pacheco
John and Cyndi Prater
Dr. Paul and Elizabeth Nakayama
Ian F. Robertson
Pen and Kathryn Stout (matched by Adobe Inc.)
The Marine Mammal Center

\$500 to \$999

Georgine Busch
Consuelo Zobel Alger Foundation
Chris and Mona Hubbell
Charlene Johnson
Jim and Linda Kasper
Cheryl and Boots Lupenui
Anna-Lisa Okoye
Mary Spadaro
Jim Thiele and Sue Pope
Pat Tietbohl and Doug Romich
Peter and Jan Wizinowich

\$250 to \$499

Puanani Burgess
David and Carolyn Leuthold Fund
The Earl and Doris Bakken Foundation
Warren and Sue Faust
Judy Gooch and Paul Dobosh
Gretchen Lawson
Michelle Suber

PARTNERS & SUPPORTERS

\$100 to \$249

Daniel and Anne Akaka
 Charlie and Lisa Anderson
 Anonymous (2)
 Nitasha Bhambree and Declan Mulvey
 Russ and Melissa Clark
 In honor of Cindi Punihaole
 David Eyre
 Fair Wind, Inc.
 Matt Hamabata and Kevin Cawley
 Gail Hannemann
 Naomi Hayakawa
 Bill and Lois Hodges
 Karen Hoffman
 Lyn Howe and Geoffrey Rauch
 Alice Jenkins
 Harry and Georgette Ka'uhane
 Lola Kelly
 Robert Kruegar
 Diane Ley
 Janet and Peter Matlock
 George Punoose and the Kohanaiki family
 Nicole Milne and Charles Oldfather
 Courtney and David Okumura
 Valarie Pagni
 Patagonia
 Doug Perrine
 Nancy Redfeather
 David Shoup
 Richard Vogler
 Pat and Linda Ward
 Ira and Frances Warren
 Amanda and Jay Schaefer
 Judy Wormington
 Wendy and Miles Yoshioka
 Patricia Zuccaro

Up to \$100

Anonymous (5)
 Tracy Wild Alexander
 Amazon Smile
 Haia Auwelo
 Elizabeth Bauer
 Missy Brown
 Mark Bastin
 Auakai
 Susan Maher

Richard Esterle and Dana Moody
 Lavaina Ferreira
 J.A. Gehring
 Ilene Grossman
 Raven Hanna
 Julie Hobart
 Victoria Kaplan
 Liam Kernell and Kenji Mizuno
 Michael and Jessica Krivan
 Rhett Lee
 Elila and Josh Levinson
 McGuire Family
 Donna Mitts
 Jean Montague
 Paul and Barb Morgan
 Sylvester Orosco
 Kathleen Provazek
 Cindi Punihaole Kennedy
 Rosanne Shank
 Dr. Masaki Takai
 Diane Ware
 Jordan Wills
 Brian Yamanaka
 Donn and Jadine Yonemitsu

In-Kind Donations

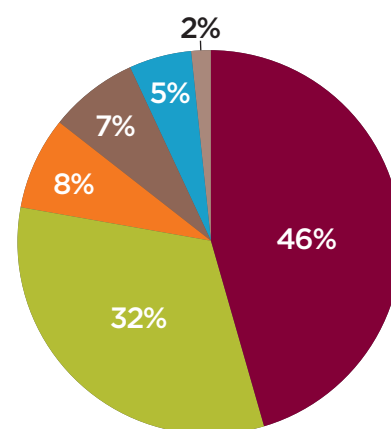
Baker Creek Heirloom Seeds
 Beyond Coastal Sun Care
 Balbi Brooks
 COOLA Bare Republic
 Becky Cruz
 Deviants from the Norm Fund
 Elemental Herbs, Inc
 Elements Brands
 Goddess Garden Organics
 Island Naturals Market & Deli
 Kealaola Farm
 Ko'a Organics Hawaii
 KTA Super Stores
 Cheryl and Boots Lupenui
 Miles Mayne
 Raw Elements USA
 Stream2Sea
 Sustainable Island Products
 Christine Zalewski and Marty Kossoff
 Patricia Zuccaro

FINANCIAL MATTERS

For the fiscal year ended June 30, 2018

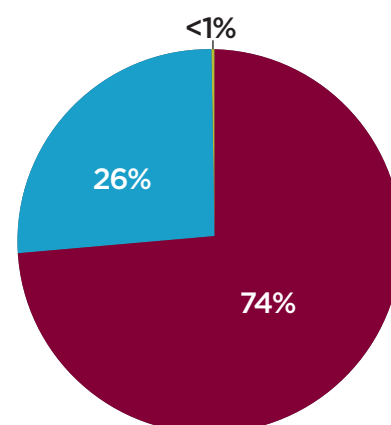
Support and Revenue

Federal	\$1,829,674
State and Local	\$210,697
Trusts and Foundations	\$1,293,351
Earned and Other	\$310,711
Contributions	
Cash	\$294,538
In-Kind*	\$62,388
Total Support and Revenue	\$4,001,359



Expenses

Program Services	\$2,825,402
Supporting Services	\$998,275
Fundraising	\$3,773
Total Expenses	\$3,827,450



Change in Net Assets	\$173,909
Total Net Assets	\$7,758,229
Total Liabilities	\$845,687
Unrestricted Net Assets	\$6,882,194
Temporarily Restricted Net Assets	\$876,035
Total Liabilities and Net Assets	\$8,603,916

**In-Kind contributions include equipment, stocks, and property.*

BOARD OF DIRECTORS AND STAFF



BOARD OF DIRECTORS

Fiscal Year 2018

Roberta F. Chu, Chairperson

Senior Vice President, Bank of Hawaii

Herbert M. (Monty) Richards, Jr., Secretary

President and Chairman, Kabuā Ranch

James Takamine, Treasurer

Executive Vice President, CU Hawaii Federal Credit Union

Valerie Ossipoff, Director of External Affairs

Vice President, Marketing and Sales, Kona Beach House

Maenette K. P. Ah Nee-Benham, Ph.D., Director

Chancellor, University of Hawai'i–West O'ahu

Rev. Puanani Burgess, Director

Poet, Peacemaker, and Hawaiian Cultural Consultant, One-Peace-at-a-Time

Robert Lindsey Jr., Director

Board of Trustees, Office of Hawaiian Affairs

Ian Robertson, Director

Principal, The Robertson Company

STAFF

As of January 1, 2019

Suzie Ager

Staff, Kahalu'u Bay Education Center

Mia Akau-LaClair

Community and Resource Relations Manager

Brandon Arraujo

Field Crew Member, Kohala Watershed Partnership

Yasuko Banville

Staff, Kahalu'u Bay Education Center

Makali'i Bertelmann

Field Crew Member, Kohala Watershed Partnership

Megan Blazak

Rural Economic Development Supervisor

Eric Bowman

Business Development and Services Integration Coordinator

Vince Carr

Staff, Kahalu'u Bay Education Center

Kathleen Clark

Operations and Education Specialist, Kahalu'u Bay Education Center

Elizabeth (Betsy) Cole, Ed.D.

Special Projects Liaison

Stan Dodd

Staff, Kahalu'u Bay Education Center

Ryan Feeney

Ranch Operations Director

Anson Fernandez

Senior Field Crew Member, Kohala Watershed Partnership

Gizelle Geronimo

Field Crew Member, Kohala Watershed Partnership

Ilene Grossman

Environmental Education Coordinator

Laurie Hillyard

Staff, Kahalu'u Bay Education Center

Kendyll Howard

Office Manager and Operations Assistant

Lyn Howe

Director, Hawai'i Public Seed Initiative

Liam Kernell

Director of Communications

Cheryl Ka'uhane Lupenui

President and Chief Executive Officer

Jon Menton

Staff, Kahalu'u Bay Education Center

Susan Menton

Staff, Kahalu'u Bay Education Center

Nicole Milne, Ph.D.

*Vice President for Programs
Director of Food and Agriculture Initiatives*

Donna Mitts

Program Assistant

Anna-Lisa Okoye

Special Projects Liaison

Cortney Okumura

*Executive Assistant to the President & CEO
Director of Human Resources*

Mahina Patterson

Āina-Based Education Specialist

Cindi Punihaole

Director, Kahalu'u Bay Education Center

Ka'iana Runnels

Māhi'Āi Education Specialist

Dave Sansone

Māhi'Āi Education Supervisor

Ethan Souza

Field Crew Member, Kohala Watershed Partnership

Robert Thomas

Staff, Kahalu'u Bay Education Center

Johnny Angel Victorino

Field Crew Member, Kohala Watershed Partnership

Koa Watai

Maintenance Staff, Kahalu'u Bay Education Center

Melanie Willich, Ph.D.

*Director of Applied
Āina-Based Agriculture*

Maile Woodhall

Agricultural Outreach Specialist

Donn Yonemitsu

Financial Controller

Teresa Young

Rural & Cooperative Business Development Specialist

VOLUNTEERS

July 1, 2017–June 30, 2018

Mahalo nui loa to our volunteers who donated their time and energy to help us advance our mission!

Josie Acasio	Brooke Finley	Melody Lysgaard	Reid Schauman
Suzie Ager	Janie Fisher	Holly Mallardi	Todd Schauman
Alysa Agosto	Dona Fontenot	Ivan Manuel	Craig Schmarr
Juby Aipoaoani	Jeanie Frazer	Makanaonalani Manuel	Polina Semanova
Trina Ashcraft	Greg Fredericks	Rhee Manuel	Eden Shimaoka
Yasuko Banville	Iolani Fredericks	Cameron McDonald	Genesis Shimaoka
Neill Bell	Kati Fredericks	Michael Mcguire	Dick Shlegeris
Dagan Bernstein	Kyan Fredericks	Justin Meikle	Sharon Shlegeris
Beth Biscardi	Kathy Gallagher	George Mendez	Dave Shoup
Henry Biscardi	Robin Gamrath-Schauman	Dennis Michalske	Neil Sims
Brad Bordessa	Reginald Garcia	Grace Miller	Karie Smart
Andy Branch	Oliver Grayson	Susan Mitnik	Kelly Smith
Sandy Branch	Adam Green	Paul Montigue	Denny Solberg
Angel Bright	Ilene Grossman	Bob Morrissey	Nicole Solley
Barry Brooks	Greg Guithues	Nohea Mulloy	Ginger Sparks
Kris Bruland	Tricia Gunberg	Dot Norris	James Sparks
Patrick Cady	Janet Harris	Corinne O'Dea	Julien Stevens
Patti Carr	Karen Hazzard	Todd Otake	Art Tarsa
Vince Carr	George "Skip" Hickey	Val Pagni	Robert Thiesse
Jim Cartwright	Gienna Hose	Jamie Pardau	Robert Thomas
Laura Cartwright	Koamalu Hose	Douglass Pearson	Jean Tipton
Tess Cayou	Tasha Hose	Karen Peitz-Eberle	Alice Van Pelt
Kathleen Clark	Abcde Ibia	Lori Pimentel	Bill Van Pelt
Val Coleman	Teresa Ibia	Paul Pimentel	Lisa Villbrecht
Lloyd Corliss	Nobu Ishikawa	Barbara Pool	Cindy Waddington
Greg Correll	Bill Jardine	Ken Pool	Jim Waddington
Brian Corrigan	Mary Ellen Jaske	Ryan Priest	Marty Wakat
William Corrigan	Betty Jones	Cindi Punihaole Kennedy	Colleen Wallis
Patrick Cowan	Clarity Kahai	Crystal Ra	Carl Wargula
Earl Crane	Tevin Kahalioumi	Barbara Ramos	Fran Warren
Angel Cyngova	Steve Kaiser	Richard Reed	Ira Warren
Colleen Daly	Raymond Keenan	Cindy Regli	Alex Webster
Dan Daly	Kolja Kristek	Sheryl Riddick	Brian Wicks
Cathy Decoulaz	Ima Langi	Dylan Robb	Atticus Wiggins
Kaysha Derasillo-Galsote	Jeff Leonard	Ilona Rodan	Chad Wiggins
Julie Dodd	Julie Leonard	Cheryl Romer	Ava Williams
Stan Dodd	Lyman Lincoln	David Romer	Richard Williams
Chip Duvall	Chris Lochman	Mary Ellen Saarloos	Martin Yukon
Dani Duvall	Heloise Lochman	Sandy Sandin	Mitchell Yukon
Roger-Ray Espejo	Melanie Lucero	Derek Schauman	Kawehi Zoller

ENDNOTES

- 1 State of Hawai‘i Department of Land and Natural Resources, “The Rain Follows The Forest: A Plan to Replenish Hawai‘i’s Source of Water” (2011).
- 2 Mary Kawena Pukui, *‘Ōlelo No‘eau: Hawaiian proverbs & poetical sayings*, #2088 (Honolulu: Bernice P. Bishop Museum, Special Publication No. 71, 1983), 227.
- 3 Craig A. Downs et al., “Toxicopathological Effects of the Sunscreen UV Filter, Oxybenzone (Benzophenone-3), on Coral Planulae and Cultured Primary Cells and Its Environmental Contamination in Hawaii and the U.S. Virgin Islands,” *Archives of Environmental Contamination and Toxicology* 70, no. 2 (February 2016): 265–288.
- 4 Alice J. Kawakami, “Issues Central to the Inclusion of Hawaiian Culture in K–12 Education,” *Hūlili: Multidisciplinary Research on Hawaiian Well-Being* 1, no. 1 (2004): 111–132.
- 5 Sharon J. Lynch, *Equity and Science Education Reform* (Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc., 2000), 67–94.
- 6 Matthew K. Loke and PingSun Leung, “Hawai‘i’s food consumption and supply sources: benchmark estimates and measurement issues.” *Agricultural and Food Economics* 2013 1 (August 27, 2013): 10.
- 7 U.S. Department of Agriculture, National Agricultural Statistics Service, *2012 Census of Agriculture, United States Summary and State Data*, Volume 1, Geographic Area Series, Part 51 (Washington, DC: May 2014), 570.
- 8 “Hawaii ranks among the worst on Forbes ‘Best States for Business’ list,” Hawaii News Now (website), updated November 30, 2018, <http://www.hawaiinewsnow.com/2018/12/01/forbes-just-released-its-best-states-business-list-hawaii-didnt-do-well>.
- 9 State of Hawaii Department of Education, Hawaii Child Nutrition Programs, “October Data 2018 (SY17-18) Report, All School Food Authorities” (Honolulu: January 22, 2018)
- 10 Pukui, *‘Ōlelo No‘eau*, #1988, 214.



P.O. Box 437462
Kamuela, Hawai'i 96743

Phone 808-887-6411 | Fax 808-885-6707 | info@kohalacenter.org | www.kohalacenter.org

  TheKohalaCenter |  KohalaCenter

© 2019 The Kohala Center, Inc. All rights reserved.
The Kohala Center is an equal opportunity provider, employer, and lender.

Publication date: March 19, 2019 | Updated: April 1, 2019