

**GRANT AGREEMENT FOR AUWAHI FOREST RESTORATION PROJECT
BETWEEN THE COUNTY OF MAUI AND THE UNIVERSITY OF HAWAII**

THIS AGREEMENT made and entered this ____ day of _____, 2016, by and between the COUNTY OF MAUI, a political subdivision of the State of Hawaii, through its DEPARTMENT OF WATER SUPPLY (hereinafter "County" or "DWS"), whose principal place of business and mailing address is 200 South High Street, Wailuku, Maui, Hawaii 96793, and THE UNIVERSITY OF HAWAII (hereinafter "UH"), an organization of the State of Hawaii (hereafter, "State"), through its OFFICE OF RESEARCH SERVICES (hereinafter "ORS"), whose principal place of business is 2425 Campus Road, Sinclair Library Rm. 1, Honolulu, Hawaii 96822 and mailing address is 2440 Campus Road, Box 368, Honolulu, Hawaii 96822.

WITNESSETH:

WHEREAS: Auwahi forest, located on privately owned 'Ulupalakua Ranch, southwest Haleakalā, is one of the finest examples of dry forests remaining in the Hawaiian Islands;

WHEREAS: the Auwahi Forest Restoration Project (AFRP) was formed in 1997 and originated as a private-public partnership to restore one of Maui's most unique, native Hawaiian forests by engaging community volunteers in restoration and science-based management research;

WHEREAS: AFRP's area encompasses 184 acres, approximately 2 miles from the nearest DWS source;

WHEREAS: in 2003, the Leeward Haleakala Watershed Restoration Partnership (LHWRP) was formed to restore the native forests of leeward Haleakala, and AFRP eventually joined LHWRP;

WHEREAS: in 2014, AFRP became independent from LHWRP and proceeded slowly but steadily in re-establishing its foundation, both in funding and staffing; and

WHEREAS: the Auwahi project is important to the DWS objectives and the mission to *"Provide Clean Water Efficiently"* through its role in increasing public awareness and involvement of watershed protection efforts, in its development of scientifically-tested watershed restoration technology, and with its access to a successful watershed restoration demonstration site for decision and public policy makers.

NOW THEREFORE, IT IS HEREBY AGREED, by and between DWS, and UH-ORS that the proposal attached as Exhibit "A" is incorporated hereto, made a part hereof, and shall be implemented as follows:

I. RESPONSIBILITIES OF PARTIES:

A. DWS Responsibilities:

1. DWS shall contribute grant funds for the implementation of the proposal attached as Exhibit "A", and shall provide payment of up to \$37,000.00 to UH-ORS for services rendered as described in the attached proposal and summarized in I.B below.
2. DWS staff shall consult on and provide information, as needed, to assist in implementation of the proposal attached as Exhibit "A".

B. UH-ORS Responsibilities:

UH-ORS shall implement the proposal attached as Exhibit "A", and shall exert the care and consideration necessary to implement the proposal in a safe and responsible manner. Deliverables under this Agreement include:

1. Monitor tree phenology and gather, clean, process and distribute seeds from as many trees as available.
2. Plant 3,000 native plants. Report on the number and species of plant planted.
3. Conduct sweeps to control priority invasive plants.
4. Conduct six to twelve (6 – 12) volunteer trips.
5. Conduct five to six (5 - 6) community outreach events and/or scientific presentations.
6. Conduct guided trips to Auwahi as a demonstration site for watershed forest restoration as requested.

II. Notices:

In the event that any party wishes to initiate cancellation or changes to provisions of this Agreement, notice shall be provided to the other party in writing. Any notice by any party to the other shall be in writing and shall be personally delivered or sent by certified or registered mail as follows:

David Taylor, Director
County of Maui
Department of Water Supply
200 South High Street
Wailuku, Maui, HI 96793

Yaa-Yin Fong, Director
Office of Research Services - University of Hawaii
2440 Campus Road, Box 368
Honolulu, Hawaii 96822

III. Payment:

- A. Payment shall be made by DWS to UH-ORS in four (4) installments, upon submission of invoices (and supporting documentation) for expenses incurred. All requests for payment shall include both programmatic and financial progress reports.
- B. The first request for payment shall be invoiced no earlier than ninety (90) days from the date of the Notice to Proceed and shall not exceed 20 percent of the total grant amount.
- C. The second request for payment shall be invoiced no earlier than 180 days from the date of the Notice to Proceed and combined with the first request for payment shall not exceed 50 percent of the total grant amount.
- D. The third request for payment shall be invoiced no earlier than 270 days from date of the Notice to Proceed and combined with the first and second requests for payment shall not exceed 75 percent of the total grant amount.
- E. The fourth and final request for payment shall be made upon satisfactory completion of the Project and shall include the balance of funds due. The final request for payment shall be made no earlier than 365 days and no later than 455 days from the date of the Notice to Proceed. Should a six (6) month no cost extension be granted, final request for payment shall be invoiced no later than thirty (30) days after the extension period. The final report shall include a disk with copies of the map layers generated by the Project, and any other work deliverables as indicated in the proposal.
- F. UH-ORS shall retain copies of documentation for a period of three (3) years after completion of this Agreement required to substantiate all expenditures and shall make such documentation available to DWS for inspection or audit upon request.
- G. Expenditures shall be made in accordance with the budget for the project contained in Exhibit "A", and shall apply to the work items summarized above in I.B.

IV. Indemnification:

The State shall be responsible for all damages, injury, or death caused by the State's officers, employees, volunteers, and agents, in the course of their employment, services, and/or activities under this Agreement, to the extent that the State's liability for such damage, injury, or death has been determined by a court of competent jurisdiction or otherwise agreed to by the State, and the State shall pay for such damages, injury, or death to the extent permitted by law. Further, to the extent permitted by law, the State shall indemnify, defend, release, and hold harmless the County, its officers, agents, and employees, from and against any and all actions and claims arising, either directly or indirectly, out of or resulting from the errors, omissions, or acts of the State, its officers, employees, volunteers, or agents, occurring during or in connection with the performance of the State's services under this Agreement. This indemnification agreement is intended to be as broad and inclusive as permitted by the laws of the State of Hawaii and if any portion is held invalid, the balance shall notwithstanding continue in full force and effect.

V. Time of Completion

Work under this Agreement shall be performed within twelve (12) months from the date of the Notice to Proceed. Should there be extenuating circumstances (i.e. weather, seasonal, etc.), UH-ORS shall be given an extension not to exceed six (6) months. Request for extension shall be submitted to DWS in writing ninety (90) days prior to the end of the Project period.

VI. Rights and Responsibilities

The rights and responsibilities of each party described herein shall remain in force and effect until such time as each party's Project responsibilities are completed.

VII. Successors and Assignees

All terms, conditions, provisions, warranties and covenants contained herein shall apply to and bind the respective successors and assignees of the parties hereto.

VIII. General Terms and Conditions:

The General Terms and Conditions attached hereto as Exhibit "B" shall be incorporated and made a part of this Agreement.

IX. Agreement Voluntary:

It is hereby expressly understood and agreed that this Agreement has been freely and voluntarily entered into by the parties and this Agreement cannot be altered, amended, modified or otherwise changed except in writing executed by a duly authorized representative of each of the undersigned.

X. Exhibits:

Exhibits "A" and "B" are attached hereto and incorporated herein by this reference:

"A" - FY 2017 Proposal from Auwahi Forest Restoration Project - ORS

"B" - General Terms and Conditions - DWS Grants

COUNTY:
COUNTY OF MAUI

By _____
ALAN. M. ARAKAWA
Mayor

GRANTEE:
OFFICE OF RESEARCH SERVICES - UNIVERSITY OF
HAWAII

By _____
YAA-YIN FONG
Director

APPROVAL RECOMMENDED:

SANANDA K. BAZ
Budget Director

DANILO F. AGSALOG
Director of Finance

DAVID S.TAYLOR
Director of Water Supply

APPROVED AS TO FORM AND LEGALITY:

JENNIFER M.P.E. OANA
Deputy Corporation Counsel
County of Maui

STATE OF HAWAII)
) SS.
 COUNTY OF MAUI)

On this _____ day of _____, 20__, before me appeared ALAN M. ARAKAWA, to me personally known, who being by me duly sworn did say that he is the Mayor of the County of Maui, a political subdivision of the State of Hawaii, and that the seal affixed to the foregoing instrument is the lawful seal of the said County of Maui, and that the said instrument was signed and sealed on behalf of said County of Maui by authority of its Charter, and the said ALAN M. ARAKAWA acknowledged the said instrument to be the free act and deed of said County of Maui.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Notary Public, State of Hawaii

Print Name _____

My commission expires: _____

NOTARY PUBLIC CERTIFICATION			
Doc. Date:		# Pages:	
Notary Name:		Judicial Circuit:	
Doc. Description:			
		[Stamp or Seal]	
Notary Signature:			
Date:			

STATE OF HAWAII)
) SS.
)

On this _____ day of _____, 20____, before me personally appeared _____, to me personally known, who, being by me duly sworn or affirmed, did say that such person executed the foregoing instrument as the free act and deed of such person, and if applicable, in the capacity shown, having been duly authorized to execute such instrument in such capacity.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Notary Public, State of Hawaii

Print Name: _____

My commission expires: _____

NOTARY PUBLIC CERTIFICATION			
Doc. Date:		# Pages:	
Notary Name:		Judicial Circuit:	
Doc. Description:		[Stamp or Seal]	
Notary Signature:			
Date:			

**FY17 DWS support
for the Auwahi Forest Restoration Project**



November 2015

submitted by the University of Hawai'i

A. PROJECT BACKGROUND

The Auwahi Forest Restoration Project (Auwahi project for short) began with initial experimental exclosures and increasing commitment of the Erdman family, landowner of `Ulupalakua Ranch, to watershed conservation on their private ranch lands. In 1997, working with regional scientists and conservationists, the first steps began evaluating and developing technologies for restoration of non-native pastoral lands back to the native watershed forest that originally grew there. With regional watershed forest restoration, the ranch sought to moderate the drastic fluctuations of the water availability characteristic of southern and southwest Haleakalā, as well as the protection of crucial biological and cultural resources.

Over the years, the Auwahi project has come to emblemize the potential for successful watershed restoration in the Hawaiian Islands that is achievable with effective choreographed restoration methodologies. After 18 years, the development of restoration techniques became refined enough that increasingly larger areas of pasture lands on `Ulupalakua Ranch were dedicated to and converted back to native forest. Maui can be proud of the fact that through the collaborative efforts of a working cattle ranch, regional scientists, the volunteering public, and private and public agencies, watershed forest restoration techniques developed at Auwahi are now considered an important management option and used throughout the State by multiple land-managing agencies.

Auwahi restoration methodology involves sequentially excluding grazing animals, controlling non-native kikuyu grass, and planting closely spaced, rapidly growing native shrubs. These native shrubs act as “ecosystem engineers” both to deter re-invasion of the restoration site by non-native species as well as to recreate the semi-shaded, moist microhabitats conducive for establishment of native tree seedlings. Following 12 years of restoration, cover of non-native species declined from 87% to 2%, while that of native species increased from 20% to 98%. Remarkably, natural recruitment of tree seedlings, previously absent for as much as a century, has now been documented in over two-thirds of Auwahi’s native tree species. With continued recruitment of seedlings and incremental development of more complex forest structure, the recovering forest is now self-sustaining over increasingly large areas. A scientific paper documenting the Auwahi restoration methodology and its successes was recently published (Dry forest restoration and unassisted native tree seedling recruitment at Auwahi, Maui. Medeiros, von Allmen, and Chimera. Pacific Science, 2014).

Successes in forest restoration efforts at Auwahi and the stark vegetation contrast between the tracts of restored native forest and adjacent, unrestored, non-native grasslands create a near unique opportunity to reduce experimental ‘noise’ that often limits studies aiming to compare and quantitatively evaluate components of aquifer recharge. Beginning in 2011, in collaborations with the US Geological Survey (USGS), the Auwahi project made numerous measurements including hydrophobicity, surface and deep soil moisture and temperature measures, meteorological metrics, sap-flow, and plant tissue water use metrics, to quantify water transport differences between restored native forest tracts and grasslands.

Hydrological research in Auwahi has resulted in two recent and highly significant publications, important in that they broaden our understanding of this critical topic of which so little is known, i.e. the relationship of vegetation type and hydrological function (Effects of native forest restoration on soil hydraulic properties, Auwahi, Maui, Hawaiian Islands. Perkins, Nimmo, and Medeiros. *Geophysical Research Letters*, 2012. and Assessing effects of native forest restoration on soil moisture dynamics and potential aquifer recharge, Auwahi, Maui. Perkins, Nimmo, Medeiros, Szutu, and von Allmen. *Ecohydrology*, 2014). The 2012 publication, funded in part by the County of Maui Department of Water Supply, was nationally recognized by the American Geophysical Union as documenting globally important findings and selected as an “AGU Research Spotlight” and was the subject of a national USGS press release.

Such data is required as input parameters for populating hydrological models intended to predict drinking water availability for Maui County. Colleagues currently engaged in hydrological research at Auwahi include Thomas Giambelluca (UH Manoa), John Nimmo and Kim Perkins (USGS Menlo Park), and Susan Bush (University of Utah).

In addition to development of restoration technologies and the documentation of improved hydrological function, the Auwahi project has pioneered the extensive use of community volunteers, both as an outreach method but also as a way of expanding vital organizational function. It is now widely regarded as one of the most successful examples of community-based native forest restoration project in the islands. Since 2000, with the donated efforts of over 37,000 person hours, the Auwahi project has planted over 125,000 native tree seedlings back into Maui’s watershed. Another result of this has been that over 1,600 Maui residents and visitors have planted native trees at Auwahi, often developing a personal powerful connection to our watershed lands. Through regular volunteer trips, the community has the opportunity to participate and track the progress of regional watershed restoration giving the project great leverage as an outreach site to community. We are proud that over these years, many of the natural resource professionals now employed on Maui and elsewhere, began their careers with volunteer trips at Auwahi.

If the Auwahi program was discontinued and/or slowed at this stage there would probably be a critical loss of project momentum. The volunteer community would lose interest and without management, the restored forest areas would be progressively invaded by non-native species, perhaps especially Glycinewightii and Bocconiafrutescens. As the Auwahi program represents an uncommon bright spot in Hawaiian conservation efforts, this would be an unfortunate loss to watershed protection efforts to Hawai’i as a whole.

With moderate funding, the Auwahi project offers a unique and influential platform in the protection of Hawaiian watershed lands. It can also serve as a model for other private landowners interested in improving the watershed properties of their land for commercial, pastoral, or agricultural use. In the holistic context of watershed management in Maui County, the Auwahi project may best serve as a partner where watershed forest restoration technologies can be developed, where the community can be directly involved in the management of our watersheds, and where decision makers can see firsthand the successes in our efforts to improve the quality of Maui County’s watersheds.

Auwahi Forest Restoration Project Organization Chart

Auwahi Project Manager
Dr. Arthur Medeiros (75% FTE)
Manages all aspects of Auwahi project. Plans, coordinates, and implements research and management plan objectives. Communicates with funders, community leaders, decision and policy makers, and manages the Auwahi project staff.

Auwahi Project & Research Coordinator
Erica von Allmen (75% FTE)
Coordinates and implements management plans and oversees outreach, research and restoration efforts at Auwahi. Collects, processes, & analyzes data. Writes scientific

Community Outreach Coordinator
To be hired (75% FTE)
Network and communicate with interested volunteers, school and community volunteers. Coordinate and leads restoration events. Develop and maintain social media, website and education materials. Assists with outreach and education events, festivals, lectures, etc.

Auwahi Restoration Technician
Hanna Lilley (75% FTE)
Leads forest restoration and research activities including outplanting native species, invasive species control, & fence maintenance at Auwahi. Collects & enters data and assist in data processing. Oversees data collection and processing, produces GIS based maps and reports on restoration efforts. Maintains supplies, tools & equipment.

Auwahi Restoration Technician
Robert Pitts (75% FTE)
Leads forest restoration and research activities including outplanting native species, invasive species control, & fence maintenance at Auwahi. Collects & enters data and assist in data processing. Oversees data collection and processing, produces GIS based maps and reports on restoration efforts. Maintains supplies, tools & equipment.

B. PROJECT GOALS AND OBJECTIVES

The Auwahi project is important to the Department of Water Supply (DWS) objectives and the mission to *Provide Clean Water Efficiently* through its role in increasing public awareness and involvement of watershed protection efforts, in its development of scientifically tested watershed restoration technology, and with its access to a successful watershed restoration demonstration site for decision and public policy makers.

With the help of Maui volunteers, the Auwahi project has likely planted more trees in Maui's watershed than any other group, public or private. Founded on principles that with responsible supervised leadership, community volunteers can engage in meaningful highly significant volunteer labor, the Auwahi project provides uncommon high impact environmental education while directly restoring Maui's watershed forests.

We propose to use requested funding to conduct educational outreach through monthly volunteer forest restoration opportunities. With our regular volunteer trips, Auwahi serves as an influential site for many in the public and decision makers. At Auwahi, the community has an opportunity to not only participate in but also track the progress of patch-by-patch restoration of our regional watersheds. Our established trackrecord of safe, effective public involvement gives the project great leverage as a participatory outreach site.

For volunteer planting trips, high quality seedlings of native trees, will be grown by Native Nursery Inc., Ho'olawa Farms, and 'Ulupalakua Ranch nurseries utilizing seeds collected in Auwahi and grown with strict phytosanitationprotocols. After initial planting, on-going site maintenance and priority invasive species control of the outplanted area is conducted quarterly.

We will also continue to participate in and create public outreach events and scientific presentations. As an example, in 2015, we presented seven well-attended and received public presentations regarding the Auwahi project, its forest restoration, the impact of these changes on site hydrology at Auwahi, and implications of this research elsewhere in Hawai'i.

Restored Auwahi forest tracts, especially in juxtaposition to adjacent kikuyu grass pastures, have great value to DWS and affiliated groups as a demonstration site to educators and decision makers, such as County Council, Mayor's office, University of Hawai'i, Federal and State officials, as well as a growing number of interested private landowners and funders. The Auwahi project staff is happy to work with DWS staff to organize guided field visits to Auwahi and/or presentations.

Requested monies will be used for roughly 20% of Auwahi Forest Restoration Project Manager position (75% of full-time) and operational support.

C. LOCATION AND SIZE OF PROJECT AREA

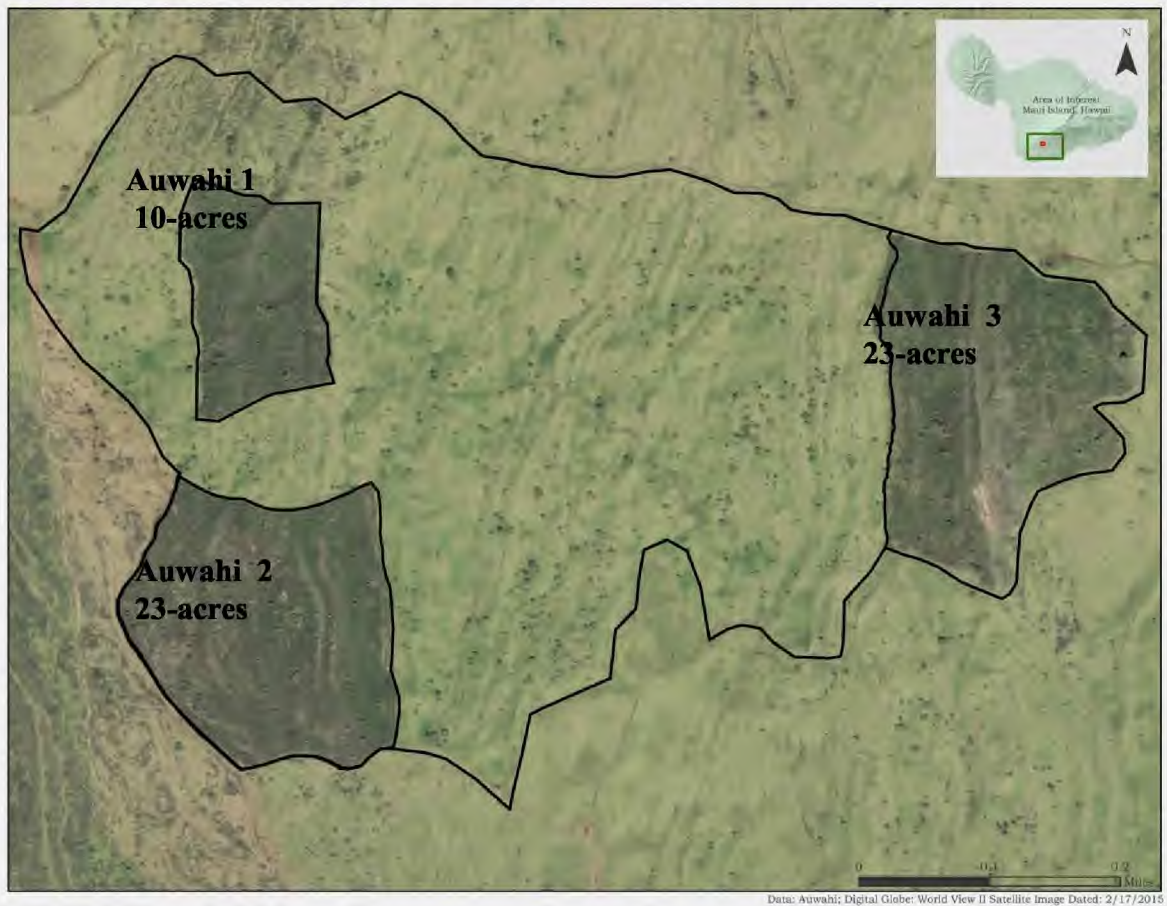


Figure 1. July 2015 satellite image of Auwahi Forest Restoration Project area encompassing 184 acres, approximately 2 miles from the nearest Department of Water Supply source.

We will be conducting our restoration volunteer trips and priority invasive species control work within the fenced Auwahi forest restoration area. Although current restored forest acreage at Auwahi is presently limited restoration and hydrological advances and research conducted here has broad applicability to watershed areas in Maui County and throughout the Hawaiian Islands.

The demonstrated conversion of non-native grasslands to native forests with accompanying restoration and research components is of interest worldwide, driven by climate change and human population trends that suggest increasingly limited water resources. Current DWS/USGS work will lay the groundwork for assessing the impact of invasive species in windward watershed forests of Maui County. Leeward native watershed forests of Maui County are estimated to currently occupy about 12% of their former extents. Research and restoration technology currently being developed within the Auwahi project are applicable to non-native grasslands that dominate much of leeward Haleakalā, West Maui, Moloka'i and Lana'i. Results from hydrology studies at Auwahi have shown that conversion of non-native grasslands to native forest may have broad reaching consequences for aquifer recharge for the county and beyond. With modest investment, DWS can provide crucial assistance to the Auwahi project whose work on leeward slopes serves as a well-placed companion effort to planned efforts with USGS.

D. SCOPE OF WORK

Within the scientific community, both nationally and internationally, Auwahi is increasingly recognized for two highly significant accomplishments: the successful restoration of native forests from non-native grasslands and accompanying quantitative studies documenting that these vegetation changes have statistically significant and positive impacts on the functioning of the site's hydrology. Results documenting both topics have been the primary focus of recent peer-reviewed literature and presentations made at national and international scientific conferences.

Over the past 18 years, we have established a track record of landowner support, ecological success, and unprecedented levels of community involvement. The restoration of native forests from non-native grasslands is highly work intensive and the scale of forest restoration reached thus far simply could not have been achieved without the thousands of volunteer hours enthusiastically donated by the Maui community. The Auwahi project was founded on the principles that with responsible well-thought leadership, volunteers can be utilized in a way to provide them an opportunity to accomplish highly significant supervised volunteer labor conducted in remote mountain areas yet in safe surroundings and conditions. Engaged in this way, volunteers not only benefit the watershed but also have a powerful experience in a rare Hawaiian forest working with a diverse mix of community members. Auwahi volunteer trips have been and can continue to be a powerful shaping force in the public in developing interest, hope, and awareness of our native watershed forests and their management.

Here, the Auwahi project proposes to: 1) continuing monthly trips into the mountains to plant native trees with community volunteers in native watershed forest at Auwahi; 2) continue outreach efforts through outreach and educational events and public presentations on Auwahi including recent scientific findings related to recovering hydrological function through restoration, and; 3) provide access to demonstration site for decision makers and other public figures to increase awareness about our watersheds and their management as well as serve as a model project how public agencies can work with strategic private partners to restore the watersheds of Maui County.

Specifically, with requested DWS funding, we propose to achieve:

Goal #1. Plant native trees with community volunteers on native watershed forest restoration lands at Auwahi forest.

Task 1: Gather seeds to maximize genetic potential and mother lineages of remnant native trees in Auwahi. Clean and process seeds and distribute to plant propagators.

Task 2: Plant 3,000 high-quality native tree seedlings in dedicated restoration areas.

Task 3: Control priority invasive plants quarterly within restoration areas.

Measure of effectiveness: The number of individuals per native species outplanted in Auwahi is tracked in our database. Survival and growth of outplanted trees are monitored for at least two years. Priority invasive weeds will be monitored to ensure they do not significantly increase cover in restoration areas.

Goal #2. Continue to conduct educational outreach through volunteer forest restoration opportunities, outreach events, and scientific presentations.

Task 1: Conduct 6-12 volunteer trips at the Auwahi forest restoration site on `Ulupalakua Ranch. The ratio of staff to volunteers is generally 1:5. Volunteers are provided an overview of the importance of native watershed forest restoration and Maui's natural history, the identification of plants, ethnobotanical resources and findings from recent ecohydrology research efforts at Auwahi. Volunteers participate in a variety of management and research activities including weed control, out-planting and seed collection.

Measure of effectiveness: Effectiveness of volunteer trips is measured by tracking the numbers of participants on each trip as well as quantifying the amount of work completed during these events. Positive feedback from volunteers also provides some measurement of effectiveness.

Task 2: Conduct 2-5 community outreach events and/or scientific presentations regarding significance of restoration efforts on ecology and hydrology of Maui's watershed forests. Auwahi Forest Restoration Project presents informational booths at community events and scientific conferences throughout the year. Published research, interpretive posters, and a variety of other media are available to the public.

Measure of effectiveness: The effectiveness of building support and providing environmental education via outreach events is hard to quantify. Positive feedback from the public during these events and increased participation by new volunteers provides some measurement of effectiveness.

Goal #3. Provide access to Auwahi as a demonstration site to decision makers and other interested public policy makers (county, state and federal) and funders.

Task 1: Offer guided tours of Auwahi forest to decision makers and other interested public policy makers as a demonstration site.

Measure of effectiveness: Though there is no quantitative measure of effectiveness for this goal, decision makers and interested public policy makers will have a first-hand experience with a successful watershed restoration project on private lands and made aware of the positive effects that native forests have on hydrology and water availability.

E. TIMELINE

Description of each deliverable	Expected amount of time to complete deliverable (#Months/# Weeks)	Time frame (include expected months)
Gather seeds to maximize genetic potential and mother lineages of remnant native trees in Auwahi	check fruit availability quarterly	Fall 2016-Fall 2017
Plant 3,000 native tree seedlings	roughly 300 plants planted per month	Fall 2016-Fall 2017
Control priority invasive weeds.	Quarterly for one year	Fall 2016-Fall 2017
Conduct 6-12 volunteer trips.	Up to one planting trip per month	Fall 2016-Fall 2017
Conduct 2-5 community outreach events and/or scientific presentations.	2-5 events during the year	Fall 2016-Fall 2017
Offer guided trips to Auwahi as demonstration site to decision and public policy makers, scientists and other interested landowners.	Available as requested	Fall 2016-Fall 2017

F. PROJECT DELIVERABLES

Goal/Objective 1: Plant native trees with community volunteers on native watershed forest restoration lands at Auwahi forest, Maui.		
Task	Deliverable	Measure of Success
Maximize genetic potential and mother lineages of remnant native tree individuals in Auwahi	Monitor tree phenology and gather, clean, process and distribute seeds from as many trees as available.	Diverse native tree seedlings available for outplanting in restoration areas.
Continue native forest restoration plantings in Auwahi.	Plant 3,000 native plants in Auwahi. Report on the number and species of plants planted.	Monitor survival and growth of outplanted seedlings.
Control priority invasive plants in restored areas and prevent accumulation of seed bank.	Conduct sweeps to control priority invasive plants.	Decrease existing populations and prevent spread of priority invaders by eliminating seed sources in surrounding area.
Goal/Objective 2: Continue to conduct educational outreach through volunteer forest restoration opportunities, outreach events, and scientific presentations.		
Task	Deliverable	Measure of Success
Conduct 6-12 volunteer trips.	Report documenting the types and number of volunteer events conducted as well as the number of volunteers that participated.	Tracking the numbers of participants on each volunteer trip as well as quantifying the amount of work accomplished. Positive feedback from volunteers will also provide some measurement of effectiveness.
Conduct 2-5 community outreach events and/or scientific presentations.	Report documenting the types and number of outreach events conducted as well as the number of volunteers recruited per event.	Positive feedback from the public during these events and increased participation by new volunteers provides some measurement of effectiveness.
Goal/Objective 3: Provide access to Auwahi as a demonstration site to decision makers and other interested public policy makers (county, state and federal) and funders.		
Task	Deliverable	Measure of Success
Offer guided trips to Auwahi as demonstration site to decision and public policy makers, scientists and other interested landowners.	Conduct guided trips to Auwahi as demonstration site for watershed forest restoration as requested.	Though there is no quantitative measure of effectiveness for this goal, we hope decision makers and interested public policy makers will come to Auwahi and that the experience will increase awareness of the positive effects that native forests have on hydrology and water availability.

G. BUDGET SUMMARY

This year the Auwahi project is requesting a small increase over FY16 (\$35,000). The FY16 award may not be in itself reliable as a metric of the strength of the relationship DWS and the Auwahi project without further understanding recent organizational history.

The Auwahi project was founded by Dr. Art Medeiros in 1997 who subsequently co-founded the Leeward Haleakalā Watershed Restoration Partnership (LHWRP) in 2003. Until 2014, the Auwahi project and LHWRP functioned as a single co-evolved entity and submitted a joint funding proposal each year to DWS. In those years, Auwahi restoration accounted for a substantial portion, at least 50% of LHWRP's land management activities. In recent years, LHWRP awards have been roughly \$185K/annum with roughly 50% (or ca. \$90K) for Auwahi activities.

Since the Auwahi project became independent from LHWRP in 2014, new staff hires and funding has proceed slowly but steadily as we re-establish our foundation, both in funding and staffing. We expect this stage to accelerate in 2016 with the pending hire of the Auwahi project Program Manager at PCSU expecting to finalize this hire by mid-December.

This year, the total amount request from DWS for the Auwahi project is \$37,000. The majority of this request (~60%) supports critical staff costs to organize and supervise volunteer trips and outreach. The remaining funds are for transportation for volunteers, internet charges, cell phones, and required administrative fees.



County of Maui
Department of Water Supply
Watershed Protection Grant Program
Fiscal Year 2017

Project Budget Summary

Organization Name Auwahi Forest Restoration Project

Expense Categories	Amount Requested
A. Personnel (Payroll taxes & fringes)	\$22,269
B. Transportation (e.g. fuel, etc)	\$6,918
C. Contractual (e.g. helicopter, IT support, contracted expertise)	
D. Utilities (e.g. telephone/cell and internet)	\$2,402
E. Travel	
F. Field crew costs	
G. Supplies, materials & equipment	\$285
H. A & O Costs (15% of total grant amount)	\$5,126
I. Other Costs (office rent & utilities)	
Total	\$37,000



County of Maui
 Department of Water Supply
Watershed Protection Grant Program
 Fiscal Year 2017

A. PAYROLL COSTS

Organization Name Auwahi Forest Restoration Project

Position Name/Title List by position and % of 40 hour week	Salary	Amount Requested
Program Manager (21% of 75% FTE position)	\$78,750	\$16,480
Payroll Taxes		\$1,348
Fringe Benefits		\$4,441
Total payroll costs		\$22,269

Narrative Description (project responsibility by position/title)

Program Manager –Oversees operational components of the Auwahi project including oversight of financial and budgetary details , planning, coordinating and implementing restoration site management and directed research projects, coordinates data collection, analysis and works with collaborators to publish important findings communicates with public, decision makers and supporting partners, and oversees grant applications and reporting.



County of Maui
Department of Water Supply
Watershed Protection Grant Program
Fiscal Year 2017

B. TRANSPORTATION COSTS

Organization Name Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
vehicle insurance, registration and safety	\$468
vehicle maintenance and repairs	\$2,250
vehicle fuel	\$4,200
Total transport costs	\$6,918

Narrative Justification:

Transportation costs are for 5 dedicated project vehicles (3 Tahoes with the University of Hawai'i (UH), 1 Expedition with State of Hawaii, and 1 Tundra at Tri-Isle) that see their primary use off-road accessing Auwahi for volunteer restoration trips, guided tours and restoration activities.

The 3 UH vehicles cost for insurance=\$125/vehicle, registration=\$6/vehicle and safety inspection is roughly \$25/vehicle=\$468.

Rugged 4 wheel drive roads cause significant wear and tear on vehicles, and result relatively high maintenance costs for new tires, brakes, shocks, and other repairs, estimated at \$750 per vehicle for the 3 UH vehicles=\$2,250.

Fuel costs per vehicle are roughly \$70/month/vehicle for all 5 vehicles (5 x \$70 x 12=\$4,200) through a Hawaii Fuel Network (HFN) account set up at UH.



County of Maui
Department of Water Supply
Watershed Protection Grant Program
Fiscal Year 2017

C. CONTRACTUAL SERVICES
(e.g. helicopter, etc)

Organization Name Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
None Requested	
Total contractual services	\$0

Narrative Justification: NA



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D. UTILITIES

Organization Name Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
Internet HawaiianTelcom @ \$21/month	\$252
Telephone (cell) Verizon 2 people @ \$70/month + \$470 repairs/insurance	\$2,150
Total utilities	\$2,402

Narrative Justification:

Auwahi project cell phone support for 2 staff as required for communicating and networking for project management and volunteer communications and to ensure safety while in the field, especially with volunteers. Plan includes unlimited voice and texting at \$54/person and data at \$16/person for a total of \$70/cell/month, 2 x \$70 x 12 month=\$1680. In addition, we are requesting \$235 per phone for upgrades, insurance or repairs due to use in rugged field site=2 x \$235=\$470.

Auwahi project internet through Hawaiian Telcom \$21/month x 12=\$252



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E. TRAVEL

Organization Name Auwahi Forest Restoration Project

Breakdown of Expenses (e.g. airfare, lodging, etc.)	Amount Requested
None Requested	
Total travel	\$0

Narrative Justification: NA



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F. FIELD CREW COSTS

Organization Name Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
None Requested	
Total field crew costs	\$0

Narrative Justification: NA



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G. SUPPLIES, MATERIALS & EQUIPMENT

Organization Name Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
ArcGIS software and Microsoft Word software license	\$285
Total supplies, materials & equipment	\$285

Narrative Justification:

ArcGIS software is for mapping data and maps for planning at is \$250 per year license. We will need one new MSWord license for \$35. Licenses for both types of software are provided through the University of Hawai'i.



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H. ADMINISTRATIVE & OVERHEAD COSTS

Organization Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
UH Indirect Cost @ 10%	\$3,364
PCSU Direct Cost @ 5%	\$1,762
Total administrative & overhead Costs	\$5,126

Narrative Justification:

Auwahi Forest Restoration Project is part of the Pacific Cooperative Studies Unit (PCSU) and employees of the Research Corporation of the University of Hawai'i (RCUH).

RCUH: The fundamental mission of RCUH is to support the research and training programs of the University of Hawai'i and to enhance research, development, and training generally in the State. The Research Cooperation of the University of Hawai'i provides human resource services, including hiring, termination, EEO (Equal Employment Opportunity) compliance, safety programs, employee benefits and insurance, and procurement services. RCUH is a State agency established by the Hawai'i Legislature in 1965 and is attached to the University of Hawai'i for administrative purposes. The University of Hawai'i handles compliance and accounting for its sponsored projects. The UH indirect rate for this grant is 10%.

PCSU Specialist – Pacific Cooperative Studies Unit, University of Hawai'i at Mānoa (PCSU) handles the administration of payroll, purchasing and accounts payable, employee benefits and additional human resource services. PCSU also provides significant project management and scientific expertise as well as a direct connection to University staff, students and other resources. The PCSU direct charge for this grant is 5%.

PCSU Direct Cost Allocation (for ORS use only):		
Salaries	\$	1,377
Fringe	\$	385
Total	\$	1,762



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I. OTHER

Organization Auwahi Forest Restoration Project

Breakdown of Expenses	Amount Requested
None Requested	
Total Other Costs	\$0

Narrative Justification:

GENERAL TERMS AND CONDITIONS – DWS GRANTS

In consideration of grant COUNTY funds, GRANTEE agrees to the following conditions in the use and administration of COUNTY funds. In the event the following conditions conflict with any term, provision, condition and/or covenant contained in the body of the Grant Agreement, the terms, provisions, conditions and/or covenants contained in said body shall prevail.

PAYMENTS

1. GRANTEE shall submit to the COUNTY written Request for Payment. Each request shall be authenticated as to accuracy by the GRANTEE, and verified by the designated COUNTY departmental officer. Each request shall include the following:
 - a. Certification by the GRANTEE that the work for which payment is requested was performed in accordance with the terms of this Agreement;
 - b. Certified payroll records for the applicable time period or phase for which payment is being requested; and
 - c. Copies of all contracts, bills, invoices and purchase orders which support the request shall:
 - i. Be of certified copy of the original document.
 - ii. Be on the letterhead of the respective contractor or subcontractor requesting payment.
 - iii. Be signed by an authorized official of the GRANTEE.
 - iv. Identify the Project, the nature of the work or materials provided, and the specific phase of the Project for which the work or materials were provided.
2. The COUNTY may withhold any or all payments to the GRANTEE if the amount of payment as requested is, in the COUNTY'S determination, unreasonable or does not comply with the terms of this Agreement.
3. GRANTEE shall not alter SCOPE OF WORK which provided the justification for the grant without first obtaining the prior written consent of COUNTY. GRANTEE shall inform COUNTY of any proposed changes to the budget allocations or project description or schedule outlined herein.

RECORDS AND REPORTING

4. GRANTEE shall keep records and prepare reports, including detailed, separate financial records relating to ALL GRANT FUNDS. All accounts shall be prepared and maintained according to generally accepted accounting principles and as otherwise provided by law. GRANTEE shall maintain such accounts and documents as will serve to permit expeditious determination to be made at any time of the status of funds within the award, including the disposition of all monies received

from COUNTY and the nature and amount of all charges claimed to be against such funds.

5. Unless otherwise required in the Agreement or in related application submittals, GRANTEE shall supply COUNTY with a copy of its audited annual financial statements, prepared by its Certified Public Accountant(s). GRANTEE shall, upon request of COUNTY or State of Hawaii, provide COUNTY and State of Hawaii full access to inspect or audit GRANTEE'S records, report books, files, and other financial records and documents to allow COUNTY and State of Hawaii to determine compliance with the terms of this Agreement, measure program effectiveness, and assure proper expenditure. GRANTEE shall cooperate fully and assist the COUNTY and State of Hawaii in any such audit or inspection.
6. GRANTEE shall provide COUNTY written quarterly narrative progress reports regarding the Project and the use of grant funds within thirty (30) calendar days following the end of each report quarter. GRANTEE'S quarterly status reports shall contain the following information: summary of program status in relation to goals; objectives and scheduled action steps outlined in the grant proposal; numbers and descriptions of people or businesses served; financial status report of COUNTY funds used; and narrative report, including progress in meeting performance standards and economic self-sufficiency, if appropriate.
7. GRANTEE shall comply with all requests of the State of Hawaii for information and reports regarding the Project and GRANTEE'S operations.

GRANT AWARD RESTRICTIONS

8. GRANTEE shall not use grant funds to compensate its employees more than the wages then prevailing in the State of Hawaii for employees with similar skills and abilities.
9. GRANTEE shall not use grant funds for lobbying purposes or activities.
10. GRANTEE shall not use any grant funds for purposes of entertainment or perquisites. For purposes of this Agreement, "perquisites" means a privilege provided or service rendered by GRANTEE to an employee, officer, director, or member of GRANTEE to reduce that individual's personal expenses.
11. Grant funds shall not be used to recruit or convert a person to a new faith, institution, or cause.

NON-COMPLIANCE, SUSPENSION AND TERMINATION

12. GRANTEE'S failure to faithfully perform any part of this Agreement or any of the additional Conditions herein shall constitute noncompliance, and:

- a. should the noncompliance continue for thirty days after written notice thereof is delivered to GRANTEE or mailed to its last known address; or,
- b. if such noncompliance cannot be reasonable cured in thirty days, but GRANTEE has failed to commence to cure such noncompliance and to continue to diligently use its best efforts to cure such noncompliance; or
- c. if GRANTEE shall become bankrupt; or,
- d. if GRANTEE fails to perform any of the terms of this Agreement, or abandons or substantially suspends any part of this Agreement Scope of Work, the COUNTY may, at its sole discretion, take any one or more of the following actions:
 - i. Withhold grant fund payments pending correction of the non-compliance by the GRANTEE;
 - ii. Disallow all or part of the cost/expense of the activity or action not in compliance;
 - iii. Suspend or terminate, wholly or partially, the current award of this Agreement with the GRANTEE;
 - iv. Withhold additional award(s) to the GRANTEE; and
 - v. Terminate this Agreement without service or notice or legal process and without prejudice to any other remedy or right of action for breach of contract.

Upon termination of this Agreement, all finished or unfinished documents, data, studies, and reports purchased or prepared by the GRANTEE pursuant to this Agreement shall be transferred to the COUNTY.

- 13. Any costs incurred by the GRANTEE resulting from any obligations incurred by GRANTEE during suspension or after termination of this Agreement are not allowable unless the COUNTY authorizes such costs in the Notice of Suspension or Termination issued to the GRANTEE. The determination of eligible costs shall be made by the COUNTY in its sole discretion.

Further, the COUNTY may terminate this Agreement without cause by giving written notice to the GRANTEE thirty (30) calendar days before the effective date of such termination.

OTHER GRANT REQUIREMENTS

- 14. GRANTEE shall give the COUNTY and, if applicable, the State of Hawaii appropriate recognition in all grant-funded programs and printed materials.
- 15. GRANTEE shall comply with its articles of incorporation and/or bylaws and all relevant COUNTY, State and/or Federal rules and regulations concerning its policies and operations.

16. GRANTEE shall not discriminate either in the hiring of staff, use of volunteers, use of facilities, or delivery of client services on the basis of sex, sexual orientation, national origin, age, race, color, religion or disability. GRANTEE shall comply with all applicable federal and state laws prohibiting discrimination.
17. GRANTEE shall comply with all applicable federal, state and COUNTY licensing requirements and with all applicable accreditation and other standards of quality generally accepted in the field of GRANTEE'S activities.
18. If GRANTEE is a nonprofit organization, GRANTEE shall establish and be governed by bylaws or policies which shall include provisions relating to nepotism and management of potential conflict-of-interest situations, as required by Section 3.36.040(c) of the Maui County Code.

TERMINATION OF GRANT AGREEMENT (GRANT CLOSE OUT)

19. GRANTEE shall not dispose of any real or personal property acquired with grant funds received under this Agreement without first receiving prior written consent of the COUNTY. Should GRANTEE cease to use any real or personal property acquired with grant funds for purposes described in this Agreement, GRANTEE shall either:
 - a. Pay the COUNTY the current fair market value of the asset; or
 - b. Transfer the control of the asset to the COUNTY.
20. Upon expiration or termination of this Agreement, the GRANTEE shall transfer to the COUNTY:
 - a. Any COUNTY funds on hand at the time of termination;
 - b. Any account receivables attributed to the use of COUNTY funds; and
 - c. Any real and/or personal property acquired or improved in whole or in part with COUNTY funds.
21. FINAL REPORT - Within thirty (30) days after expiration of the time of performance, GRANTEE shall submit to COUNTY a final Project report in a form satisfactory to COUNTY documenting GRANTEE'S efforts toward meeting the requirements of this Agreement, an inventory of all equipment costing individually \$500.00 or more acquired with funds provided under this Agreement, and a list of expenditures incurred in the performance of this Agreement.

GRANTEE'S final project report shall contain information which will be completed using the template below (Final Report Template - Form 4.4).

APPENDIX A

TEMPLATE FOR FINAL REPORT

BACKGROUND

Complete a description of how your program achieved the goals, objectives and scheduled action steps outlined in grant proposal.

GOALS/OBJECTIVES

Provide a list of the goals and objectives from your grant application.

BENEFITS to MAUI COUNTY

Describe how your project/program has benefited the people of Maui County in relation to the goal of the DWS (providing clean water more efficiently). Keep in mind that Maui County DWS manages approximately 36,000 services on Maui and Molokai, and that the funds provided to you are from their revenues, not the general fund (tax base for all of the residents and businesses of Maui County). Include the numbers and descriptions of people and/or businesses served (please include an excel table).

TASKS COMPLETED FOR FY 16

Provide in detail what tasks you have completed per your grant application (and any additional tasks as appropriate). Please include maps, geospatial data, photos and other documentations as appropriate.

STAFF EMPLOYED

Include the number of Full Time Employees (FTEs) as paid by these grant funds; total number of hours worked during the fiscal year, and total amount of grant funds spent in salary (including benefits and fringe).

INVENTORY OF EQUIPMENT (costing individually \$500 or more acquired with DWS grant)

Equipment Item (name and brand)	Value when purchased	How used	When acquired

AMOUNT OF FUNDING LEVERAGED

Please include an excel table that identified the amount of funding you received from DWS, amount received from other sources. Please identify all sources by name, and state/federal/county government and or private, nonprofit entity.

FUNDING NEEDED AND WHAT YOU COULD DO IF THERE WAS MORE FUNDING

Provide an explanation of how you would spend additional grant funds if you had them. Please include whether or not new initiatives could be started, if these would include additional outreach opportunities, new equipment to be purchased and or if you had additional revenues whether it may impact amount of potential revenues to be leveraged.

CONSEQUENCES OF A DECREASE IN FUNDING

If, during the course of budget, there was to be a decrease in funding available for watershed programs- how would this impact your program/project? Please describe and if possible provide documentation as to whether you would lose staff, amount of time previously spent on specific activities would have what type of detrimental effect? How would a decrease in funding impact any leveraging activities (funds and/or resources from other sources)?



County of Maui
Department of Water Supply
Watershed Protection Grants
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Leveraged Funds

Name of Partner	Type of Entity (government/ private/ nonprofit)	Contact Person	Contac Information	Amount of Funds Leveraged	
				Cash	In



APPENDIX B

County of Maui
 Department of Water Supply
Watershed Protection Grants
 Fiscal Year 2017

Reimbursement Request Form

Expense Categories	Grant Amount	Payment #1	Payment #2	Payment #3	Final Payment	Balance
Personnel (Payroll Taxes & Fringes)						
Transportation						
Contractual (e.g. helicopter)						
Utilities (e.g. telephone/cell, water Electricity, etc)						
Travel						
Field Crew Costs						
Supplies, Materials & Equipment						
Administrative & Overhead Costs (not to exceed 10% of total grant amount)						
Other costs						
Total						

APPENDIX C

Sample Format for Quarterly Reporting

1. Background (only needed for first report)

2. Tasks Completed during the period: (as applicable)
 - a. Animal Control
 - i. Miles of fences surveyed
 - ii. Number of animals removed (number or %)
 - b. Weed Control
 - i. Acres surveyed (number)
 - ii. Number of weeds removed (%)
 - c. Invasive Species
 - i. Acres surveyed (number)
 - d. Invasive Species Removed (%)
 - i. Monitoring results
 - ii. Number of Aalii/koa planted
 - iii. Installed exclosures
 - iv. Number of Volunteers recruited; number of volunteer hours

3. Budget Summary – expenses should be in accordance with the approved grant application budget, if revision is needed, please see guidelines in Item #4.
 - a. Justification for delay in the performance of deliverables (e.g. weather, under staff, season for planting, etc.)

 - b. Expenses incurred during the performance period (please attach copy of receipts)

4. Budget Revision Guidelines
 - a. Budget deviations of **less than 20%** per budget item are allowed without a formal budget revision.
 - b. Budget deviations of **more than 20%** per budget item require a written budget revision request submitted in **advance**.
 - c. **Moving 10% of costs between “Payroll” and “Other Costs” budget categories is permitted**
 - d. Budget revision request (s) can be submitted anytime during the project period prior to the end of the 3rd quarter.
 - e. The **Request for Grant Budget Revision** form must be used to make changes which do not require a contract amendment. Budget Revision Table should reflect entire budget, including items with no changes.

**County of Maui
 Department of Water Supply
 Water Resources and Planning Division**

REQUEST FOR GRANT BUDGET REVISION

Grantee _____ Contract # _____

Revision Requested for: ___ 1st Qtr ___ 2nd Qtr ___ 3rd Qtr Revision# _____

	APPROVE D BUDGET	CHANGE + / (-)	REVISED BUDGET	JUSTIFICATION (ATTACH ADDITIONAL SHEET IF NEEDED)
Personnel (Payroll Taxes & Fringes)				
Transportation				
Contractual (e.g. helicopter)				
Utilities (e.g. telephone/cell, water, electricity, etc)				
Travel				
Field Crew Costs				
Supplies, Materials & Equipment				
Administrative & Overhead Costs (not to exceed 10% of total grant amount)				
Other costs				
Total Budget				

 Signature Print Name and Title Date

DWS Use	Date Received:	<input type="checkbox"/> Approved <input type="checkbox"/> Denied	WRPD Manager:	Date Approved:
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