

**GRANT AGREEMENT FOR THE WAIKAMOI UPCOUNTRY EAST MAUI SOURCE PROTECTION
PROJECT BETWEEN THE COUNTY OF MAUI AND THE NATURE CONSERVANCY**

THIS AGREEMENT made and entered this 22nd day of November 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 Nature Conservancy, a District of Columbia nonprofit corporation, (hereinafter "TNC"), whose principal place of business and mailing address is 923 Nuuanu Avenue, Honolulu, Hawaii 96817.

WITNESSETH:

WHEREAS: The East Maui watershed yields the largest surface water harvest in the state, at 60 billion gallons of fresh clean water annually, and is home to 48 streams, 35 of them perennial, 400 intakes, 75 miles of aqueducts, and 7 reservoirs;

WHEREAS: On April 1, 2014, TNC was granted a perpetual conservation easement over 3,721 acres of East Maui Irrigation Company, Limited (EMI) lands adjacent to the 5,230-acre Waikamoi Preserve;

WHEREAS: A significant portion of the EMI area lies immediately above the Waikamoi Flume which supplies the majority of Upcountry Maui's drinking water;

WHEREAS: Active management of the Waikamoi Preserve and adjacent EMI Waikamoi Addition's Haipua'ena Unit contributes to the protection of the entire 100,000 acres of 123,000 - acre area;

WHEREAS: A TNC study conducted in 2009 revealed dramatic recovery of native vegetation following a large decrease in ungulate activity, with the Waikamoi Preserve now having the lowest levels of pig activity in the Waikamoi Preserve's history;

WHEREAS: The East Maui Watershed Partnership is a partnership of East Maui land owners, land managers and agencies formed for the purpose of jointly managing and protecting the East Maui watershed lands. TNC and DWS are both members of this partnership; and

WHEREAS: The East Maui Watershed Partnership has prepared a Watershed Management Plan, which includes such measures as fencing, feral ungulate control and weed management. TNC played a key role in drafting this plan.

NOW THEREFORE, IT IS HEREBY AGREED, by and between the DWS and TNC 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 proposals attached as Exhibit "A", and shall provide payment of up to \$200,000.00 to TNC 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 the implementation of the proposal attached as Exhibit "A".

B. TNC Responsibilities:

TNC 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. Fence Maintenance, Ungulate Control and Monitoring
 - a. Inspect and maintain 19 miles of fences quarterly. Repair or replace fences as needed.
 - b. Conduct quarterly fence inspections. Repair or replace fences as needed.
 - c. Scout for ungulates during all activities.
 - d. Update activity/catch maps.
 - e. Maintain hunting dogs and kennel.
 - f. Conduct at least 16 pig hunts per year.
 - g. Maintain the Deer Management Unit (DMU) fence.
 - h. Scout for and conduct deer hunts as activity levels requires.
 - i. Check and maintain all traps in Waikamoi (at least 1,800).
 - j. Monitor twenty 500 meter transects in the Waikamoi Units.
2. Invasive Plant Control
 - a. Sweep and control Himalayan ginger outliers.
 - b. Sweep and control pine outliers.
 - c. Remove priority weeds as found.
 - d. Scout for, map, and monitor potential habitat-modifying invasive plants, and monitor efficacy of treatments.
 - e. Prevent other incipient weed establishment by continuing strict inspection and cleaning procedures to prevent their introduction.
 - f. Support the Maui Invasive Species Committee (MISC) to contain serious habitat-modifying weeds.
3. Resource Monitoring, Rare Species Protection and Research
 - a. Maintain at least two remote game and weather cameras.
 - b. Support Maui Forest Bird Recovery Project (MFBRP) by providing access and staff resources as available.
 - c. Support the Plant Extinction Prevention Program (PEPP) in search and assessment of rare species populations to determine protection needs and to reduce threats.
 - d. Review and provide technical guidance to research proposals as necessary.

- e. Provide logistical and other personnel support for the United States Geological Survey (USGS) hydrology study.
 - f. Contract the University of Hawaii Economic Research Organization (UHERO) for Return of Investment (ROI) report.
4. Community Outreach
- a. Lead hikes and encourage select partner hikes into the Waikamoi Preserve, by providing access and staff resources as available (at least six hikes per month).
 - b. Utilize volunteers, as available, to further conservation goals and bring environmental awareness to the local community (minimum of one volunteer work trip per month).
 - c. Participate in two community events per year to encourage constituents to support TNC's work.
 - d. Opportunistically educate the public about TNC's work and Hawaii's native ecosystem.

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

Ulalia Woodside, Executive Director
The Nature Conservancy
923 Nuuanu Avenue
Honolulu, Hawaii 96817

III. Payment:

- A. Payment shall be made by DWS to TNC in four 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 90 days from the date of the Notice to Proceed and shall not exceed 20% 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% of the total grant amount.
- D. The third request for payment shall be invoiced no earlier than 270 days from the date of the Notice to Proceed and combined with the first and second requests for payment shall not exceed 75% 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. The TNC 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. It is the understanding of DWS and TNC that TNC is leveraging State of Hawaii Natural Area Partnership Program (NAPP) funds in support of the project.
- H. 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:

TNC shall be responsible for all damages, injury, or death caused by TNC officers, employees, volunteers and agents, in the course of their services and activities under this Agreement. To the extent permitted by law, TNC 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 TNC, its officers, employees, volunteers or agents, occurring during or in connection with the performance of TNC's services or activities under this Agreement. TNC shall reimburse the County for any judgments, costs, and expenses, including attorney's fees, incurred in connection with the defense of any such claim, or incurred by the County in enforcing this Agreement. TNC's obligations under this section shall survive and shall continue to be binding upon TNC notwithstanding the expiration, termination or surrender of 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.), TNC shall be given an extension not to exceed six (6) months. Request for extension shall be submitted to DWS in writing 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 - Waikamoi Upcountry East Maui Source Protection -TNC

"B" - General Terms and Conditions - DWS Grants

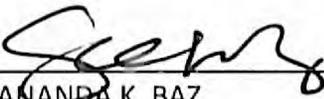
COUNTY:
COUNTY OF MAUI

By 
ALAN M. ARAKAWA
Mayor

GRANTEE:
THE NATURE CONSERVANCY

By 
ULALIFA WOODSIDE
Executive Director

APPROVAL RECOMMENDED:



SAMANDA 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 Honolulu)

On this 7 day of November, 2016, before me personally appeared Ulalia Woodside, 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.



Jan S. Eber
Notary Public, State of Hawaii

Print Name: Jan S. Eber

My Commission Expires: Dec 16, 2016

NOTARY PUBLIC CERTIFICATION	
Doc. Date: _____	# Pages: <u>46</u>
Notary Name: <u>Jan S. Eber</u>	Judicial Circuit: <u>First</u>
Doc. Description: <u>FY 2017 Grant Agreement</u> <u>for the Waikamoi East Maui Source</u> <u>Protection Project between the County</u> <u>of Maui and The Nature Conservancy</u>	
Notary Signature: <u>Jan S. Eber</u>	
Date: <u>11/7/2016</u>	

STATE OF HAWAII)
) SS.
COUNTY OF MAUI)

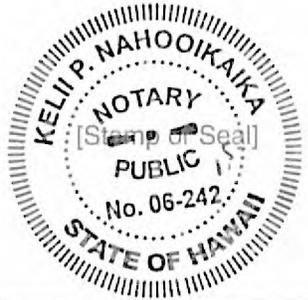
On this 22nd day of November, 2016, before me personally appeared **ALAN M. ARAKAWA**, to me personally known, who, being by me duly sworn or affirmed, did say that he is the Mayor of the County of Maui, a political subdivision of the State of Hawaii, and that the seal affixed to the foregoing instrument 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.

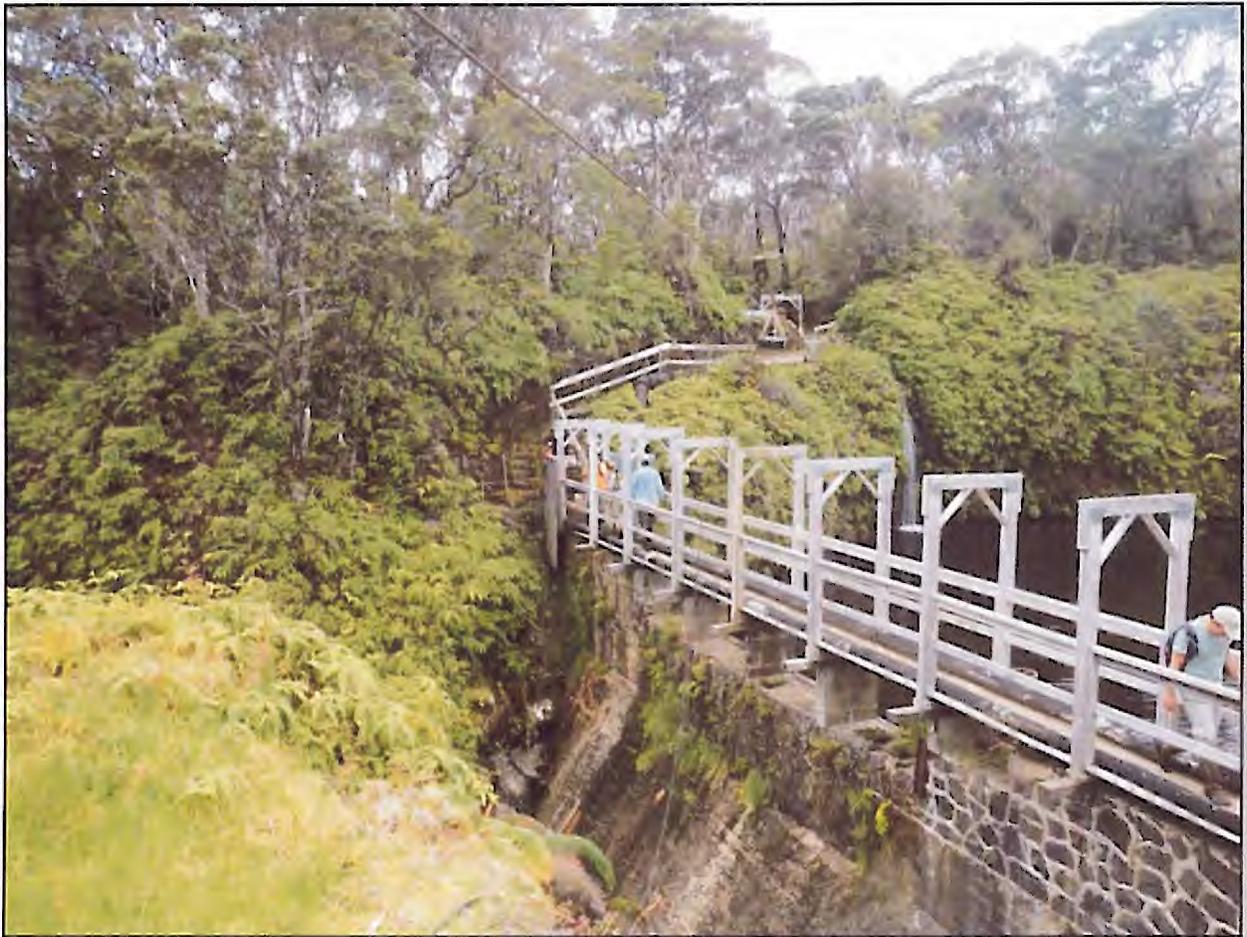


Kelii P. Nahooikaika
Notary Public, State of Hawaii
Print Name: KELII P. NAHOOIKAIKA
My commission expires: 4.30.18

NOTARY PUBLIC CERTIFICATION			
Doc. Date:	<u>11-22-16</u>	# Pages:	<u>9</u>
Notary Name:	<u>KELII P. NAHOOIKAIKA</u>	Judicial Circuit:	<u>2nd</u>
Doc. Description:	<u>grant agreement for waikamoio upcountry</u> <u>east maui source protection project between the county</u> <u>of maui and the nature conservancy</u>		
Notary Signature:	<u>Kelii P. Nahooikaika</u>		
Date:	<u>11-22-16</u>		



Waikamoi Upcountry East Maui Source Protection



Timeframe: DWS FY17; One year from notice to proceed (~ July 2017 to June 2018)

Amount Awarded: \$200,000



A. PROJECT BACKGROUND

The Nature Conservancy (TNC), acting through its Hawai'i Field Office, under agreement with the Maui County Department of Water Supply (DWS), seeks continued funding to preserve, protect and sustain Maui's drinking water supply at Waikamoi, source waters for the upcountry water collection system and more than 9,865 services (Figure 1). We seek to continue critical ongoing management activities including fence maintenance, ungulate and weed control, monitoring, research and community outreach for the newly expanded Waikamoi Preserve. This proposal also includes a requested funding increase to support the proposed USGS study to quantify hydrologic impacts of high-priority invasive species, as well as a small contract to the University of Hawaii Economic Research Organization (UHRO) to estimate the return on investment of watershed management in East Maui. Quantifying the return on investment of watershed conservation activities is increasingly needed to justify costs to the public and decision makers both on Maui and across the state.

Maintaining healthy forests at Waikamoi Preserve is directly related to the DWS mission of providing clean water efficiently (Figure 1). Think of the forest as a giant reservoir that stores an abundant supply of fresh water until needed. We wouldn't think twice about the need for maintaining the 100 million gallon Kahakapao reservoir and aqueduct, yet we often take for granted the forest that stores and supplies Kahakapao with its water. Failure to protect this forest reservoir means a reduction in forest health and the amount of water available for DWS customers (see research citations below). This is particularly true in the face of the documented 89-year statewide trend toward lower rainfall and streamflow and more extreme weather events forecast as a result of global climate change.^{1,2,3} The more healthy and resilient our forest, the more likely the forest and the water they store can persist in the future. The consequences of failing to fund and implement management actions now will result in accelerated degradation of our forest. Costs associated with building new reservoirs and establishing new wells are high and can be avoided through good watershed management.

Our forested watersheds serve crucial functions on which both the quantity and quality of ground and stream water depend. These functions include: 1) water collection, 2) water storage, 3) water discharge, 4) erosion control, 5) nutrient cycling, and 6) improving water quality through contaminant breakdown and flushing (Figure 2). These functions have direct value to the agricultural and domestic water users at lower elevations (Figure 1).

The greatest threats to Maui's watersheds are feral ungulates and invasive weeds. The combination of trampling and rooting of feral animals destroys native vegetation, spreads weeds in their droppings, and pollutes the water supply with eroded silt, feces, and foreign diseases.^{4,5} Pig and feral animal digging speeds up erosion, which washes silt and nutrients downstream, impacting our nearshore reefs. Feral pigs and other feral animals may harbor and transmit infectious waterborne pathogens dangerous to humans, such as *Giardia*, *Cryptosporidium parvum*, and *Leptospirosis*.⁶ Invasive alien plants like Himalayan ginger, strawberry guava, and *Clidemia* quickly become established in disturbed areas left by feral pigs, eliminating the moss and multi-tiered canopy structure of the native forest that is so essential to water capture and storage. Many invasive plants such as strawberry guava - a top priority invasive weed in the project area - form monotypic stands, effectively eliminating the multi-tiered canopy in large areas of the watershed and greatly increasing evapotranspiration. This can severely reduce water

¹ Chu & Chen. 2005.

² Giambelluca et al. 2011.

³ Oki. 2004.

⁴ Hess et al. 2006

⁵ Reeser. 2005.

⁶ Dunkel. 2009.

recharge.⁷ Though additional research is needed, there are both published and unpublished results indicating that the water loss through evapotranspiration of invasive trees can be quite substantial.^{4,8}

Invasive species over time will transform the forests they invade, changing them from native to non-native, simplifying their structure, altering soil composition, increasing the risk of fire, and endangering our future water supply (Figure 3).^{3,4,9} The estimated value of services that the Koolau watershed on Oahu loses unless protected is 7.4-14 billion dollars. The East Maui watershed is at least as valuable as that of the Koolau's, as Maui relies to a greater extent on surface water to supply drinking water.¹⁰

There is significant research to date that supports the importance of effective management of East Maui's watersheds. Here is a brief bulleted summary of some of the more compelling research. In spite of this evidence, there is much more to learn due to the complex relationship between forests and hydrologic function.

- Native tree canopy water storage capacity is twice that of invasive strawberry guava-invaded forest, leaving less water availability for groundwater recharge. The author notes that native ohia morphology is likely adapted to more effectively cloud water droplets, enhancing cloud water interception. In addition, invasive species invasion results in a lower proportion of rainfall becoming reaching the forest floor and becoming available for groundwater recharge⁸.
- Ohia used less water than three invasive species; water use in plots where invasive trees were removed was half that of the invaded plots¹¹
- Conversion of nonnative forest to native increases estimates of mean annual recharge in selected Hawaiian aquifers by as much as 12%.¹²
- Dense forest in Kona, Hawaii was better at capturing rainfall and recharging groundwater.¹³
- Fog intercepted by vegetation contributes water in the absence of rainfall and also facilitates larger throughfall events by bringing the canopy closer to saturation, allowing a greater percentage of rainfall to drip through.¹⁴
- Tropical montane cloud forests yield higher stream water yields than other tropical forest watersheds with similar rainfall because of the added moisture input (through fog drip) and lower transpiration rates for trees immersed in clouds.¹⁵

This proposal describes TNC's management activities and grant deliverables. Every one dollar of DWS funds will be used to leverage two dollars from state Natural Area Partnership Program (NAPP) and private funds. The EMI Waikamoi Addition was admitted into the NAPP in FY14, and the original Waikamoi Preserve has received NAPP funding since 1992. NAPP funding is subject to annual review and legislative appropriation, and matching funds help ensure continued support. In addition, DWS funds are

⁷ Giambelluca et al. 2008.

⁸ Giambelluca et al. 2011

⁹ Takahashi et al. 2011

¹⁰ Kaiser et al. 1999.

¹¹ Cavaleri et al. 2014.

¹² Engott. 2011.

¹³ Brauman et al. 2012

¹⁴ Holder. 2004.

¹⁵ Bruijnzeel. 2001.

crucial to leveraging significant additional private funding toward management of Waikamoi and the East Maui Watershed.

TNC is an international private, non-profit organization based in Arlington, Virginia. The mission of The Nature Conservancy is to conserve the lands and waters on which all life depends. Since 1980, the Conservancy has protected more than 200,000 acres of natural lands in Hawai'i and works with other public and private landowners to protect the islands' key watersheds. The Conservancy manages a statewide network of 11 preserves totaling 40,000 acres and works in 12 coastal communities to protect the coral reefs and near-shore waters of the main Hawaiian Islands. In 1991, TNC helped to pioneer the watershed partnership model which now includes more than 2.2 million acres of land statewide. The current organizational chart for its local Maui office is depicted below (Figure 3).

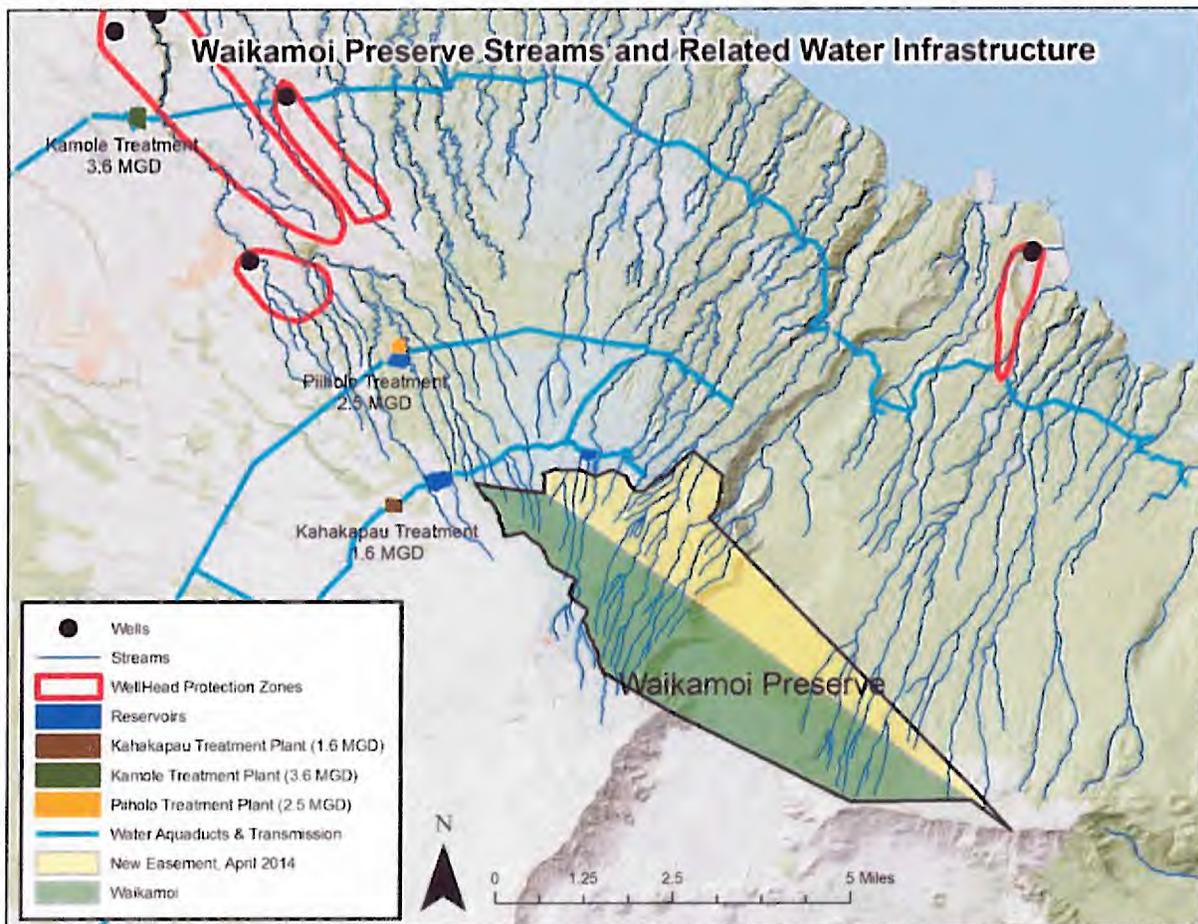


Figure 1. Project area highlighting proximity of major streams originating in Waikamoi Preserve that feed into local Department of Water Supply infrastructure.

Watershed Management & Restoration Projects May Affect Several Hydrologic Processes

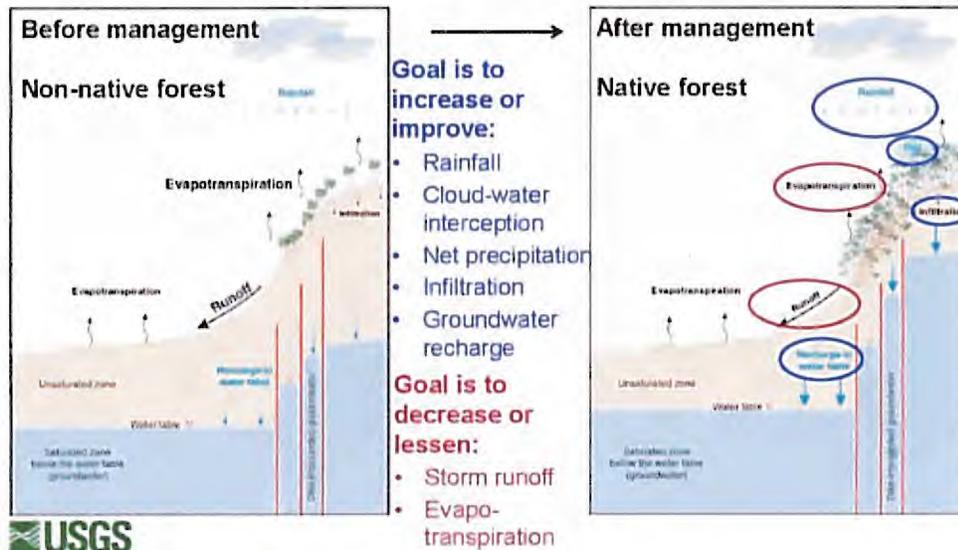


Figure 2. How forests affect hydrologic processes

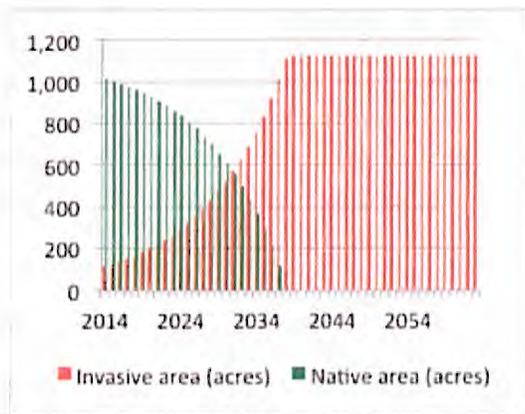
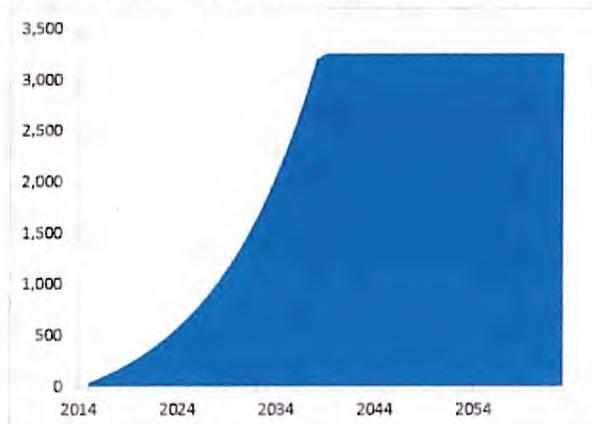


Figure 3. Projected changes in landcover over time in Kaihola, Hawaii island if current watershed conservation activities ceased. From Burnett et al. 2014 (UHERO).

Kaihola AVOIDED ET Loss/Recharge Gain (thousands of gallons)



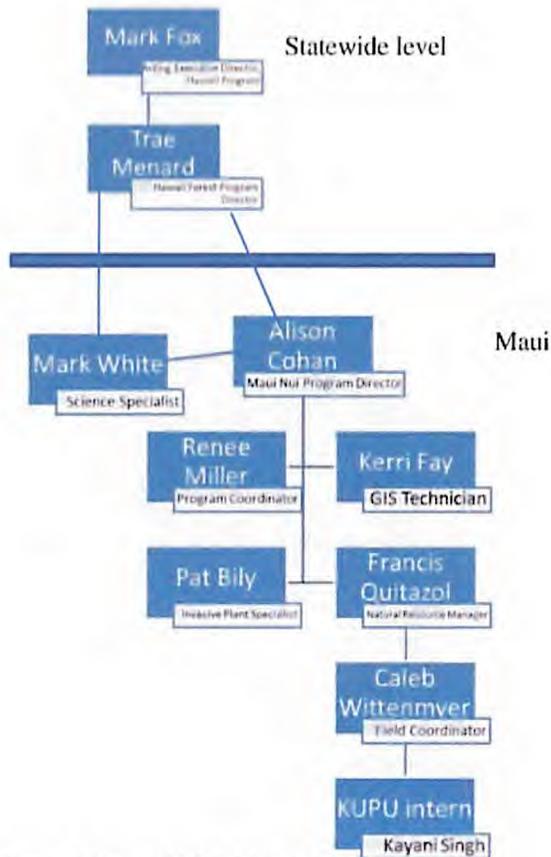


Figure 5. Current TNC Maui program structure.

Figure 4. Watershed conservation Return on investment analysis, depicting groundwater recharge benefits (freshwater volume) generated from conservation activities at Kaiholena, Hawaii Island, using information from past scientific studies. From Burnett and Wada 2015 (UHERO).

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B. PROJECT GOALS AND OBJECTIVES

Goals and objectives covered under this proposal will focus on critical ongoing watershed management in Waikamoi Preserve including fence maintenance, ungulate control, invasive plant control, resource monitoring, rare species protection and research, and community outreach. The majority of the objectives and activities outlined in this proposal are part of larger six-year management plans, the Waikamoi Preserve FY2013-2020 Long Range Management Plan and the Waikamoi East Maui Irrigation Addition FY2015-2020 Long Range Management Plan.

The Nature Conservancy is a science-based organization that relies upon proven and established methods of management and monitoring to ensure our activities are effective, efficient and produce quantifiable results and successes. We implement both innovative methods and established best management practices, including systematic "sweeps" on the ground to search in a highly organized fashion for both ungulates and weeds, using GPS at all times to document our tracks and waypoints in GIS which is then used to assess coverage and for adaptive management, monitoring transects to confirm the presence or absence of ungulate sign, photopoint monitoring to document vegetation recovery over time after ungulate removal, and utilizing motion-triggered game cameras to remotely monitor potential ungulate "hotspots" or for ungulate presence in real-time.

Project Goals:

- Maximize watershed and ecosystem resilience by protecting 8,951 acres of native-dominated watershed at Waikamoi through routine fence maintenance and early detection and removal of all ungulates while preventing future invasion.
- Maintain existing large native-dominated core areas that are free of the highest priority habitat-modifying weeds, contain established populations of habitat-modifiers, and prevent the introduction and spread of problem weeds to areas where not established.
- Prevent the introduction and spread of small mammals, non-native insects, mollusks, pathogens, and other pests deemed to be a significant threat, and reduce their negative impact where possible.
- Conduct and support monitoring and research to track the status of biological and physical resources found in the preserve, especially rare species, while encouraging and assisting with research that increases our understanding and management of the area's natural resources.

- Build public understanding and support for the preservation of natural areas, and enlist volunteer assistance for preserve management.
- Provide staff with training and equipment that will allow them to respond to a medical emergency, conduct rappelling activities in the preserve, and assist primary fire and rescue agencies during a fire or emergency on or adjacent to the preserve.
- Support the East Maui and West Maui Mountains Watershed Partnerships and the Maui Invasive Species Committee (MISC) where cooperative management activities mutually benefit Waikamoi Preserve and/or adjacent lands.
- Contract the University of Hawaii Economic Research Organization (UHERO) to quantify the return on investment of watershed management in East Maui.

Benefits as a result of this project:

- Improved groundwater recharge ability through protection and enhancement of native canopy and ground cover
- Reduced damage to watershed forest vegetation and soil disturbance as a result of pig and other ungulate damage
- Improved watershed protection and function specific to the upcountry water system drainage area at Olinda, Pi'iholo and Kamole water supply
- Continued protection of vitally important headwaters for major streams in the East Maui Watershed east of Ko'olau gap
- Potential recovery of listed endangered plant and animal species through the protection of intact native montane forest systems
- Enhanced ecosystem resilience to help mitigate climate change impacts
- Leveraged funds and conservation actions
- Conservation awareness and engagement to the local community
- Documentation of conservation successes

C. LOCATION AND SIZE OF PROJECT AREA

This project includes 8,951 acres of East Maui's most important watershed headwaters that supply Maui County residents and agricultural industry with more than 60 billion gallons of fresh, clean water annually (Figure 1). The original 5,230 acre Waikamoi Preserve was expanded by 3,721 acres in April 2014 through a permanent conservation easement with East Maui Irrigation Co. Ltd. (EMI), making it the largest private nature preserve in the state. The expanded Waikamoi Preserve lies immediately above the newly refurbished Waikamoi Flume which supplies 1.6 Mgal/d (million gallons per day) of fresh drinking water to upper Kula (Figures 1) and replenishes storage at the 130 million gallon-combined Kahakapao and Waikamoi reservoirs. Eleven major and dozens of minor streams originate in Waikamoi Preserve also contribute to the supply of the Pi'iholo water treatment facility providing an average of 2.5 Mgal/d (Figure 1). These same streams at lower elevations contribute water to the Wailoa ditch, which supplies the Waihole water treatment plant with an average annual production of 3.6 Mgal/d (Figure 1). The combined capacity of the system supplies more than 9,865 services.

Preventing future East Maui forest degradation offers our best hope of maintaining the current volume of East Maui's fresh water.

D. SCOPE OF WORK

The primary components to this project under this grant agreement include:

- Fence inspections and maintenance

- Preventing feral pigs, deer, goats and cattle from entering the watershed
- Scouting and monitoring for ungulate presence
- Invasive plant control
- Resource monitoring, rare species protection, and research
- Community outreach
- Contract to UHERO to estimate return on investment from watershed management

Fence Maintenance, Ungulate Control, and Ungulate Monitoring

Ungulate (hooved animal) damage to vegetation and the forest floor is the greatest threat to the critical East Maui watershed headwaters and Upper Kula water system drainage area, and is therefore the focus of the East Maui watershed resource management program. Fences are the primary method for controlling the movements of feral animals and keeping them from entering native forest systems. Hunting and trapping are used to remove animals, especially pigs that enter the preserve as a result of fence breaches or stream blowouts.

A three-mile western boundary fence along the new EMI conservation easement addition to Waikamoi was completed in April 2015 (Figure 6). All pigs will be removed by June 2016. This project will complete any remnant removal of ungulates from the newly fenced area and prevent future invasion. Trapping and hunting will be the primary methods of ungulate removal as depicted in Figure 6. Ungulate activity in this 1,000 acre area will continue to be monitored via semiannual transect monitoring for ungulate sign on three established transects throughout the area.

In the remaining areas of the preserve, a network of sixteen 500m ungulate monitoring transects are monitored annually particularly in areas that historically had pig activity (Figure 6). This monitoring can serve as a relative index of ungulate activity as the project continues and is used to gauge the effectiveness of our control strategies and techniques. Transect monitoring is supplemented by scouting; any time staff or partners are in the preserve they are vigilant for ungulate activity and record sign with GPS. Hundreds of miles are scouted during routine management activities, providing the best method for identifying any animal ingress.

Pigs in particular reproduce at very high rates. Scientific research tells us that seventy percent of the population must be removed annually to maintain lower pig numbers. In addition to completing control in the new Haipua'ena unit, regular ungulate control efforts underway in Waikamoi Preserve will continue, including fence checks and maintenance, ungulate trapping, scouting for ungulate presence, and transect monitoring.

We work closely with the East Maui Watershed Partnership (EMWP) to ensure that management efforts are coordinated and most efficiently implemented. The Conservancy and the EMWP work jointly to establish priorities for management across the East Maui Watershed. Management at Waikamoi has greatly benefited from this collaboration. Due to the EMWP's effective management, ungulate ingress into Waikamoi from state lands has been greatly reduced. Pig catches and sign in these lower areas of the watershed has dropped significantly, thus there is reduced pig pressure on the Waikamoi Preserve boundary fences.

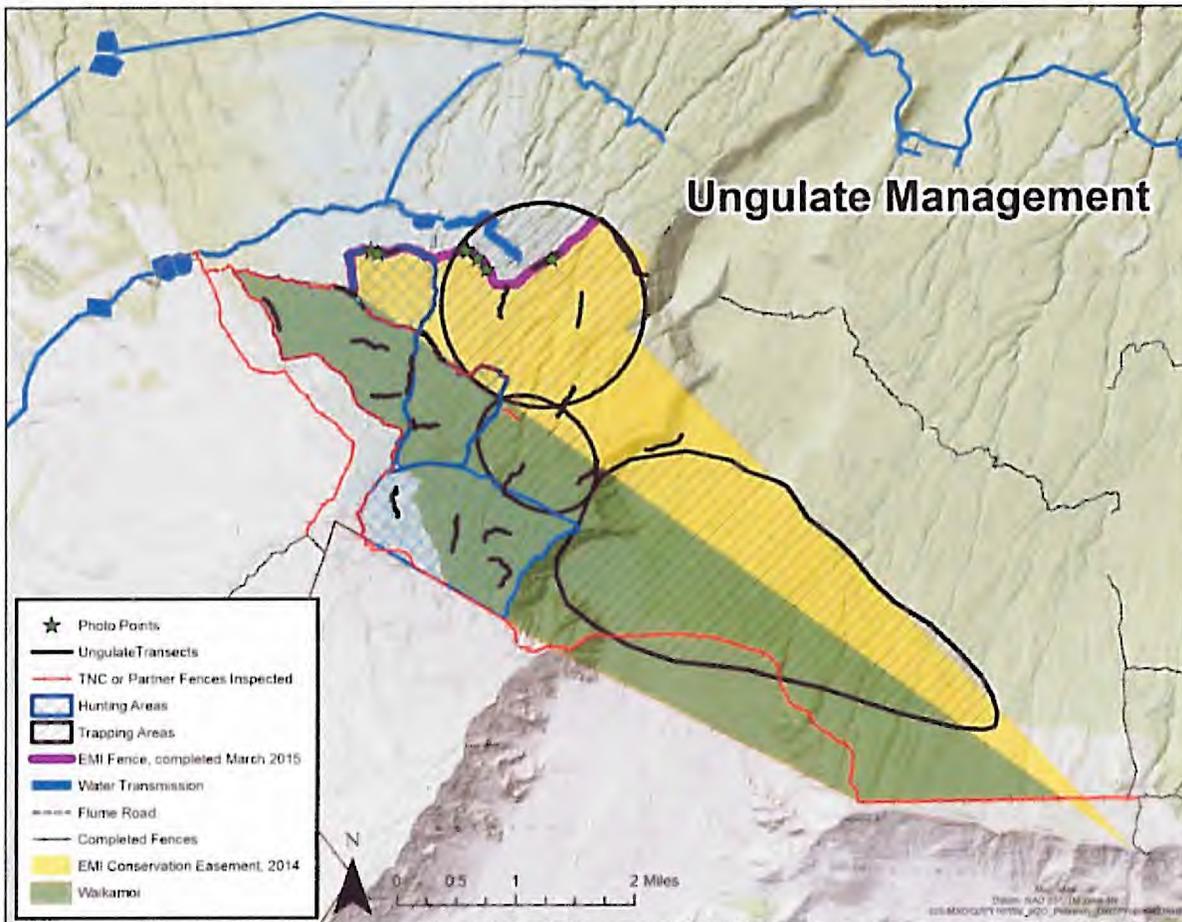


Figure 6. Ungulate Management Areas

Invasive Plant Control

The highest priorities of our invasive plant control program are to minimize disturbances to intact native communities, survey for and control outlying populations of priority weeds, and prevent the introduction of additional invasive plant species. Ungulate removal significantly reduces the introduction and spread of invasive habitat-modifying weeds. We enforce strict gear sanitation protocols and procedures to remove weed seeds, mud, and debris from equipment and clothing before people enter the preserve. Helicopter flights originate from areas free of priority weeds, and all equipment and clothing is inspected and cleaned.

We strive towards an Integrated Pest Management (IPM) approach to weed control, consisting of manual methods, herbicides, and/or biological control. As biological controls are developed and approved for release on our top priority weeds, we will work cooperatively with agencies mandated to monitor these agents. Herbicide use is in full compliance with the State Department of Agriculture (HDOA) Pesticide Enforcement Division. Staff coordinating weed control are certified with the Pesticide Enforcement Division through a Forestry Applicators' exam and card. We may employ other techniques for weed control as they are developed. Any new application methodology used regularly will be coordinated in compliance with HDOA.

Our management efforts are guided by the *East Maui Conservation Site Weed Management Plan* (TNC 2009) and updated periodically. Control work is prioritized to target species (Table 1). As control is achieved at targeted sites for higher priority species, efforts shift to lesser priorities. We will continue to build on weed progress achieved in prior years by focusing on high priority outlier populations within the zones depicted in Figure 7, particularly Himalayan ginger, two species of pines, and pampas grass. Ginger and pines have been spreading aggressively across the preserve. MISC continues to makes excellent progress on pampas grass removal. Specific weed deliverables are described below.

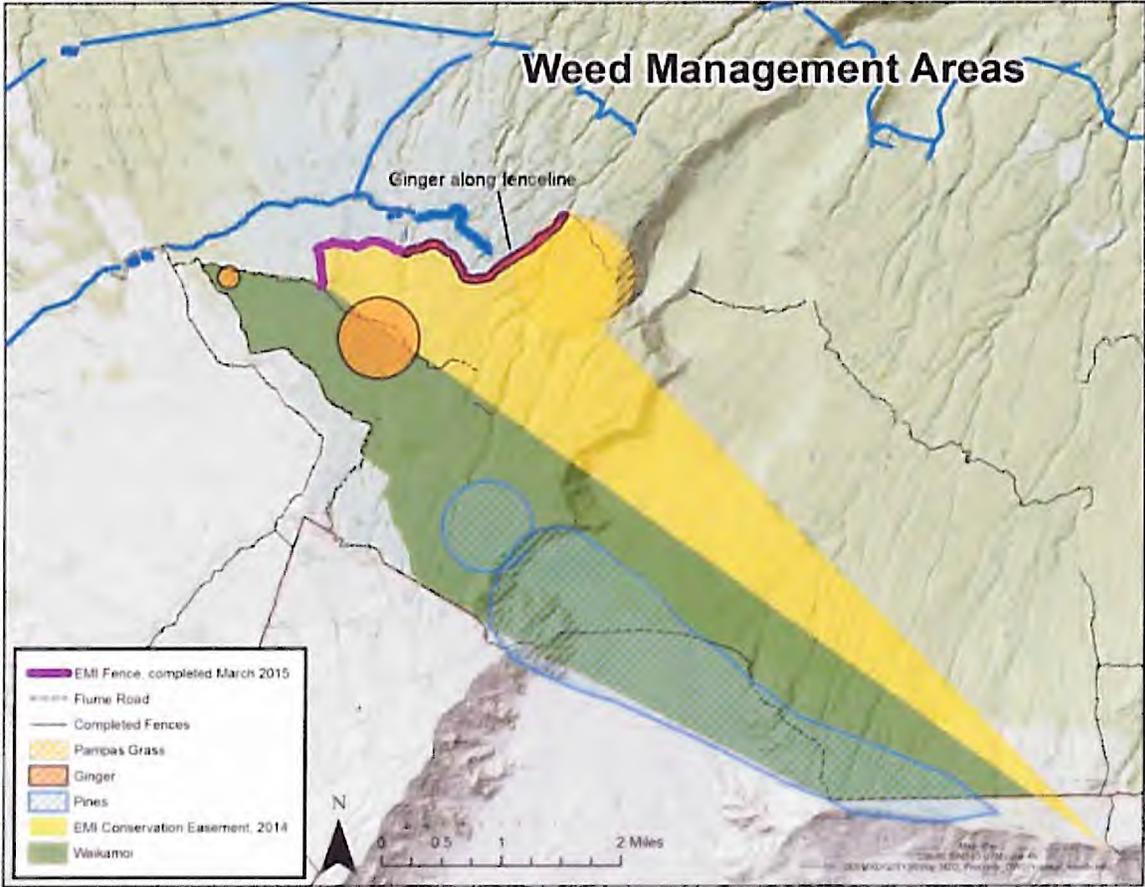


Figure 7. FY17 Weed Management Areas

Table 1. Priority weed species for management at Waikamoi Preserve (in order of priority)

Scientific name	Common name
Top Priority Species	
<i>Hedychium gardnerianum</i>	Himalayan ginger
<i>Ulex europaeus</i>	Gorse
<i>Pinus</i> spp.	Mexican weeping pine, Monterey pine, etc.
<i>Acacia melanoxylon</i>	Blackwood acacia
<i>Fraxinus uhdei</i>	Tropical ash
<i>Cortaderia jubata</i>	Pampas grass
Early Detection/Rapid Response species	
<i>Psidium cattleianum</i>	Strawberry guava
<i>Ilex aquifolium</i>	English holly
<i>Tibouchina herbacea</i>	Cane tibouchina
<i>Cinnamomun camphora</i>	camphor tree
<i>Rubus glaucus</i>	Climbing/trailing blackberry
<i>Setaria palmifolia</i>	palmgrass
<i>Andropogon virginicus</i>	broomsedge
<i>Cyathea cooperi</i>	Australian tree fern
<i>Clidemia hirta</i>	Koster's curse

Resource Monitoring, Rare Species Protection, and Research

The goal of our resource monitoring program is to conduct and support monitoring and research to track the status of biological and physical resources of the preserve, especially rare species, while encouraging and assisting with research that increases our understanding and management of the area’s natural resources. Biological surveys have shown that Waikamoi Preserve protects numerous rare species, many of which are federally listed as endangered. Although protecting essential habitat is our main strategy to their protection, we also inventory the rarest species and take measures to protect them. The Plant Extinction Prevention Program (PEPP), administered through the Pacific Cooperative Studies Unit (PCSU) and coordinated by DOFAW, actively surveys for and monitors specific rare plants. We work closely with PEPP and support their efforts to protect and restore rare and endangered species found in the preserve. Staff will continue to identify, map and recover rare plant populations during routine management activities. We will continue to support and assist PEPP with outplanting and monitoring of rare plants, in addition to sharing GIS data on rare plant locations in Waikamoi and on adjacent lands.

We will continue to encourage independent research in Waikamoi by offering necessary application materials to researchers online. Priority research are USGS hydrologic research and the Maui Forest Bird Recovery Project’s continuing population studies and banding of the westernmost kiwikiu and ‘ākohekohe populations. We provide technical guidance and occasional logistical support to approved research.

In recent years we’ve been monitoring both ungulate activity and weather through the use of game cameras, utilizing technological improvements that allow captured images to be sent immediately via text or email to the user. This real-time information allows for early detection and rapid response and helps inform our management. We will continue testing cameras as technological improvements are made in order to more strategically and efficiently monitor and manage the Preserve. We also may employ other new passive monitoring technologies such as remote sensing, high resolution aerial photography for vegetation monitoring, and remote photo monitoring for fire, ungulates and/or

ungulate traps. We recently installed photo points in ungulate hot spot areas in the new EMI addition area to monitor vegetation changes over time. Photo points will be monitored periodically, and will hopefully demonstrate recovery of native vegetation in former pig-disturbed areas over time.

Hydrology Research:

This proposal also includes a request to contract with the University of Hawaii Economic Research Organization (UHERO) to estimate the return on investment of watershed management in East Maui. Quantifying watershed return on investment is critically needed to justify the costs of watershed management to the public and decision makers both on Maui and across the state. UHERO conducts rigorous, independent economic research on issues that are central to Hawaii and globally relevant. They recently completed a return on investment project for two of TNC's projects that protect watershed on Hawai'i island (report forthcoming). Some of the objectives that will be included in the UHERO contract are:

- Estimate non-monetized groundwater recharge benefits (freshwater volume) generated from conservation activities at two TNC conservation sites using information from past scientific studies.
- Estimate recharge saved per dollar at each site using cost data provided by TNC.
- Estimate monetized groundwater recharge benefits (dollars) at the two sites using information from past groundwater economics studies on the Hawai'i Island.
- Determine the payback period on investment for each site given detailed information about TNC initial investment and future maintenance costs (including personnel and fringe, contractual costs such as those related to fence construction, supplies, travel and occupancy).
- Calculate the net present value of conservation at the two sites.
- Discuss other expected ecological benefits from conservation at both sites, with an emphasis on the tradeoffs involved when selecting sites.
- Draft a report summarizing the above with Executive Summary.
- Finalize the report after receiving feedback from TNC.
- Present findings and conduct in-person Q&A with TNC.

Community Outreach

Sustaining biologically significant native ecosystems throughout the state requires an educated, empowered and mobilized public and private constituency. Our main goal is to increase conservation and advocacy for these areas through an understanding of the importance, threats, and protection efforts of Waikamoi Preserve and the East Maui Watershed. Waikamoi Preserve serves as an excellent staging area for our East Maui conservation partners who don't have a site that exemplifies the aspects of natural area protection to their outreach clientele. Conservation partners that consistently utilize Waikamoi trails for their outreach activities include Maui Invasive Species Committee, Maui Forest Bird Recovery Program, Haleakalā National Park, and EMWP.

The major public outreach tools are hiking in the preserve and volunteer work trips, although we also cultivate one-on-one contacts and present slide shows. The Conservancy-trained hike docents lead small custom hikes for community and school groups, donors, and community leaders. Haleakalā National Park brings visitors weekly into Waikamoi on our most actively used trail, the Bird Loop trail. Routine maintenance on trails helps minimize impacts as well as enhancing interpretive value.

TNC staff lead at least one quarterly volunteer trip to conduct priority invasive weed removal and trail maintenance in the Preserve. These trips are targeted towards the local community and provide an opportunity for the community to get into areas of the Preserve not open to the public, in addition to learning about native plants, invasive weeds, and the importance of the forested watershed. The trips allow us to educate the community further about TNC and how they can get involved and support our work. In addition, the removal trips greatly assist our progress towards removing invasive Himalayan ginger in Unit 1A.

E. TIMELINE

Description of deliverable	Expected amount of time to complete deliverable	Time frame
Fence checks and maintenance	4 weeks	1 week per quarter
Maintain existing trapping network	12 months	July-June
Animal control sweeps	12 months	July-June
Pig trap maintenance	12 months	July-June
Himalayan ginger removal	12 months	July-June
Conifer removal	12 months	July-June
Transect monitoring	2 weeks	Qtr 2 and Qtr 4
Game camera maintenance	12 months	July-June
GPS/GIS data processing	12 months	July-June
Volunteer and community outreach trips	4 days	At least quarterly, July-June
Partner collaboration	12 months	July-June
Reporting and planning	12 months	July-June
UHERO ROI Report	12 months	July-February

F. DELIVERABLES

Task	Deliverable	Measure of Success
Fences	<ul style="list-style-type: none"> Inspect and maintain 19 miles of fences quarterly Conduct quarterly fence inspections Repair/replace fence as needed 	<p>Four or more inspections conducted per year with all necessary repairs completed</p> <p>Fence repaired within 48 hrs of discovery</p>
Ungulate Control and Activity	<ul style="list-style-type: none"> Scout for ungulates during all activities Update activity/catch maps Maintain hunting dogs & kennel Conduct ~16 pig hunts/year 	<p>Total miles scouted</p> <p>GIS maps depicting scouts, catches, activity</p> <p>Hours spent on dog program</p> <p>Total hunts</p>
Deer Management Unit	<ul style="list-style-type: none"> Maintain Deer Management Unit fence Scout for and conduct deer hunts as activity level requires 	<p>3.4 mile DMU fence checked and maintained quarterly</p> <p>Total hunts conducted, GIS map, catches</p>
Trapping	<ul style="list-style-type: none"> Check and maintain all traps in Waikamoi (~1,800) 	<p>Total traps checked semiannually</p> <p>Number of traps installed, trap map, catches</p>
Ungulate monitoring	<ul style="list-style-type: none"> Annually monitor 20 500 m transects in Waikamoi Units 	<p>Percent activity ungulate sign on transects</p>
Invasive Plant Control		
Task	Deliverable	Measure of Success
Weed sweeps	<ul style="list-style-type: none"> Sweep and control Himalayan ginger outliers in Figure 7 polygon Sweep and control pine outliers in Figure 7 polygon Priority invasive weeds removed as found 	<p>Acres swept/m² of priority invasive plants treated or removed</p>
Weed scouting & monitoring	<ul style="list-style-type: none"> Scout for, map, and monitor potential habitat-modifying invasive plants, and monitor efficacy of treatments 	<p>GIS maps depicting scouts and treatment</p>
Weed prevention	<ul style="list-style-type: none"> Prevent other incipient weed establishment by continuing strict inspection and cleaning procedures to prevent their introduction 	<p>Lack of detection of incipient weeds during regular monitoring</p>

Partner support	<ul style="list-style-type: none"> Support MISC to contain serious habitat-modifying weeds 	Lack of detection of major MISC target species in Waikamoi Preserve (e.g., Miconia, pampas grass)
Resource Monitoring, Rare Species Protection, and Research		
Task	Deliverable	Indicator of Success
Remote cameras	<ul style="list-style-type: none"> Maintain at least two remote game and weather cameras 	Images from and analysis of game cameras for ungulate and weather monitoring
Forest bird recovery	<ul style="list-style-type: none"> Support MFBRP by providing access and staff resources as available 	Data and GIS maps from MFBRP on locations and population status of kiwikiu and 'ākohekohe
Rare plant mapping and restoration	<ul style="list-style-type: none"> Support PEPP in search and assessment of rare species populations to determine protection needs and to reduce threats 	Number of new rare taxa locations GIS maps of rare plant locations in and adjacent to Waikamoi Number of species outplanted
Research support	<ul style="list-style-type: none"> Review and provide technical guidance to research proposals as necessary 	Number of research projects supported Data from research projects
UHERO contract	<ul style="list-style-type: none"> Contract with UHERO for ROI report 	New ROI numbers for benefits of watershed management
Community Outreach		
Task	Deliverable	Measure of Success
Hikes	<ul style="list-style-type: none"> Lead hikes and encourage select partner hikes into the Preserve, providing access and staff resources as available (~ 6 hikes/month) 	Number of total hikes into Waikamoi Number of hikes in Waikamoi led by TNC staff and/or docents
Volunteer work	<ul style="list-style-type: none"> Utilize volunteers as available to further conservation goals and bring environmental awareness to the local community (minimum 1 volunteer work trip per quarter) 	Number of volunteer hours spent working in Waikamoi Total volunteers
Outreach events	<ul style="list-style-type: none"> Participate in two community events/year to encourage constituents to support our work 	Two outreach events participated in Estimated number of people engaged at events
Community education	<ul style="list-style-type: none"> Opportunistically educate the public about our work and Hawai'i's native ecosystems 	Number of lectures/presentations to the public, community groups, or partners

G. BUDGET SUMMARY

Funds provided by the County of Maui under the requested grant will be used to fund TNC Maui Program positions and contracts needed to undertake ungulate control, invasive plant control, resource monitoring, research and community outreach. Personnel costs include a fringe benefit rate that will accrue on all labor costs. We also include funds to cover contracts for helicopter time and the return on investment report for watershed management. Leveraged funds generally cover contract and other costs that when combined with DWS funding meet all of the deliverables for this grant proposal. A portion of TNC leveraged funds pay for a subaward with the East Maui Watershed Partnership (EMWP). TNC's current FY17 overhead rate of 22.5% will be partially waived to 15% which will which will accrue on all direct costs outlined in the budget table below.

County of Maui DWS funds will be leveraged by \$247,680 in state NAPP funds and additional private or other sources.

H. LEVERAGED FUNDS (Required documentation 1.4d)

The grants listed below are anticipated or proposed for FY17 and will help ensure that existing management programs are successfully implemented.

Funder	Type	Amount
Natural Area Partnership Waikamoi	State	\$180,180
Nature Area Partnership Waikamoi EMI Addition	State	\$67,500
Hawaii Tourism Authority/Hawaii Community Foundation	State	\$25,000
Various private sources (tentative)	private	\$163,395
Total		\$436,375

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

FORM 4.2



Project Budget Summary

Organization Name: The Nature Conservancy

Expense Categories	Amount Requested	Leveraged Funds	Total Budget
A. Personnel (Payroll taxes & fringes)	143,913	131,087	275,000
B. Transportation (e.g. fuel, etc)			
C. Contractual (e.g. helicopter)	30,000	199,000	229,000
D. Utilities (e.g. telephone/cell, water electricity, etc)			
E. Travel		1,000	1,000
F. Field crew costs			
G. Supplies, materials & equipment		20,000	20,000
H. A&O Costs (15% of total grant amount)	26,087	85,288	111,375
I. Other Costs			
Total	200,000	436,375	636,375



County of Maui
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Project Budget Summary

A. PAYROLL COSTS

Organization Name The Nature Conservancy

Position Name/Title List by position and % of 40 hour week	Salary	Amount Requested
Natural Resource Manager	.40FTE	24,000
Director	.20FTE	15,215
GIS Technician	.40FTE	15,000
Field Coordinator	.40FTE	20,000
Invasive Plant Specialist	.20FTE	12,500
Program Coordinator	.10FTE	5,000
Field Technician	.30FTE	9,990
Payroll Taxes	Included in Fringe and Benefits	
Fringes and Benefits	41.5%	42,208
Total		143,913

Narrative Description (project responsibility by position/title)

Natural Resource Manager: Implements threat abatement and management activities to include alien animal and plant control, resource monitoring, habitat restoration and community outreach. **Director:** oversees all aspects of land management, writes proposals and reports, oversees contracts. **Field Coordinator and Field Technician:** Control and eliminate alien species, maintain and construct fences, collect and enter data, monitor threats and resources, maintain equipment and facilities, and suppress fires. **GIS Technician:** Manages program database; mapping; data entry and analysis. Routinely updates threat and resource data base and creates maps to depict progress of management efforts. Compiles and maintains all field collected GPS data. Responsible for all resource and threat monitoring. **Invasive Plant Specialist:** Develops plans and implements invasive species management projects. Identifies and ensures realistic cost effective weed control strategies. Maintains current pesticide applicators license. Monitors and tracks rare plant species. Manages preserve research permits and access. **Program Coordinator:** Oversees project expenditures and budget. Assist with field operations, field safety and flight follows all helicopter operations. Develops and oversees contracts.



County of Maui
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B. TRANSPORTATION COSTS

Organization Name **The Nature Conservancy**

Breakdown of Expense	Amount Requested
Total	

Narrative Justification



County of Maui
 Department of Water Supply
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C. CONTRACTUAL SERVICES
 (e.g. helicopter, etc.)

Organization Name **The Nature Conservancy**

Breakdown of Expense	Amount Requested
Helicopter services	\$10,000
University of Hawaii Economic Research Organization contract, return on investment watershed evaluation	\$20,000
Total	\$30,000

Narrative Justification

Helicopter – transport crew, gear, field supplies into remote areas for management.
 UHERO watershed evaluation – contract to quantify return on investment of watershed management in East Maui



County of Maui
 Department of Water Supply
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D. UTILITIES

Organization Name **The Nature Conservancy**

Breakdown of Expenses	Amount Requested
Telephone (Land line)	
Telephone (cell)	
Water	
Electricity	
Total	

Narrative Justification



County of Maui
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F. FIELD CREW COSTS

Organization Name **The Nature Conservancy**

Breakdown of Expenses	Amount Requested
Total	

Narrative Justification



County of Maui
 Department of Water Supply
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G. SUPPLIES, MATERIALS & EQUIPMENT

Organization Name **The Nature Conservancy**

Breakdown of Expenses	Amount Requested
Total	

Narrative Justification



County of Maui
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I. OTHER

Organization Name The Nature Conservancy

Breakdown of Expenses	Amount Requested
Total Other Costs	

Narrative Justification

GENERAL TERMS AND CONDITIONS – DWS GRANTS

In consideration of the grant of COUNTY funds, GRANTEE covenants and agrees to the following terms and 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 and any subsequent amendments, 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, which 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 the 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: a 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 terms and conditions herein in a timely or proper manner shall constitute noncompliance. If the noncompliance continues for thirty (30) days after written notice thereof is delivered to GRANTEE or mailed to its last known

address; or, if such noncompliance cannot be reasonably cured within thirty (30) days, but GRANTEE has failed to commence to cure such noncompliance and has failed to continue to diligently use its best efforts to cure such noncompliance; or, if GRANTEE shall become bankrupt; or, if GRANTEE fails to perform any of the terms of this Agreement; or, if GRANTEE 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:

- a. Withhold grant fund payments pending correction of the noncompliance by the GRANTEE;
- b. Disallow all or part of the cost/expense of the work, activity or action not in compliance;
- c. Suspend or terminate, wholly or partially, the current award of this Agreement with the GRANTEE;
- d. Withhold additional award(s) to the GRANTEE; and
- e. 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 expiration or 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 shall be completed using the template below (Final Report Template - Form 4.4).



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

GRANTEE _____

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						

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 agreement 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 **NOT** 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.

FINAL REPORT TEMPLATE

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 17

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 (FORM 4.5).

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
Water Resources and Planning Division**

REQUEST FOR GRANT BUDGET REVISION

Grantee _____ Contract # _____

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

	APPROVED 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				

Print Name and Title

Signature

Date

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