

**GRANT AGREEMENT FOR MICONIA/INVASIVE SPECIES CONTAINMENT PROJECT
BETWEEN THE COUNTY OF MAUI AND THE UNIVERSITY OF HAWAII**

THIS AGREEMENT made and entered this _____ day of _____, 2016, by and between the COUNTY OF MAUI, a political subdivision of the State of Hawaii, through its DEPARTMENT OF WATER SUPPLY (hereinafter "County" or "DWS"), whose principal place of business and mailing address is 200 South High Street, Wailuku, Maui, Hawaii 96793, and THE UNIVERSITY OF HAWAII, (hereinafter "UH"), an organization of the State of Hawaii (hereinafter, "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: *Miconia calvescens* was discovered on Maui in 1990, and has since been discovered to cover over a thousand acres in the Hana forest;

WHEREAS: It is a fast spreading tree from South America, is harmful to native Hawaiian forests, eliminating critical understory, including the ferns and mosses critical to aiding infiltration, as well as leaving bare forest floors with opportunities for erosion and water quality degradation;

WHEREAS: Hawaiian forests contribute significantly to recharge of Hawaiian aquifers. Protection, maintenance and prevention are elements of efficient management, as well as of ensuring long term purity and cleanliness of water;

WHEREAS: The Maui Invasive Species Committee (MISC) was formed in 1999 to address invasive species detection and response capabilities. The Molokai Invasive Species Committee (MoMISC) was also formed as a subcommittee of MISC and started operating on 2002;

WHEREAS: Other invasive plant species such as pampas grass, fountain grass, ivy gourd, and others also pose significant threats to the health of Maui County's watersheds;

WHEREAS: Both MISC and MOMISC have demonstrated significant accomplishments over the last 15 years and they work on island-wide landscape levels to target the most serious threats to watershed integrity; and

WHEREAS: Monies are needed to continue follow-up, removal of newly discovered plants, maintenance of access trails, and ground and aerial treatment of the plants.

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

I. Responsibilities of Parties:

A. DWS Responsibilities:

1. DWS shall contribute grant funds for the implementation of the proposal attached as Exhibit "A", and shall provide payment of up to \$250,000.00 to UH-ORS for services rendered as described in the attached proposal and summarized in I.B. below.
2. DWS staff shall consult on and provide information, as needed, to assist in the implementation of the proposal attached as Exhibit "A".

B. UH-ORS Responsibilities:

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

1. Preventing the spread of miconia into intact forested watersheds by conducting:
 - a. Aerial survey and control operations in known locations to be revisited three (3) times annually, which includes 1,302 acres in Keanae and other areas totaling 4,500 acres.
 - b. Ground survey and control operations covering an estimated 1,000 acres to control all plants found with the exception of seedlings.
2. Containing or eradicating all pampas grass infestation by conducting:
 - a. Ground operations to survey 117 sites within East Maui residential areas annually.
 - b. Aerial operations on East and West Maui, including survey buffered areas around known locations within an estimated 3,512 acres (West Maui – 2,000 acres and East Maui – 1,512 acres).
 - c. Helicopter drop crews to Honomanu, Haipua'ena and West Maui field camps to survey approximately 145 acres.
 - d. Ground operations on approximately 1,215 acres to control subject plants on East and West Maui wilderness and ranches.
3. Eradicating fountain grass from Maui Island by conducting:
 - a. Ground surveys and control operations at all known sites.
 - b. Visiting sixteen (16) known locations quarterly to control all plants found.
4. Eradicating ivy gourd from Maui Island by conducting:
 - a. Ground surveys of 188 known locations
 - b. Visiting all sites quarterly for control operations
5. Early detection/rapid response for incipient plants on Maui and Molokai by conducting:
 - a. Ground surveys at known locations for fourteen (14) species on Maui.
 - b. Ground surveys at known locations for twelve (12) species on Molokai.

6. Collecting and analyzing tabular and spatial data for all field operations, which includes providing to DWS:
 - a. Geographical Information System (GIS) data
 - b. Maps and other graphical representations related to deliverables
7. Engaging local students and the landscape industry to support watershed protection by organizing:
 - a. Twenty (20) school based activities.
 - b. Two (2) watershed hikes.
 - c. Two (2) watershed protection presentations to landscapers.

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

Darcy Yoshinaga, Interim Director
Office of Research Services - University of Hawaii
2440 Campus Road, Box 368
Honolulu, Hawaii 96822

III. Payment

- A. Payment shall be made by DWS to UH-ORS in four (4) installments, upon submission of invoices and supporting documentation for expenses incurred. All requests for payment shall include both programmatic and financial progress reports.
- B. The first request for payment shall be invoiced no earlier than 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 the 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 Geographic Information System (GIS) map layers generated by the Project, and any other work deliverables as indicated in the proposal.

- F. UH-ORS shall retain copies of documentation for a period of three (3) years after completion of this Agreement required to substantiate all expenditures and shall make such documentation available to DWS for inspection or audit upon request.
- G. Expenditures shall be made in accordance with the budget for the Project contained in Exhibit "A", and shall apply to the work items summarized above in I.B.

IV. Indemnification

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

V. Time of Completion

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

VI. Rights and Responsibilities

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

VII. Successors and Assignees

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

VIII. General Terms and Conditions:

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

IX. Agreement Voluntary:

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

X. Exhibits:

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

"A" FY 2017 Proposal from Maui Invasive Species Committee – UH-ORS

"B" General Terms and Conditions - DWS Grants

COUNTY:
COUNTY OF MAUI:

BY: _____
ALAN M. ARAKAWA
Its Mayor

GRANTEE:
OFFICE OF RESEARCH SERVICES -
UNIVERSITY OF HAWAII

By _____
DARC YOSHINAGA
Interim Director

APPROVAL RECOMMENDED:

SANANDA K BAZ
Budget Director

DANILO F AGSALOG
Director of Finance

DAVID 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 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.

[Stamp or 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 _____)
)
COUNTY OF _____) 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.

[Stamp or Seal] _____
Notary Public, State of _____
Print Name: _____
My Commission Expires: _____

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



**Research Corporation University of Hawaii
Pacific Cooperative Studies Unit
Maui Invasive Species Committee**

**Proposal to
Maui County
Department of Water Supply**

**Protecting Maui's Watersheds
From Invasive Plants**

A. PROJECT BACKGROUND

The mission of the Maui County Department of Water Supply is to *provide clean water efficiently*. Maintaining intact native vegetation in Maui's forested watersheds is essential to ensure a sustainable supply of fresh water in perpetuity. However, many non-native invasive plants have become established in our upland forests and at residential sites where seeds can be readily vectored into the watersheds. This proposal seeks to prevent or halt those impacts.

Early detection and rapid response to newly detected harmful invaders is exponentially less expensive than controlling a species once it becomes widely established. Numerous research projects have worked to estimate the economic harm caused by specific invasive plants. As one example, the large-leaved miconia tree (*Miconia calvescens*) has invaded more than half the native forests of Tahiti, where it shades out the water-collecting native understory leaving bare ground that is highly susceptible to landslides and erosion. Studies focused on miconia have estimated that the unchecked spread of this single species across the Hawaiian Islands would cost \$1.74 billion over a 100-year time frame due to loss of ecosystem services from forested watersheds. Researchers concluded that expenditures in the millions of dollars now would be more profitable than accepting accommodation.

The Maui Invasive Species Committee (MISC) and its sister agency, the Moloka'i Invasive Species Committee (MoMISC), are projects of the Pacific Cooperative Studies Unit and the Research Corporation of the University of Hawai'i. MISC and MoMISC work on island-wide landscape levels to target the most serious threats to watershed integrity. In the early 1990s, Maui's resource managers realized that plants such as miconia were spreading into native forests; they initiated a coordinated effort to address the threat. MISC, an inter-agency partnership comprised of government, nonprofit and private organizations, was formed in 1999 to address gaps in invasive species detection and response capabilities. The Moloka'i Invasive Species Committee was formed as a subcommittee of MISC and began operating by 2002. Each ISC works to eradicate or contain targeted species based on the risk posed to the watershed, feasibility of control, and cost of control. MISC and MoMISC partners are listed in Table 1.

The projects have demonstrated significant accomplishments over the last 16 years. MISC has successfully kept miconia from spreading throughout the East Maui Watershed. Control of the only known location in Wailuku has kept miconia out of the West Maui Watershed. Operations are reducing pampas grass infestations in both watersheds. MoMISC conducts aerial surveys in the East Moloka'i Watershed to ensure the early detection of miconia and other forest invaders. Other invasive plant threats are targeted wherever they are - in residential areas, ranch and wild lands, or remote forests. MISC and MoMISC have completed island-wide eradications of more than 12 invasive plant species.

All work is thoroughly documented; geospatial information and analysis provide the basis for ongoing adaptive management strategies. This proposal seeks funding to contain or eradicate a suite of 30 invasive plant species on Maui and Moloka'i using ground and aerial operations to work in high priority watersheds (Figures 1 and 2). Considerable effort and resources have been focused on this work. Failure to maintain adequate momentum will set back the clock for years; each missed mature plant means

the area must be visited for as long as seeds remain viable in the soil – up to 18 years and counting for miconia. Worse, it could mean the ultimate loss of intact forested watersheds - the source of our clean drinking water supply.

B. PROJECT GOALS AND OBJECTIVES

Future Drinking Water: Future water sources and supplies depend on healthy forests with adequate recharge. Invasive plants out-compete native plants for space, sunlight, water, and nutrients. They alter soil chemistry,¹ change fire regimes,² affect soil stability, use more water, increase surface runoff, and decrease aquifer recharge.³ Left unchecked, invasive plants will ultimately damage the entire structure of our watersheds. MISC and MoMISC target those species that most seriously threaten the ability of our forests to provide water in perpetuity.

Benefits of the Work / Watershed Management Plans: The proposed work and management plans address identified priorities of the Department of Water Supply. DWS has long recognized the importance of stopping the spread of invasive species. The top target species for MISC is miconia, which is recognized worldwide as a serious threat to watershed integrity. The following outlines relevant management plans addressed by this proposal.

MISC Management Plans: MISC works to address watershed threats on a landscape level, working from the lowlands to the summit of Haleakala. Strategies are developed by the Committee and MISC staff and evolve based on lessons learned. Three plans are particularly relevant to this proposal: MISC’s Strategic Plan; Miconia Management Strategy; and Pampas Grass Management Plan.

Strategic Plan: MISC operates under a Strategic Plan that is periodically reviewed and updated by MISC Committee members and staff. While the Strategic Plan is broader in scope than watershed management, the underlying principles are relevant to watershed protection: early detection and rapid response; eradication/containment strategies; biocontrol; science-based strategies; and engaging the public.

Miconia Management Strategy: Miconia has been eradicated from West Maui; ongoing surveys on Moloka’i work to ensure the early detection of this species should it ever become introduced there. MISC’s Miconia strategy relies on both ground and aerial operations to control and contain miconia across more than 119,000 acres of suitable habitat (Figure 3). Miconia is MISC’s highest priority plant species; limited resources require constant strategy refinement to ensure that efforts are concentrated in the most efficient way in the highest priority areas.

Pampas Grass Management Plan: Pampas grass has invaded the East and West Maui Watersheds (Figure 4); it also threatens the Leeward Haleakalā Watershed and has previously been controlled on

¹ Allison, S.D. and Vitousek, P.M. (2004). Rapid nutrient cycling in leaf litter from invasive plants in Hawai’i.

² Tunison, J.T., Loh, R.K., and Leialoha, J. (1995). Fire effects in the submontane seasonal zone Hawaii Volcanoes.

³ Takahashi, M., Giambelluca, T.W., Mudd, R.W., DeLay, J.K., Nullet, M.A., and Asner, G.P. (2011). Rainfall partitioning and cloud water interception in native forest and invaded forest in Hawai’i Volcanoes National Park. *Hydrological Processes* 25(3): 448-464.

Moloka'i. Like miconia, pampas grass requires both ground and aerial operations, as well as considerable effort in residential areas (Figure 5).

Watershed Partnership Management Plans: MISC and MoMISC take an island-wide approach to targeting invasive plants, therefore much work occurs on lands managed by the islands' largest landowners. Many partner agencies and organizations that make up the watershed partnerships are also active MISC and MoMISC partners. In addition to the ISC's management strategies, the proposed project will help implement watershed management plans across five of Maui County's watershed partnership projects: East Maui Watershed Partnership (EMWP), Leeward Haleakalā Watershed Restoration Partnership (LHWRP), West Maui Mountains Watershed Partnership (WMMWP), Pu'u Kukui Watershed (PKW), and East Moloka'i Watershed Partnership (EMoWP) (Figures 6 & 7). Each of the Watershed Partnership plans focuses on detection and removal of high-priority weed species and ungulates.

Examples of watershed management plan implementation through this proposal include:

EMWP Plan: Prevent the establishment and expansion of top priority weeds in existing/future management units. Increase weed management capacity by hiring additional staff and utilizing volunteers, MISC and other agencies.

LHWRP Plan: List of non-native invasive habitat-modifying plant species that are considered as priority targets for mapping, monitoring, and control within LHWRP include two of MISC's top priority species: pampas grass (*Cortaderia jubata*) and fountain grass (*Pennisetum setaceum*).

WMMWP Plan: The WMMWP plan highlights the strategic importance of working with MISC, noting that it was created to address serious threats to native ecosystems posed by invasive alien plants and animals and that MISC activities include "public education, providing information to the Hawai'i legislature and Maui County, as well as planning, coordinating, and facilitating cooperative chemical, mechanical, and biological control programs." The plan states that several MISC targets have serious potential to invade WMMWP lands, including ivy gourd, fountain grass, and pampas grass.

Kawela (Moloka'i) Plantation Watershed Management Plan: Conduct invasive weed control in native forest systems. Identify and develop priority weed list. Support TNC weed control efforts. Support MoMISC new invasive species prevention and detection goals.

DLNR Forest Reserve Management Plan (Molokai): Invasive species control: Reduce the impact of invasive species on the Forest Reserve and surrounding areas. Continue work with MoMISC and other cooperators.

Most of MISC's watershed protection efforts focus on invasive plant species; however, MISC has assumed a supportive role for managing axis deer, a species of concern for each of Maui's Watershed Partnerships. MISC will continue working closely with the Watershed Partnerships on survey operations and will continue to do so to support a zero-tolerance approach to axis deer in priority forested watersheds.

Best Management Practices, Innovation, and Methods

MISC and MoMISC are committed to using best management practices, learning from past experiences, and adopting innovative approaches as appropriate. MISC probably leads the world in utilization of

herbicide-encapsulated paintballs in efforts to control outlier populations of miconia. Specific methods and strategies vary by species but the overall objective for each invasive plant species is either island-wide eradication or containment. The following summarizes general objectives, with more specific objectives outlined below.

Target Species	Geographic Area	Overall Goal
Miconia	East Maui	Containment
Pampas grass	Island-wide	Eradication
Fountain grass	Island-wide	Eradication
Ivy gourd	Island-wide	Eradication
Incipient species	Maui & Moloka'i	Eradication

Miconia (*Miconia calvescens*)

Miconia is one of the most aggressive plant species to invade Hawai'i. In Tahiti, miconia has invaded more than 70 percent of the island's remaining native forests. Plants begin producing fruit by 4-5 years, generating as many as 10 to 20 million seeds per year, which are spread by fruit-eating birds and in contaminated soil adhering to hiking shoes, equipment, vehicles, and forest animals. Because miconia had gained a strong foothold in lower-elevation forests of East Maui before it was discovered, the overall strategy for this species is containment.

Current Status: Recent surveys have detected mature and near-mature plants in outlier areas; the core infestation near Hāna and Nāhiku is becoming more dense. DWS funding is critical to stopping miconia's further spread up the mountain.

Key Objectives:

- Prevent spread of miconia into intact native ecosystems
- Contain or eradicate all outlier populations
- Conduct survey and control actions for miconia over 4,000 acres of East Maui
- Conduct early detection surveys on Moloka'i

Pampas grass (*Cortaderia jubata* and *C. selloana*)

Pampas grass is a large, tussock-forming grass native to South America. Plants produce thousands of wind-dispersed seeds. Both *C. jubata* and *C. selloana* have proved to be aggressive invaders in natural areas of California, New Zealand, and South Africa. *C. jubata* was discovered invading natural areas on Maui in 1989. Distribution data show that pampas grass has invaded numerous areas of rain forest as well as bogs on East and West Maui.

Current Status: The densest infestation is located in the Honomanū area which is characterized by predominantly native plant cover. Progress on curtailing the further spread of pampas grass into priority watersheds has been substantial over the last five years. The number of mature plants is declining in most areas; however, inaccessible areas of West Maui remain challenging. Continued random discovery of outlier plants at higher-elevations underscores the need to maintain adequate aerial coverage.

Key Objectives:

- Survey known infested areas each year on East and West Maui
- Detect and remove all discovered plants
- Conduct survey and control operations over 5,109 acres of East and West Maui

Fountain grass (*Pennisetum setaceum*)

Native to Africa, highly flammable fountain grass directly threatens Maui's forests by out-competing native species for resources and changing the soil chemistry. It is adapted to a fire regime, unlike native species. Wind-borne seeds may remain viable in the soil for up to four years. Widespread on Hawai'i Island, fountain grass has been recognized since the 1960s as a threat to natural areas of Maui. It is readily dispersed by vehicles, humans, wind, and water and can become established at elevations ranging from sea level to over 8,000 feet. It is occasionally re-introduced to Maui from Hawai'i Island.

Current Status: Fountain grass is on track for eradication

Key Objectives:

- Survey known infested areas each year
- Detect and remove all discovered plants
- Conduct survey and control operations for fountain grass at 16 sites on Maui, as well as any newly detected infestations

Ivy gourd (*Coccinia grandis*)

This rapidly spreading Southeast Asian vine threatens lowland conservation sites. It was first found on Maui in 1992 and is considered eradicable because of its dioecious condition (both male & female plants are generally necessary for pollination and seed set). Seeds remain viable for at least 3-4 years and are primarily dispersed by birds eating the fruit.

Status: On track for eradication

Key Objectives:

- Survey known infested areas each year
- Detect and remove all discovered plants
- Conduct survey and control actions for ivy gourd at 188 sites on Maui or new sites

Incipient invasive plants (Maui and Moloka'i):

Mapping and assessment of additional plant species will continue on an ongoing basis with new species added based on recommendations of subject-matter experts and MISC and MoMISC Committees. Species added to priority lists will be controlled or eradicated using appropriate mechanical or chemical means. MISC and MoMISC will continue to monitor incipient plant threats, assess candidates for control, and function as a rapid response team.

Status: Most species on track for eradication

Key Objectives:

- Identify species that pose significant risk to forested watersheds
- Conduct assessments to determine whether suppression work should be initiated

- Implement survey or control work for at least 26 invasive plant species

Public Engagement: Educating the public about the importance of watershed protection is critical to the overall success of the MISC and MoMISC projects. Staff will engage local students and teachers through classroom visits using Hō'ike o Haleakalā, a place-based science curriculum and work with the landscape industry to promote the use of non-invasive plants.

Key Objectives:

- Conduct school-based activities at 10 different schools
- Lead two volunteer field trips into Maui County watersheds
- Engage with landscape industry to promote use of non-invasive plants

C. LOCATION AND SIZE OF PROJECT AREA

Work on invasive plants occurs island-wide with locations varying by species (Figures 8 & 9).

Most MISC and MoMISC target species were intentionally introduced as landscape plants. Work occurs in residential areas, ranch lands, and forested watersheds where the plants have "jumped the fence" and become established.

Miconia: The potential habitat for miconia is estimated to be 119,500 acres. The known "footprint" of miconia is approximately 21,000 acres (based on a 500m buffer around mature plants and a 125m buffer for immature plants). Most work will occur in the lower- elevation, heavily degraded forests of East Maui. Work occurs on both state and private lands, requiring permission to access properties. Surveys will focus on areas known to have had miconia. Survey and control work will include ground and aerial operations.

Pampas grass: Ground sweeps take place in residential areas, ranch lands and more remote wildland areas. Some recalcitrant landowners in upcountry Maui have refused to grant permission to control pampas grass, which presents a significant barrier to successful eradication. Aerial survey and control operations are employed in more inaccessible locations of East and West Maui. Field crews complete ground operations in pristine forests by being heli-dropped into remote rustic camp sites on East and West Maui.

Fountain grass: Work on fountain grass occurs island-wide, wherever this species is found. To date, most infestations have been in the drier areas of Maui. Infestations have included DWS water tank areas.

Ivy gourd: Work on ivy gourd has kept this aggressive vine from invading the East and West Maui forests. All work is expected to occur in lowland residential areas.

Incipient plant species: The other target species (Table 2) are located throughout the islands.

D. SCOPE of WORK

Operational Strategies: Survey and control strategies vary by species but many of the basic elements are the same. Invasive plants can spread from a known location via wind, wing (birds), or other means such as water, vehicles, animals, humans, or vegetatively. Survey "buffers" are established around each plant point to determine how far from that plant the field crews must survey to be confident that other plants in the area have been detected. The buffer distance is based on the most common means of

dispersal, but may be altered based on funding and feasibility of access. Survey and control work may occur by ground or helicopter (two species).

Ground: In residential areas, crews search each property within the buffer zone. In more open areas, crews conduct "sweeps" across by spacing themselves close enough to detect target plants between each team member (Figure 10). Staff systematically walk through one portion of an area, carrying GPS units to track progress and when they reach a predetermined point, they "flip" the line and sweep back across the next section. Crews record numbers and locations of any plants found, a plant's reproductive status ("mature" means flowers or seeds are present), method of control (hand pull or herbicide), and the type and amount of herbicide used.

Aerial: Some infested areas are not accessible by ground, either because they are too far from roads or trails or because the terrain is too hazardous. Helicopter surveys typically involve three staff, with one "spotter" in the front using a GPS unit to record the helicopter's track line and the same information described above for each plant species. Control work (with one spotter) involves the use of a "spray ball" attached to the helicopter with an 80-foot line, which allows the pilot to deliver a precise amount of herbicide directly to a plant below (Figure 11). Use of herbicide-encapsulated paintballs is also used in areas with lower-densities of miconia.

Organization, Practicality & Cost Effectiveness: MISC has developed an efficient approach to work on the ground and in the air over more than a decade of work. Field crews are experienced and adaptable. An example of operational flexibility was the shift was reliance on aerial control to control pampas grass in East Maui to getting field crews on the ground in the areas of highest concentration so that small plants could be removed before they reached maturity. This strategy has paid off as the number of mature plants continues to decline each year. Each year we evaluate progress and set priorities to determine whether current targets are still appropriate and whether we should shift resources to a different species. Input from our Committee members is especially valuable during these exercises.

Integration, Scientific & Technical Merits: Our work is closely integrated with the work of other Watershed Partnerships. Additionally, our Committee members represent other agencies, which helps facilitate collaboration. MISC is an active member of the Maui Conservation Alliance; a new initiative of the MCA will be to develop an island-wide Conservation Action Plan, which will further enhance collaborative efforts. Staff regularly attends (and gives presentations at) professional conferences to learn from others working on invasive plants and to share our work and lessons. Two recent examples were the international conference on the Ecology and Management of Invasive Plants and the Weed Management Workshop on Maui, hosted by UH-CTAHR.

Public Outreach & Education: MISC and MoMISC have very active public outreach and education programs, with a major emphasis on the importance of healthy watersheds. Specific proposed outreach activities are detailed above, but watershed always figures prominently in our outreach. A prime example of this is our work in local classrooms using the Hō'ike o Haleakalā curriculum. See <http://www.hoikecurriculum.org/2013/11/raindrops-size/>

E. TIMELINE

Work on invasive plants occurs year-round, thus the expected amount of time to complete the deliverables for each species will be the full duration of the contract. Each location of a target species may be visited annually, bi-annually, or quarterly (Table 2), based on aspects of the plant's reproductive biology, such as how often a plant reproduces per year and how long plants take to reach maturity. Deliverables assume funding becomes available in December 2015. The timeline may shift accordingly.

Description of each deliverable	Expected amount of time to complete deliverable (weeks/months)	Time frame
Ground & aerial operations for all targets	9-12 months	Duration of contract
Data collection and analysis	9-12 months	Ongoing
Annual priority setting process	1 week	October 2017
Final report preparation	1 week	December 2017

F. PROJECT DELIVERABLES

Objective 1: Prevent the spread of miconia into intact forested watersheds

	Deliverable	Measure of Success
Task : Aerial survey and control operations	Revisit 3 times annually Ke'anae acres: 1,302 Other aerial acres: 4,500	Number of repeat visits Number of acres surveyed
	Control all plants found	Number of plants controlled Number of mature plants
Task: Ground survey and control operations	Annual surveys Estimated acreage: 1,000	Number of acres surveyed
	Control all plants found (exception: seedlings)	Number of plants controlled Number of mature plants

Objective 2: Contain or eradicate all pampas grass infestations

	Deliverable	Measure of Success
Task : Ground operations East Maui residential sites	Annual surveys Number of sites: 117	Number of sites visited Number of visits per site
	Control all plants found	Number of plants controlled Number of sites with plants
Task: Aerial operations in East and West Maui	Survey buffered areas around known locations Estimated acreage: 3,989 West (2,000); East (1,512)	Number of acres surveyed
	Control all plants	Number of plants controlled Number of mature plants
Task: Ground operations East and West Maui wildland areas	Heli-drop crews to Honomanū, Haipua'ena, and West Maui field camps Estimated acreage: 145	Number of remote field trips Number of acres covered
	Ground surveys in ranch and wildlands of East & West Maui Estimated acreage: 1,215	Number of plants controlled Number of mature plants Acres surveyed
	Control all plants	Number of plants controlled Number of mature plants

Objective 3: Eradicate fountain grass from Maui Island

	Deliverable	Measure of Success
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Task: Ground survey and control at all known sites	Visit all known sites quarterly. Number of sites: 16	Number of sites visited Number of visits per site
	Control all plants	Number of plants controlled Number of mature plants Number of sites with plants

Objective 4: Eradicate ivy gourd from Maui Island

	Deliverable	Measure of Success
Task : Survey and control at all known sites	Quarterly site visits Number of sites: 188	Number of sites visited Number of visits per site
	Control all plants	Number of plants controlled Number of fruiting plants Number of sites with ivy gourd

Objective 5: Conduct early detection / rapid response actions for incipient invasive plants on Maui and Moloka'i

	Deliverable	Measure of Success
Task : Detect and control incipient invasive plants	Conduct ground surveys at known locations for 14 (Maui) and 12 species (Moloka'i).	All site locations surveyed at least once annually, more frequently if species needed based on reproductive biology; acres surveyed
	Control all plants found	Number of plants controlled

Objective 6: Accurate, current and relevant data provide the foundation for daily operations and long-term strategies

	Deliverable	Measure of Success
Task: Collect and analyze tabular and spatial data for all field operations	Quarterly data summaries and maps	Data collected provide meaningful measures of success Graphics demonstrate status / progress over time
	Provide GIS data, maps and graphics to DWS	Timely submission of data and graphics

Objective 7: Engage local students and landscape industry to support watershed protection

	Deliverable	Measure of Success
Task : Work with local schools using the Hō'i'ike o Haleakalā curriculum	Conduct 20 school-based activities	Number of students reached
	Lead two watershed hikes	Number of students and teachers engaged
Task: Work with landscape industry	Give two presentations	Number of landscapers reached



FORM 4.2

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

Organization Name: University of Hawaii

Expense Categories	Amount Requested
A. Personnel (Payroll taxes & fringes)	\$216,451.00
B. Transportation (e.g. fuel, etc)	0.00
C. Contractual (e.g. helicopter)	0.00
D. Utilities (e.g. telephone/cell, water electricity, etc)	0.00
E. Travel	0.00
F. Field crew costs	0.00
G. Supplies, materials & equipment	0.00
H. A&O Costs (15% of total grant amount)	\$10,822.00
PCSU Direct (5%)	\$22,727.00
UH Indirect (10%)	
I. Other Costs	0.00
Total	\$250,000.00



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

A. PAYROLL COSTS

Organization Name: University of Hawaii

Position Name/Title List by position and % of 40 hour week	Salary/Amount Requested
Field Associate I - Moloka'i - 47%	\$14,093.00
Field Associate I - Hāna - 80%	\$27,126.00
3 FTE Field Associate I - Hāna - 75%	\$80,874.00
2 FTE Field Associate I - Pi'iholo - 75%	\$45,000.00
Payroll Taxes, Fringes	\$49,358.00
Total	\$216,451.00

Narrative Description (project responsibility by position/title)

Position Descriptions

Field Associate I - Pi'iholo Maui: Conducts field operations to implement established action plans, targeting invasive plant species for control or eradication. Fieldwork involves surveys, and mechanical/chemical removal in natural, rural and residential areas.

Field Associate I - Hāna Maui: Conducts field operations to control miconia in East Maui. Fieldwork involves surveys and mechanical/chemical removal of miconia.

Field Associate I - Moloka'i: Conducts field operations on Moloka'i to implement established action plans, targeting invasive plant species for control or eradication. Fieldwork involves surveys and mechanical/chemical removal for invasive alien species in natural and rural areas.

PCSU specialist—PCSU handles the administration of payroll, purchasing and accounts payable, employee benefits and additional human resource services.



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

H. ADMINISTRATIVE & OVERHEAD COSTS

Organization Name: **University of Hawaii**

Breakdown of Expenses	Amount Requested
University of Hawaii Indirect Costs @ 10%	\$22,727.00
PCSU Direct Costs @ 5% (included in expense category A. Payroll)	\$10,822.00
Total Administrative & Overhead Costs	\$33,549.00

Narrative Justification

MISC and **MoMISC** are projects of the Pacific Cooperative Studies Unit (PCSU) and employees of the Research Corporation of the University of Hawai'i (RCUH).

UH & PCSU: UH and PCSU provide fiscal and administrative management, human resource services, including hiring, termination, EEO (Equal Employment Opportunity) compliance, safety programs, employee benefits and insurance, and procurement services. PCSU also provides significant project management and scientific expertise as well as a direct connection to University staff, students and other resources. The PCSU direct rate for this grant is 5%. The UH indirect rate for this grant is 10%.

Figure 1. Locations of work on invasive plants within priority watershed areas.

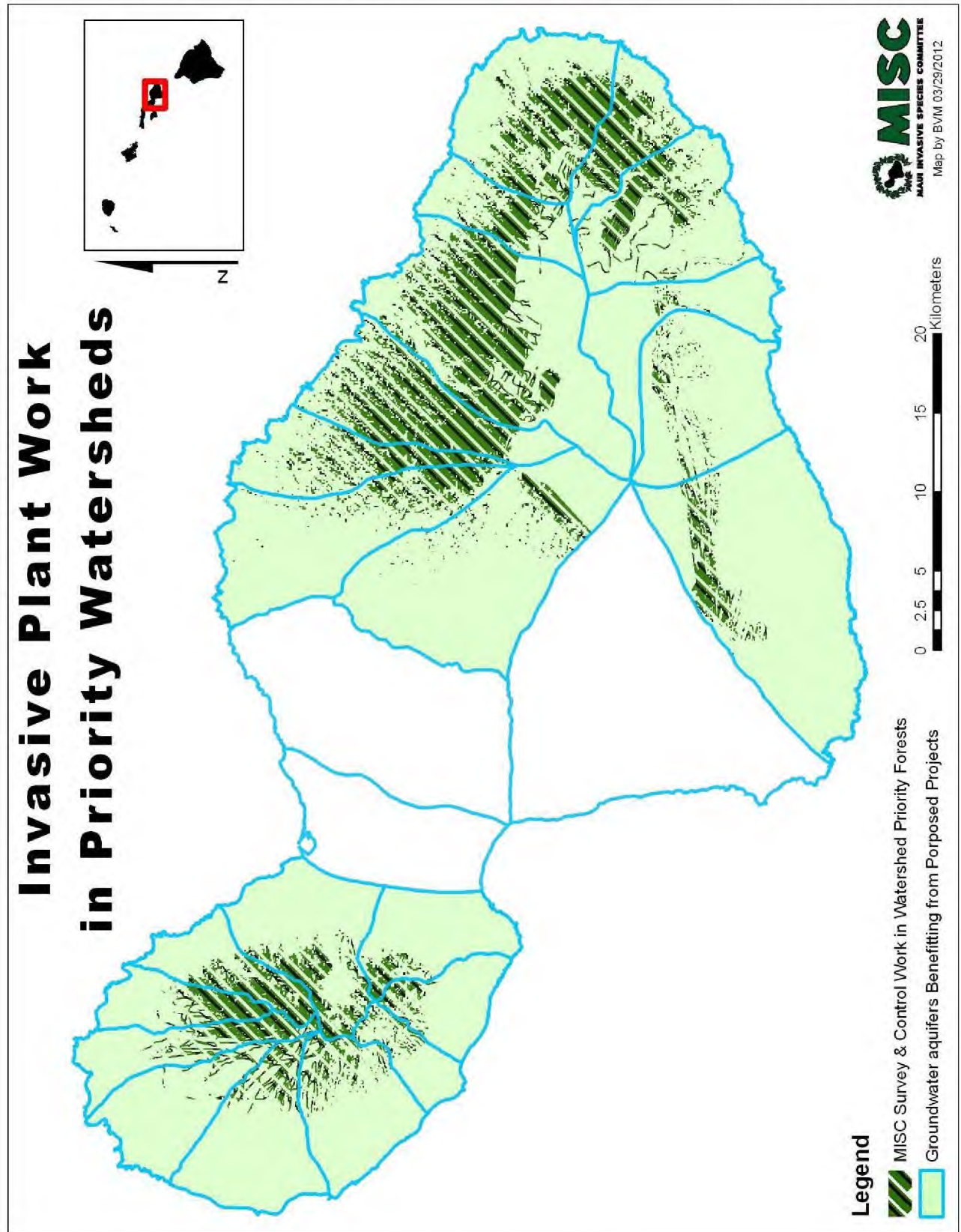
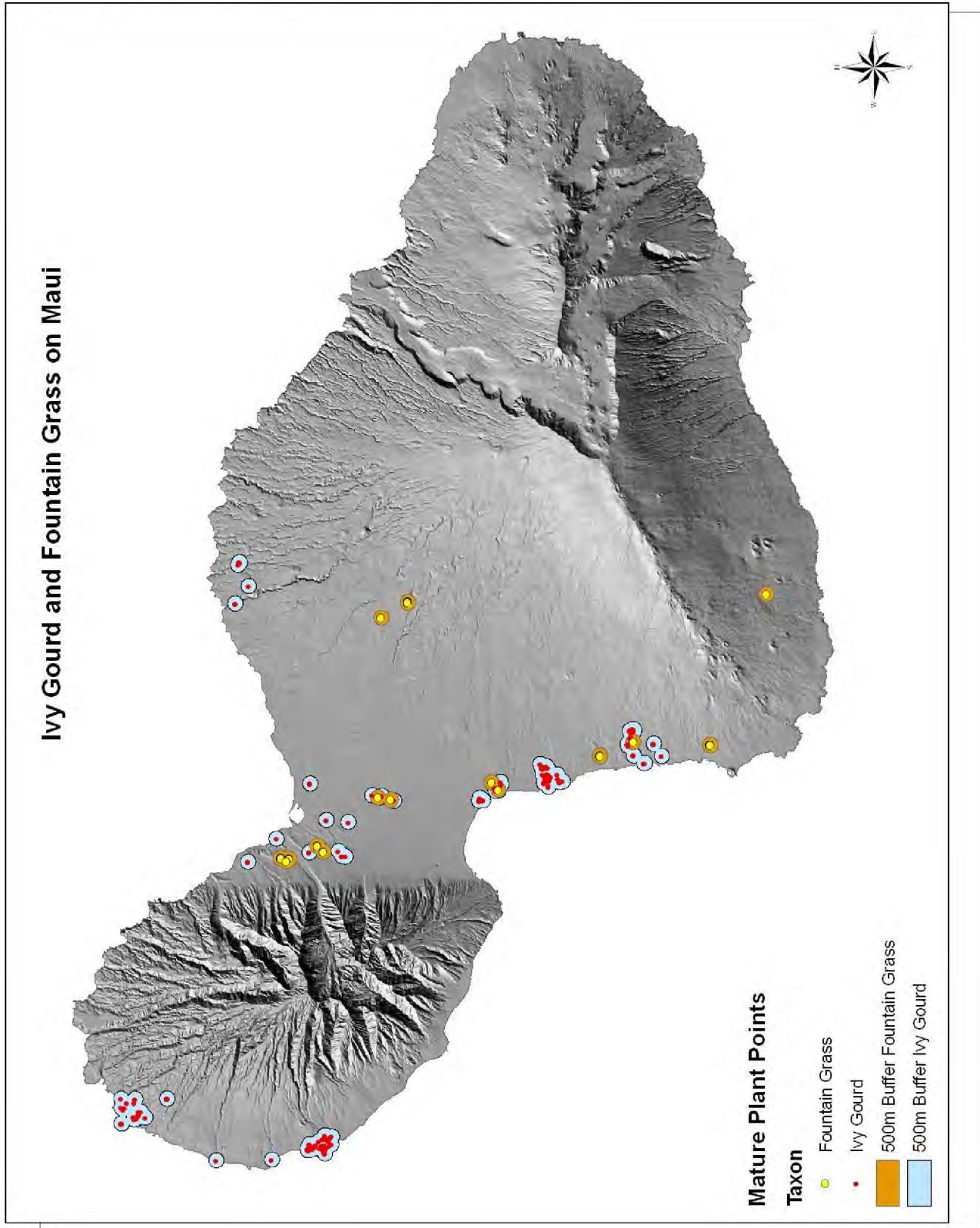


Figure 3. Location of species and control work on Moloka'i



Common Name	Control Status	Location	Visit Type	Vector	Revisit Frequency
Bingabing	Monitor	Maui	Ground	Wing	Annual
Cape pittosporum	Control	Maui	Ground	Wing	Annual
Cat's claw	Control	Maui	Ground	Other	Quarterly
Common mullein	Control	Maui	Ground	Wind	Bi-annual
Downy rose myrtle	Monitor	Maui	Ground	Wing	Annual
Fountain grass	Control	Maui	Ground	Wind	Quarterly
Himalayan raspberry	Monitor	Maui	Ground	Wing	Bi-annual
Ivy gourd	Control	Maui	Ground	Wing	Quarterly
Miconia	Control	Maui	Ground & Air	Wing	Annual
Osage orange	Control	Maui	Ground	Other	Quarterly
Pampas grass	Control	Maui	Ground & Air	Wind	Annual
Parasol leaf tree	Monitor	East Maui	Ground	Wing	Annual
Rubber vine	Monitor	Maui	Ground	Wind	Annual
Silver wattle	Monitor	Maui	Ground	Wing	Annual
Spanish heath	Control	Maui	Ground	Wind	Bi-annual
Victorian box	Control	Maui	Ground	Wing	Annual
Water wattle	Monitor	Maui	Ground	Wing	Bi-annual
Wax myrtle	Control	East Maui	Ground	Other	Quarterly
Albizia	Monitor	Moloka'i	Ground	Wind	Quarterly
Australian tree fern	Control	Moloka'i	Ground	Wind	Quarterly
Barbados gooseberry	Control	Moloka'i	Ground	Wing	Quarterly
Bo tree	Control	Moloka'i	Ground	Wing	Quarterly
Mules foot fern	Control	Moloka'i	Ground	Wind	Quarterly
Multifloral rose	Control	Moloka'i	Ground	Wing	Quarterly
Palm grass	Control	Moloka'i	Ground	Wind	Quarterly
Quailbush	Control	Moloka'i	Ground	Other	Quarterly
Rubber vine	Control	Moloka'i	Ground	Wind	Quarterly
Tree daisy	Control	Moloka'i	Ground	Other	Quarterly
Tumbleweed	Control	Moloka'i	Ground	Wind	Quarterly
Woodrose	Control	Moloka'i	Ground	Other	Quarterly

Table 1. List of target plant species for detection and control work on Maui & Moloka'i

GENERAL TERMS AND CONDITIONS – DWS GRANTS

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

PAYMENTS

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

RECORDS AND REPORTING

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

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

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

GRANT AWARD RESTRICTIONS

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

NON-COMPLIANCE, SUSPENSION AND TERMINATION

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

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

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

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

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

OTHER GRANT REQUIREMENTS

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

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

TERMINATION OF GRANT AGREEMENT (GRANT CLOSE OUT)

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

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

APPENDIX A

TEMPLATE FOR FINAL REPORT

BACKGROUND

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

GOALS/OBJECTIVES

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

BENEFITS to MAUI COUNTY

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

TASKS COMPLETED FOR FY 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.

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)?



APPENDIX B

FORM 4.2

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

Reimbursement Request Form

ORGANIZATION NAME _____

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 application budget, if revision is needed, please see guidelines in Item #4.
 - a. Justification for delay in the performance of deliverables (e.g. weather, under staff, season for planting, etc.)

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

4. Budget Revision Guidelines
 - a. Budget deviations of **less than 20%** per budget item are allowed without a formal budget revision.
 - b. Budget deviations of **more than 20%** per budget item require a written budget revision request submitted in **advance**.
 - c. **Moving 10% of costs between “Payroll” and “Other Costs” budget categories is 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

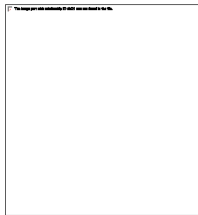
Please include an Excel table that identified the amount of funding you received from DWS, amount received from other sources. Please identify all sources by name, and state/federal/county government and or private, nonprofit entity (FORM 4.5).

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
Watershed Protection Grants
Fiscal Year 2017

Leveraged Funds – FY 2016

Grantee: _____

SOURCE OF FUNDS	Type of Entity (government/ private/ nonprofit)	Amount of Funds Leveraged	
		Cash	In-Kind

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				

Signature _____ Print Name and Title _____ Date _____

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