

THE THIRTIETH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES

Type of Grant Request:

Operating

Capital

Legal Name of Requesting Organization or Individual: Db a:

Hawaii Environmental Restoration

Keauohana Forest Steward

Amount of State Funds Requested: \$ 118,554

Brief Description of Request (Please attach word document to back of page if extra space is needed):

Keau'ohana State Forest Reserve in the Puna district of Hawai'i Island is the largest and most intact lowland rain forest remaining below 1,000 feet in elevation in the State of Hawai'i. It is one of 5 State Forest Reserves that were set aside for conservation in 1903. Since 2014, Keau'ohana has undergone intensive restoration to help preserve its unique biodiversity and forest integrity against a number of invasive species. Keau'ohana also offers the most optimal remaining critical habitat for the endangered ha'iwale (*Cyrtandra nanawalensis*).

Amount of Other Funds Available:

State: \$ 0.00

Federal: \$ 0.00

County: \$ 0.00

Private/Other: \$ 0.00

Total amount of State Grants Received in the Past 5 Fiscal Years:

\$ 216,546

Unrestricted Assets:

\$ 37,059.93

New Service (Presently Does Not Exist): Existing Service (Presently in Operation):

Type of Business Entity:

501(C)(3) Non Profit Corporation

Other Non Profit

Other

Mailing Address:

RR2 Box 3331

City: State: Zip:

Pahoa HI 96778

Contact Person for Matters Involving this Application

Name:
Cindy Jaya Dupuis

Title:
Project coordinator

Email:
dupuis@hawaii.edu

Phone:
808 937 8867

Federal Tax ID#:

State Tax ID#

Authorized Signature

Cindy J Dupuis (Jaya)

Name and Title

1/14/2020

Date Signed

received
01/16/2020

received
01/16/2020

Brief Description of Request Continued:

Keau'ohana State Forest Reserve in the Puna district of Hawai'i Island is the largest and most intact lowland rain forest remaining below 1,000 feet in elevation in the State of Hawai'i. It is one of 5 State Forest Reserves that were set aside for conservation in 1903. Since 2014, Keau'ohana has undergone intensive restoration to help preserve its unique biodiversity and forest integrity against a number of invasive species. Keau'ohana also offers the most optimal remaining critical habitat for the endangered ha'iwale (*Cyrtandra nanawalensis*).

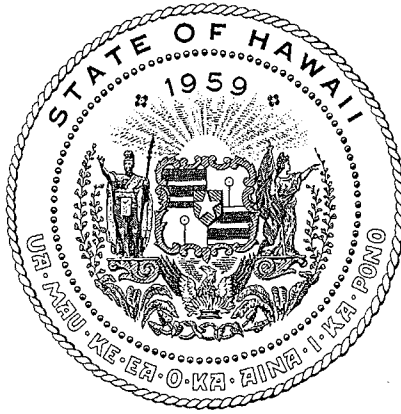
Continued:

Despite the effects of Rapid 'Ohi'a Death and a number of other environmental challenges, our project illustrates that with proper care and management, it is possible to restore and conserve a biodiverse forest land threatened with invasive species. Managing this last representation of lowland rain forest requires on-going efforts especially in light of the recent 'ohi'a canopy loss. Restoration efforts include the planting of native canopy trees to help restore necessary levels of shade. Hawaii Environmental Restoration (HER) has witnessed a positive botanical response to restoration efforts in the Keau'ohana forest thus far, and wishes to continue this mission for many years to come.

Our project also facilitates numerous school and community volunteer groups and special events both in the forest and in the community. Education is an equal component to our work, as we step beyond the forest to help people learn what it means to care for Hawai'i's environment at large. All citizens of Hawai'i have much to gain by learning the distinctions between native, Polynesian-introduced and invasive plant species; and in making wise plant choices. We request these State funds to continue supporting us in all of the above commitments for both the land and the people of Hawai'i. Full reports of our efforts and accomplishments since 2014 are available with the State Department of Land and Natural Resources.



1.14.2020



Department of Commerce and Consumer Affairs

CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that

HAWAII ENVIRONMENTAL RESTORATION

was incorporated under the laws of Hawaii on 01/16/2019 ;
that it is an existing nonprofit corporation; and that,
as far as the records of this Department reveal, has complied
with all of the provisions of the Hawaii Nonprofit Corporations
Act, regulating domestic nonprofit corporations.



IN WITNESS WHEREOF, I have hereunto set
my hand and affixed the seal of the
Department of Commerce and Consumer
Affairs, at Honolulu, Hawaii.

Dated: January 13, 2020

Director of Commerce and Consumer Affairs

**DECLARATION STATEMENT OF
APPLICANTS FOR GRANTS PURSUANT TO
CHAPTER 42F, HAWAII REVISIED STATUTES**

The undersigned authorized representative of the applicant certifies the following:

- 1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;
 - b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;
 - c) Agrees not to use state funds for entertainment or lobbying activities; and
 - d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.
- 2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is incorporated under the laws of the State; and
 - b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.
- 3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and
 - b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawaii Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Hawaii Environmental Restoration

(Typed Name of Individual or Organization)

[Signature] _____ *1.14.2020* _____
(Signature) (Date)

Cindy Jaya Dupuis _____ *Project Coordinator* _____
(Typed Name) (Title)

Application Submittal Checklist

The following items are required for submittal of the grant application. Please verify and check off that the items have been included in the application packet.

- 1) Certificate of Good Standing (If the Applicant is an Organization)
- 2) Declaration Statement
- 3) Verify that grant shall be used for a public purpose
- 4) Background and Summary
- 5) Service Summary and Outcomes
- 6) Budget
 - a) Budget request by source of funds ([Link](#))
 - b) Personnel salaries and wages ([Link](#))
 - c) Equipment and motor vehicles ([Link](#))
 - d) Capital project details ([Link](#))
 - e) Government contracts, grants, and grants in aid ([Link](#))
- 7) Experience and Capability
- 8) Personnel: Project Organization and Staffing


AUTHORIZED SIGNATURE

Cindy Jaya Dupuis
PRINT NAME AND TITLE

1.14.2020
DATE

Application for Grants

If any item is not applicable to the request, the applicant should enter "not applicable".

I. Background and Summary

1. A brief description of the applicant's background;

Hawai'i Environmental Restoration (HER), a 501(c)(3) nonprofit environmental volunteer service organization (www.hawaiienvironmentalrestoration.org), was established to help restore and preserve the natural integrity of Hawai'i's environment wherever possible. Thus far, the success of this lowland rainforest restoration project is largely due to two prior GIA grant awards, but has been supplemented by some private donations as well. Until now the project functioned under the umbrella of Malama O Puna 501(c)(3). Hawaii Environmental Restoration (HER) was established in January of 2019 in order to more effectively facilitate the administrations of this growing project. Although our focus is on the restoration and protection of the Keau'ohana State Forest Reserve, our mission includes public education of botanical issues and solutions for the lowland environment at large, and to encourage sustainable development in Hawai'i.

Past projects/accomplishments: Since June 2014, the Keau'ohana Forest Reserve has undergone an intensive restoration process that has focused on the control of invasive plant species, and the planting of native species on ~30 acres of the most biodiverse portion of the reserve. The trail system now has navigation signs to help direct visitors and forest workers. Volunteer loop trails now have species identification signs to help volunteers learn about native species. Accomplishments have included the facilitation of special volunteer events with interested school and community groups for the purpose of hands-on education. Outreach events and public presentations have focused on educating people about how to help support the lowland environment in Hawaii beyond the forest as well. Helping people to learn about plant distinctions, and issues of plant invasion, has been a necessary part of HER efforts. Full detailed reports of our accomplishments are available at the Department of Land and Natural Resources.

2. The goals and objectives related to the request;

Keau'ohana Forest Reserve in the Puna district of Hawai'i Island is the largest and most intact lowland wet forest remaining below 1,000 feet in elevation in the State of Hawai'i. It is also the most optimal remaining critical habitat for the endangered ha'iwale (*Cyrtandra nanawalensis*). The restoration site within Keau'ohana Forest Reserve currently includes ~30

acres of biodiverse native forest, but also includes > 50 acres of early succession ohia/uluhe forest, for a total of >80 acres of native forest land down-slope of Highway 130. Managing the edge between forests of these two substrate ages will help ensure native succession in the younger forest type over time.

Keau'ohana has been challenged by a number of environmental challenges since the launching of its efforts in 2014 (Hurricane Iselle, Rapid Ohia Death, 2018 lava event...). Our perseverance has demonstrated that with a reasonable amount of support, this precious resource can and is being preserved and protected successfully despite a significant loss in canopy and the persistence of weeds under more open canopy conditions. The control of initial target weeds such as strawberry guava/waiawi (*Psidium cattleianum*) and Koster's curse (*Clidemia hirta*) has been immensely successful. Due to repeated removal of seedlings and a decreasing seed bank, restoration efforts have eased significantly with relation to these species. The loss of canopy due to ROD poses a stronger need to develop new shade in support of the relatively intact native understory. Although many native canopy trees have been and will continue to be planted in Keau'ohana, it will be a question of time before we reach a level of shade in some areas whereby less manual labor will be needed. Despite the effects of ROD, there are many more intact areas in the site that fortunately take care of themselves much more readily due to native subcanopy species such as kopiko (*Psychotria hawaiiensis*), lama (*Diospyros sandwicensis*), kolea (*Myrsine lessertianna*), hapu'u (*Cibotium glaucum/ menzeisii*), mamaki (*Pipturus albidus*) ect...). It is our goal to stay ahead of the weeding efforts in the restoration site, as well as to continue expanding upon it by pushing back invasion wherever possible along its perimeters. Though the 30 acres is not entirely contiguous, and some invaded pockets must be contained and reduced over time, we are determined to respond as best as possible to its restoration needs as they continue to evolve over time. The goal of the Keau'ohana project is to reconstitute the native forest composition and integrity to the extent possible. We will continue to strive toward > 90% native composition, as some of the less aggressive non-native species are tolerated in some cases. We also wish to continue community outreach and education events, and responding to public interest. Classroom presentations in schools have been well received and inspirational to both students and teachers. Beyond the forest and classrooms, we wish to inspire people in the community to become engaged in their own backyards toward small-scale sustainable development, by planting a diversity of native, Polynesian-introduced, and edible plant species.

3. The public purpose and need to be served;

Because Keau'ohana Forest Reserve is State property, the public purpose is to preserve, protect and restore the property and the natural resources thereon for future generations. Ours is a service that the State DOFAW employees usually do in a public forest reserve; of 5 State Forest Reserves set aside for conservation in 1903, Keau'ohana is the only Puna reserve in which the original forest composition has not been replaced by invasive species due to lack of management. As the Hawaiian island ecosystems continue to be lost to development, agriculture and invasive

species, there is an urgent need for conservation planning and implementation. Maintaining representative areas of all ecosystem types is a major long-term goal of conservation; encompassing the full range of biodiversity across the entire elevation gradient is critical. Conservation of low elevation native wet forests has been largely ignored to date. Remaining lowland wet forests of Hawai'i are today reservoirs of rare native species, and their surviving biota is of great biological significance. Protection of this native ecotype will provide habitat for the endangered Hawaiian hawk ('io, or *Buteo solitarius*), and other native birds such as the 'amakihi (*Hemignathus virens*) and 'apapane (*Himatione sanguine*), that are making a comeback in the low elevation forests. The project will also benefit the endangered ha'iwale (*Cyrtandra nanawalensis*), whose habitat is almost entirely restricted to remaining native forests of lower Puna. Keau'ohana is thus its last secure habitat.

Outreach and education events have reached the community on a number of fronts. Local school groups from grades 7 up to university level, both local and from around the world have coordinated with us to assist in forest restoration over the past 5 years. Quarterly work parties have reached hundreds of local residents and visitors coming to Hawaii wishing for a more meaningful experience. Students learn a great deal during these hands-on events as well as during our classroom presentations in schools. Tabling at special events also inspires a great many to learn more, to participate in volunteer events, and to develop more sustainable and environmental practices. Among other things, our new website offers a blog page to view some of the 2019 events that have passed. Hawaii Environmental Restoration is reaching a growing number of people.

4. Describe the target population to be served;

As indicated above, restoration efforts in Keau'ohana rainforest over the past half dozen years have motivated community volunteer interest, effort and learning. Our volunteer e-mail list is approaching 400 supporters, and there have been thousands of community volunteer hours offered since the launching of this project in June of 2014. As the most intact lowland wet forest readily available to the public, Keau'ohana will continue to be available for the further study and restoration of native lowland wet forests. In collaboration with various professors of HCC and UHH, our presence and trail system facilitate the research for new students every year. Some students have apprenticed with the project coordinator for extended periods during crew work days. Hawai'i residents and visitors learn about native and invasive plant species, issues of plant invasion, and restorative solutions. Through our new nonprofit and ongoing outreach measures, the educational component of our work will continue to gain momentum into the future.

5. Describe the geographic coverage.

Keau'ohana Forest Reserve in the Puna District of Hawai'i Island is the largest and most intact lowland wet forest remaining below 1,000 feet in elevation in the State of Hawai'i. The

current restoration area is down-slope of Highway 130 and includes approximately 80 acres. This includes ~30 acres of biodiverse native forest, and > 50 acres of early succession 'ohi'a/uluhe forest. Our organization however is committed to supporting the lowland environment of Hawaai'i in general. Our presentations are offered to inform people on a number of ways to support the local Hawaiian environment. We completed a picture plant identification guide entitled "Hawaii Plant World Essentials" (available on Amazon.com, on our website, at local bookstores and health food stores around the Big Island) which is designed to help people make wise plant choices. Shared information is beneficial to lowland environments of all Hawaiian islands.

II. Service Summary and Outcomes

The Service Summary shall include a detailed discussion of the applicant's approach to the request. The applicant shall clearly and concisely specify the results, outcomes, and measures of effectiveness from this request. The applicant shall:

1. Describe the scope of work, tasks and responsibilities;

This project will continue to use a variety of control strategies to manage and/or eradicate all invasive species. *Clidemia* (*Clidemia hirta*), and strawberry guava/waiawi (*Psidium cattleianum*), were in the past this forest's main problematic species. Other important invasive species on the site include kukae maile (*Paederia foetida*) *Melastoma septemnerium*, thimble berry (*Rubus rosifolius*), and coleus (*Plectranthus scutellarioides*). Secondary invasive species of target are *Cecropia obtusifolia*, gun powder (*Trema orientalis*) and *Melochia umbellata*, albizia trees (*Falcataria moluccana*) all in early stages of invasion, with *Cecropia* being the most advantaged at this point. All afore-mentioned species are important target species especially now that light conditions due to 'ohi'a loss has dramatically increased. Measures will be conducted to control other less harmful non-native species to a reasonable degree, however annual species that grow to seed quickly are beyond possible to fully control, such as with the relatively recently introduced *Erechtites valerianifolia* and *Crassocephalum crepidioides*. Basket grass (*Oplismenus hirtellus*) and the Polynesian Yam (*Discorea pentalphylla*) are a challenge as they are not sensitive to Garlon herbicide. Efforts are nonetheless made to selectively consolidate and compost them when it is effective or beneficial to nearby native species. The non-native *Nephrolepis multiflora* is the forest's dominant ground cover and is selectively pulled to remove competition with existing native plants and to create space for native recruits and outplants. An early-detection and rapid-response capacity will continue to be incorporated for any and all newly established pests or potentially invasive outliers/harmful plant species that threaten the native composition of the forest.

Control methods will continue to include hand-pulling individuals that can be pulled, and managing existing compost piles as needed; hand sawing a circumference cut at base of stems and applying a thin-line application of Garlon-4 to cambium layer of waiawi stragglers and treating revived stems; and spraying locations with an abundance of seedlings and persisting invasive clusters with a foliar application of Garlon- 3A. A variety of grasses have found their way into some open areas and along certain segments of trail; in these cases Round-up or Crossbow are necessary. The latter herbicides have been explored against the Polynesian yam and erichtites individuals and clusters as well, however use of these more toxic substances are minimized due to collateral damage to native proximate native species. A strawberry guava buffer along the roadside will be monitored and managed, and efforts will be made to push back and reduce waiawi buffer and other invasives along interior edges, in order to expand the site and enhance the native boundaries of the forest over time. Knowledge of plant phenology and dispersal will be utilized in order to more effectively manage the native plant community; control strategies will prioritize certain weed species when appropriate, based on timing of seed maturation and persistence. Other daily tasks include trail maintenance and improvement, and the breakdown and consolidation of dead wood along passages and in support of native species in the interior where needed.

Native tree out-planting will continue to be conducted to fill in light gaps created by control measures, as well as by wind damage, 'ohi'a death, and other natural deaths. Our key restoration species is the native 'ohe (*Polyscias hawaiiensis*) because it is a large fast-growing canopy tree that will provide shade sooner than many other native trees. However, the out-planting of species that are already present in this forest as well as a good number of other native species have been included in out-planting efforts. Our Koa'e native plant nursery continues to supply a vast majority of seedlings. Propagation efforts will include direct seeding of locally collected seeds, and scattering of fast growing shade-producing native species such as mamaki (*Pipturus albidus*). More than thirty of the endangered *Cyrtandra nanawalensis* colonies have been located in this area and will receive priority attention through the removal of surrounding weeds and debris to foster their growth and success. Out-planting of this endangered species will also be continued under a threatened and endangered permit from the DLNR/DOFAW.

Crew Divisions

The principle project coordinator/ forest manager/ field biologist will continue to be responsible with planning, organizing and overseeing daily work efforts and special events. This responsibility involves many more office hours (3-4 days/week) than it does field hours (1-2 days/week). Field biologist and assistant, with approximately four project technicians will be responsible for forest restoration in the field one or two days per week (in addition to volunteer crew members such as Masa Sumida who has aided the crew since 2014, and many others). Field assistant Jon Rathbun has been on the crew since the projects beginning in 2014 as well. Jon volunteered along with project coordinator in trail development for one year until funds were

allocated in 2015. His experience in the field (navigation and restoration) is necessary on daily work days when the primary field biologist must perform other tasks such as herbicidal treatments away from proximity of crew.

Special events will include four quarterly volunteer work parties in the forest per year; one or two 100-tree planting events will happen in conjunction or independent of those events in collaboration with the Fruit Tree Planting Foundation (FTPF). This award-winning international charity is dedicated to planting trees to alleviate world hunger, combat global pollution of the environment, strengthen communities, and improve air, soil, and water quality. Two 100-tree native tree plantings occurred on our Keau'ohana site with the FTPF in 2019, and the organization intends to continue providing this service to Keau'ohana every year.

A project technician may also assist with community outreach/ educational events, and other Hawaii Environmental Restoration (HER) office needs at times. Keau'ohana has a large active volunteer community, with over 400 subscribed volunteer members, and a much larger Face Book audience. Well over 627 volunteer work hours were accrued in the forest in 2019 alone. Numerous other special events in 2020-2021, both in the forest and in the community will be coordinated and facilitated. Certified public accountant, Jim Buck will continue to volunteer his accounting services to the project.

2. Provide a projected annual timeline for accomplishing the results or outcomes of the service;

This project proposes to continue restoration efforts within all 5 restorable areas within the restoration site on a systematic basis, which will include the completion of a 4th pass within the ~30 acres restoration site (perhaps more, depending on what is accomplished prior to the allocation of grant award). Restoration priorities will however depend on landscape needs and natural conditions/circumstances. Trails, and some problematic areas will need repeated treatments due to high levels of light and subsequent weed infestations. Less priority will be given to problematic areas than in prior years in order to more effectively restore high restoration potential areas within the site. These problematic pockets will be contained; edges will be monitored and managed to help reduce their size over time based on the natural growth response and plantings of adjacent native areas. Herbicidal spray treatments will be applied along edges to keep invasion levels at bay, and may be applied in portions of the interior as well.

Special events will be coordinated and facilitated according to community interest, in the form of quarterly volunteer work-parties; other scheduled group volunteer restoration events in the forest; 100-tree Keau'ohana forest planting events with the Fruit Tree Planting Foundation (FTPF); the coordinating of tree planting events with and on interested school grounds of interested Puna and Hilo District schools (in collaboration with the FTPF as well); offering

environmental-care presentations at special occasions and in classrooms of interested Puna and Hilo District schools; and tabling outreach opportunities.

Annual Timeline

First Payment Objectives:

- **Complete Keau'ohana restoration site pass of approx. 10 acres, which involves:**
 - Hand-pulling of invasive species
 - Management of compost piles
 - Herbicidal treatment of invasive tree species that cannot be pulled
 - Foliar spray treatments of prepared clusters of invasive shrubs/vines
 - Break down and consolidate dead wood where needed
 - Trails improvement and maintenance as needed
 - Broadcasting of mamaki seeds
 - Outplant available seedlings in open areas of need
 - Taking pictures to record some field efforts
 - Completing daily and quarterly reports

- **Outreach and Education Coordinate and facilitate special events:**
 - Manage website and blogs/ update mailing list/ office work
 - Coordinate / promote/facilitate a quarterly volunteer work party
 - Coordinate a 100-tree planting with the Fruit Tree Planting Foundation FTPF
 - Begin coordinating/scheduling presentations with interested Puna District schools
 - Begin coordinating/scheduling tree planting collaborations with FTPF for interested Puna District schools
 - Begin coordinating tabling events opportunities for the fiscal year
 - Facilitate scheduled events

Second Payment Objectives:

- **Complete Keau'ohana restoration site pass of approx. 10 acres, which involves:**
 - Hand-pulling of invasive species
 - Management of compost piles
 - Herbicidal treatment of invasive tree species that cannot be pulled
 - Foliar spray treatments of prepared clusters of invasive shrubs/vines
 - Break down and consolidate dead wood where needed
 - Trails improvement and maintenance as needed
 - Broadcasting of mamaki seeds
 - Outplant available seedlings in open areas of need
 - Taking pictures to record some field efforts
 - Completing daily and quarterly reports

- **Outreach and Education Coordinate and facilitate special events:**
 - Manage website and blogs/ update mailing list/ office work
 - Coordinate / promote/facilitate a quarterly volunteer work party
 - Coordinate/ facilitate scheduled events
 - Coordinate/facilitate scheduled presentations with interested Puna District schools
 - Coordinate/assist scheduled tree planting collaborations with FTPF for interested Puna District schools
 - Coordinate/facilitate tabling events opportunities for the fiscal year

Third Payment Objectives:

- **Complete Keau'ohana restoration site pass of approx. 10 acres, which involves:**
 - Hand-pulling of invasive species
 - Management of compost piles
 - Herbicidal treatment of invasive tree species that cannot be pulled
 - Foliar spray treatments of prepared clusters of invasive shrubs/vines
 - Break down and consolidate dead wood where needed
 - Trails improvement and maintenance as needed
 - Broadcasting of mamaki seeds
 - Outplant available seedlings in open areas of need
 - Taking pictures to record some field efforts
 - Completing daily and quarterly reports
- **Outreach and Education Coordinate and facilitate special events:**
 - Manage website and blogs/ update mailing list/ office work
 - Coordinate / promote/facilitate a quarterly volunteer work party
 - Coordinate/ facilitate scheduled events
 - Coordinate/facilitate scheduled presentations with interested Puna District schools
 - Coordinate/Assist scheduled tree planting collaborations with FTPF for interested Puna District schools
 - Coordinate/facilitate tabling events opportunities for the fiscal year

3. Describe its quality assurance and evaluation plans for the request. Specify how the applicant plans to monitor, evaluate, and improve their results;

A record of daily progress in Keau'ohana restoration efforts has been kept since June of 2014 in order to monitor progress over time. This practice will continue to be kept, indicating a detailed description of the vegetation, work conducted and the area covered. Quarterly reports since June 2014 are also available; these provide summaries and supporting documentation (pictures of work day crew and efforts, before and after, special events, outreach materials, other accomplishments). This recording practice will continue for all grant award periods.

The applicant maintains some contact and discussion with several Hilo professional Hawaii forest specialists: Professor, Rebecca Ostertag, University of Hawai'i at Hilo; GS-14 Research Ecologists, Susan Cordell Ph.D., and R. Flint Hughes, Ph.D., Institute of Pacific Islands Forestry/ USDA Forest Service; DLNR/Division of Forestry and Wildlife Representative, grants permission to access Keau'ohana Forest Reserve and visits site on occasion.

4. List the measure(s) of effectiveness that will be reported to the State agency through which grant funds are appropriated (the expending agency). The measure(s) will provide a standard and objective way for the State to assess the program's achievement or accomplishment. Please note that if the level of appropriation differs from the amount included in this application that the measure(s) of effectiveness will need to be updated and transmitted to the expending agency.
 - Continued records of daily progress in Keau'ohana restoration efforts indicating a detailed description of the date, crew workers, weather pattern, vegetation, work conducted and the area covered.
 - Quarterly reports will continue to provide summaries and supporting documentation (pictures of work day crew and efforts, before and after, special events, outreach materials, other accomplishments).
 - In 2019, a collaboration began with the Plant Extinction Prevention Program (PEPP), the Division of Forestry and Wildlife (DOFAW), the Volcano Rare Plant Facility (VRPF), to officially begin monitoring known wild populations of ha'iwale in the Keau'ohana Forest site, and to collect leaf samples from each cluster for the propagation and preservation of this endangered species. Further monitoring is conducted by Nicole DiManno under the guidance of Dr. Rebecca Ostertag, University of Hawai'i at Hilo; GS-14 Research Ecologists.
 - DLNR/DOFAW representative, will offer site visits on occasion.

III. Financial

Budget

1. The applicant shall submit a budget utilizing the enclosed budget forms as applicable, to detail the cost of the request.
2. The applicant shall provide its anticipated quarterly funding requests for the fiscal year 2021.

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
29,638.50	29,638.50	29,638.50	29,638.50	118,554

3. The applicant shall provide a listing of all other sources of funding that they are seeking for fiscal year 2021.
 - In November of 2019 we applied for an Edward Olson Trust grant but have not heard back from them.
 - We may again seek County Council Contingency Funds of up to \$5,000 but this has not yet been done.
 - In the coming year, we plan to seek matching funds with a variety of organizations such as Atherton, Cooke, Global Giving, Kohala Institute, Nature Conservancy, Patagonia environmental grants, National Geographic, and a series of others,. These funds will either be designated for subsequent periods and/or to double our current efforts.
4. The applicant shall provide a listing of all state and federal tax credits it has been granted within the prior three years. Additionally, the applicant shall provide a listing of all state and federal tax credits they have applied for or anticipate applying for pertaining to any capital project, if applicable.

N/A

5. The applicant shall provide a listing of all federal, state, and county government contracts and grants it has been and will be receiving for program funding.
 - 2015 County Contingency District 4 -- \$5,000
 - State GIA FY2014 -- Received \$97,672
 - 2019 County Contingency District 4 -- \$1,000
 - State GIA FY2017 -- Received \$118,874
6. The applicant shall provide the balance of its unrestricted current assets as of December 31, 2019.

\$37,059.93

IV. Experience and Capability

A. Necessary Skills and Experience

The applicant shall demonstrate that it has the necessary skills, abilities, knowledge of, and experience relating to the request. State your experience and appropriateness for providing the service proposed in this application. The applicant shall also provide a listing of verifiable experience of related projects or contracts for the most recent three years that are pertinent to the request.

Project principal, Jaya C. Dupuis, M.S., President of Hawaii Environmental Restoration, (hawaiienvironmentalrestoration.org), has been dedicated to the intensive restoration of Keau'ohana since its launching in 2014. Prior to this, Ms. Dupuis did native restoration work as a volunteer both in Keau'ohana and Halepua'a State Forest Reserves for over 10 years. Out of a particular interest in the conservation of remaining native forests, Ms. Dupuis obtained a graduate degree in Tropical Conservation Biology and Environmental Science with the University of Hawai'i at Hilo. In order to better understand lowland wet forests of East Hawai'i and the effect of invasive species throughout this region, her research took a landscape-level approach, surveying plant cover in a total of 325 plots across Puna District Forest Reserves. She evaluated vegetation patterns in these forests according to substrate age and elevation, with a particular interest in native-dominated sites. The project helped to identify and define general vegetation trends, specific species distribution patterns, and priority zones for restoration in order to help develop and facilitate an effective restoration plan (published thesis by ProQuest LLC, 2013; available upon request). Lowland wet forest studies conducted by University of Hawai'i and USDA Forest Service researchers have contributed much to our awareness and interest in preserving these native forests (Hughes and Denslow, 2005; Hughes and Uowolo, 2006; Zimmerman, *et al.* 2008; Cordell *et al.*, 2009; Ostertag *et al.*, 2009). The applicant has been, and will continue to work with Hilo professional/forest specialists such as: Professors Rebecca Ostertag and Jonathan Price, from the University of Hawai'i at Hilo; Research Ecologists, Susan Cordell Ph.,D., and Flint Hughes, Ph.,D., Institute of Pacific Islands Forestry/ USDA Forest Service.

Ms. Dupuis has since 1989 immersed herself in the natural world of subsistence farming and the study and restoration of native rainforests of Hawai'i. Jaya's mission also involves community outreach and education of critical lowland botanical issues. In 2018, she published "Hawai'i Plant World Essentials" a plant identification guide that helps people to distinguish between native, Polynesian-introduced and invasive species in order to make wise plant choices within the local Hawai'i environment. Through her work, she wishes to inspire sustainable living practices, the appreciation and re-integration of native species into Hawai'i's lowland environment, and the control of invasive species that threaten native forest integrity and the general lowland environment.

List of verifiable experience of related projects:

Hawaii Environmental Restoration / Keau'ohana native forest restoration	Hawaii	2019
<ul style="list-style-type: none"> • Control invasive species and propagate native species in Keau'ohana State Forest Reserves • Plant, monitor and protect rare, threatened and endangered species • Facilitate student and community groups in plant awareness and forest restoration • Educate public about Hawaii vegetation /environment (classrooms, special events, bookstores) 		
Malama 'O Puna / Keau'ohana native forest restoration	Hawaii	2006-2018
<ul style="list-style-type: none"> • Control invasive species and propagate native species in Puna forest reserves and other Big Island locations (Keau'ohana and Halepua'a/Nanawale Forest Reserves, Wao Kele O Puna, Wai 'Opae/ Kapoho, Hilo, Alula Bay ...) • Locate, record, map, and protect rare, threatened and endangered species in lowland wet forests • Facilitate student and community groups in plant awareness and forest restoration • Public education of Hawaii vegetation /environment (classrooms, special events, bookstores) 		

Organic Horticulture

Hawaii

1989-2014

- Propagate and manage diverse plants / food crops and native species
- Consult and design landscape for sustainable development and native species integration
- Build compost and soil
- Manage small plant nursery
- Control of weeds using chainsaw, weed-wacker and mower.

Geometrician Associates LLC, Ron Terry.

Jan-Feb 2013

- Pu'u Kaliu Botanical Survey, team field navigation, plant species identification.

Research Corporation of the University of Hawai'i (RCUH), National Science Foundation (NSF), Centers of Research Excellence in Science and Technology (CREST)/

Tropical Conservation Biology and Environmental Science Graduate scholar

Hilo, Hawai'i Fall 2011- Spring 2012

- Set up research project, order basic materials, assess vegetation patterns
- Navigate in the field using Global Positioning System (GPS) and compass
- Train and monitor field technicians with basic safety and scientific procedures
- Collect and analyze scientific data, research scientific projects, present project, write formal manuscript.

Research Corporation of the University of Hawai'i (RCUH), National Science Foundation (NSF), Centers of Research Excellence in Science and Technology (CREST) /

Graduate Research Assistant / Field Technician / Stipend

Hilo, Hawai'i Fall 2010-Spring 2011

- Survey vegetation composition/structure and plant phenology in various climate zones island-wide.
- Identify native and non-native plant species
- Navigate using Global Positioning System (GPS) and compass in the field

Research Corporation University Hawaii (RCUH),

Graduate research assistant / Field Technician

- Survey vegetation composition and structure using various techniques
- Identify native and non-native plant species
- Navigate using Global Positioning System (GPS) and compass in the field

Hilo, Hawai'i Summer 2010

Hilo Community College Service Learning Assistant Coordinator

Hilo, Hawaii

2004 - 2009

- Organize and coordinate environmental work days for HCC students with numerous local agencies
- Drive groups of volunteers to control invasive weeds, plant native species, clean up beaches...

Hawaii Volcanoes National Park / Division of Research Management / Field Methods in research and restoration

Hawaii Summer 2007

- Assess assemblages of vegetative communities
- Identify and propagate rare plants
- Survey and monitor vegetation

USDA Forest Service, Hilo Pacific Internship Program for Exploring Science, Mentor: Creighton Litton

Biological Technician

Hawaii Summer 2006

- Measure Forest Ecology [(Tree Height, DBH (Diameter at Breast Height, Percent Cover of vegetation)]
- Develop and utilize allometric equations to examine forest carbon pools
- Navigate using Global Positioning System (GPS) and compass in the field
- Identify native and non-native plants
- Analyze data / display graphics / scientific writing / present power point

B. Facilities

The applicant shall provide a description of its facilities and demonstrate its adequacy in relation to the request. If facilities are not presently available, describe plans to secure facilities.

The project itself primarily takes place in the Keau'ohana Forest Reserve. Since the project will take place in a forest, ADA requirements are not applicable and volunteers with mobility disabilities are not encouraged to participate. Many administrative tasks operate out of a home office that has telephone, computer/internet access, and printer capability. The Hilina'i Bookkeeping and Payroll Services is located in Hilo town.

V. Personnel: Project Organization and Staffing

A. Proposed Staffing, Staff Qualifications, Supervision and Training

The applicant shall describe the proposed staffing pattern and proposed service capacity appropriate for the viability of the request. The applicant shall provide the qualifications and experience of personnel for the request and shall describe its ability to supervise, train and provide administrative direction relative to the request.

Field biologist, Jaya C. Dupuis, will largely be responsible to manage and oversee the field, outreach and education components of this project. This will include developing the plan of action, training and directing crew members in its implementation regarding target species and areas on a day to day basis, monitoring and recording progress, writing out progress reports. Her field assistant, Jon Rathbun (plant specialist), who has been present in the field from the project's onset, will support the overseeing and distribution of restoration tasks. The HER organization's treasurer and certified public accountant, James Buck, will continue to volunteer accounting services as well as prepare monthly and end of year financial statements. Hilina'i Bookkeeping and Payroll in Hilo will continue to provide professional book-keeping services. Board member, James Elston will continue to volunteer his professional expertise in website management as well as outreach support.

B. Organization Chart

The applicant shall illustrate the position of each staff and line of responsibility/supervision. If the request is part of a large, multi-purpose organization, include an organization chart that illustrates the placement of this request.

Jaya C. Dupuis, MA., HER President	-- Field Biologist/ Forest Manager
Jon Rathbun	-- Field Biologist Assistant
Hilina'i Bookkeeping and Payroll	-- Payroll service
James Buck (CPA) HER Treasurer	-- Accounting/financial (volunteer)

C. Compensation

The applicant shall provide the annual salaries paid by the applicant to the three highest paid officers, directors, or employees of the organization by position.

The annual amount budgeted for:

Project coordinator / Field Biologist	\$54,000 (full time at approx. \$25/hour)
One Field biologist assistant	\$11,424 (part time at \$18/hour)
Four Field technicians:	\$40,320 (part time at \$15/hour each)

VI. Other

1. Litigation

The applicant shall disclose any pending litigation to which they are a party, including the disclosure of any outstanding judgement. If applicable, please explain.

N/A

2. Licensure or Accreditation

The applicant shall specify any special qualifications, including but not limited to licensure or accreditation that the applicant possesses relevant to this request.

Jaya C. Dupuis, M.S. (Tropical Conservation Biology and Environmental Science)
President of Hawaii Environmental Restoration, 501(c)(3)
Keau'ohana Rainforest Restoration Project coordinator since 2014.
Thirty years of experience in environmental management in Hawai'i.

3. Private Educational Institutions

The applicant shall specify whether the grant will be used to support or benefit a sectarian or non-sectarian private educational institution. Please see Article X, Section 1, of the State Constitution for the relevance of this question.

N/A

4. Future Sustainability Plan

The applicant shall provide a plan for sustaining after fiscal year 2020-21 the activity funded by the grant if the grant of this application is:

- (1) Received by the applicant for fiscal year 2020-21:
We will apply for grant funding from various sources and continue to increase our volunteer base.
- (2) Not received by the applicant thereafter: Same as above

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2020 to June 30, 2021

App Hawaii Environmental Restoration(HER), a 501(c)(3)

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries	105,744			
2. Payroll Taxes & Assessments				
3. Fringe Benefits				
TOTAL PERSONNEL COST	105,744			
B. OTHER CURRENT EXPENSES				
1. Administrations	6,000			
2. Insurance	2,600			
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				
5. Staff Training				
6. Supplies	4,210			
7. Telecommunication				
8. Utilities				
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11				
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19				
20				
TOTAL OTHER CURRENT EXPENSES	12,810			
C. EQUIPMENT PURCHASES				
D. MOTOR VEHICLE PURCHASES				
E. CAPITAL				
TOTAL (A+B+C+D+E)	118,554			
SOURCES OF FUNDING		Budget Prepared By:		
(a) Total State Funds Requested	118,554	Cindy J. Dupuis 808 937 8867		
(b) Total Federal Funds Requested		Name (Please type or print) Phone		
(c) Total County Funds Requested		<i>C. Dupuis</i> 1-14-20		
(d) Total Private/Other Funds Requested		Signature of Authorized Official Date		
TOTAL BUDGET	118,554	Cindy Jaya Dupuis President of HER		
		Name and Title (Please type or print)		

BUDGET JUSTIFICATION - PERSONNEL SALARIES AND WAGES

Period: July 1, 2020 to June 30, 2021

Applicant: __Hawaii Environmental Restoration(HER), a 501(c)(3)

POSITION TITLE	FULL TIME EQUIVALENT	ANNUAL SALARY A	% OF TIME ALLOCATED TO GRANT REQUEST B	TOTAL STATE FUNDS REQUESTED (A x B)
Field Biologist	0.8	\$54,000.00	100.00%	\$ 54,000.00
Field Biologist Assistant	0.6	\$11,424.00	100.00%	\$ 11,424.00
Four field technicians	0.6	\$40,320.00	100.00%	\$ 40,320.00
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
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				\$ -
TOTAL:				105,744.00
JUSTIFICATION/COMMENTS:				

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2020 to June 30, 2021

Applicant: Hawaii Environmental Restoration(HER)

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
N/A			\$ -	0
			\$ -	
			\$ -	
			\$ -	
			\$ -	
TOTAL:				
JUSTIFICATION/COMMENTS:				

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
N/A			\$ -	0
			\$ -	
			\$ -	
			\$ -	
			\$ -	
TOTAL:				
JUSTIFICATION/COMMENTS:				
N/A				

BUDGET JUSTIFICATION - CAPITAL PROJECT DETAILS

Period: July 1, 2020 to June 30, 2021

Applicant: __Hawaii Environmental Restoration (HER), a 501(c)(3)__

FUNDING AMOUNT REQUESTED						
TOTAL PROJECT COST	ALL SOURCES OF FUNDS RECEIVED IN PRIOR YEARS		STATE FUNDS REQUESTED	OF FUNDS REQUESTED	FUNDING REQUIRED IN SUCCEEDING YEARS	
	FY: 2018-2019	FY: 2019-2020	FY:2020-2021	FY:2020-2021	FY:2021-2022	FY:2022-2023
Personel			105,744		unknown	unknown
Supplies			4,210		unknown	unknown
Administrations			6000		unknown	unknown
Insurance			2600		unknown	unknown
Equipment			n/a		unknown	unknown
TOTAL:			118,554		unknown	unknown
JUSTIFICATION/COMMENTS:						
Previous sources of GIA State funds (\$ 97,672) were awarded for FY:2014-2015; and \$118,874 for FY:2017-2018						

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

Applii Environmental Restoration(HER), a 501(c)(3)

Contracts Total: 118,554

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S. / State / Haw / Hon / Kau / Mau)	CONTRACT VALUE
1	Native Forest Development and Environmental	07.1. 2020- 06.1. 202	Hawaii Environmental Restoration	501(c)(3)	118,554
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3					
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