

**GRANT AGREEMENT FOR THE SOURCE PROTECTION OF THE EAST MAUI
WATERSHED 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: The East Maui watershed yields the largest surface water harvest in the State of Hawaii, at 60 billion gallons per year, and is home to 48 streams, 35 of them perennial, 400 intakes, 75 miles of aqueducts, and 7 reservoirs;

WHEREAS: Created in 1991, the East Maui Watershed Partnership (EMWP) was the first watershed partnership formed in Hawaii. Its mission is to protect East Maui's primary water source, including, but not limited to, the native forested watershed by significantly reducing targeted threats;

WHEREAS: The EMWP is a partnership of East Maui landowners, formed for the purpose of jointly managing and protecting East Maui watershed lands. Habitat altering weeds and feral ungulates are among the most serious threats to the East Maui Watershed;

WHEREAS: The EMWP has prepared a Watershed Management Plan, which includes such measures as fencing, feral ungulate control, and weed management;

WHEREAS: EMWP members as well as the consumers of water from their water delivery systems all stand to benefit from their mutual protection of the subject watershed lands.

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 proposals attached as Exhibit "A", and shall provide payment of up to \$305,000.00 to

UH-ORS, for services rendered as described in the proposal and summarized in ORS Responsibilities below.

2. DWS staff shall consult on and provide information, as needed, to assist in implementation of the proposal.

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. Fence maintenance and inspection

- a. Inspect and maintain of 7.4 miles or 12 kilometers of ungulate proof fence around the EMWP Core Area on a quarterly basis.
- b. Make immediate repairs as needed. Schedule additional repair trips as soon as logistically possible.
- c. Record amount and types of materials needed and used for repairs.
- d. Record and maintain Global Positioning System (GPS) location points of all repair sites.

2. Remove all invasive hooved animals (ungulates) from high priority areas

a. Check all or approximately..

- b. Check all or approximately 1,700 stainless-steel wire traps in the EMWP Core Area two (2) times per year in Ko'olau Gap, Wailuanui, Wailuaiki and Kopiliula.
- c. Schedule up to two (2) immediate response trips to address any detected "ungulate hot spots" with increased trapping and scouting.
- d. Install approximately 200 wire traps along the newly constructed fence in Upper Hāna Forest reserve. Carry out six (6) trap checks to address anticipated increased volume of catches in this new management area.
- e. Reset or replace all inoperative traps as needed.
- f. Add or reposition trap groups since animal presence requires routine trap checks and supplemental scouting and surveying using a zero-tolerance threshold.
- g. Record and maintain GPS locations and approximate age and sex of all captured animals.
- h. Record and maintain GPS locations of all trap groups.

3. Invasive Plant Control - In fenced areas

- a. Control Himalayan ginger (*Hedychium gardnerianum*) in specified portion of Ko'olau Gap Unit twelve (12) times (or once a month) as follows:
 - Record amount and type of herbicides used per trip.
 - Use systematic sweep search techniques where staff is within line of sight of one another.
- b. Control priority invasive weeds as listed in the EMWP Management Plan, such as *Clidemia hirta* and strawberry guava, along all 7.4 miles or twelve (12) kilometers of ungulate proof fence around the EMWP Core Area during all field operations. Record the amount and type of herbicides used per target species.

- c. Record and maintain GPS locations of all priority weeds controlled.
4. Invasive plant early detection
Report observations of new invasive species (primarily pampas grass) to Maui Invasive Species Committee and provide relevant GPS information as needed.
 5. Spread of strawberry guava bio control
 - a. Collect material from earlier insect introduction sites and move to other appropriate sites.
 - b. Document and photograph its effects on native plant species.
 6. Monitor all weed presence transects
 - a. Monitor all twenty (20) existing weed transects in the EMWP Core Area once annually.
 - b. Record/maintain GPS locations of any priority weed species along twenty (20) transects.
 7. Monitor all ungulate presence transects
 - a. Record and maintain GPS locations of any ungulate presence during all routine operations.
 - b. Monitor all twenty (20) existing ungulate transects in the EMWP Core Area once annually.
 8. Public Outreach and Education
 - a. Provide ten (10) presentations per year for regional middle/high schools, community organizations or special events.
 - b. Lead up to sixteen (16) hikes per year for middle/high school-age students, community leaders, volunteers or special events.
 - c. Participate in up to six (6) community events per year (e.g. East Maui Taro Festival, Maui County Agriculture Festival, job fairs and science fairs).
 - d. Present the annual Mālama Wao Akua (MWA) Native Species Art Exhibit at a local art gallery to involve and educate local artists of all ages, and conducts community education events related to the exhibit.
 - e. Be featured in up to four (4) media events per year.
 - f. Create, maintain, and share educational, outreach and public awareness content on EMWP website: (www.eastmauiwatershed.org) and the new art show event website (www.malamwaoakua.org). EMWP will also make approximately 36 posts annually on social media sites such as www.facebook.com/eastmauiwatershed and others to expand local, regional, and international awareness of EMWP's water conservation mission. "Hits" and "comments" on specific pages and posts will be tracked monthly to analyze the effectiveness of on-line content.

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 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 months from the date of the Notice to Proceed. Should there be extenuating circumstances (i.e. weather, seasonal, etc.), ORS 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 from East Maui Watershed Partnership – UH-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:			

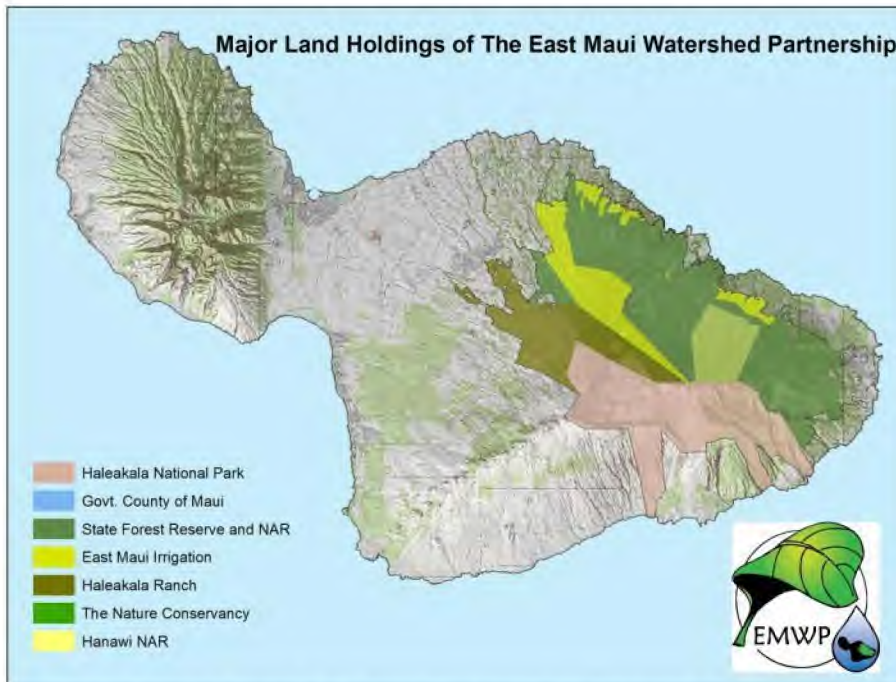
EAST MAUI WATERSHED PARTNERSHIP



A. Project Background

Created in 1991, East Maui Watershed Partnership (EMWP) was the first watershed partnership formed in Hawai'i, and served as a model for all watershed partnerships formed in the state thereafter. EMWP was born out of the need recognized by government, private landowners and other stakeholders to effectively preserve, protect and sustain Maui's water supply for current and future generations. EMWP's mission is *to protect East Maui's primary water source, including, but not limited to, the native forested watershed, by significantly reducing targeted threats*. Its partners include the County of Maui Department of Water Supply (DWS), Hawai'i State Department of Land Natural Resources (DLNR), Haleakalā National Park, East Maui Irrigation Company, Haleakala Ranch Company and The Nature Conservancy. EMWP implements an existing watershed management plan that is approved by its partners.

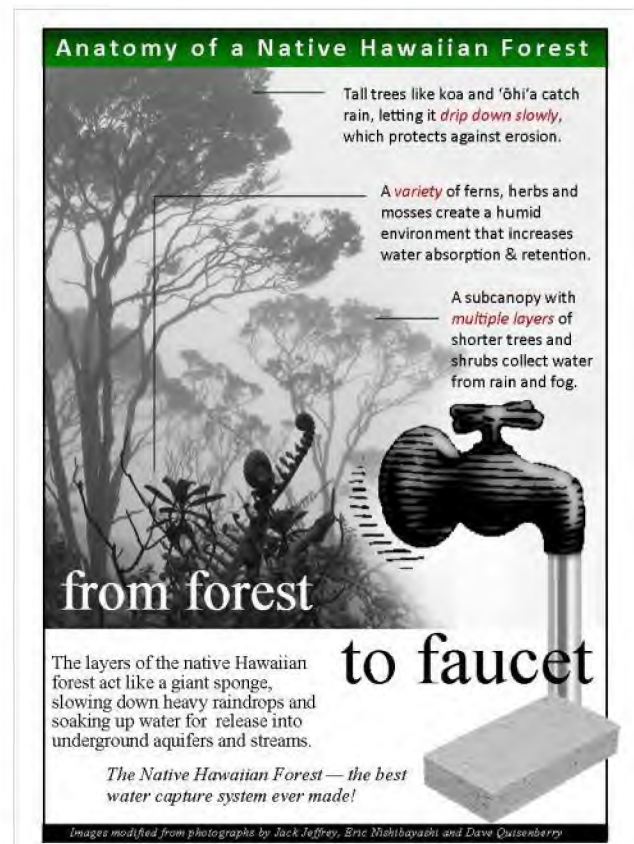
The East Maui watershed consists of approximately 120,000 acres located on the windward slopes of Haleakalā. The watershed's annual rainfall has been estimated to have a 30-year mean of 404.4 inches per year at one rain gauge¹, and it provides the largest harvested source of surface water in the state with current infrastructure collecting an average of more than 60 billion gallons of water per year. The Maui County Department of Water Supply Waikamoi water collection system services Upcountry residents and farmers from Hā'īku to Kanaio. Water collected from the East Maui watershed recharges aquifers below DWS wells in Hā'īku, Pa'ia, Keanae and Hāna. Other water collected from the East Maui watershed supplies Central Maui's large-scale agricultural industry. Collectively, as population grows and development increases, the demand for clean, fresh water will grow concurrently.



The collective land holdings of the East Maui Watershed Partnership provide water for Upcountry residents from Hā'īku to Kanaio, and residents in Hā'īku, Pa'ia, Keanae and Hāna through a combination of surface water collection and aquifer recharge.

The East Maui watershed is predominately vegetated by native Hawaiian rainforest. The plants there evolved over millions of years into the most efficient water collection system for our island's geography. It works in layers – tall 'ōhi'a and koa trees provide a canopy for shorter trees, while shrubs and ferns fill in underneath, and a thick layer of mosses and leaf litter complete the floor. These layers act like a giant sponge, slowing down heavy raindrops and soaking up water for slow release into underground aquifers².

The native Hawaiian rainforest has evolved so efficiently that it can even absorb moisture from passing clouds that condense on the thick vegetation. This is called "cloud drip." Intercepting cloud drip increases water capture by as much as 30% of rainfall, and increases groundwater re-supply by 10-15%³. This way, even during droughts, our watersheds can produce water by pulling water out of the clouds. Water captured by the upland forest is then filtered through the porous volcanic soil into natural underground reservoirs where it can be tapped by the wells and tunnels that supply almost all of Hawaii's drinking water.⁴




Threats to the watershed are numerous. Climate change and its potential effects are being discussed by public agencies at all levels. The U.S. Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) has set up a special program called Regional Integrated Sciences and Assessments (RISA) to expand and build the nation's capacity to prepare for and adapt to climate variability and change. Within that program, a special "Pacific RISA Team" based at the East-West Center in Honolulu is conducting research specifically focused on our unique Hawaiian island geography. Pacific RISA will be conducting "downscaling" of global climate projections for specific island locations (O'ahu, Maui, Kaua'i, etc.) so that hydrological researchers will be able to better assess the sustainability of our ground water resources.⁵ Studies such as these will help inform decision makers about how to best protect our fresh water resources .

However, until such information is available, there is a lot we already know:

- Long-term downward trends in base flow of streams correspond to downward trends in rainfall and may reflect a decline in ground-water storage and recharge. Because ground water provides about 99 percent of Hawaii's domestic drinking water, a reduction in ground-water storage and recharge has serious implications for drinking-water availability.⁶
- Most of the public water supply on Maui, Hawai'i, is from a freshwater lens in the Wailuku area of the island. Because of population growth, ground-water withdrawals from wells in this area increased from less than 10 Mgal/d during 1970 to about 23 Mgal/d during 2006. In response to increased withdrawals from the freshwater lens in the Wailuku area, water levels declined, the

transition zone between freshwater and saltwater became shallower, and the chloride concentrations of water pumped from wells increased. These responses led to concern over the long-term sustainability of withdrawals from existing and proposed wells.⁷

- A century-long trend⁸ of declining rainfall has accelerated, with a 12% decline in the last 20 years alone.⁹
- Scientists predict that climate change will further decrease the future supply of our water resources.^{10,11} At the same time, the demand for these resources will increase.¹² Hotter and drier conditions will increase irrigation demands.¹³ Rising sea levels will turn coastal water sources brackish, further threatening fresh water supplies.¹⁴

 <p>The Rain Follows the Forest <i>Hahai no ka no i ka ulala'au</i> A Plan to Replenish Hawaii's Source of Water Department of Land and Natural Resources - State of Hawaii November 2011</p>	<p><i>Factoids from "The Rain Follows the Forest"</i> (http://dlnr.hawaii.gov/rain/plan/, page 2):</p> <ul style="list-style-type: none"> • "HAWAII'S WATER SUPPLY IS AT RISK – Our fresh water supply, revered and relied upon since the first ancient Hawaiians arrived on these islands, is declining. <u>If this trend continues, future generations will not have access to water at reasonable rates, and may face tight restrictions.</u> Agricultural, residential, commercial, cultural, and conservation uses are already competing over their share of a shrinking water supply." • "A century-long trend of declining rainfall has accelerated, with a 12% decline in the last 20 years alone." • "Groundwater head levels in Pearl Harbor, which supplies over 60% of Oahu's municipal water, declined by half since 1910. <u>Estimates of 'Iao valley's groundwater, which supplies a majority of Maui's municipal water, declined dramatically since the 1990s.</u>" • "Scientists predict that climate change will further decrease <u>the future supply of our water resources.</u> At the same time, the demand for these resources will increase. Hotter and drier conditions will increase irrigation demands." • "Rising sea levels will turn coastal water sources brackish, further threatening fresh water supplies."
<p><i>"The Rain Follows the Forest," the State's Department of Land and Natural Resources 10-year plan to protect Hawaii's mauka forests, identifies priority watersheds and outlines on-the-ground actions and projects required to protect and sustain Hawaii's critical water sources.</i> (http://dlnr.hawaii.gov/rain)</p>	

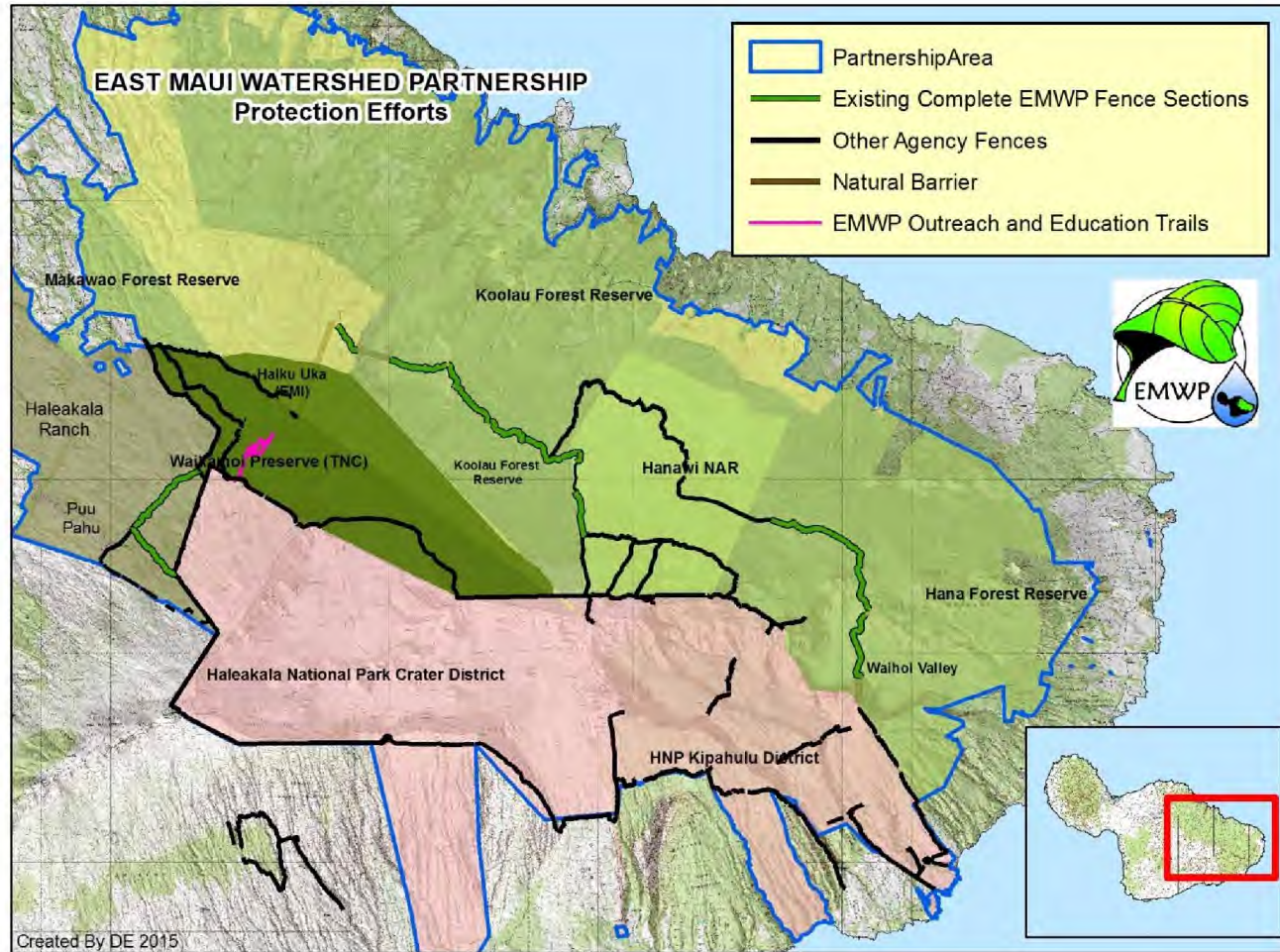
More immediate and tangible threats to the watershed include feral animal (ungulate) and invasive plant incursion. These are the threats EMWP works to mitigate and control.

Invasive feral animals, such as pigs, goats, feral cattle and axis deer (also known as "ungulates") damage native vegetation and root up soil, which increases erosion and sends sediments and other pollutants into streams and coastal areas. Feral pigs can dig up an area the size of a football field in one week. They multiply at an alarming rate, capable of having multiple litters of 8 to 10 piglets a year. Feral ungulate control is widely viewed as the most important first step for watershed protection in Hawaii¹⁵ and is EMWP's number one priority in watershed protection. EMWP employs a vigilant "Zero Tolerance" management strategy for ungulate control through fencing¹⁶, monitoring and removal^{17, 18}.

EMWP's second highest watershed protection priority is invasive plant eradication. Invasive alien weeds like Himalayan ginger (*Hedychium gardnerianum*), miconia (*Miconia calvescens*) and strawberry guava (*Psidium cattleinum*) out-compete native species, creating mono-cultures and completely displacing native vegetation. This robs the forest of its ability to effectively collect and hold water¹⁹. Himalayan ginger poses a particular threat in EMWP's management areas. This plant forms a solid mat of rhizomes (roots) on the forest floor, completely displacing the mosses, ferns and tree seedlings. As a result, the forest loses its ability to absorb and hold water, reducing groundwater recharge and washing topsoil downstream²⁰.

Other activities EMWP engages in include fostering community awareness of EMWP's efforts and goals of long term watershed protection through a robust educational outreach program, and cultivating strong inter-agency and partner-organization relationships in order to leverage resources to protect our county's water. Towards this end EMWP will work this year to explore the possibility of consolidating outreach efforts across the watershed partnerships and reduce or eliminate any redundancies that are discovered.

EMWP is dedicated to ensuring East Maui's upland watershed is fully functioning so fresh water resources can be utilized and enjoyed by the people of Maui in perpetuity.



EMWP's Core Management Area is located in the Ko'olau Forest Reserve and parts of East Maui Irrigation Company's Haiku Uka. Here EMWP maintains a rigorous feral animal (ungulate) control program and a targeted weed monitoring and removal program.

B. Project Goals and Objectives

In order to address the need to provide future drinking water source and supply for the Maui County Department of Water Supply, EMWP implements a watershed management plan that is approved by the partners. The plan is reviewed annually to address priorities of the partners and accommodate management needs as discovered in the field. Adhering to the view that even any percentage reduction in ground water recharge will be costly by leading to increased pumping costs, new wells, and longer transportation systems, EMWP seeks to mitigate the most important threats to the watershed.



Field Crew Leader Givonn Osterneck during routine fence repairs.

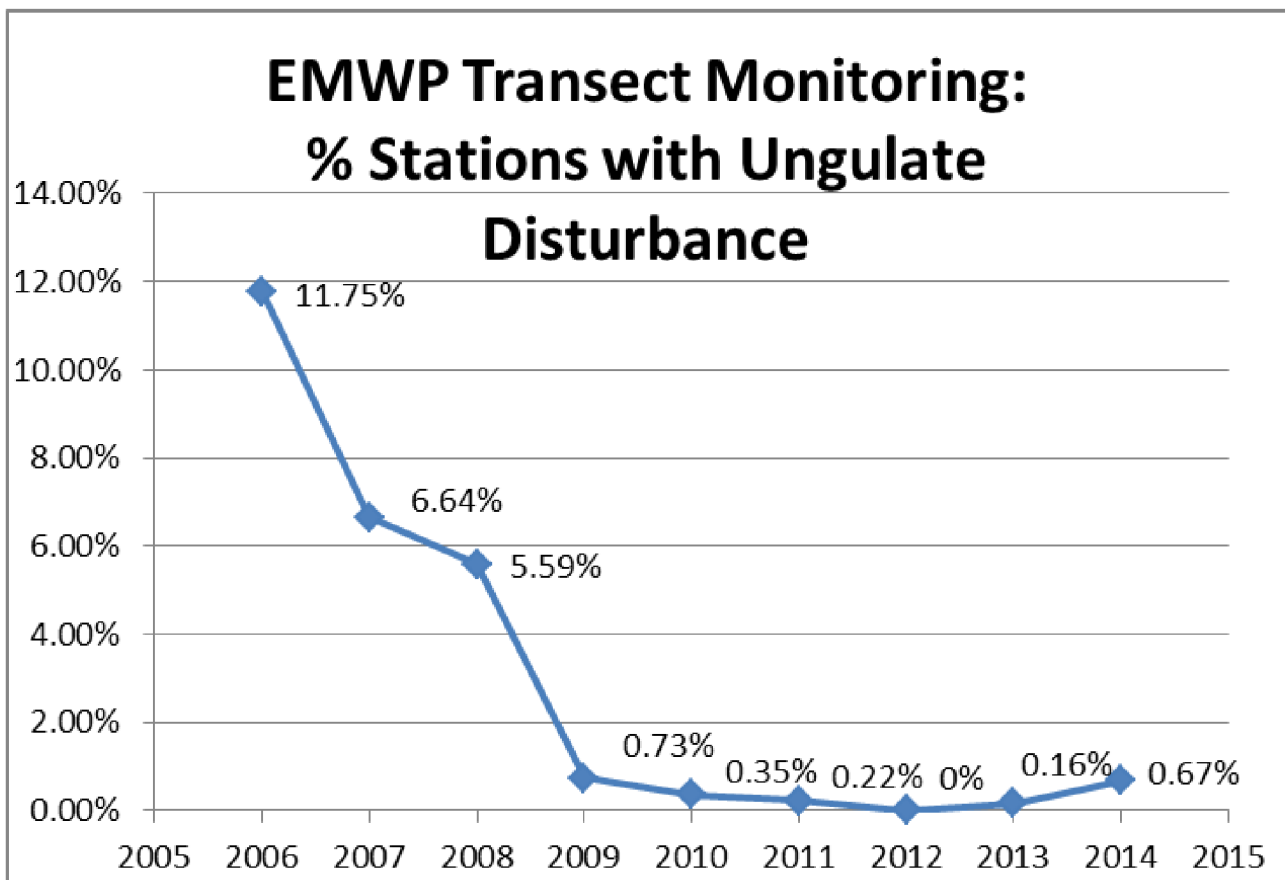
Removing feral ungulates from inside the fenced areas has been, and will continue to be, EMWP's top priority. Ungulate removal efforts have been extremely effective, and monitoring data shows animal numbers to be near zero. However, persistence and continued strong effort is required to maintain these low animal numbers. EMWP does this by maintaining fences to prevent new animal incursion and trapping. EMWP performs quarterly fence checks and repairs of all fences in its four main management units (Ko'olau Gap, Wailuanui, Wailuaiki, and Kopiliula), inspecting a total of 7.4 miles of fence. EMWP also maintains approximately 1,700 ungulate traps in the four units and routinely checks them twice a year. Maintaining a vigilant fence check schedule and keeping all ungulate traps in top condition are of critical importance to protect the watershed from ungulate activity.

Ungulate control will expand this year to include ungulate removal above the recently completed fence in Upper Hāna Forest Reserve. Control in this area is critical to wellhead protection for the residents of Hana and will be a major step towards protection of 3,500 acres of high quality watershed area.

The second priority of the project is invasive plant control. EMWP's Ko'olau Gap Unit, while pristine at higher elevations, has sizable populations of Himalayan ginger, and strawberry guava at lower elevations, near the ungulate proof fence. In recent years EMWP has observed the range of these species expand inside the fenced unit. EMWP proposes strategic removal of Himalayan ginger at the upper limit of its range to inhibit spread further into the watershed. To combat the spread of strawberry guava, EMWP will be disseminating the recently approved biocontrol agent *Tectococcus ovatus*. This small insect has gone through nearly 15 years of trials to ensure it will not become a pest of

native species and has been shown to reduce the vigor and slow the reproductive ability of Strawberry Guava.

Another important goal is to maintain a continuous dataset from an in-place network of monitoring infrastructure. EMWP has created a metric for tracking the results of watershed threat mitigation through a network of monitoring transects. Transects are trails with fixed stations marked along them at which parameters such as ungulate activity or weed presence and absence are recorded using the same methodology through time. In FY 16 EMWP plans to maintain and monitor 20 transects in its four management units. Four of these transects are in parts of the watershed not currently under active management by EMWP, covering an area of approximately 2,360 acres. These new transects are being monitored to lay the groundwork for active management in another large part of the watershed area.



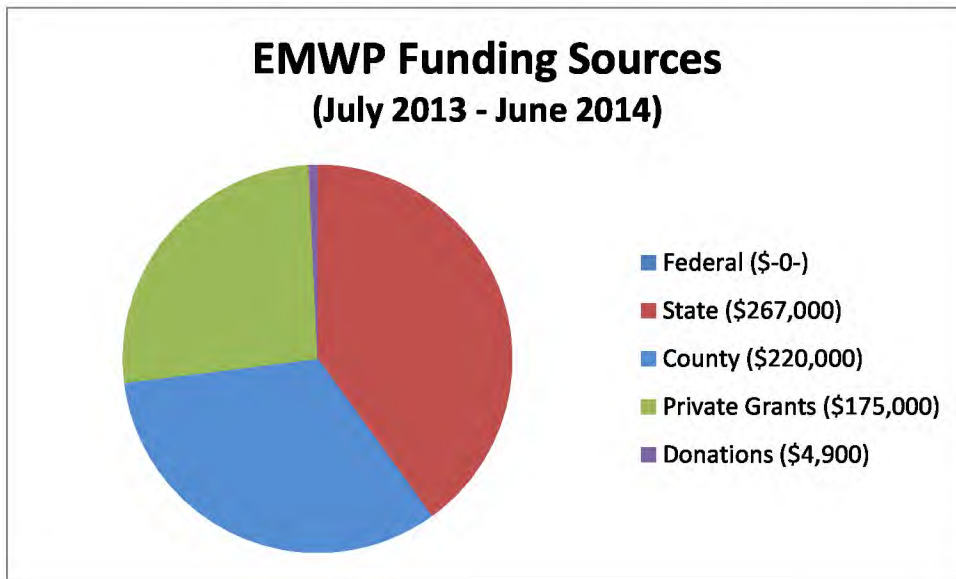
Another high priority of EMWP is maintaining a robust and active community outreach and education program in order to increase the awareness and comprehension of EMWP's mission to conserve and protect the native watersheds of East Maui. By conducting 28 hikes and presentations to schools and the general public, and by participating in 6 community events, and being featured in 4 media events, we hope to foster the development of an informed public who is educated about watershed function and other important conservation issues that affect Maui's water source. EMWP holds an annual art show celebrating the native Hawaiian rainforest and educating the public about the mission of the watershed partnerships.



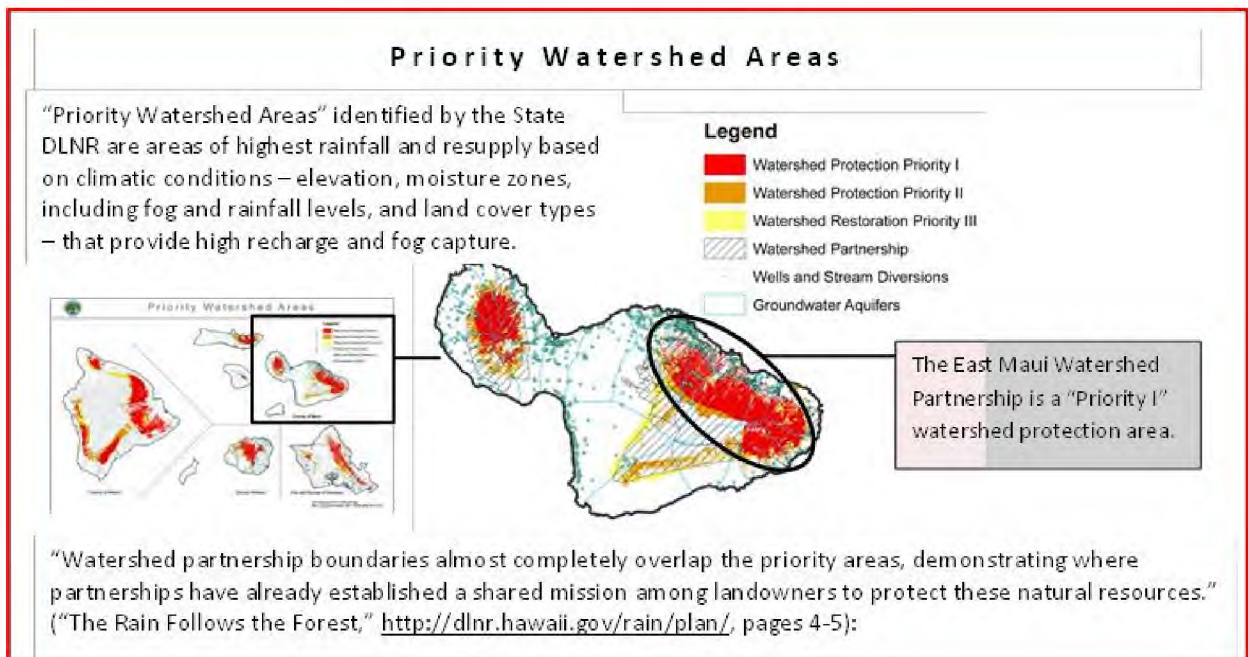
Community Outreach Coordinator Alison Borrel meeting and trading ideas with the Hana community at East Maui Taro Fest.

After 10 successful years conducting the event at Viewpoints Gallery in Makawao, EMWP is expanding the educational component and expanding the potential audience of the art show this year by holding the event at the Hui No'ēau Visual Arts Center in Makawao. In 2016 EMWP plans to help highlight watershed protection challenges and accomplishments on an international stage by working with the International Union for Conservation of Nature and Natural Resources (IUCN) to include this event as an outer island site visit during the 2016 IUCN World Conservation Congress in Honolulu. EMWP will also take steps this year to reduce redundancy between the outreach programs of the three watershed partnerships on the island of Maui and explore the possibility of consolidating efforts to create one outreach coordinator for all of the watershed partnerships.

EMWP is working hard to develop a diversified funding structure, applying for grants from state funded agencies, such as the Department of Land and Natural Resources, Hawai'i Invasive Species Council, and the Hawai'i Tourism Authority. As reflected in the attached budget, this year EMWP will place particular emphasis on diversifying funding to the public outreach and education program. Over the past five years federal funding has been less available, however, EMWP continues to pursue funding from agencies such as the National Fish and Wildlife Foundation, the U.S. Department of Agriculture's Forest Service and, the U.S. Department of Interior's Fish and Wildlife Service. EMWP also pursues private grant funding whenever possible, and maintains "small but mighty" private donations efforts through its outreach program. Developing a diversified funding structure is key to sustaining the program so the work of protecting the watershed and Maui's water source can continue over the long term. All grant funding received from DWS helps EMWP greatly to leverage funding from other sources.



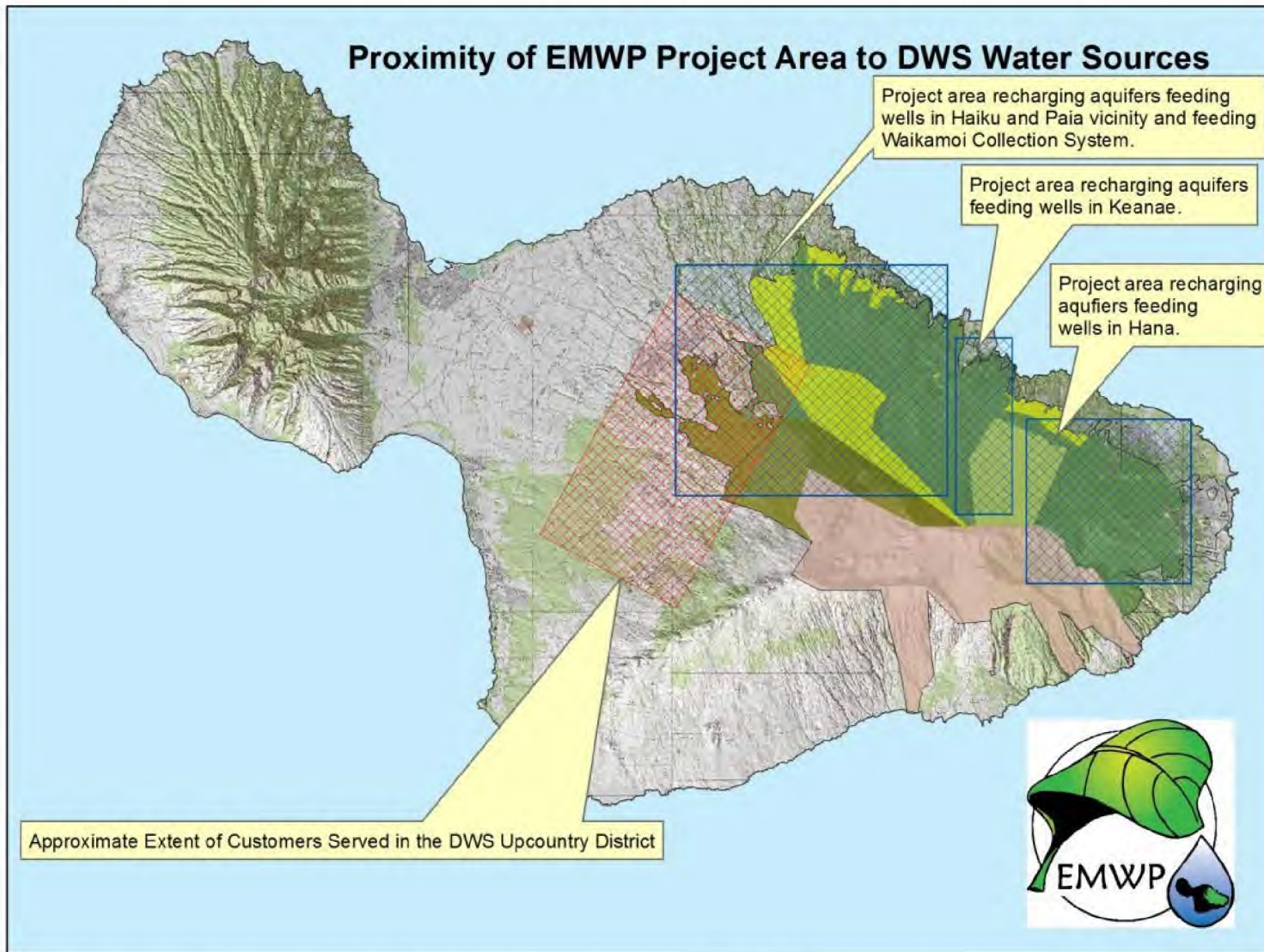
This diagram includes funding for work not included in this proposal, specifically \$175,000 from The Nature Conservancy for work in Waikamoi Preserve.



C. Location and Size of Project Area

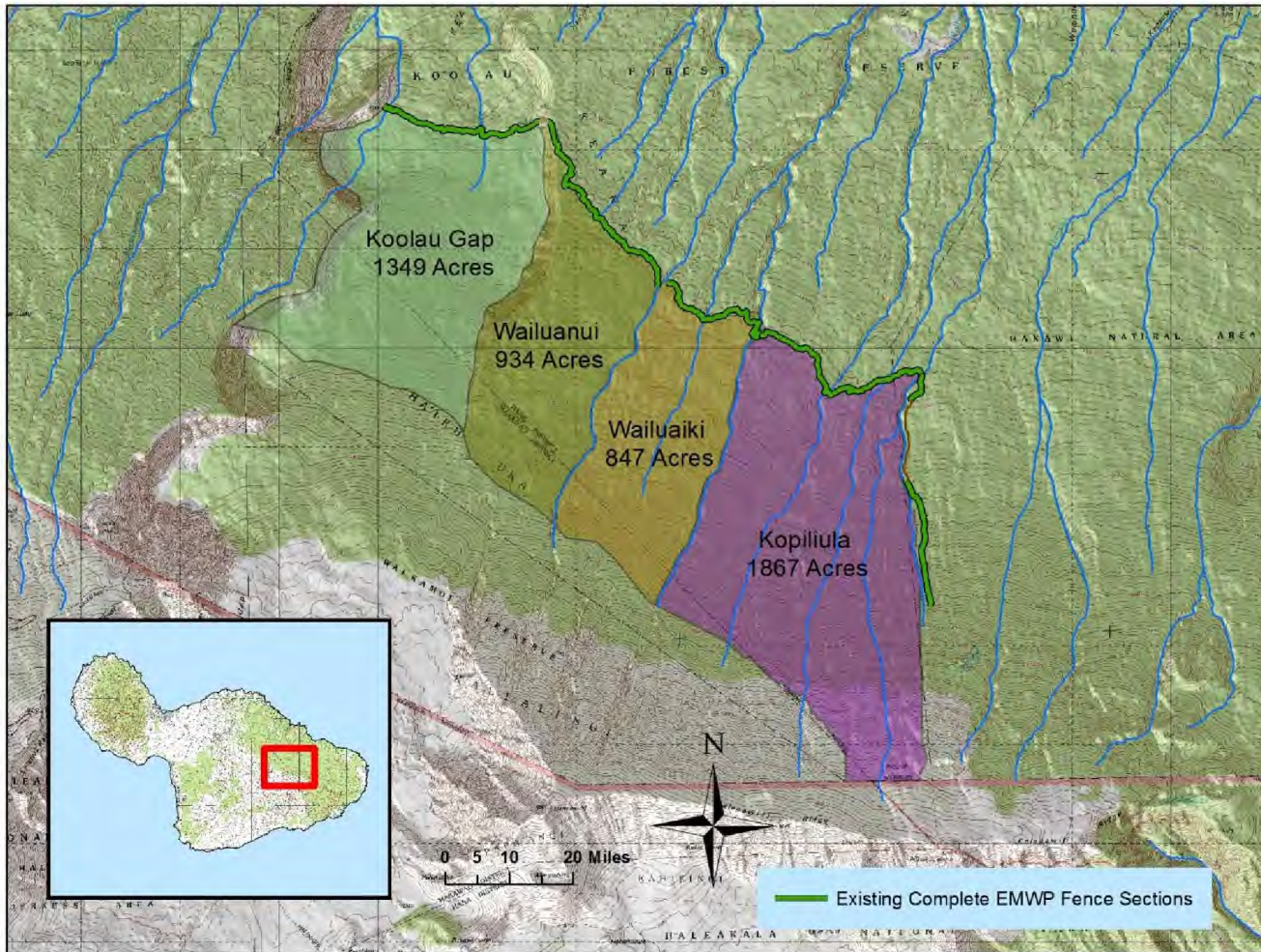
Grant money provided by DWS is a fundamental part of funding EMWP's ongoing efforts to actively manage a large, important portion (approximately 5,500 acres) of the East Maui watershed. Additionally, actions in this proposal will take steps in expanding management to an additional 2,360 acres, and greatly increase ungulate control in another 3,500 acres in Upper Hāna Forest Reserve. The following are some pertinent partnership facts about the location and size of our project area:

- **Total partnership land area** - approximately 122,700 acres (land held and managed by all partners)
- **Total partnership acres fenced to exclude ungulates by type of ungulate**
 - pigs & goats 45,000 acres
 - deer 31,000 acres (out of the 45,000 acres referenced above)
- **Total length of fences being inspected and maintained by staff** - approximately 13,000 meters/7.4 miles by partnership staff and 60,000 meters/37.3 miles by other partners)
- **Acres considered ungulate-free or nearly ungulate-free** - 12,000+ acres EMWP managed and 31,000 including all partners
- **EMWP's primary management area consists of 4 management units in the EMWP Core Management Area** These units include: Ko'olau Gap (1,349 acres), Wailuanui (934 acres), Wailuaiki (847 acres), and Kopiliula (1,867 acres).



East Maui's surface water and groundwater recharge provide drinking water for approximately 30,500 Maui residents or twenty percent of the island's total population.

**East Maui Watershed Partnership:
"EMWP Core Area"**



EMWP's Core Management Area

D. SCOPE OF WORK

1. Fence maintenance and inspection.

Background: Ungulate proof fencing is only effective at protecting the watershed if properly maintained. The most common problems come from storm events leading to tree falls and damage by high stream flow. Feral ungulates (pigs) are persistent and any holes in fencing are exploited. During quarterly fence checks, staff removes vegetation from fence lines, inspects fence and performs immediate repairs as practical. If more substantial repairs are required, EMWP schedules a return repair trip with additional tools and materials.

Actions:

- 1) Inspect and maintain 7.4 miles (12 km) of ungulate-proof fence around the EMWP Core Area on a quarterly basis.
- 2) Make immediate repairs as needed or report to Program Manager if additional repairs are required. Schedule additional repair trips as soon as logistically possible.
- 3) Record amount and types of materials needed and used for repairs.
- 4) Record and maintain GPS location of all repair sites.

2. Remove all invasive hooved animals (ungulates) from high priority areas.

Background: Feral ungulates disturb soils and displace native vegetation, weakening the watershed's water capture capabilities. EMWP maintains an extensive network of ungulate traps inside the fenced area. When a breach in the fence occurs or an animal finds its way into the management area, these traps are essential to maintaining near zero ungulate levels.

Actions:

- 1) Check approximately 1,700 stainless-steel wire traps in the EMWP Core Area two times per year checks in all units (Ko'olau Gap, Wailuanui, Wailuaiki and Kopiliula).
- 2) Schedule up to two immediate response trips to address any detected "ungulate hot spots" with increased trapping and scouting.
- 3) Install approximately 200 wire traps along the newly constructed fence in Upper Hāna Forest reserve. Carry out six trap checks to address anticipated increased volume of catches in this new management area.
- 4) Reset or Replace all inoperative traps as needed.
- 5) Add or reposition trap groups as amount of animal presence dictates via routine trap checks and supplemental scouting and surveying using a zero-tolerance threshold.
- 6) Record and maintain GPS locations and approximate age and sex of all captures.
- 7) Record and maintain GPS locations of all trap groups.

3. Invasive Plant Control - In fenced areas.

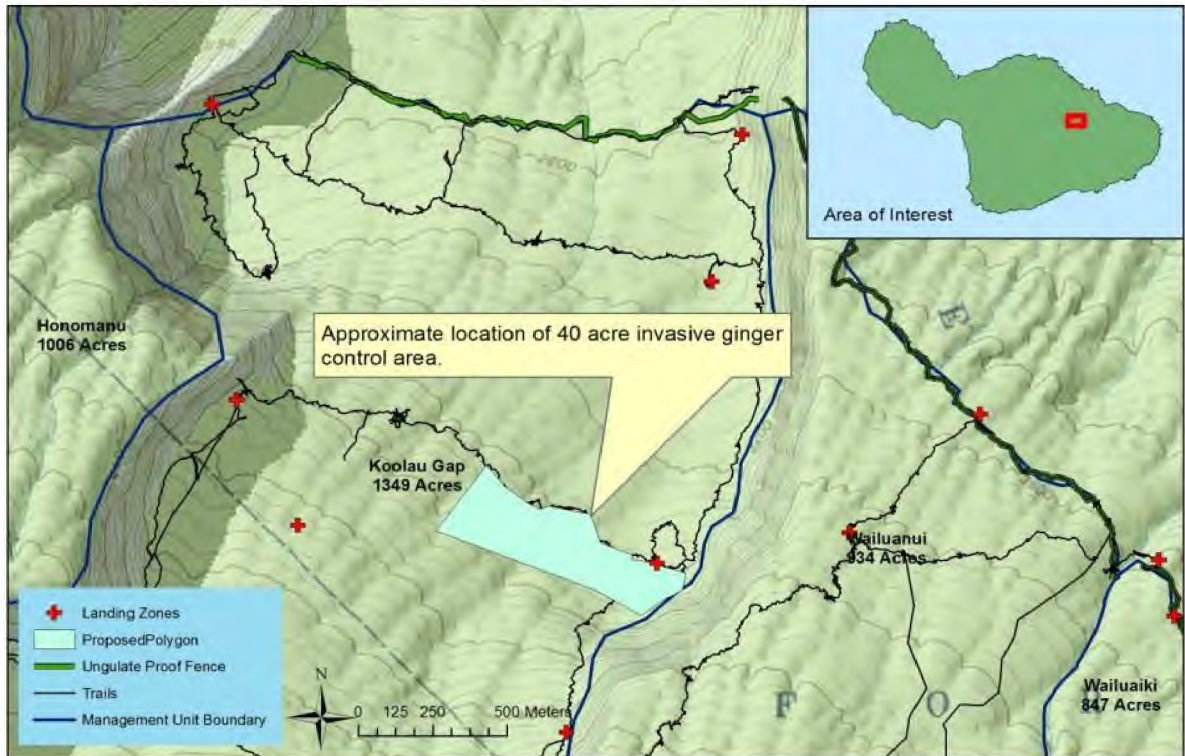
Background: EMWP continues to prioritize the control of Himalayan Ginger in its managed areas. This year, a portion of the leading edge of the Himalayan Ginger Population in Ko'olau Gap Management Unit has been targeted for control (see map on following page). Control of this entire area is expected to take 12 monthly trips, we are seeking funding for 6 more trips from other sources.

Actions:

- d. Control Himalayan ginger (*Hedychium gardnerianum*) in specified portion of Ko'olau Gap Unit 6 times (once a month).
 - Record amount and type of herbicides used per trip.
 - Use systematic sweep search techniques where staff is within line of sight of one another.
- e. Control priority invasive weeds as listed in EMWP Management Plan, such as *Clidemia hirta* and strawberry guava, along all 7.4 miles (12 kilometers) of ungulate proof fence around the EMWP Core Area during all field operations.
- f.

- Record amount and type of herbicides used per target species.
- g. Record and maintain GPS locations of all priority weeds controlled.

**East Maui Watershed Partnership Wailuanui Management Unit Outlying Ginger Populations
Invasive Weed Control**



Strategic outlying population of Himalayan ginger in Ko’olau gap management unit which EMWP plans to remove.

4. Invasive plant early detection.

Background: During routine field activities EMWP staff scout remote watershed areas. Because EMWP staff is on the ground and “in the thick of it,” so to speak, they are sometimes able to detect outlying invasive plants, such as pampas grass, that are not possible to detect through thick tree canopy overhead by aerial surveys.

Actions:

- 1) Report observations of new invasive species (primarily pampas grass) to Maui Invasive Species Committee and provide relevant GPS information as needed.

5. Spread of strawberry guava biocontrol.

Background: Strawberry guava is one of the top priority weeds of EMWP. After nearly 15 years of testing by the US Forest Service and other agencies, a safe biocontrol agent has been approved for release in Hawai’i. The insect reduces the vigor and reproduction of strawberry guava, but will not eliminate the plant.

Actions:

- c. Collect material from earlier insect introduction sites and move to other appropriate sites.
- d. Document/ photograph effects in affected plants.

6. Monitor all weed presence transects.

Background: EMWP tracks the trends of non-native, invasive plants in 20 transects along fence lines and trails. This process helps trigger management action, track efficacy and prioritize threats.

Actions:

- 1) Monitor all 20 existing weed transects in the EMWP Core Area once annually.
- 2) Record/maintain GPS locations of any priority weed species along 20 transects.

7. Monitor all ungulate presence transects.

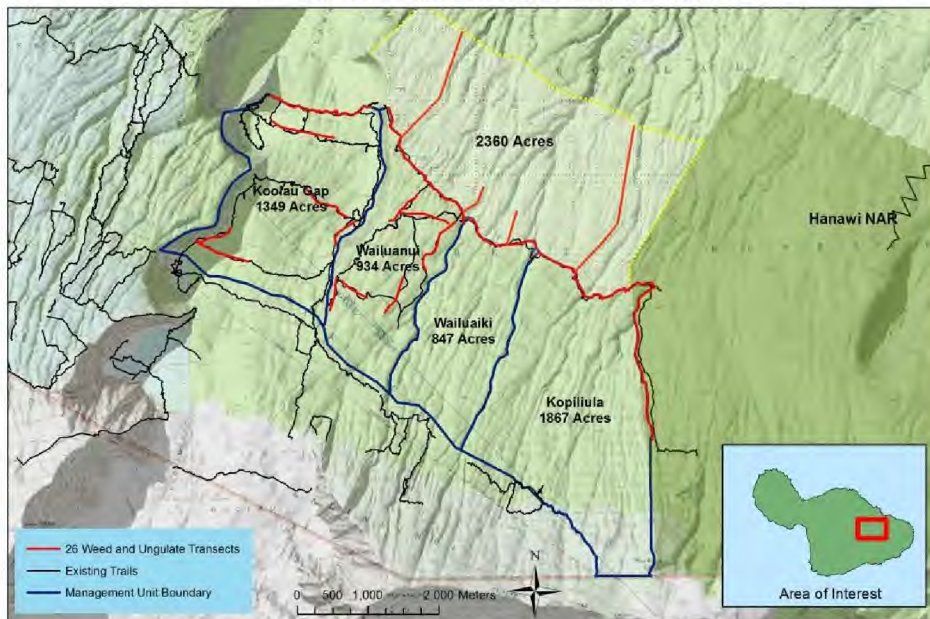
Background: EMWP has collected transect monitoring data using a fixed protocol established in 2006 to monitor progress of ungulate removal. All data is compiled annually to show trends in ungulate activity, while animal removal numbers is also an important measure of control efforts this index helps greatly in accessing progress when animal number drop to near zero.

Actions:

- 1) Record and maintain GPS locations of any ungulate presence during all routine operations.
- 2) Monitor all 20 existing ungulate transects in the EMWP Core Area once annually.

**East Maui Watershed Partnership 6003 Acre Core Management Area
Transect Monitoring**

Some Transects are to be established in FY15, so locations may not be exact



Map Updated By DE August 2015

Monitoring of transects guides management decisions and quantifies effectiveness of watershed protection efforts.

8. Public Outreach and Education.

Background: EMWP maintains a comprehensive community outreach and education program focused on educating the public about watershed function and raise support for protection by involving local schools, community groups and attending local events.

Actions:

- 1) Provide up to 10 presentations per year for regional middle/high schools, community organizations or special events.
- 2) Lead up to 16 hikes per year for middle/high school-age students, community leaders, volunteers or special events.
- 3) Participate in up to 6 community events per year (e.g. East Maui Taro Festival, Maui County Ag Festival, School job and science fairs).
- 4) Present the annual Mālama Wao Akua (MWA) Native Species Art Exhibit at a local art gallery to involve and educate local artists of all ages, and conduct community education events related to the exhibit.
- 5) Become featured in up to 4 media events per year.
- 6) Create, maintain and share educational, outreach and public awareness content on EMWP website at: www.eastmauiwatershed.org and the new art show event website www.malamwaoakua.org. EMWP also posts ~36 times per year on social media sites such as www.facebook.com/eastmauiwatershed and others to expand local, regional and international awareness of EMWP’s water conservation mission. Tracks “hits” on specific pages to analyze effectiveness of posted content on a monthly basis.

E. TIMELINE

Description of each deliverable	Expected amount of time to complete deliverable (#Months/ # Weeks)	Time frame (include expected months)
1. Fence maintenance and inspection	4 Weeks	Quarterly – July-September, October-December, January-March, April-June
2. Remove all invasive hoofed animals (ungulates) from high priority areas	6 Weeks	Ongoing through whole project period
3. Invasive Plant Control - In fenced areas	6 Weeks of a 12 week project	Ongoing through whole project period
4. Invasive plant early detection	Ongoing	Ongoing through whole project period
5. Spread of strawberry guava biocontrol	Ongoing	Ongoing through whole project period
6. Monitor all weed presence transects	1 Week	Ongoing through whole project period
7. Monitor all ungulate presence transects	1 Week	Ongoing through whole project period
8. Public Outreach and Education	12 Months	Ongoing through whole project period

F. PROJECT DELIVERABLES

Goal/Objective #1: Fence maintenance and inspection

	Deliverable	Measure of Success
Task	Check all fences quarterly	Complete check cycle 4 times per year
	Make immediate repairs, quickly schedule bigger repairs	No fence breaches will be left unattended for more than 1 week after discovery
	Record materials needed for repairs	Update project records and database at least monthly
	Record GPS locations of repairs	Update project records and database at least monthly

Goal/Objective #2: Remove all invasive hooved animals (ungulates) from priority areas

	Deliverable	Measure of Success
Task	Check 1,700 traps 2 times per year in Ko’olau Gap, Wailuanui, Wailuaiki and Kopiliula	Entire check cycle completed at interval specified
	Reset inoperative traps	No inoperative traps should exist at end of check cycle
	Address ungulate “hot spots”	Fresh sign will be addressed within a month of discovery
	Install/ Check six times 200 new traps in Hāna Forest Reserve.	Traps installed and checked at regular intervals.
	Add or move traps as animal activity dictates	All observed animal activity will have traps set nearby
	Record location, age, and sex of animals removed	Update project records and database at least monthly
	Record location of all trap groups	Update project records and database at least monthly

Goal/Objective #3: Invasive plant control – In fenced areas

	Deliverable	Measure of Success
Task	Control ginger in Ko’olau Gap unit 12 times per year	Complete 12 control trips (covering approx. 3.5 acres/trip)
	Control priority weeds along fences	Complete check cycle 4 times per year while controlling priority weeds
	Record amount and type of herbicides used	Update project records and database at least monthly

Goal/Objective #4: Invasive plant early detection

	Deliverable	Measure of Success
Task	Report new (incipient) weed populations to MISC	All detected incipient weed populations will be reported

Goal/Objective #5: Spread of strawberry guava biocontrol

	Deliverable	Measure of Success
Task	Collect and spread biocontrol material	Biocontrol will become established in new sites
	Document/ photograph effects in affected plants.	Progress will be mapped and included in reporting

Goal/Objective #6: Monitor all weed presence transects

	Deliverable	Measure of Success
Task	Monitor all 20 transects once annually in EMWP Core Area	All transects must be read with existing protocols
	Record GPS locations of priority weeds	Update project records and database at least monthly

Goal/Objective #7: Monitor all ungulate presence transects

	Deliverable	Measure of Success
Task	Monitor all 20 transects (16 existing + 4 new) once annually	All transects must be read with existing protocols
	Record GPS locations of priority weeds	Update project records and database at least monthly

Goal/Objective #8: Public Outreach and Education

	Deliverable	Measure of Success
Task	School presentations	10 presentations during the year
	School and community hikes and events	Leads ~16 hikes per year & participates in booths at ~6 community events per year
	Organizes Mālama Wao Akua (MWA) Art Show	More than 200 participants, reach 5,000 through associated media
	Participates in media	EMWP appears in media and press briefings 4 times per year
	Maintains Website and Social Media	Make 36 posts/updates to social media and websites per year

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County of Maui
 Department of Water Supply
Watershed Protection Grants
 Project Budget Summary

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

Expense Categories	Amount Requested
A. Personnel (Payroll Taxes and Fringe)	181,319
B. Transportation (fuel)	
C. Contractual (e.g., helicopter)	54,075
D. Utilities (e.g. telephone/cell, water, electricity, etc.)	4,650
E. Travel	4,892
F. Field Crew Costs	0
G. Supplies and Materials	8,285
H. Administrative & Overhead Costs (10% of total grant amount)	26,364
I. Other Costs	10,415
Total:	290,000



County of Maui
Department of Water Supply
**Watershed Protection
Grants**

A. PAYROLL COSTS

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

List by position & % of 40-hour week -	Salary	Amount Requested
Position name / Title		
Program Manager - 35%	55,280	19,348
Field Crew Supervisor and/or Natural Resource Managing Coordinator - 35%	52,770	18,470
Field Crew Leader - 35%	48,320	16,912
Data & Field Technician - 26%	48,000	12,480
Field Assistant #1 - 35%	36,760	12,866
Field Assistant #2 - 35%	33,420	11,697
Community Outreach & Education Liaison - 45%	44,560	20,052
Program & Data Assistant - 26%	42,370	11,016
PCSU specialist - 5% direct (only on project costs)		13,182
Payroll Taxes		15,854
Fringe & Benefits		29,442
Total:		181,319

BUDGET NOTES:					
<p>1) Re Natural Resource Managing Coordinator - To improve the efficiency of field operations, EMWP is phasing out the position of Field Crew Supervisor and phasing in the position of Natural Resource Managing Coordinator. We are not sure of the exact timing of this transition, so we are including both position titles here to cover the possibility that one or the other may be in effect at some point during the period of this grant. There may also be a short period of overlap when both positions are in effect simultaneously, however, EMWP will not exceed the total salary allocation for the project.</p>					

POSITION DESCRIPTIONS:

<p>The job descriptions listed below include job descriptions for all staff for whom salary will be paid under this grant.</p>
<p>PROGRAM MANAGER - Manages EMWP program under the broad direction of EMWP. Develops maintains and updates all program plans, prioritizes action plans and ensures plans are carried out by subordinates. Incorporates safety culture in program management. Identifies opportunities for program funds and develops proposals and grants. Makes presentations, manages program budget, produces progress and final reports. Makes presentations, collaborates with other organizations, directs EMWP public education program. Supervises staff and provides overall leadership by establishing priorities and setting program direction.</p>
<p>NATURAL RESOURCE MANAGING COORDINATOR - Serves as the EMWP Natural Resource Managing Coordinator for the EMWP. Responsible for developing and recommending resource management initiatives to EMWP project manager/coordinator and Partners for implementation. Programs include but are not limited to weed abatement, feral animal control, fence construction and landscape monitoring. Directly supervises Field Supervisor(s) who implement monitoring and management objectives and supervise project Crew Leaders and Field Technicians. Directly obtains and compiles data collected by EMWP project staff and partners on invasive species locations (plant and animal), current and proposed fence lines, and monitors transects into databases and/or Geographic Information System (GIS) platforms. Identifies and procures materials and equipment needed to implement resource management program. Assists staff implement resource management programs. Participates in public relations initiatives, and attends meetings as a representative of the EMWP with project Partners and members of the community. Adheres to protocols regarding equipment use, pesticide use, and invasive species prevention.</p>

<p>FIELD CREW SUPERVISOR - Serves as Field Crew Supervisor for EMWP personnel involved in monitoring the native ecosystem and controlling feral animal populations, building and maintaining fence lines, and controlling alien plant invasions using mechanical and chemical means. Other duties include mapping invasive species locations, current and proposed fence lines, and recording control work.</p>
<p>FIELD CREW LEADER - Serves as a Field Crew Leader, leading EMWP personnel involved in monitoring the native ecosystem and controlling feral animal populations, building and maintaining fence lines, and controlling alien plant invasions using mechanical and chemical means. Other duties include mapping invasive species locations, current and proposed fence lines, and recording control work.</p>
<p>FIELD ASSISTANT(S) #1 and #2 - Serves as a Field Assistant involved in monitoring the native ecosystem and controlling feral animal populations, building and maintaining fence lines, and controlling alien plant invasions using mechanical and chemical means. Other duties include mapping invasive species locations, current and proposed fence lines, recording control work.</p>
<p>DATA & FIELD TECHNICIAN – Participates regularly in field operations. Collects special data during field operations. Conducts data entry and analysis using program databases and Geographic Information Systems (GIS), planning and general program support duties. Uses GIS to produce map products to evaluate and facilitate fieldwork and assists with mission planning and reporting.</p>
<p>PROGRAM & DATA ASSISTANT – Provides general program support. Assists with project planning and reporting. Maintains accurate records and files on project activities and assists with report preparation on project accomplishments or grants. Manages, maintains and organizes office files and provides administrative oversight, including travel arrangements, purchase requests, and tracking budgets. Participates and supports project’s public relations programs and performs other duties as assigned.</p>
<p>COMMUNITY OUTREACH & EDUCATION LIASON – Leads public education efforts, working to ensure favorable public relations of EMWP natural resource objectives. Assists as needed in working with funding agencies to identify and obtain financial support for projects. Assists in the preparation of reports, and prepares publications, press releases and other public outreach documents. Develops content and curriculum for classroom presentations on natural resource management and watershed protection programs.</p>
<p>PCSU SPECIALIST – Pacific Cooperative Studies Unit, Department of Botany, College of Natural Sciences, University of Hawaii PCSU provides significant project management and scientific expertise as well as a direct connection to University staff, students and other resources. The PCSU direct rate for this grant is 5%.</p>



County of Maui
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B. TRANSPORTATION COSTS

(by type and nature)

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
Transportation Costs are budgeted in the following other categories:	
1. Fuel - See "G. Supplies, Materials & Equipment"	
2. Vehicle Maintenance & Repair - See "I. Other"	
Total:	0.00

Narrative Justification

See other budget categories referenced above for breakdown and justification of transportation costs.



County of Maui
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C. CONTRACTUAL SERVICES

(e.g. helicopter, etc.)

Fiscal Year:

2016

Organization:

East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
1. Helicopter Services	\$ 50,600
2. Outreach Database Maintenance	\$ 1,000
3. Graphic Design	\$ 1,000
4. Field Database Maintenance	\$ 1,000
5. Website Maintenance	\$ 475.00
Total:	54,075

Narrative Justification

1. Helicopter Services: For work in EMWP Core units (Ko`olau Gap, Wailuanui, Wailuaiki, and Kopiliula), Waihoi Valley and Upper Hana Forest Reserve. Note: All units are remote and inaccessible by vehicle or foot so must be accessed by helicopter. Budget breaks down as follows:

	# of Times/Year	# of Units	# Heli Hours Per Trip	Total Heli Hours	Cost/Hr	Total
Fence Inspections and ungulate checks in Koolau Gap, Wailuanui/ Wailuaiki/Kopiliula)	2	2	3.5	14	\$1,100	\$15,400
Ungulate Hot Spot Response	1	1	3	3	\$1,100	\$3,300
Ginger Control - Koolau Gap Unit	6	1	3	18	\$1,100	\$19,800
Ungulate Checks in Upper Hana Forest Reserve	3	1	3	9	\$1,100	\$9,900
Storm Fence Checks and contingency for cancelled weather operations	2	1	1	2	\$1,100	\$2,200
Total Helicopter Contract						\$50,600

2. Outreach Database Maintenance: EMWP maintains a comprehensive database containing information from all of its community outreach events, including school and community presentations, hikes, media events, etc. This database occasionally needs upgrades and maintenance. Contractor time budgeted: 13 hours x \$75/hour + tax.

3. Graphic Design: Production of flyers, posters, and other informational materials for EMWP events . The majority of the graphic design for these materials is done in-house by EMWP staff, however, some outside services are required each year to produce higher quality, more professional products. Contractor time budgeted: 13 hours x \$75/hour + tax.

4. Field Database Maintenance: EMWP maintains a database of field work which conforms to state-wide data collection protocols that requires annual maintenance . Contractor time budgeted: 13 hours x \$75/hour + tax.

5. Website Maintenance: Contractor services for maintaining EMWP's website: 13 hours x \$35/hour + tax.



County of Maui
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D. Utilities

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
1. Telephone (land line & internet)	\$ 1,800
2. Telephone (cell)	\$ 600
3. Electricity	\$ 2,010
4. Water	\$ 180
5. Refuse (Trash)	\$ 60
Total:	4,650

Narrative Justification

	Cost Per Month	# of Months	Total Cost
1. Telephone (land line & internet): Hawaiian Telcom: for Office & Baseyard	\$ 300.00	6	\$ 1,800
2. Telephone (cell): EMWP cell phone	\$ 50.00	12	\$ 600
3. Electricity: Maui Electric Company: for Office & Baseyard	\$ 335.00	6	\$ 2,010
4. Water: Dept. of Water Supply: for Baseyard	\$ 30.00	6	\$ 180
5. Refuse (Trash): County trash service at EMWP Baseyard	\$ 10.00	6	\$ 60
Total			\$ 4,650

With the exception of the EMWP cell phone (#2 above), this budget represents approximately 6 months of utilities for the Project.



County of Maui
Department of Water Supply
Watershed Protection Grants

E. Travel

Fiscal Year:
Organization:

2016
East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
1. Field Crew Per Diems (for backcountry camping trips)	3,160
2. Airfare	600
3. Hotel	350
4. Off-Island Transportation	240
5. Off-Island Per Diems	135
6. Mileage Allowance for Personal Vehicle Use	407
Total:	4,892

Narrative Justification

1. Field Crew Per Diems:	# of Trips	# of Days Per Trip	# of Staff	Cost Per Trip	Total Cost
Ginger Control in Koolau Gap	6	4	6	\$ 20.00	\$ 2,880.00
Ungulate Control Upper Hana Forest Reserve	1	2	7	\$ 20.00	\$ 280.00
Total					\$ 3,160.00

2. Airfare	# of Staff	Cost Per Trip	Total Cost
For Program Manager inter-island travel for project meetings	2	\$ 200.00	\$ 400.00
For Program Manager travel to IUCN World Conservation Congress in Honolulu, Hawaii, September 1-10, 2016 ¹	1	\$ 200.00	\$ 200.00
Total			\$ 600.00

3. Hotel	# of Staff	Cost Per Trip	Total Cost
Lodging for Program Manager to attend IUCN World Conservation Congress in Honolulu, Hawaii, September 1-10, 2016 (1 night at \$350/night) ¹	1	\$ 350.00	\$ 350.00
Total			\$ 350.00

4. Off-Island Transportation	# of Trips	Cost Per Trip	Total Cost
For Program Manager to attend IUCN World Conservation Conference. ¹ Roundtrip taxi or shuttle services to/from HNL airport to the Honolulu Convention Center.	2	45	\$ 90.00
Rental Car for Program Manager to attend neighbor island meetings such as Hawaii Association of Watershed Partnerships 2-day Conference	1	150	\$ 150.00
Total			\$ 240.00

5. Off-Island Per Diems	# of Staff	# of Days	Cost Per Day	Total Cost
For Program Manager to attend IUCN World Conservation Conference. ¹ Conference is 3 days and EMWP's off-island per diem rate is \$45/day, as approved by UH/RCUH.	1	3	\$ 45.00	\$ 135.00
Total				\$ 135.00

6. Mileage Allowance for Personal Vehicle Use	# of Trips	# of Miles Per Trip	Cost Per Mile	Total Cost
For Program Manager and other staff use of personal vehicles for Project business. At times, staff are required to use their personal vehicles for Project business. EMWP reimburses pre-approved personal vehicle use at the rate of \$0.565/mile (the current IRS/Federal approved rate for 2014).	24	30	\$ 0.565	\$ 407
Total				\$ 407

¹The International Union for Conservation of Nature (IUCN) is holding its World Conservation Congress in Honolulu, Hawaii September 1-10, 2016. Held once every four years, this important gathering of decision-makers from government, civil society, indigenous peoples, business and academia from around the world aims to improve management of Earth's natural environment for human, social and economic development through good environmental governance. This Congress provides a unique opportunity for EMWP management to network and discuss conservation issues on a global level and build capacity and leadership. (See also, "Other" for IUCN Congress registration fees.)



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F. Field Crew Costs

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
Field Crew Costs are included in the following other budget categories:	
1) "G. Supplies, Materials & Equipment" - for all gear, supplies, tools, etc. related to field work.	
2) "E. Travel" - for backcountry camping per diems related to field work.	
3) "I. Other" - for field-related goods and services, such as vehicle maintenance and repair, equipment maintenance and repair, vehicle insurance, and general liability insurance for field crew intern.	
4) "A. Payroll" - for field crew salaries, taxes and fringe.	
PLEASE SEE THE ABOVE-REFERENCED SECTIONS FOR ITEMIZATION OF FIELD CREW COSTS.	
Total:	0.00

Narrative Justification

See other budget categories referenced above for breakdown and justification of field crew costs.



County of Maui
 Department of Water Supply
Watershed Protection Grants

G. SUPPLIES & MATERIALS

Fiscal Year:

2016

Organization:

East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
1. Field Related Supplies & Materials	
a) Field Crew Gear & Equipment	3,128
b) Weed Control Supplies	1,076
c) Vehicle & Equipment Fuel	1,200
d) Field Camping Supplies & Consumables	1,081
2. Outreach Supplies	1,800
Total:	8,285

Narrative Justification

1. Field Related Supplies & Materials

a) Field Crew Gear & Equipment:

Clothing and Personal Protection Equipment (PPE): Work shirts, work pants, rain gear, leather boots, rubber boots, gaiters and socks for field work. Field crew works almost exclusively in high-elevation, wet conditions, and requires proper work clothing and rain protection. Dedicated gear for each management unit is required to prevent cross-contamination by spreading invasive plant seeds from one location to another

PPE includes fire-resistant NOMEX flight suits, flight gloves and aviator helmets for helicopter work, and other items such as safety glasses, work gloves and hard hats. First Aid & Emergency Supplies include : 1st Aid kits, bandages and other emergency survival gear, such as space blankets, safety mirrors, fire-starting tools, radios & gps units.

Operational supplies also include paper, printer toner, calendars, office supplies, postage stamps, Post Office box rental and other items for program management.

EMWP places a high-priority on safety and endeavors to provide each crew member with appropriate PPE, first aid/emergency and survival gear at all times.

b) Weed Control Supplies: Herbicide, surfactants, and dye used to treat Himalayan ginger; herbicide application supplies, such as 2-liter pump sprayers, protective gloves and safety goggles.

c) Vehicle & Equipment Fuel: 4 months at \$300/month for fuel for project vehicles and equipment (chainsaws, generators, etc.)

d) Field Camping Supplies & Consumables: Field and camping supplies include sleeping bags, waterproof sleeping bag covers, cots and cot tents, tarps, dry bags, headlamps, etc. "Consumables" refers to camping supplies which must be re-supplied after each trip. This includes paper towels, toilet paper, nitril gloves, dish soap, trash bags, ziplock bags, and charcoal or propane for cooking.

2. Outreach Supplies:

General: pens, paper, planner; poster board, velcro for event displays, etc.;

Educational & Event Supplies: diatomaceous earth, paint and plaster for watershed model; and educational watershed games; two magnetic signs for the outreach vehicle (van) with EMWP logo and contact info;

CPR & First Aid Kit Supplies: for school hikes and community events; and

Promotional Items: stickers, key chains, t-shirts, and magnets for outreach events.



County of Maui
 Department of Water Supply
Watershed Protection Grants

H. ADMINISTRATIVE & OVERHEAD COSTS

(by type & nature)

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
University of Hawaii ORS	
Direct Cost	\$ 263,636
Indirect Rate (UH 10%)	\$ 26,364
Total:	\$ 26,364

Narrative Justification

EMWP is a project of the University of Hawai'i's Pacific Cooperative Studies Unit (PCSU) and its staff are employees of the Research Corporation of the University of Hawai'i (RCUH). Grants are fiscally managed by the Office of Research Services (ORS) of the University of Hawaii (UH) which charges 10% as indirect fees.



County of Maui
Department of Water Supply
Watershed Protection Grants

I. OTHER

(by type & nature)

Fiscal Year: 2016
Organization: East Maui Watershed Partnership

Breakdown of Expenses	Amount Requested
1. Baseyard Usage Fee	4,200
2. Vehicle Maintenance & Repair	2,000
3. Equipment Maintenance & Repair	500
4. Freight & Shipping	100
5. Insurance	375
6. Training	1,640
7. Software, Licenses, Advertising & Miscellaneous Outreach Expenses	1,100
8. Printing	500
Total:	10,415

Narrative Justification

	# of Months	Cost Per Month	Total
1. Baseyard Usage Fee:			
For EMWP baseyard located at 820 Piihola Rd., Makawao HI 96768 (University of Hawaii, College of Tropical Agriculture - CTAHR property). EMWP shares this baseyard with Maui Invasive Species Committee (MISC). EMWP pays \$350/month to use this property.	12	\$ 350.00	\$ 4,200.00
2. Vehicle Maintenance & Repair:			
General vehicle maintenance, including oil changes, brake checks/repairs, safety checks and other required maintenance.	4	\$ 500.00	\$ 2,000.00
3. Equipment Maintenance & Repair: For repair of chainsaws, generators, and other small equipment and tools.			\$ 500.00

4. Freight & Shipping:	# of Shipments	Cost Per Shipment	Total
Occasional shipping required			\$ 100.00

5. Insurance	# of Vehicles	Cost Per Vehicle	Total
Vehicle Insurance for 2 RCUH Project vehicles	3	125	\$ 375.00

6. Training	# of Staff	Cost Per Class	Total
a) 1st Aid/CPR Classes required for RCUH staff (renewals every two years). EMWP tries to avail itself of free 1st Aid classes provided by RCUH or from the State or other agencies as available. However, due to a demanding field operations schedule and the somewhat erratic schedule and infrequency of the aforementioned classes, we must sometimes send staff thru private training in order to keep certifications current.	5	\$ 90.00	\$ 450.00
b) Driver's Safety Class for all staff: EMWP is seeking additional ways to foster a culture of safety. If available, we would like to run all staff who use project vehicles through a driver's safety class.	9	\$ 60.00	\$ 540.00
c) Outreach Training: Continuing education classes for outreach specialist in the areas of graphic design, social media and networking. Various classes over 1 year.	1	\$ 500.00	\$ 500.00
d) Registration fee for Program Manager to attend IUCN World Conservation Congress in Honolulu, Hawaii, September 1-10, 2016 (2-day Kamaaina rate pass at \$150) ¹	1	\$ 150.00	\$ 150.00
Total			\$ 1,640.00

7. Software, Licenses, Advertising & Miscellaneous Outreach Expenses:		
Webhosting fees, website domain name registrations, survey and data collection software fees; event booth fees (for Ag Fest, Arbor Day and Earth Day at Maui Nui Botanical Gardens, Hana Taro Festival). Advertising costs for Maui Family Magazine event calendar and other publications.		\$ 1,100.00
8. Printing:		
Printing for promotional materials.		\$ 500.00

¹The International Union for Conservation of Nature and Natural Resources (IUCN) is holding its World Conservation Congress in Honolulu, Hawaii September 1-10, 2016. Held once every four years, this important gathering of decision-makers from government, civil society, indigenous peoples, business and academia from around the world aims to improve management of Earth's natural environment for human, social and economic development through good environmental governance. This Congress provides a unique opportunity for EMWP management to network and discuss conservation issues on a global level and build capacity and leadership. (See also, "Travel" for related travel costs.)

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 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 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).



County of Maui
 Department of Water Supply
Watershed Protection Grants
 Fiscal Year 2016

Reimbursement Request Form

Expense Categories	Grant Amoun	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 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	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. (PLEASE USE FORM 4.6)

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:

