

WR Committee

From: Dan Eisenberg (EMWP) <coordinator@eastmauiwatershed.org>
Sent: Tuesday, March 20, 2018 10:59 AM
To: WR Committee
Subject: RE: March 15 WR-5, Watershed Management and Protection
Attachments: EMWP Response March 15.pdf; EMWP_DWS_FY15_FY16_FY17_qrtly_Reports_red.pdf; EMWP_FinalMatrix.pdf

Thank you for the opportunity to provide information for discussion at the WR committee meeting. Please see East Maui Watershed Partnership's responses to the letter dated March 15 attached.

Dan

From: WR Committee [mailto:WR.Committee@mauicounty.us]
Sent: Friday, March 16, 2018 8:15 AM
To: Dan Eisenberg (EMWP)
Cc: WR Committee
Subject: WR-5, Watershed Management and Protection

Mr. Eisenberg,
Please review attached correspondence for response to the Maui County Council's Water Resources Committee. The hard copy is being mailed to you as well.

Thank You,
Water Resources Committee staff



East Maui Watershed Partnership

Watershed Partners

County of Maui/
Department of
Water Supply

The Honorable Alikea Atay
County of Maui
200 S. High St.
Wailuku, HI 96793

RE: Response to March 15, 2018 Request

East Maui
Irrigation
Company

I am writing to provide the information requested in your March 15, 2018 letter for discussion at the March 20, 2018 meeting of the Committee on Water Resources. Attached to this letter are East Maui Watershed Partnership's (EMWP) quarterly reports to Department of Water Supply for the last three years (FY2015 thru FY2017). Work has not yet begun on EMWP's FY2018 Department of Water Supply Project, and EMWP did not receive funding from Office of Economic Development during that period of time.

Haleakala
National Park

EMWP does not view any of the weed management in the watersheds that we participate in as weed eradication. The target species we focus on are generally widespread on other parts of Maui, and island-wide eradication is generally considered not feasible for the species listed on the attached matrix. The target species are however incipient to the areas where we work, and if not addressed will become widespread in these native-dominated project sites. We seek to manage, and often control them in some of the highest priority and most fragile portions of the watershed, while monitoring for and addressing any new introductions of weeds. With that clarification in place please find responses to your questions below.

Haleakala Ranch

State of Hawaii
Department of
Land and Natural
Resources

1. EMWP generally receives funding annually from a Watershed Protection Grant from The State of Hawaii Department of Land and Natural Resources, The County of Maui Department of Water Supply, and a contract (outside the scope of EMWP's County funded projects) from The Nature Conservancy to complete specific tasks in Waikamoi Preserve. Funding also comes, to a lesser extent, through donations from local businesses and members of the community. In recent years we have also been awarded funding for distinct projects in the watershed from the National Fish and Wildlife Foundation, Hawaii Tourism Authority, The State of Hawaii Department of Health along with a handful of other smaller grants and awards. Most of these awards have some component of invasive weed management.

The Nature
Conservancy

2. The two species for which EMWP spends the vast majority of our weed control efforts in recent years is Himalayan ginger and gorse. In FY2015 and FY2016 that effort was primarily directed at mapping and control of Himalayan ginger, but as methods were refined and ginger control efforts became more efficient and productive, we were able to add control of gorse at Puu Pahu Reserve to our deliverables for the County in FY2017.



East Maui Watershed Partnership

Support from the County has also assisted with attempts at establishment of biological control of strawberry guava in Koolau Forest Reserve. Other priority weeds are controlled opportunistically during the course of other management activities in the watershed.

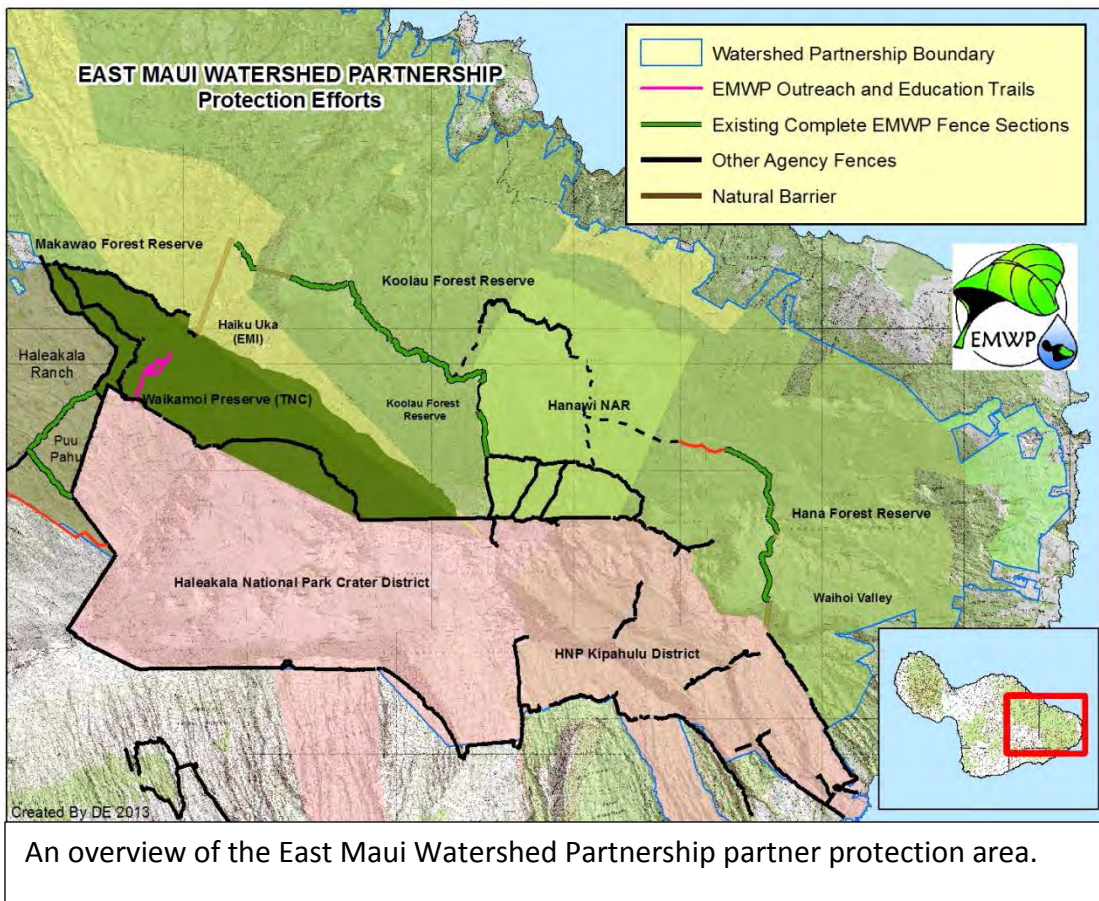
3. EMWP does not typically contract out watershed protection work to other parties and has not provided funding or compensation for invasive species eradication efforts to any other organization in the last three years.
4. Not Applicable see response to “3” above.
5. Please see the attached matrix which attempts to provide the requested responses. Please note that many of the questions do not directly apply to our weed control program. The requested matrix is attached, and the following responses describe why some information was omitted from the matrix:
 - a. EMWP’s project sites are at remote, difficult to access portions of State land, or on private property; reports from the public about infestations are not generally received by EMWP.
 - b. Not applicable, see response to “a” above.
 - c. This information is provided in the matrix.
 - d. EMWP does not track the time required for each individual plant to be controlled, therefore it is not possible for us to distinguish between the time spent using these different methods during a given day.
 - e. All EMWP staff whose job duties include invasive plant control receive training from the University of Hawaii College of Tropical Agriculture and Human Resources in the form of a “Pesticide Risk Reduction Education” course within their first year of employment. EMWP does not use restricted use pesticides.
 - f. Information is provided in the matrix.
 - g. Control of invasive plants at all the project sites are planned to be repeated at an interval based on the reproductive biology of the target species if funding allows. After all plants are controlled at a project site, time is given for seeds from the ground to sprout, and then those seedlings are controlled before reaching reproductive maturity. The result is a depletion of the seed bank in the future, and less time and effort required for management at a given project site.

Thank you for the opportunity to discuss our watershed protection efforts with the committee.

Sincerely,

Dan Eisenberg
EMWP Program Manager

**East Maui Watershed Partnership
Quarterly Progress Report
September 5, 2014 – September 30, 2013
to the
Maui County Department of Water Supply
for the
FY 2015 East Maui Watershed Partnership
Source Protection Program
Contract WC-0812; Acct# 0006800**



1. Background

a. EMWP Snapshot

- East Maui Watershed Partnership (EMWP) was the first watershed partnership formed in the state in 1991.
- Total partnership land area is approximately 122,000 acres.
- Total partnership acres fenced to exclude ungulates specifically by partnership actions (~13,000 acres)
- Total length of fences being inspected and maintained by staff (~12,500 meters/7.77 miles)
- Major geographical focus areas include:
- The Nature Conservancy's Waikamoi Preserve (6,000 acres)
- "6000-acre" Core Management Area (6003 acres), located in Honomanu, Ko`olau Gap, Wailuanui, Wailuaiki and Kopiliula
- Upper Hana Forest Reserve, including Waiho`i Valley (3,000 acres)

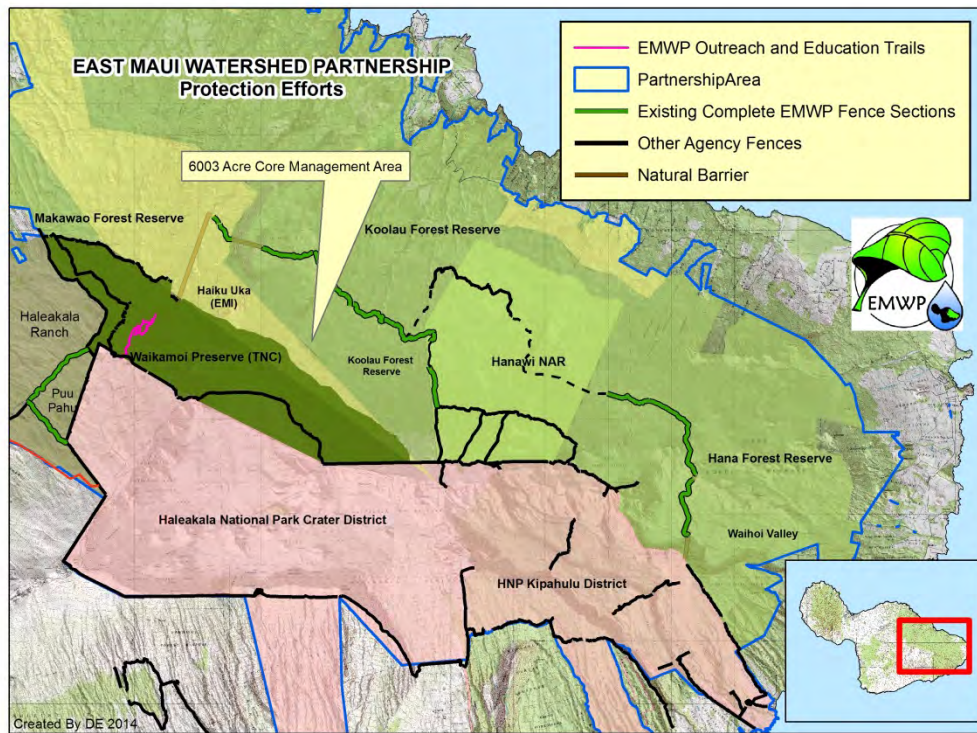
b. Work Funded by this Grant

- The work performed as reported herein, and for which payment is being requested, was performed in accordance with the contract between Maui County Department of Water Supply and the Research Corporation of the University of Hawaii dated September 5, 2014, and entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed Partnership," contract WC-0812, Account #0006800 for FY2015.

c. Timing of Grant Deliverables

- The deliverables for the grant agreement will commence in the following quarter spending on the grant will commence concurrently. EMWP made significant progress planning and scheduling field activities, budgeting, and setting up accounts for this grant.

**East Maui Watershed Partnership
Quarterly Progress Report
October 1, 2014 – December 15, 2014
to the
Maui County Department of Water Supply
for the
FY 2015 East Maui Watershed Partnership
Source Protection Program
Contract WC-0812; Acct# 0006800**



An overview of the East Maui Watershed Partnership partner protection area.



1. Background

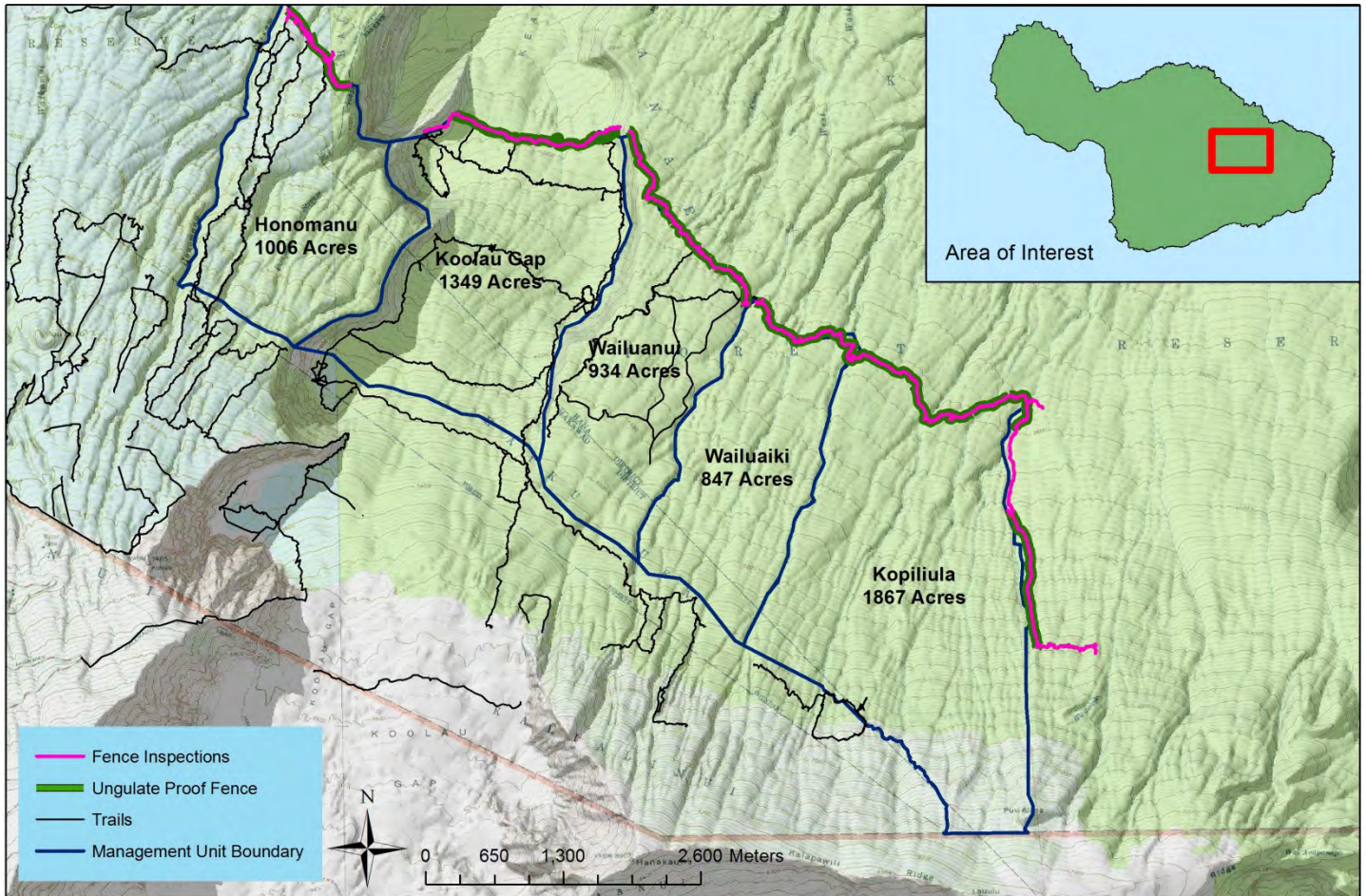
a. EMWP Snapshot

- East Maui Watershed Partnership (EMWP) was the first watershed partnership formed in the state in 1991.
- Total partnership land area is approximately 122,000 acres.
- Total partnership acres fenced to exclude ungulates specifically by partnership actions (~15,000 acres)
- Total length of fences being inspected and maintained by staff (~12,500 meters/7.77 miles)

b. Work Funded by this Grant

- The work performed as reported herein, and for which payment is being requested, was performed in accordance with the contract between Maui County Department of Water Supply and the Research Corporation of the University of Hawaii dated September 5, 2014, and entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed Partnership," contract WC-0812, Account #0006800 for FY2015.

**EMWP North Slope Haleakala
Watershed Protection Efforts:
October 1 2014 - September December 15 2014**



Tasks completed by EMWP during the report period (10/1/2014—12/15/2014)

1. Animal Control by Management Unit

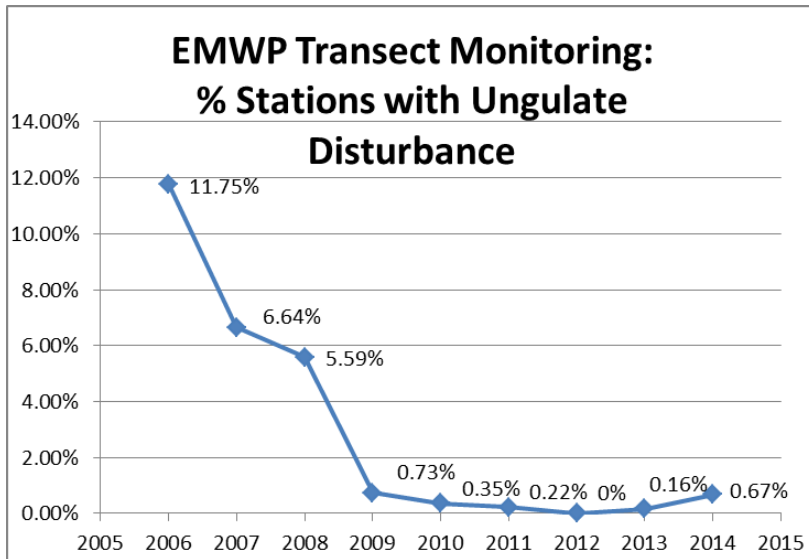
a. Honomanu Management Unit (1,006 acres)

- i. Fence Inspections (1,080 meters/0.62 miles):** Fence was checked 1 time with no repairs needed.
- ii. Ungulate Control:** EMWP is scheduled to maintain the ungulate trap check schedule specified in the grant proposal.
- iii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line with no pig sign reported.

b. Ko`olau Gap Management Unit (1,349 acres)

- i. Fence Inspections (1,080 meters/0.62 miles):** Fence was checked 1 time with no repairs needed.

- ii. **Ungulate Control:** EMWP is scheduled to maintain the ungulate trap check schedule specified in the grant proposal.
- iii. **Ungulate Monitoring/Scouting:**
 - 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 - 2. Scouting was conducted along the fence line with no pig sign reported.
- c. **Wailuanui Management Unit (934 acres)**
 - i. **Fence Inspections (2,410 meters/1.55 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** EMWP is scheduled to maintain the ungulate trap check schedule specified in the grant proposal.
 - iii. **Ungulate Monitoring/Scouting**
 - 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 - 2. Scouting was conducted along the fence line with no pig sign reported.
- d. **Wailuaiki Management Unit (847 acres)**
 - i. **Fence Inspections (1,450 meters/1.1 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** EMWP is scheduled to maintain the ungulate trap check schedule specified in the grant proposal.
 - iii. **Ungulate Monitoring/Scouting:**
 - 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 - 2. Scouting was conducted along the fence line with no sign reported.
- e. **Kopiliula Management Unit (1,867 acres)**
 - i. **Fence Inspections (3,630 meters/2.8 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** EMWP is scheduled to maintain the ungulate trap check schedule specified in the grant proposal.
 - iii. **Ungulate Monitoring/Scouting:**
 - 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 - 2. Scouting was conducted along the fence line with no sign reported in the unit.



This graph illustrates how ungulate activity has been brought to and maintained at near zero levels in the EMWP Core Management Unit over the past 7 years through vigilant management efforts.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Honomanu Management Unit (1,006 acres)

- i. Priority weed targets along fence lines (1,080 meters/0.62 miles) and in LZs were removed by hand or treated w/approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,400 meters/1.32 miles) and in LZs were removed by hand or treated w/approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- iii. Himalayan ginger (*Hedychium gardnerianum*): EMWP has made Himalayan ginger control a priority in Wailuanui because of the weed's overall relative scarcity in this unit and the destructive and potentially devastating threat it poses to the watershed if it is allowed to take hold. This quarter EMWP devoted two 3-day and one 4-day camping trips to controlling 9.20 acres of infested area on the south portion of the western population. This control, focused on moving from the outside of the population into the more densely populated center is part of a strategic control plan. (See map for detail.)

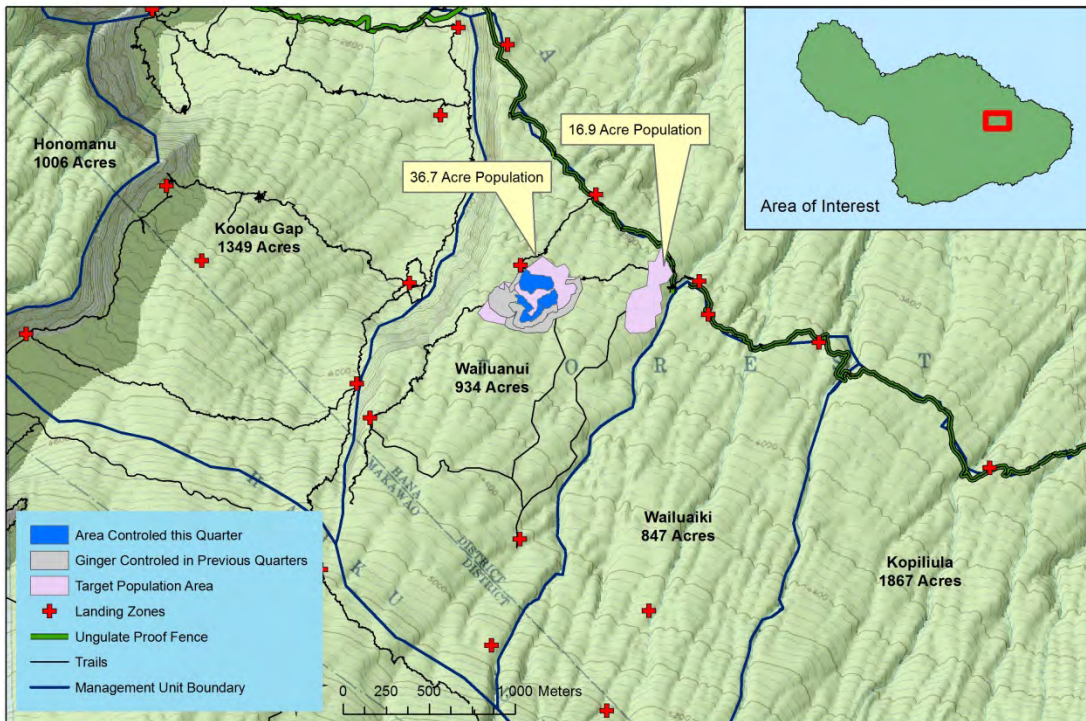
d. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated w/approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

e. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated w/approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

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



Map Updated By DE December 2014

Systematic Control of the invasive ginger population in Wailuanui management unit is underway with 9.20 acres controlled this quarter.

TABLE SUMMARY OF FIELD GOALS & ACCOMPLISHMENTS									
	9/15/2014 – 12/15/14		12/16/14 – 3/15/15		3/16/15 – 6/15/14		6/16/15-9/15/15		9/15/14-9/15/15
Scope of Work Description	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Year End Summary
Fence Checked (m/mi)	12.5 km/7.77 mi	100%	12.5 km/7.77 mi		12.5 km/7.77 mi		12.5 km/7.77 mi		
Traps Checked (#)	Not scheduled	n/a	2228 traps in 399 groups		Not scheduled		2228 traps in 399 groups		
Transects Checked (#)	Not scheduled	n/a	21		Not scheduled		2		
Weeds Controlled – Ginger (# times)	3 x	100% (9.20 acres controlled)	3 x		3 x		3 x		



EMWP staff member Chawn Villalon Controlling Himalayan Ginger in the East Maui Watershed to help restore the natural function of the watershed.



3. Community Outreach & Education Accomplishments

Hike			
Date	Audience	# People	Summary
11/12/2014	Homeschool Group	13	School (K-12) hike on the Waikamoi Bird Loop trail.
11/17/2014	Kamehameha Schools	12	School (K-12) hike on the Rose Gardner Boardwalk trail.
Total People: Hike		25	

Presentation			
Date	Audience	# People	Summary
10/2/2014	Montessori Middle School	23	Presentation given to 23 persons from School (K-12) / To educate the students on what a watershed is, its function and what we do to protect it.
10/2/2014	Montessori Elementary School	46	Presentation given to 46 persons from School (K-12) / To educate the students on what a watershed is and where their water comes from.
11/20/2014	Cub Scouts	17	Presentation given to 17 persons from Community Organization / Introduce the idea of what a watershed is and native species along with how it changed over time.
Total People: Presentation		86	

Estimated Total of All People Reached 111

EMWP continues to believe that educating young people is a critical part of ensuring care for future water resources. We regularly receive positive feedback from teachers and students who participate in the outreach programs. Below is a quote from a student at Montessori Middle School taken after a trip in November to learn about EMWP's efforts to protect East Maui's Watersheds:

“My impression of the Waikamoi hike was great. It was fun and I got to see a lot of endangered plants and birds. The best part was the board walk and the bird watching sight. The watershed workers put a lot of effort in it and they were great guides. And I got to see the very rare Akohe’kohe which is a great experience. I would like to go again and see the other rare birds that I missed.”

County of Maui
 Department of Water Supply
Watershed Protection Grants
 Fiscal Year 2015

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY15 Grant Number: WC-0812
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	NTP (9/5/14 - 9/30/14)	10/01/14 - 12/13/14				Balance
		Payment #1	Payment #2	Payment #3	Payment #4	Final Payment	
A. Personnel	160,616.00	0.00	2,081.10				158,534.90
B. Transportation ²							0.00
C. Contractual Services	71,750.00	0.00	2,450.00				69,300.00
D. Utilities	4,634.00	0.00					4,634.00
E. Travel	7,577.00	0.00					7,577.00
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	12,050.00	0.00	102.95				11,947.05
H. Administrative & Overhead Costs ⁴	23,619.00	0.00	163.43				23,455.57
I. Other Costs	9,782.00	0.00	35.42				9,746.58
Total:	290,028.00	0.00	4,832.90	0.00		0.00	285,195.10

Grant Total Recheck 290,028.00

Notes:

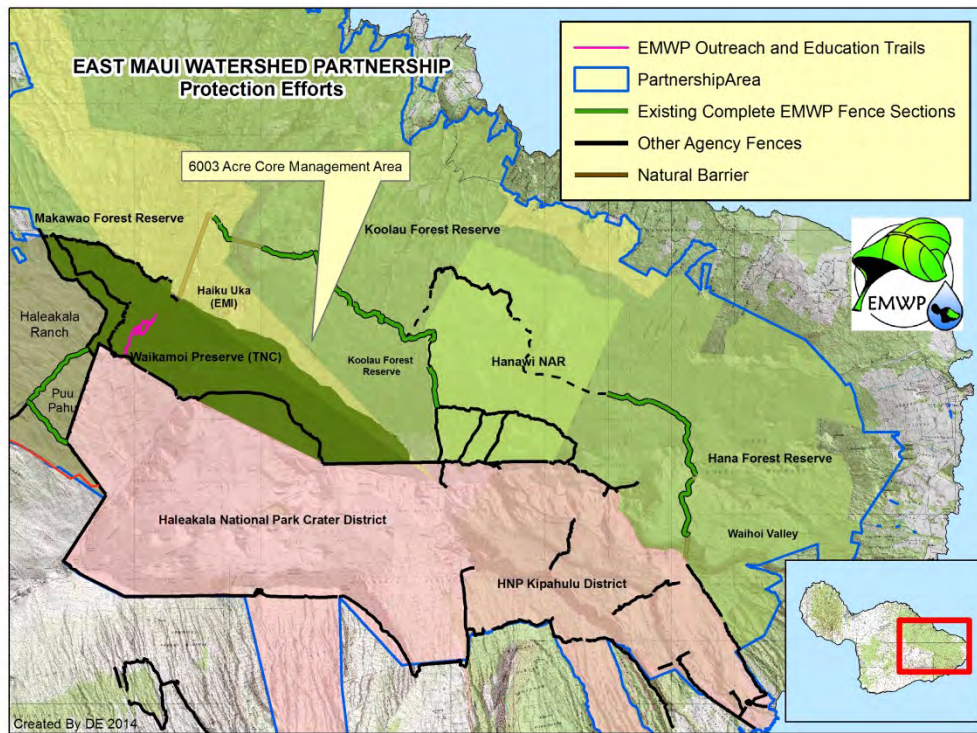
¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the contract between Maui County Department of Water Supply and the Research Corporation of the University of Hawaii dated September 5, 2014, entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed Partnership," contract WC-0812, Account #0006800 for FY2015.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

⁴ "I. Admin & Overhead Costs" = PCSU \$13,811 (@5%) + RCUH \$9,808 (@3.5%) = \$23,619

**East Maui Watershed Partnership
Quarterly Progress Report
December 16, 2014 – March 31, 2015
to the
Maui County Department of Water Supply
for the
FY 2015 East Maui Watershed Partnership
Source Protection Program
Contract WC-0812; Acct# 0006800**



An overview of the East Maui Watershed Partnership partner protection area.



1. Background

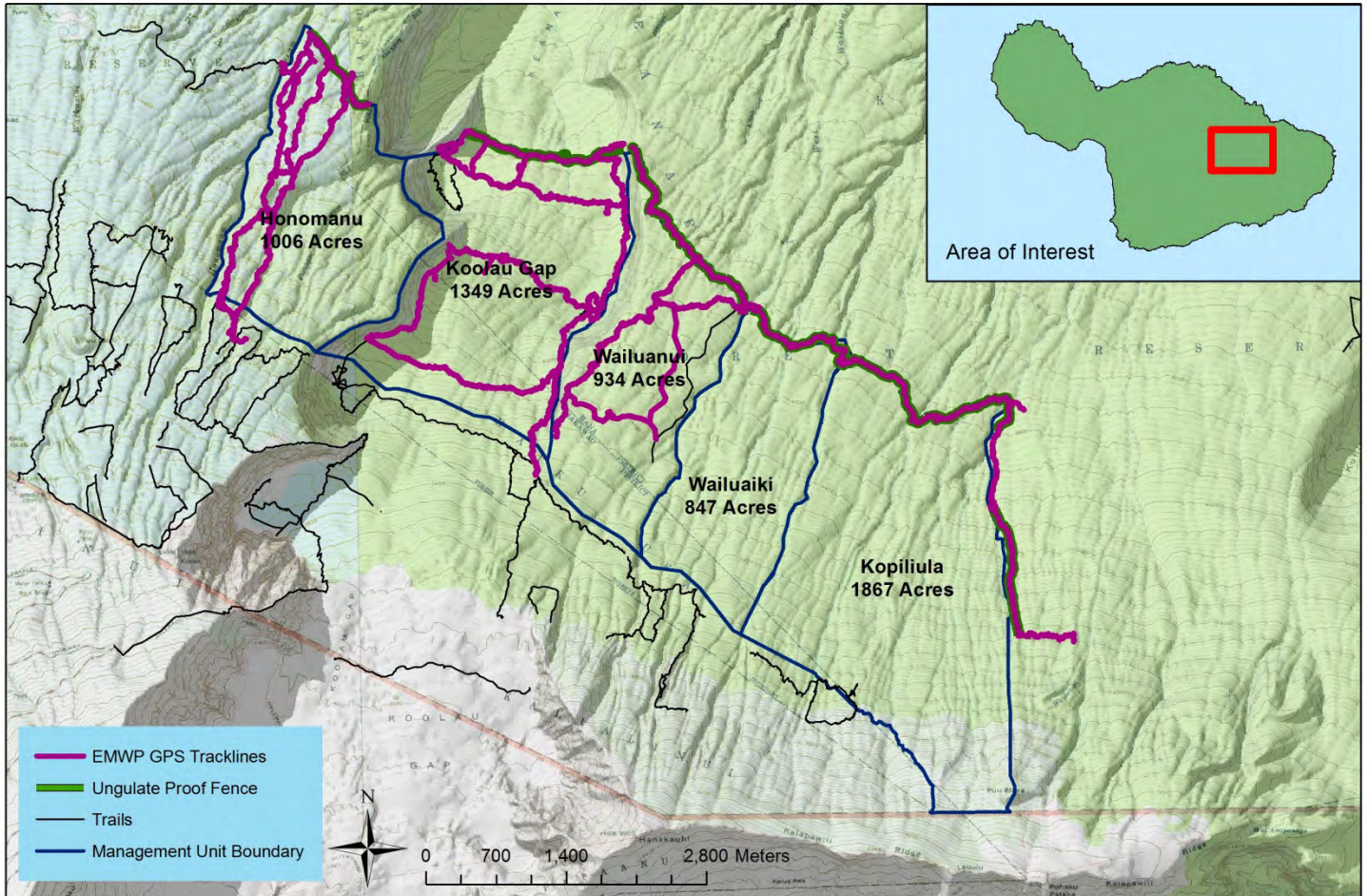
a. EMWP Snapshot

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- Total partnership land area is approximately 122,000 acres.
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- Total length of fences being inspected and maintained by staff for this grant (~12,500 meters/7.77 miles)

b. Work Funded by this Grant

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**EMWP North Slope Haleakala
Watershed Protection Efforts:
December 16 2014 - March 31 2015**



Map Updated By DE April 2015

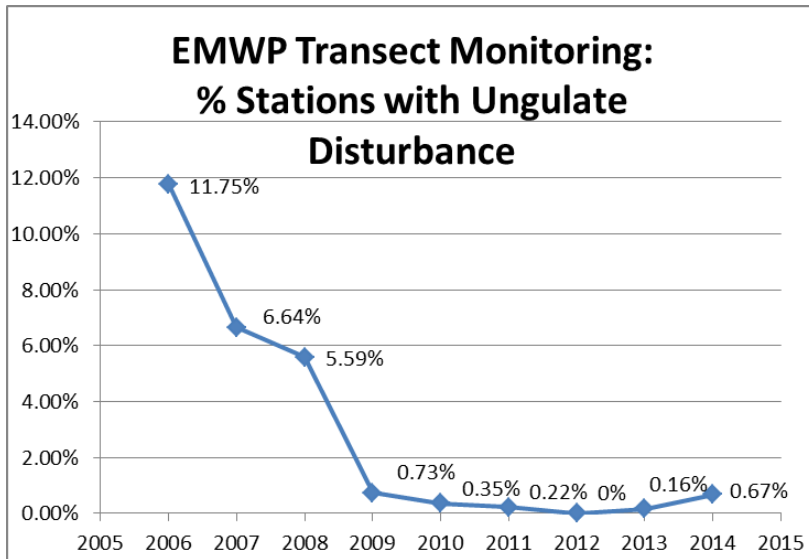
Tasks completed by EMWP during the report period (12/16/2014–3/31/2015)

1. Animal Control by Management Unit

a. Honomanu Management Unit (1,006 acres)

- i. **Fence Inspections (1,080 meters/0.62 miles):** Fence was checked 1 time with no repairs needed.
- ii. **Ungulate Control:** All ungulate traps in the unit were checked this quarter.
- iii. **Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line and on all trails in the unit with no pig sign reported.

b. Koʻolau Gap Management Unit (1,349 acres)



This graph illustrates how ungulate activity has been brought to and maintained at near zero levels in the EMWP Core Management Unit over the past 7 years through vigilant management efforts.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Honomanu Management Unit (1,006 acres)

- i. Priority weed targets along fence lines (1,080 meters/0.62 miles) and in LZs were removed by hand or treated with approved herbicides.
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b. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,400 meters/1.32 miles) and in LZs were removed by hand or treated with approved herbicides.
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c. Wailuanui Management Unit (934 acres)

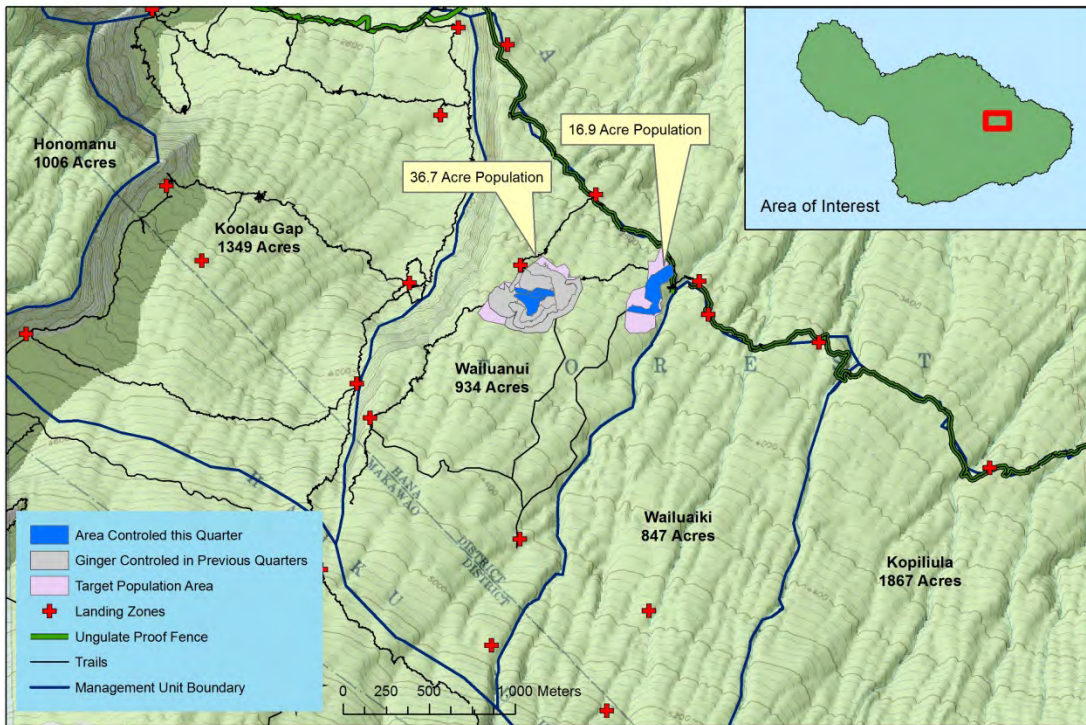
- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- iii. Himalayan ginger (*Hedygium gardnerianum*): EMWP has made Himalayan ginger control a priority in Wailuanui because of the weed's overall relative scarcity in this unit and the destructive and potentially devastating threat it poses to the watershed if it is allowed to take hold. This quarter EMWP devoted four 4-day camping trips to controlling 12.88 acres of densely infested area on the south portion of the western population. This control, focused on moving from the outside of the population into the more densely populated center is part of a strategic control plan. (See map on following page for detail.)

d. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated w/approved herbicides.

- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- e. **Kopiliula Management Unit (1,867 acres)**
 - i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated w/approved herbicides.
 - ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

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



Systematic Control of the invasive ginger population in Wailuanui management unit is underway with 12.88 acres controlled this quarter.

TABLE SUMMARY OF FIELD GOALS & ACCOMPLISHMENTS									
	9/15/2014 – 12/15/14		12/16/14 – 3/15/15		3/16/15 – 6/15/14		6/16/15-9/15/15		9/15/14-9/15/15
Scope of Work Description	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Year End Summary
Fence Checked (m/mi)	12.5 km/7.77 mi	100%	12.5 km/7.77 mi	100%	12.5 km/7.77 mi		12.5 km/7.77 mi		
Traps Checked (#)	Not scheduled	n/a	2228 traps in 399 groups	96% (will be completed early next quarter)	Second (of 3) check in Honomanu		2228 traps in 399 groups in all units including Honomanu		
Transects Checked (#)	Not scheduled	n/a	Not scheduled	n/a	Not scheduled		20		
Weeds Controlled – Ginger (# times)	3 x	100% (9.20 acres controlled)	3 x	125% (4 trips, exceeding goal by 1 trip)	3 x		3 x		



EMWP staff using low volumes of approved herbicides to remove priority invasive plants from the watershed (above) and preparing camping supplies for transport by helicopter from a project site in Wailuanui management unit (below).



3. Community Outreach & Education Accomplishments

Event			
Date	Audience	# People	Summary
Jan-15	Trilogy Excursions Blue Aina Sail	60	Fundraiser at Trilogy Excursions Blue Aina Sail (Ma'alea Harbor): EMWP was the recipient on this month's Trilogy reef-clean up sail to support local non-profits. EMWP staff on board presented to guests about Maui's watersheds and water resources.
Mar-15	World Water Day	100	Information Table at World Water Day (Maui Brewing Company): In recognition of the UN World Water Day we attended this event to help educate locals on the importance of the East Maui watershed and how to conserve water.
Total People: Event		160	

Hike			
Date	Audience	# People	Summary
Feb-15	St. Anthony Grade School	31	School (K-12) hike on the Waihe'e Ridge Trail trail.
Mar-15	Girl Scouts	15	School (K-12) hike on the Rose Gardner Boardwalk trail.
Total People: Hike		46	

Media			
Date	Audience	# People	Summary
Jan-15	www.eastmauiwatershed.org	400	EMWP Website. 814 page views, 80% New Visitors
Jan-15	www.mwa-art.org	121	Website specific for Mālama Wao Akua. 162 page views, 72% New Visitors
Feb-15	facebook.com/eastmauiwatershed	1,135	Social media for EMWP. Page views = 30; new "likes" =13
Feb-15	malamawaoakua.org/ mwa-art.org	128	Website specific for Mālama Wao Akua. Page views = 340, 78% New

			Visitors
Feb-15	eastmauiwatershed.org	396	EMWP website. Page views = 953, 77% New Visitors
Feb-15	Pride Of Maui Travel Blog	20,000	Travel blog for Maui included EMWP as one of their top 10 Maui non-profits.
Mar-15	facebook.com/eastmauiwatershed	665	Social media for EMWP. Page views =26; new "likes" =15
Mar-15	eastmauiwatershed.org	469	EMWP website. Page views =968, 84% New Visitors
Mar-15	malamawaoakua.org/ mwa-art.org	300	Website specific for Mālama Wao Akua. Page views =400, 91% New Visitors

Total People: 23,614
Media

Presentation			
Date	Audience	# People	Summary
Jan-15	Maui Mauka Conservation Awareness Training	3	Presentation given to educate East Maui tour guides by 3 conservation organizations (EMWP, MFBRP, MISC). Interesting unique facts about Maui's native environment were shared so they can properly educate visiting tourists.
Feb-15	Maui Mauka Conservation Awareness Training	12	Special training for Polynesian Adventure Tours by 3 conservation organizations (EMWP, MFBRP, MISC). Interesting unique facts about Maui's native environment were shared so they can properly educate visiting tourists
Feb-15	Maui Mauka Conservation Awareness Training	11	Special training for Pi'iholo Zipline Adventure Tours by 3 conservation organizations (EMWP, MFBRP, MISC). Interesting unique facts about Maui's native environment were shared so they can properly

			educate visiting tourists
Mar-15	Maui Preparatory Academy	11	Presentation given to 11 persons from School (K-12) / on watersheds, collection of water and the importance of conserving water to interim students.
Mar-15	Lahainaluna High School	63	Presentation given to 63 persons from School (K-12) / 2 Agriculture and Natural Resources Classes and 1 Marine Science Class about what a watershed is and why it is important for our future water use and collection.

Total People: Presentation 100

Estimated Total of All People Reached 23,920



A group of Maui Girl Scouts learning about the function and importance of Maui's watersheds with EMWP staff in TNC's Waikamoi Preserve.

County of Maui
 Department of Water Supply
 Watershed Protection Grants
 Fiscal Year 2015

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY15 Grant Number: WC-0812
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	NTP (9/5/14 - 9/30/14)	10/01/14 - 12/15/14	12/16/14 - 3/31/15	Payment #4	Final Payment	Balance
		Payment #1	Payment #2	Payment #3			
A. Personnel	160,616.00	0.00	3,687.09	11,167.51			145,761.40
B. Transportation ²							0.00
C. Contractual Services	71,750.00	0.00	2,450.00	20,090.00			49,210.00
D. Utilities	4,634.00	0.00		1,695.68			2,938.32
E. Travel	7,577.00	0.00		113.33			7,463.67
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	12,050.00	0.00	152.94	2,060.18			9,836.88
H. Administrative & Overhead Costs ⁴	23,619.00	0.00	163.43	1,325.83			22,129.74
I. Other Costs	9,782.00	0.00	35.42	1,098.20			8,648.38
Total:	290,028.00	0.00	6,488.88	37,550.73		0.00	245,988.39
		\$ -		Grant Total Recheck		290,028.00	

Notes:

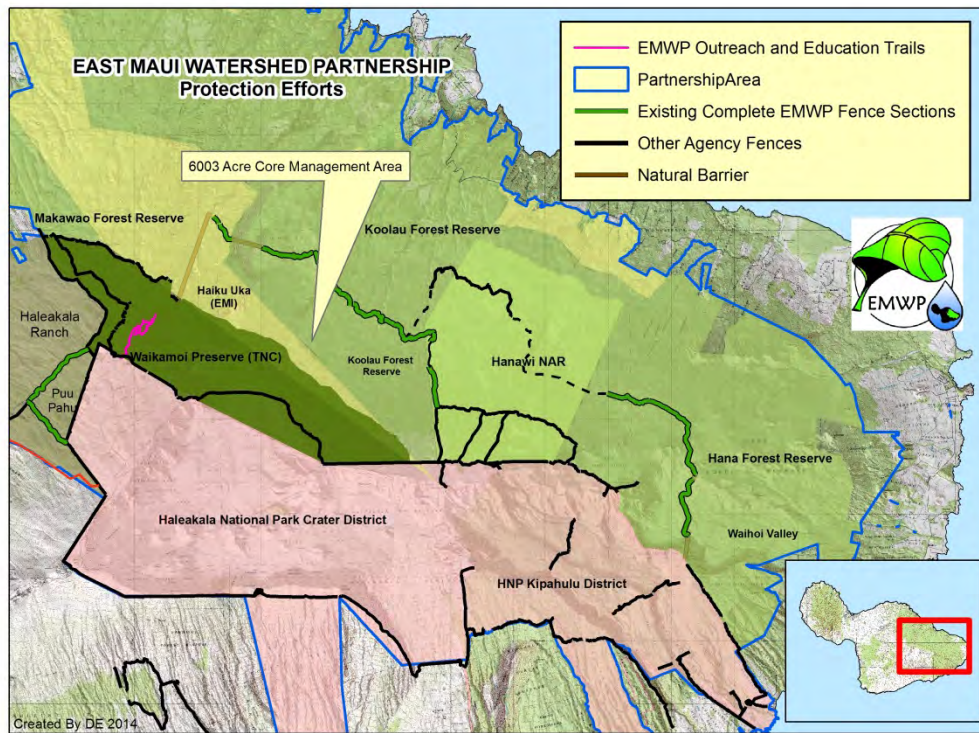
¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the contract between Maui County Department of Water Supply and the Research Corporation of the University of Hawaii dated September 5, 2014, entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed Partnership," contract WC-0812, Account #0006800 for FY2015.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

⁴ "I. Admin & Overhead Costs" = PCSU \$13,811 (@5%) + RCUH \$9,808 (@3.5%) = \$23,619

**East Maui Watershed Partnership
Quarterly Progress Report
April 1, 2015 – June 30, 2015
to the
Maui County Department of Water Supply
for the
FY 2015 East Maui Watershed Partnership
Source Protection Program
Contract WC-0812; Acct# 0006800**



An overview of the East Maui Watershed Partnership partner protection area.



1. Background

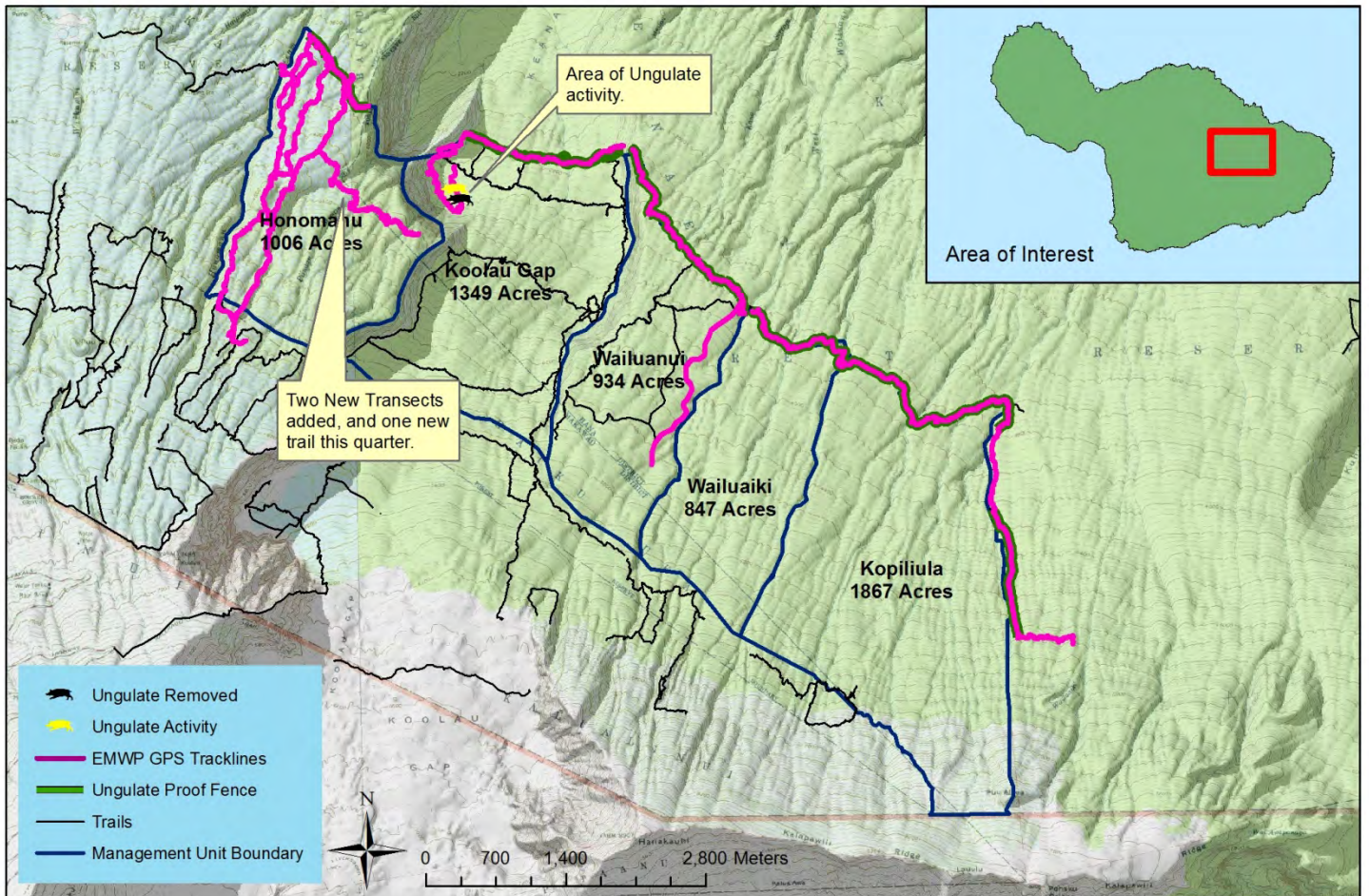
a. EMWP Snapshot

- East Maui Watershed Partnership (EMWP) was the first watershed partnership formed in the state in 1991.
- Total partnership land area is approximately 122,000 acres.
- Total partnership acres fenced to exclude ungulates specifically by partnership actions (~15,000 acres)
- Total length of fences being inspected and maintained by staff for this grant (~12,500 meters/7.77 miles)

b. Work Funded by this Grant

- The work performed as reported herein, and for which payment is being requested, was performed in accordance with the contract between Maui County Department of Water Supply and the Research Corporation of the University of Hawaii dated September 5, 2014, and entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed Partnership," contract WC-0812, Account #0006800 for FY2015.

EMWP North Slope Haleakala Watershed Protection Efforts: April 1, 2015 - June 30, 2015



Map Updated By DE July 2015

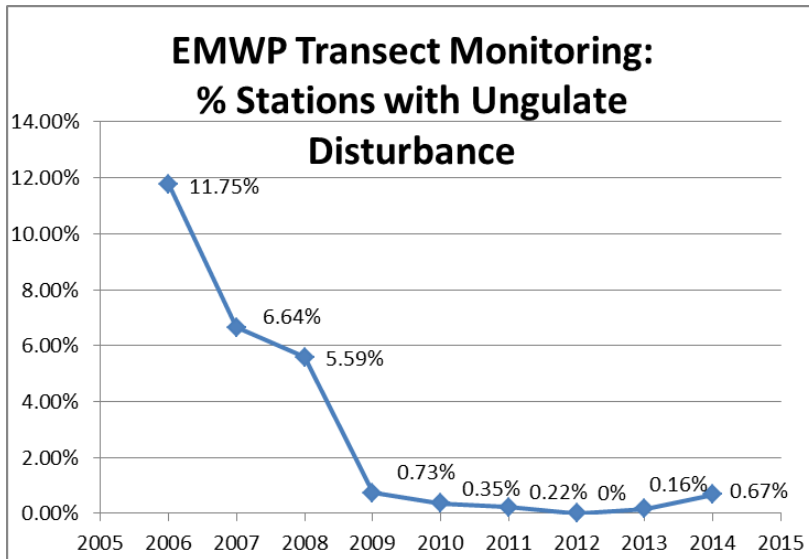
Tasks completed by EMWP during the report period (4/1/2015—6/30/2015)

1. Animal Control by Management Unit

a. Honomanu Management Unit (1,006 acres)

- i. **Fence Inspections (1,080 meters/0.62 miles):** Fence was checked 1 time with no repairs needed.
- ii. **Ungulate Control:** All ungulate traps in the unit were checked this quarter.
- iii. **Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line and on all trails in the unit with no pig sign reported.
 3. Scouting was conducted and a new trail was created in a remote part of the unit.

4. Two new ungulate activity transects were established in the unit.
- b. Ko`olau Gap Management Unit (1,349 acres)**
- i. **Fence Inspections (1,080 meters/0.62 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** 5% of the ungulate traps in the unit were checked this quarter. The remaining traps were checked last quarter. One pig was removed (see map).
 - iii. **Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line and on trails, fresh pig sign was noted near the trapped pig, no other sign was noted.
- c. Wailuanui Management Unit (934 acres)**
- i. **Fence Inspections (2,410 meters/1.55 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** 8% of the ungulate traps in the unit were checked this quarter. The remaining traps were checked last quarter.
 - iii. **Ungulate Monitoring/Scouting**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line, on trails, and through the entire ginger control area with no pig sign reported.
- d. Wailuaiki Management Unit (847 acres)**
- i. **Fence Inspections (1,450 meters/1.1 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** All ungulate traps in the unit were checked the previous quarter.
 - iii. **Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line with no sign reported.
- e. Kopiliula Management Unit (1,867 acres)**
- i. **Fence Inspections (3,630 meters/2.8 miles):** Fence was checked 1 time with no repairs needed.
 - ii. **Ungulate Control:** All ungulate traps in the unit were checked this quarter.
 - iii. **Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects will be checked before the end of the year as specified in the grant proposal.
 2. Scouting was conducted along the fence line with no sign reported in the unit.



This graph illustrates how ungulate activity has been brought to and maintained at near zero levels in the EMWP Core Management Unit over the past 7 years through vigilant management efforts.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Honomanu Management Unit (1,006 acres)

- i. Priority weed targets along fence lines (1,080 meters/0.62 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,400 meters/1.32 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- iii. Himalayan ginger (*Hedychium gardnerianum*): EMWP has made Himalayan ginger control a priority in Wailuanui because of the weed's overall relative scarcity in this unit and the destructive and potentially devastating threat it poses to the watershed if it is allowed to take hold. This quarter EMWP devoted two 4-day camping trips to controlling 13.39 acres of an outlying infested area on the south portion of the eastern population. The target population is nearly complete. (See map on following page for detail.)

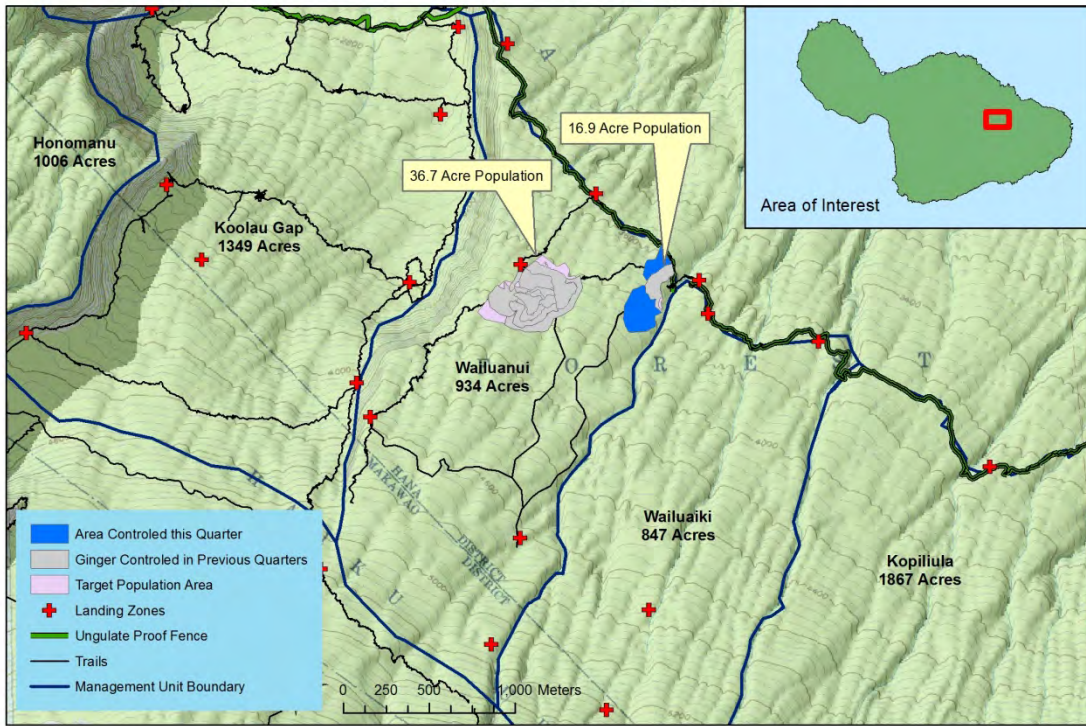
d. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

e. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

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



Systematic Control of the invasive ginger population in Wailuanui management unit is nearly complete with 13.39 acres controlled this quarter.

TABLE SUMMARY OF FIELD GOALS & ACCOMPLISHMENTS									
	9/15/2014 – 12/15/14		12/16/14 – 3/31/15		4/1/15 – 6/30/15		7/1/15 - 9/15/15		9/15/14-9/15/15
Scope of Work Description	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Year End Summary
Fence Checked (m/mi)	12.5 km/7.77 mi	100%	12.5 km/7.77 mi	100%	12.5 km/7.77 mi	100%	12.5 km/7.77 mi		
Traps Checked (#)	Not scheduled	n/a	2228 traps in 399 groups	96% (will be completed early next quarter)	Second (of 3) check in Honomanu	100%	2228 traps in 399 groups in all units including Honomanu		
Transects Checked (#)	Not scheduled	n/a	Not scheduled	n/a	Not scheduled	n/a	20		
Weeds Controlled – Ginger (# times)	3 x	100% (9.20 acres controlled)	3 x	125% (4 trips, exceeding goal by 1 trip)	3 x	2x (on schedule for annual goal)	3 x		



Clean freshwater stream, and surrounding ungulate free area in Wailua Iki management unit (above) and EMWP staff receiving training for high angle fence building and weed control from PCSU instructor Adam Radford (below).



3. Community Outreach & Education Accomplishments

Event			
Date	Audience	# People	Summary
4/4/2015	Ag Festival-Maui County Farm Bureau	196	Information Table at Ag Festival-Maui County Farm Bureau (Maui Tropical Plantation): Inform the public about their source of water and what is being done to protect it for future generations.
4/25/2015	East Maui Taro Fest	217	Information Table at East Maui Taro Fest (Hana Ball Park): Educate the local community on what is being done in the East Maui Watershed to help control invasive species and secure the health of their water source. We educate them on what they can do to help and address and concerns they have.
5/9/2015	Hotel and Lodging Association Charity Walk	7	Fundraiser at Hotel and Lodging Association Charity Walk (War Memorial Soccer Field): A 5K walk to raise money for non-profits on Maui. EMWP solicited walkers to participate on our behalf in order to help raise funds and awareness of the project.
6/24/2015	HEEA Environmental Education Symposium	40	Information Table at HEEA Environmental Education Symposium (University of Hawai'i at Manoa): EMWP attended a conference for environmental educators. We displayed fliers, brochures and business cards to promote our education program for schools and network with other environmental education professionals.
Total People: Event		460	

Hike			
Date	Audience	# People	Summary
4/15/2015	Lahainaluna High School	21	School (K-12) hike on the Waikamoi Bird Loop trail.
6/3/2015	Maui Medics	19	Community Organization hike on the Rose Gardner Boardwalk trail.
Total People: Hike		40	

Media			
Date	Audience	# People	Summary
4/1/2015	facebook.com/eastmauiwatershed	3,375	Social media for EMWP. 28 Page Views, 11 new "likes"
4/1/2015	eastmauiwatershed.org	391	EMWP website. 920 Page Views, 78% New Visitors
4/1/2015	malamawaoakua.org/ mwa-art.org	257	Website specific for Malama Wao Akua. 425 Page Views, 93% New Visitors
4/3/2015	Honolulu Civil Beat	20,000	Article about the completion of the 3mi fence built by TNC adding 1,000 acres of protected lands to the East Maui Watershed Partnership.
4/4/2015	Maui News	17,000	Article about the completion of the 3mi fence built by TNC adding 1,000 acres of protected lands to the East Maui Watershed Partnership.
4/6/2015	NPR-National Public Radio	155,000	Statement and interview with Mark White, TNC Director of Maui Programs, about the completion of the 3 mile fence adding 1,000acres to the East Maui Watershed protection area.
4/6/2015	MauiNow.com	14,000	Article about the completion of the TNC Waikamoi fence with background information on the area and why the East Maui watershed is important to be protected.
4/7/2015	The Maui News	17,000	Small article with a photo of EMWP employee teaching our youth about invasive species at the Ag Fair EMWP booth.
5/1/2015	malamawaoakua.org/ mwa-art.org	816	Website specific for Malama Wao Akua. 1,145 Page Views, 96% New Visitors
5/1/2015	eastmauiwatershed.org	640	EMWP website. 1,239 Page Views, 87% New Visitors
5/1/2015	facebook.com/eastmauiwatershed	1,479	Social media for EMWP. 28 Page Views, 8 new "likes"
6/1/2015	malamawaoakua.org/ mwa-art.org	785	Website specific for Malama Wao Akua. 933 Page Views, 95% New Visitors
6/1/2015	eastmauiwatershed.org	390	EMWP website. 682 Page Views, 81% New Visitors
6/1/2015	facebook.com/eastmauiwatershed	918	Social media for EMWP. 17 Page Views,10 new "likes"
4/1/2015	facebook.com/eastmauiwatershed	3,375	Social media for EMWP. 28 Page Views, 11 new "likes"
Total People:		232,051	
Media			

Presentation			
Date	Audience	# People	Summary
4/16/2015	Green Kidz Conference	68	Presentation given to 68 persons from School (K-12) / Lead a Watershed Watch game to teach attending student groups that taught them about the changing watershed through time and what those effects had our islands water supply.
5/7/2015	HCA-Conservation Connections Talk Story	25	Presentation given to 25 persons from Community Organization / Presentation with the WMMWP & LHWRP on collaboration among Watershed Partnerships. Information presented included job positions and descriptions to help inform potential students of career path.
5/20/2015	Iao Intermediate School	26	Presentation given to 26 persons from School (K-12) / Positions in Resource management career presentation to 8th graders.
6/1/2015	Lihikai Elementary School	133	Presentation given to 133 persons from School (K-12) /Taught students how the water cycle is related to weather and climate giving students water conservation strategies on how to keep watershed healthy as a part of their Science Day.
Total People: Presentation			252
Estimated Total of All People Reached			232,803



Fighting invasive species is not a game

April 7, 2015
The Maui News

Save |



East Maui Watershed Partnership intern Ian Bell watches Desmond Hartog-Hall, 3, capture a feral cow and goat in an exhibit that highlights the damage invasive species cause to the environment, and what is being done to stop it, during Saturday's Maui County Agricultural Festival at the Maui Tropical Plantation in Waikapu.
The Maui News / MATTHEW THAYER photo

EMWP staff teaching about the water cycle and the source of drinking water at MEDB's Green Kids Day Mini Conference (above) and EMWP in Maui News at Maui County Ag-Fest (below).

County of Maui
 Department of Water Supply
 Watershed Protection Grants
 Fiscal Year 2015

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY15 Grant Number: WC-0812
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount					Final Payment	Balance
		NTP (9/5/14 - 9/30/14)	10/01/14 - 12/15/14	12/16/14 - 3/31/15	4/1/15 - 6/30/15		
A. Personnel	160,616.00	0.00	3,687.09	11,167.51	38,710.04		107,051.36
B. Transportation ²							0.00
C. Contractual Services	71,750.00	0.00	2,450.00	20,090.00	18,525.68		30,684.32
D. Utilities	4,634.00	0.00		1,695.68	1,729.66		1,208.66
E. Travel	7,577.00	0.00		113.33	94.53		7,369.14
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	12,050.00	0.00	152.94	2,013.96	6,284.99		3,598.11
H. Administrative & Overhead Costs ⁴	23,619.00	0.00	163.43	1,266.25	2,357.44		19,831.88
I. Other Costs	9,782.00	0.00	35.42	1,098.20	2,010.42		6,637.96
Total:	290,028.00	0.00	6,488.88	37,444.93	69,712.76	0.00	176,381.43

Grant Total Recheck 290,028.00

Notes:

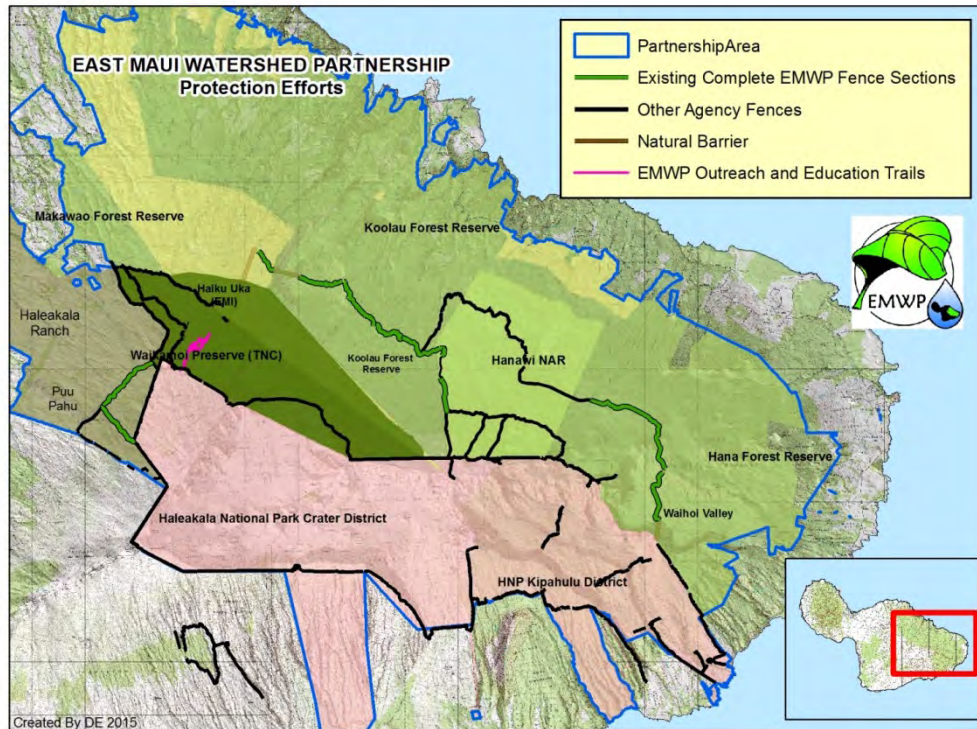
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² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

⁴ "I. Admin & Overhead Costs" = PCSU \$13,811 (@5%) + RCUH \$9,808 (@3.5%) = \$23,619

**East Maui Watershed Partnership
Quarterly Progress Report
May 19, 2016 – July 31, 2016
to the
Maui County Department of Water Supply
for the
FY 2016 East Maui Watershed Partnership
Source Protection Program
Contract WC-0875; Acct# 4502396**



East Maui Watershed Partnership works on landscape level watershed protection projects across land ownership boundaries.



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.

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 regularly 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.

Tasks completed by EMWP during the report period (5/19/2016—7/31/2016)

1. Animal Control by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

i. Fence Inspections (1,952 meters/1.21 miles): Fence was checked 1 time. Substantial degradation to the apron of the fence was observed, but the vertical portion of the fence is in sound condition. No signs of animal ingress were observed.

ii. Ungulate Control: Ungulate trap checks are scheduled for next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked next quarter.

2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit, but activity outside the fence remains high.

b. Wailuanui Management Unit (934 acres)

i. Fence Inspections (2,410 meters/1.55 miles): Fence was checked 1 time with no repairs needed.

ii. Ungulate Control: Ungulate trap checks are scheduled for next quarter.

iii. Ungulate Monitoring/Scouting

1. All ungulate presence transects are scheduled to be checked next quarter.

2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit

c. Wailuaiki Management Unit (847 acres)

i. Fence Inspections (1,450 meters/1.1 miles):

ii. Ungulate Control: Ungulate trap checks are scheduled for next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked next quarter.

2. Scouting was conducted along the fence line with no sign reported.

d. Kopiliula Management Unit (1,867 acres)

i. Fence Inspections (3,630 meters/2.8 miles): Fence was checked 1 time with no repairs needed. On route to the fence check a very large tree which damaged the DLNR Hanawi Fence was discovered by EMWP staff. Power tools were required to remove it, DLNR staff was immediately notified and the fence was repaired.

ii. Ungulate Control: Ungulate trap checks are scheduled for next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked next quarter.

2. Scouting was conducted along the fence line with no sign reported in the unit.

e. Kuhiwa Unit (Upper Hana Forest Reserve) (2,204 acres)

i. Ungulate Control: Installation of 200 ungulate traps is scheduled for October 2016.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,952 meters/1.21 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. Substantial planning was accomplished towards ginger control deliverables were accomplished this quarter. EMWP reached out to nearby land managers to compile range maps of known ginger populations in the area to refine management strategy. A location for a new camp and helicopter landing zone was selected by air this quarter. Ginger control on the new target area will begin next quarter.
- iii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

d. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.



EMWP staff on route to inspect the Koolau Gap ungulate proof fence.

3. Community Outreach & Education Accomplishments

Event			
Date	Audience	# People	Summary
5/23/2015	Watershed print making at Hui Noeau	65	Watershed printmaking at the Hui (Hui No'eau Visual Arts Center): Students from Maui High School Arts & Communication Academy worked with EMWP and artists to create prints of important watershed species.
Total People: Event		65	

Hike			
Date	Audience	# People	Summary
2016-06-29	Art Hike	13	Art Show hike on the Rose Gardner Boardwalk trail.
2016-07-08	Art Hike	7	Art Show hike on the Rose Gardner Boardwalk trail.
2016-07-20	Art Hike	12	Art Show hike on the Waikamoi Bird

			Loop trail.
2016-07-29	Hui No'eau Class	4	Art Show hike on the Waikamoi Bird Loop trail.
Total People:		36	
Hike			

Media			
Date	Audience	# People	Summary
2016-05-25	The Maui News	17,000	Weekday FRONT page news article of Maui High students making prints for Mālama Wao Akua.
2016-06-01	Hui No'eau FLASH News	6,450	E-mails every 2 weeks from the Hui. E-mails included information on Mālama Wao Akua Call to Artists, Exhibition Opening, Mahalo and Ongoing MWA Events.
2016-07-01	OnMaui! Magazine	25,000	Call to Artists for MWA block
2016-07-12	The Maui News	17,000	Local News article mentioning EMWP as assisting artists on native species for their mural.
Total People:		65,450	
Media			

Presentation			
Date	Audience	# People	Summary
2016-06-17	Animal Camp	16	Presentation to 16 persons from School (K-12) / Presentation to a summer camp program on watersheds, native species, and threats to the watershed.
2016-06-17	Emmanuel Lutheran School	21	Presentation given to 21 persons from School (K-12) / Presentation to a summer camp about watersheds, native species, and threats.
2016-07-05	Hui No'eau Class	14	Presentation given to 14 persons from Art Show / An informative session for artists interested in entering MWA '16 along with artist Mike Neal. Information

			was shared about EMWP, the definition of species classifications, and how to research what is native
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Total People: Presentation **51**

Estimated Total of All People Reached **65,602**

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY16 Grant Number: WC-0875
 Organization: EAST MAUI WATERSHED PARTNERSHIP

		FY16 Q1 (NTP - 7/31/16)					
Expense Categories	Grant Amount	Payment #1	Payment #2	Payment #3	Payment #4	Final Payment	Balance
A. Personnel	181,319.00	35,107.04					146,211.96
B. Transportation ²							0.00
C. Contractual Services	54,075.00	0.00					54,075.00
D. Utilities	4,650.00	442.46					4,207.54
E. Travel	4,892.00	0.00					4,892.00
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	8,285.00	153.12					8,131.88
H. Administrative & Overhead Costs	26,364.00	3,570.27					22,793.73
I. Other Costs	10,415.00	0.00					10,415.00
Total:	290,000.00	39,272.89	0.00	0.00		0.00	250,727.11

Grant Total Recheck 290,000.00

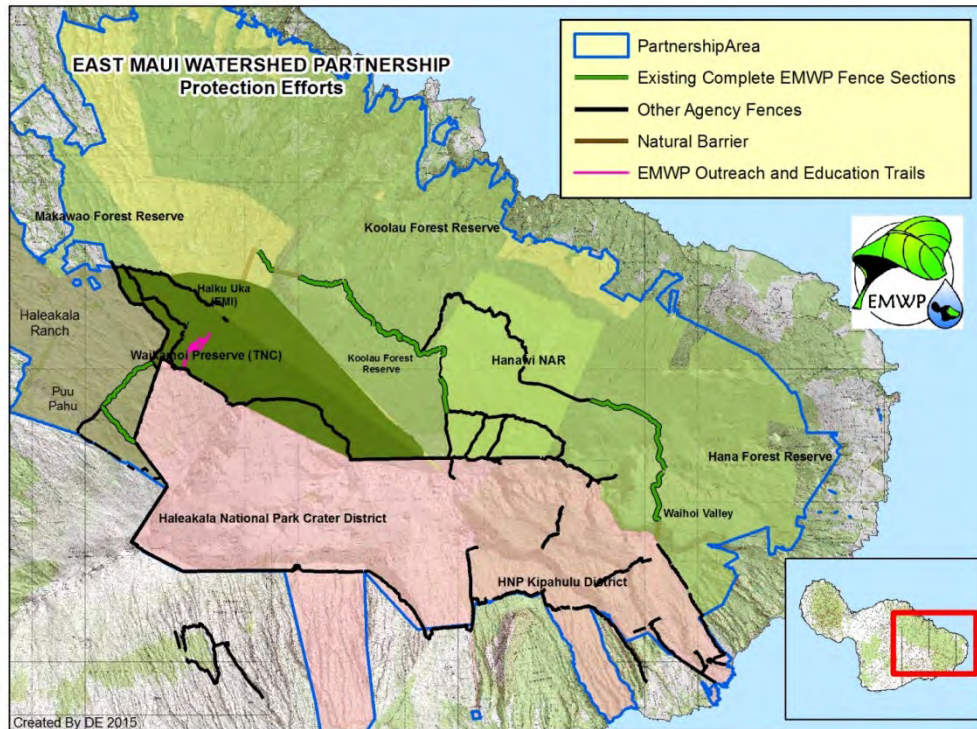
Notes:

¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the grant agreement dated May 9, 2016, between Maui County Department of Water Supply and the Office of Research Services of the University entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed," contract number WC-0875, Account #4502396 for FY2016.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

**East Maui Watershed Partnership
Quarterly Progress Report
August 1 , 2016 – October 31, 2016
to the
Maui County Department of Water Supply
for the
FY 2016 East Maui Watershed Partnership
Source Protection Program
Contract WC-0875; Acct# 4502396**



East Maui Watershed Partnership works on landscape level watershed protection projects across land ownership boundaries.



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.

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 regularly 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.

Tasks completed by EMWP during the report period (8/1/2016—10/31/2016)

1. Animal Control by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

i. Fence Inspections (1,952 meters/1.21 miles): Fence was checked 1 time. Improvements to the fence apron and stream crossing at Piinau Stream were made this quarter.

ii. Ungulate Control: All ungulate traps were checked, one pig was removed.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects were checked this quarter, no fresh ungulate presence was detected.

2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit, but activity outside the fence remains high.

b. Wailuanui Management Unit (934 acres)

i. Fence Inspections (2,410 meters/1.55 miles): Fence was checked 1 time with no repairs needed.

ii. Ungulate Control: All ungulate traps were checked this quarter, no pigs were removed.

iii. Ungulate Monitoring/Scouting

1. All ungulate presence transects were checked this quarter, no fresh ungulate presence was detected.

2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit.

c. Wailuaiki Management Unit (847 acres)

i. Fence Inspections (1,450 meters/1.1 miles):

ii. Ungulate Control: All ungulate traps were checked this quarter, no pigs were removed.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects were checked this quarter, no fresh ungulate presence was detected.

2. Scouting was conducted along the fence line with no sign reported.

d. Kopiliula Management Unit (1,867 acres)

i. Fence Inspections (3,630 meters/2.8 miles): Fence was checked 1 time with no repairs needed.

ii. Ungulate Control: All ungulate traps were checked this quarter, no pigs were removed.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked next quarter.

2. Scouting was conducted along the fence line with no sign reported in the unit.

e. Kuhiwa Unit (Upper Hana Forest Reserve) (2,204 acres)

i. Ungulate Control: Under the direction of DLNR/DOFAW 190 new traps were established in Kuhiwa Unit, near the boundary of Koolau and Hana Forest Reserves.

Ungulate control along the fence in this unit is well underway and visibly making an impact in reducing the amount of ungulate disturbance in the unit. EMWP's efforts expand ungulate control in the unit far from the fenceline, up to about 5,000' elevation.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,952 meters/1.21 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. Ginger control for FY16 deliverables began this quarter. A new base of operations, including a camp and helicopter landing zone was created near the ginger control site. Twenty three acres were swept this quarter which was required for targeting future control efforts.
- iii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

d. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.



EMWP staff using GPS to navigate deep into Kuhiwa unit to remove ungulates to protect important watershed area above the Hana district.

3. Community Outreach & Education Accomplishments

a. Malama Wao Akua Art Show

The Malama Wao Akua Art Show at Hui Noeau Visual Arts center in Makawao was a major success this year. Informational events were held leading up to and during the art exhibition. These events highlight the importance of protecting the source of Maui's water supply through watershed protection. The opening night attracted 400-500 community members and visitors. Speakers, including representation from the Mayor's office, shared appreciation of Maui's Watersheds including their importance and the importance of the native species that they contain.

b. International Union for the Conservation of Nature: World Conservation Congress

EMWP participated in Maui County's Indigenous Crop Biodiversity Festival (ICBF) by hosting a guided hike into the East Maui Watershed, a volunteer work day at Pu`u Pahu Reserve, and a informational booth at the main ICBF festival day at Maui Tropical Plantation. EMWP was also highlighted by Hawaii Conservation Alliance at the World Conservation Congress on Oahu as a "Bright Spot in Hawaii's Conservation." EMWP gave a brief presentation at the congress to help inspire watershed conservation to a global audience.

c. Website/Social Media

EMWP made regular updates to our website and social media accounts to inform the public of our Watershed Protection project and priorities and promote outreach events

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY16 Grant Number: WC-0875
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	FY16 Q1	FY16 Q2	Payment #3	Payment #4	Final Payment	Balance
		(NTP - 7/31/16)	(8/1/16 - 10/31/16)				
A. Personnel	181,319.00	35,107.04	23,579.79				122,632.17
B. Transportation ²							0.00
C. Contractual Services	54,075.00	0.00	13,034.50				41,040.50
D. Utilities	4,650.00	442.46	1,338.30				2,869.24
E. Travel	4,892.00	0.00	695.10				4,196.90
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	8,285.00	153.12	799.30				7,332.58
H. Administrative & Overhead Costs	26,364.00	3,570.27	3,983.24				18,810.49
I. Other Costs	10,415.00	0.00	1,085.42				9,329.58
Total:	290,000.00	39,272.89	44,515.65	0.00		0.00	206,211.46

Grant Total Recheck 290,000.00

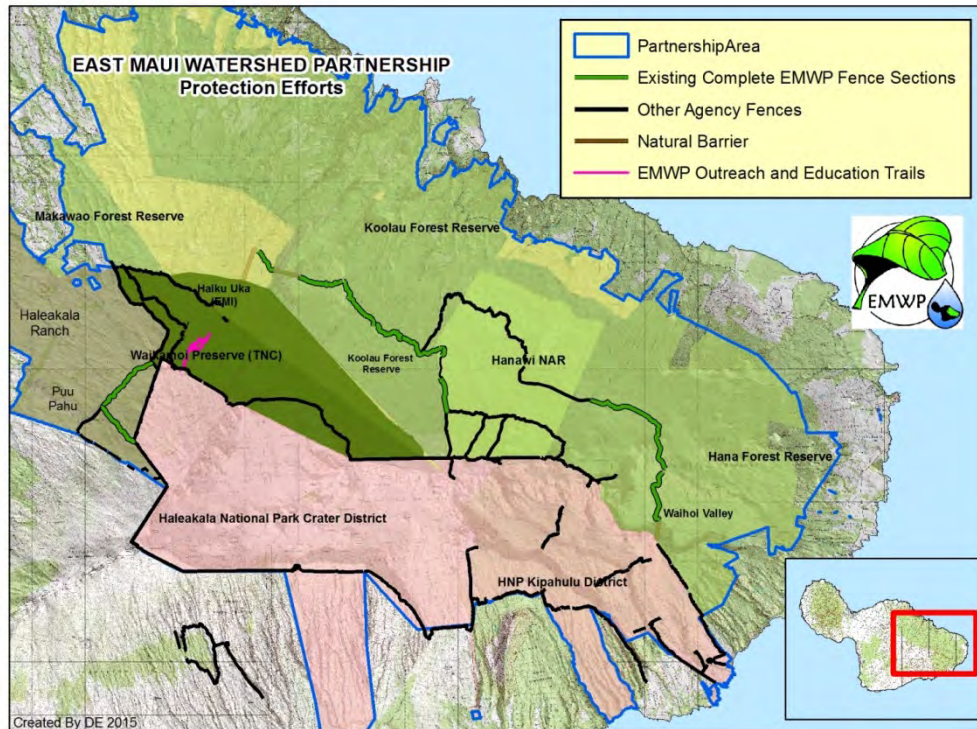
Notes:

¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the grant agreement dated May 9, 2016, between Maui County Department of Water Supply and the Office of Research Services of the University entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed," contract number WC-0875, Account #4502396 for FY2016.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

**East Maui Watershed Partnership
Quarterly Progress Report
November 1 , 2016 – January 31, 2017
to the
Maui County Department of Water Supply
for the
FY 2016 East Maui Watershed Partnership
Source Protection Program
Contract WC-0875; Acct# 4502396**



East Maui Watershed Partnership works on landscape level watershed protection projects across land ownership boundaries.



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.

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 regularly 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.

Tasks completed by EMWP during the report period (11/1/2016—1/31/2016)

1. Animal Control by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

i. **Fence Inspections (1,952 meters/1.21 miles):** Fence was checked 1 time. 600 meters of apron was replaced along the fence this quarter to increase its effectiveness and extend its life.

ii. **Ungulate Control:** Ungulate traps will be checked next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects have been checked for the year.

2. Scouting was conducted along the fence line and on trails. No pig sign was noted inside the unit, but activity outside the fence remains high.

b. Wailuanui Management Unit (934 acres)

i. **Fence Inspections (2,410 meters/1.55 miles):** Fence was checked 1 time with no repairs needed.

ii. **Ungulate Control:** Ungulate traps will be checked next quarter.

iii. Ungulate Monitoring/Scouting

1. All ungulate presence transects have been checked for the year.

2. Scouting was conducted along the fence line and on trails. No pig sign was noted inside the unit.

c. Wailuaiki Management Unit (847 acres)

i. **Fence Inspections (1,450 meters/1.1 miles):** Fence was checked 1 time with no repairs needed.

ii. **Ungulate Control:** Ungulate traps will be checked next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects have been checked for the year.

2. Scouting was conducted along the fence line with no sign reported.

d. Kopiliula Management Unit (1,867 acres)

i. **Fence Inspections (3,630 meters/2.8 miles):** Fence was checked 1 time with no repairs needed.

ii. **Ungulate Control:** Ungulate traps will be checked next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects have been checked for the year.

2. Scouting was conducted along the fence line with no sign reported in the unit.

e. Kuhiwa Unit (Upper Hana Forest Reserve) (2,204 acres)

i. **Ungulate Control:** All deliverables for Kuhiwa unit were completed in the previous quarter.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

i. Priority weed targets along fence lines (1,952 meters/1.21 miles) and in LZs were removed by hand or treated with approved herbicides.

- ii. The entire 40 acre FY16 ginger control target was swept and controlled this quarter. The location of the control efforts was revised slightly to better address the problem as determined during scouting of the infestation however the entire 40 acre control goal was competed.
 - iii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- b. Wailuanui Management Unit (934 acres)**
- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
 - ii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- c. Wailuaiki Management Unit (847 acres)**
- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
 - ii. All weed transects will be checked before the end of the year as specified in the grant proposal.
- d. Kopiliula Management Unit (1,867 acres)**
- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides.
 - ii. All weed transects will be checked before the end of the year as specified in the grant proposal.



EMWP staff monitoring for signs of ungulate activity on route to the ungulate proof fence at Koolau Gap management unit.

3. Community Outreach & Education Accomplishments

a. Maui Mauka Conservation Awareness Trainings

EMWP collaborated with Maui Invasive Species Committee and Maui Forest Bird Recovery Project to refresh and restart an educational presentation targeted at guides to natural areas in the tourism industry. This program provides accurate interpretation for tourism organizations and helps them more accurately describe efforts to protect Hawaii's watersheds and unique natural resources.

b. Website/Social Media

EMWP made regular updates to our website and social media accounts to inform the public of our Watershed Protection project and priorities and promote outreach events.

c. Events, Hikes, and Presentations

EMWP regularly engages with the community to raise public support for watershed protection and provide educational opportunities. This quarter EMWP reached the following number of individuals through these efforts. Presentations: 81 individuals. Hikes 27 individuals. Events: 952 individuals.

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY16 Grant Number: WC-0875
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	FY16 Q1	FY16 Q2	FY16 Q3	Payment #4	Final Payment	Balance
		(NTP - 7/31/16)	(8/1/16 - 10/31/16)	(11/1/16 - 1/31/17)			
A. Personnel	181,319.00	35,107.04	23,579.79	25,873.44			96,758.73
B. Transportation ²							0.00
C. Contractual Services	54,075.00	0.00	13,034.50				41,040.50
D. Utilities	4,650.00	442.46	1,338.30	1,423.38			1,445.86
E. Travel	4,892.00	0.00	695.10				4,196.90
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	8,285.00	153.12	799.30	2,902.03			4,430.55
H. Administrative & Overhead Costs	26,364.00	3,570.27	3,983.24	3,020.92			15,789.57
I. Other Costs	10,415.00	0.00	1,085.42	1,410.42			7,919.16
Total:	290,000.00	39,272.89	44,515.65	34,630.19		0.00	171,581.27

Grant Total Recheck 290,000.00

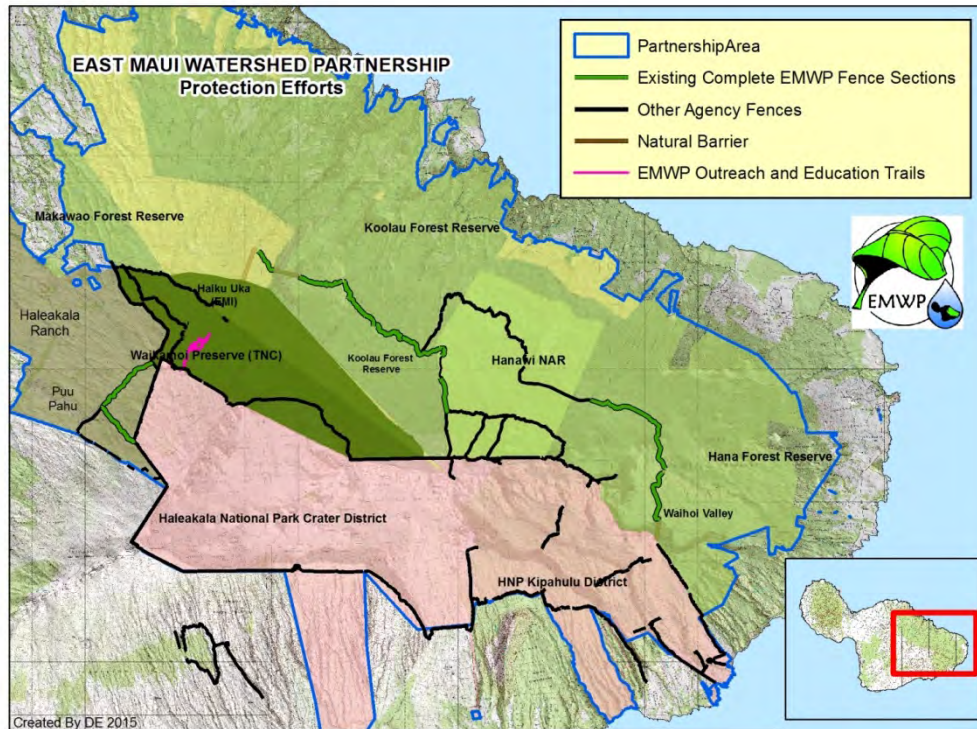
Notes:

¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the grant agreement dated May 9, 2016, between Maui County Department of Water Supply and the Office of Research Services of the University entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed," contract number WC-0875, Account #4502396 for FY2016.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

**East Maui Watershed Partnership
Quarterly Progress Report
March 30, 2017 – June 30, 2017
to the
Maui County Department of Water Supply
for the
FY 2017 East Maui Watershed Partnership
Source Protection Program
Contract WC-0905; Acct# 4502994**



East Maui Watershed Partnership works on landscape level watershed protection projects across land ownership boundaries.



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.

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 regularly 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.

Tasks completed by EMWP during the report period (3/30/2017—6/30/2017)

1. Animal Control by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

i. Fence Inspections (1,952 meters/1.21 miles): Fence was checked 1 time. Substantial degradation to the apron of the fence was observed in locations where repairs have not yet been completed. No signs of animal ingress were observed. 800 meters of apron was replaced along the fence this quarter to increase its effectiveness and extend its life.

ii. Ungulate Control: Ungulate trap checks are scheduled for next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked later in the period of performance.
2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit, but activity outside the fence remains high.

b. Wailuanui Management Unit (934 acres)

i. Fence Inspections (2,410 meters/1.55 miles): Fence was checked 1 time with no repairs needed.

ii. Ungulate Control: All ungulate traps in the management unit were checked this quarter.

iii. Ungulate Monitoring/Scouting

1. All ungulate presence transects are scheduled to be checked later in the period of performance.
2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit

c. Wailuaiki Management Unit (847 acres)

i. Fence Inspections (1,450 meters/1.1 miles):

ii. Ungulate Control: Ungulate trap checks are scheduled for next quarter.

iii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked later in the period of performance.
2. Scouting was conducted along the fence line with no sign reported.

d. Kopiliula Management Unit (1,867 acres)

i. Fence Inspections (3,630 meters/2.8 miles): Fence was checked 1 time with no repairs needed.

ii. Ungulate Monitoring/Scouting:

1. All ungulate presence transects are scheduled to be checked next quarter.
2. Scouting was conducted along the fence line with no sign reported in the unit.

e. Kuhiwa Unit (Upper Hana Forest Reserve) (2,204 acres)

i. Ungulate Control: Installation of additional ungulate traps is scheduled for later in the period of performance.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,952 meters/1.21 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. Substantial planning was accomplished towards ginger control deliverables this quarter. Ginger control on the new target area will begin next quarter.
- iii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

d. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.



EMWP staff inspecting the ungulate proof fence where it crosses one branch of Piinau stream in Koolau gap management unit.

3. Community Outreach & Education Accomplishments

Event			
Date	Audience	# People	Summary
2017-04-29	East Maui Taro Festival	134	Information Table at East Maui Taro Festival (Hana Ballpark): Information table to educate the people of Hana and the community about watershed and the important work we do and how to help.
Total People: Event		134	

Hike			
Date	Audience	# People	Summary
2017-04-04	Baldwin H.S.	16	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-04-17	Iao Intermediate School	21	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-04-18	Iao Intermediate School	22	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-05-02	Baldwin H.S.	26	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-05-15	Hana High School	8	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-06-16	Kamehameha Schools	23	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-06-30	Kamehameha Schools	15	School (K-12) hike on the Rose Gardner Boardwalk trail.
Total People: Hike		131	

Media			
Date	Audience	# People	Summary
2017-04-01	malamawaoakua.org/ mwa-art.org	333	Website specific for Malama Wao Akua. 675 Page Views, 77% New Visitors
2017-04-01	facebook.com/eastmauiwatershed	12,814	Social media for EMWP. 9,139 Page Views, 29 new "likes" and 398 engaged users

2017-04-01	eastmauiwatershed.org	1,045	EMWP website 2673 Page Views, 76% New Visitors
2017-04-01	facebook.com/mauimaukaconservation	7,117	Social media for Guide Trainings. 1,365 Page Views, 55 new "likes" and 409 engaged users
2017-05-01	Maui Family Magazine	25,000	Event listing for EMWP classroom visits and hikes.
2017-05-02	Hawai'i Public Radio	28,000	Interview with Chris Vandercook on HPR about our Maui Mauka Conservation Awareness Trainings. Aired 2 times
2017-05-17	MauiNow.com	14,000	Online article about our participation in a WIT MEDB STEM project "Watershed Field Day"
2017-05-23	MauiNow.com	14,000	Online article about our participation in Haleakala Ranch hosted event 'Ag in the Classroom
2017-05-23	MauiTime	45,000	Article about our participation in WIT MEDB STEM "Watershed Field Day"
2017-06-01	Lahaina News	11,000	Article including our participation in WIT MEDB STEM "Watershed Field Day"
Total People: Media		202,478	

Presentation			
Date	Audience	# People	Summary
2017-04-03	Baldwin H.S.	19	Presentation given to 19 persons from School (K-12) / Presentation of watershed demo to introduce students to the concept of watershed and the native species within them.
2017-04-03	Baldwin H.S.	26	Presentation given to 26 persons from School (K-12) / Presentation about watersheds, native species and their importance along with what EMWP does.
2017-04-27	King Kekaulike H.S.	10	Presentation given to 10 persons from School (K-12) to educate auto shop students about

			groundwater and how pollution can affect it.
2017-05-11	Women in Technology	60	Presentation given to 60 persons from School (K-12) / Watershed Field Day for fourth graders from Pomaikai'i and Kamali'i elementary school.
2017-05-12	Ag in the Classroom	601	Presentation given to 601 persons from School (K-12) / Field day sponsored by Haleakala Ranch to educated 2nd graders. We joined with HR and other conservation groups to make seed balls with the students.
2017-05-12	Maui Mauka Conservation Awareness Training	8	Presentation given to 8 persons from Tour Guide/Operators / Conservation awareness training for tour guides including a guest speaker.
2017-05-22	Maui Mauka Conservation Awareness Training	27	Presentation given to 27 persons from Tour Guide/Operators / 3 hour training for Maui tour guides to educate them on conservation work and organizations (EMWP, MFBRP, MISC) on Maui and provide topics they can share with their guests. Included a guest speaker
2017-06-28	Hui No'eau Class	17	Presentation given to 17 persons from Art Show / An informative session for artists interested in entering MWA '17 along with artist Zach Pezzillo. Information was shared about EMWP's watershed protection.
2017-06-28	Animal Camp	16	Presentation given to 16 persons from School (K-12) / Presentation to a summer camp program on watersheds, native species, and threats to the watershed.
Total People: Presentation		784	

**Volunteer
Planting**

Date	Audience	# People	Summary
2017-04-10	King Kekaulike H.S.	22	School (K-12) volunteer watershed restoration trip at Pu'u Pahu.

Total People: Volunteer Planting	22
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**Total
Outreach
Figures:**

203,549

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY17 Grant Number: WC-0905
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	FY17 Q1 (NTP - 6/30/17)	Payment #2	Payment #3	Payment #4 (Final Payment)	Total Expenditures	Balance
		Payment #1					
A. Personnel	161,906.00	37,244.27				37,244.27	124,661.73
B. Transportation ²	3,600.00	944.89				944.89	2,655.11
C. Contractual Services	75,590.00					0.00	75,590.00
D. Utilities	3,990.00	782.48				782.48	3,207.52
E. Travel	7,024.00					0.00	7,024.00
F. Field Crew Costs ³	0.00					0.00	0.00
G. Supplies, Materials & Equipment	6,144.00	265.50				265.50	5,878.50
H. Administrative & Overhead Costs	40,931.00	3,923.70				3,923.70	37,007.30
I. Other Costs	5,815.00					0.00	5,815.00
Total:	305,000.00	43,160.84	0.00	0.00		43,160.84	261,839.16

Grant Total Recheck 348,160.84

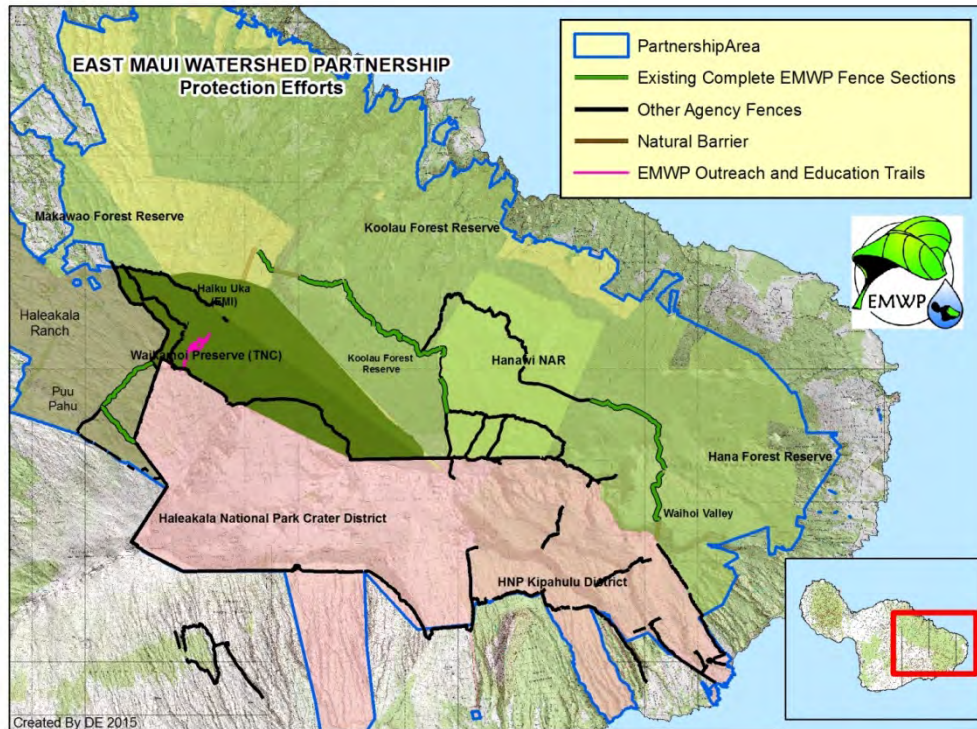
Notes:

¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the grant agreement dated March 21, 2017, between Maui County Department of Water Supply and the Office of Research Services of the University entitled: "FY17 Grant Agreement for East Maui Watershed Partnership Source Protection Program," contract number WC-0905, UH Account #4502994.

²The following expenses are included in "B. Transportation": vehicle maintenance and repair and fuel.

³ Expenses for "F. Field Crew Costs" are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field crew training; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

**East Maui Watershed Partnership
Quarterly Progress Report
July 1, 2017 – September 30, 2017
to the
Maui County Department of Water Supply
for the
FY 2017 East Maui Watershed Partnership
Source Protection Program
Contract WC-0905; Acct# 4502994**



East Maui Watershed Partnership works on landscape level watershed protection projects across land ownership boundaries.



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.

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 regularly 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.

Tasks completed by EMWP during the report period (7/1/2017—9/30/2017)

1. Animal Control by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Fence Inspections (1,952 meters/1.21 miles):** Fence was checked 1 time. Substantial degradation to the apron of the fence was observed in locations where repairs have not yet been completed. One location where pig ingress likely occurred was observed and replaced immediately. 350 meters of apron was replaced along the fence this quarter to increase its effectiveness and extend its life.
- ii. Ungulate Control:** All ungulate traps were checked this quarter. Two pigs were removed for the lower portion of the unit, EMWP staff believes it is likely those pigs entered the unit from the breach in the fence mentioned above.
- iii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects are scheduled to be checked later in the period of performance.
 2. Scouting was conducted along the fence line and on trails. Pig sign was noted near the location of one of the animal catches inside the unit, activity outside the fence remains high.

b. Wailuanui Management Unit (934 acres)

- i. Fence Inspections (2,410 meters/1.55 miles):** Fence was checked 1 time with no repairs needed.
- ii. Ungulate Control:** All ungulate traps in the management unit were checked in the previous quarter and will be checked again before the end of the project period.
- iii. Ungulate Monitoring/Scouting**
 1. All ungulate presence transects are scheduled to be checked later in the period of performance.
 2. Scouting was conducted along the fence line and on trails no pig sign was noted inside the unit.

c. Wailuaiki Management Unit (847 acres)

- i. Fence Inspections (1,450 meters/1.1 miles):**
- ii. Ungulate Control:** All ungulate traps were checked this quarter.
- iii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects are scheduled to be checked later in the period of performance.
 2. Scouting was conducted along the fence line with no sign reported.

d. Kopiliula Management Unit (1,867 acres)

- i. Fence Inspections (3,630 meters/2.8 miles):** Fence was checked 1 time with no repairs needed.
- ii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects were checked once this quarter.
 2. Scouting was conducted along the fence line with no sign reported in the unit.

e. Kuhiwa Unit (Upper Hana Forest Reserve) (2,204 acres)

- i. **Ungulate Control:** 200 traps were installed in Kuhiwa unit this quarter at a trail that runs approximately along the 4,500 foot elevation contour.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,952 meters/1.21 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. Ginger removal began at the target control area this quarter. 10.8 acres of ginger were swept for and controlled.
- iii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuaiki Management Unit (847 acres)

- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

d. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides including control of two new small populations of Ehrarta sp which were detected during monitoring last year.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.



EMWP staff replacing rusty fence “apron” in Koolau Gap management unit to discourage digging by feral pigs, excluding them from the native Hawaiian forest in this part of the watershed. (Left)
 Hula dancer at Mālama Wao Akua art show opening wearing traditional lei featuring native species from the East Maui Watershed. (Right)



3. Community Outreach & Education Accomplishments

Event			
Date	Audience	# People	Summary
2017-08-26	La Ulu Festival	121	Information Table at La Ulu Festival (Maui Nui Botanical Gardens): New annual event. We informed people about watersheds and the importance of water for agriculture.
2017-09-15	Mālama Wao Akua 2017 Opening Night	450	Special Event at Mālama Wao Akua 2017 Opening Night (Hui No‘eau Visual Arts Center): Opening reception of the third year of MWA at the Hui. Including Jurors Walk Through, Hula, Food sponsors and music.
2017-09-21	Talk Story Thursday	11	Special Event at Talk Story Thursday

		(Hui No'eau Visual Arts Center): In support of Mālama Wao Akua Art Exhibition Dr. Fern Duvall with DLNR/DOFAW, gave a free talk discussing Species on display in the exhibit.
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Total People: Event	582
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Hike

Date	Audience	# People	Summary
2017-07-28	Art Hike	5	Art Show hike on the Rose Gardner Boardwalk trail.
2017-08-01	Art Hike	6	Art Show hike on the Waikamoi Bird Loop trail.
2017-08-04	Paia Youth and Cultural Center	12	School (K-12) hike on the Rose Gardner Boardwalk trail.
2017-08-09	Art Hike	6	Art Show hike on the Pu'u Pahu Pohakuokala Gulch trail.
2017-08-14	Art Hike	4	Art Show hike on the Rose Gardner Boardwalk trail.
2017-09-22	Carden Academy of Maui	25	School (K-12) hike on the Waikamoi Bird Loop trail.
2017-09-25	Kula Elementary School	22	School (K-12) hike on the Waikamoi Bird Loop trail.

Total People: Hike	80
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Media

Date	Audience	# People	Summary
2017-05-01	Maui Family Magazine	25,000	Event listing for EMWP classrom visit s and hikes.
2017-07-01	facebook.com/mauimaukaconservation	3,648	Social media for Guide Trainings. 45 Page Views, 17 new "likes"
2017-07-01	facebook.com/eastmauiwatershed	34,734	Social media for EMWP. 260 Page Views, 53 new "likes" and 1,651 engaged users
2017-07-01	malamawaoakua.org/ mwa-art.org	852	Website specific for Malama Wao Akua. 2,798 Page Views, 57% New Visitors, 42% Returning
2017-07-01	eastmauiwatershed.org	1,043	EMWP website 2,942 Page Views,

			70% New Visitors
2017-08-04	MauiNow.com	13,000	Article about MWA 2017
2017-09-13	MauiNow.com	13,000	Article about MMCAT upcoming trainings in the business section
2017-09-14	Maui Time Weekly	18,000	MWA opening night event listed on the "This weeks picks" guide.
2017-09-15	The Maui News	25,000	Front page photo and caption about the Mālama Wao Akua exhibit and the opening night. In print and online
2017-09-17	The Maui News	53,000	Front page news article in the scene about the Mālama Wao Akua exhibit including images of all the award winners. In print and online
2017-09-20	The Maui News	25,000	Online article suggesting that MWA is the best place to visit for tourists to get away from the normal spots on Maui and learn about the island. Described the opening as "magical" and a must do yearly event.
2017-09-28	Maui Time	18,000	Article discussing the exhibit, artwork and educational species descriptions on the artwork, and events throughout the exhibit.
2017-09-28	Maui Time	90,000	Weekly event listing of MWA
Total People:		320,277	
Media			

Presentation			
Date	Audience	# People	Summary
2017-07-05	Pacific Whale Foundation Kids Camp	21	Presentation given to 21 persons from School (K-12) / TNC and EMWP combined field trip to Hosmer's Grove and TNC Waikamoi Preserve to educate campers on native birds and plants.
2017-07-11	Emmanuel Lutheran School	25	Presentation given to 25 persons from School (K-12) / Presentation to a summer camp about watersheds, native species, and threats.

2017-07-12	Animal Camp	13	Presentation given to 13 persons from School (K-12) / Presentation on native birds for kids art project to enter MWA 17
2017-08-11	Baldwin H.S.	73	Presentation given to 73 persons from School (K-12) / Presentation to photography students and biology students about Maui Nui native species and to gain interest for MWA and inform them what EMWP does and why.
2017-09-12	Kamehameha Schools	29	Presentation given to 29 persons from School (K-12) / Presentation to environmental and agriculture classes on watershed function, adaptive radiation, invasive species, changes through time and how to help.
2017-09-19	Carden Academy of Maui	21	Presentation given to 21 persons from School (K-12) / In class presentation and watershed demo to prep kids for upcoming hike

Total People: Presentation 182

Volunteer Planting

Date	Audience	# People	Summary
2017-09-20	Kamehameha Schools	21	School (K-12) volunteer trip at Pu'u Pahu.

Total People: Volunteer Planting **21**

Total Outreach Figures:

321,142

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY17 Grant Number: WC-0905
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	FY17 Q1	FY17 Q2	Payment #3	Payment #4 (Final Payment)	Balance
		(NTP - 6/30/17)	(7/1/17 - 9/30/17)			
		Payment #1	Payment #2			
A. Personnel	161,906.00	37,244.27	59,199.50			65,462.23
B. Transportation ²	3,600.00	944.89				2,655.11
C. Contractual Services	75,590.00		15,466.00			60,124.00
D. Utilities	3,990.00	782.48	1,187.32			2,020.20
E. Travel	7,024.00		741.64			6,282.36
F. Field Crew Costs ³	0.00					0.00
G. Supplies, Materials & Equipment	6,144.00	265.50	37.49			5,841.01
H. Administrative & Overhead Costs	40,931.00	3,923.70	7,750.73			29,256.57
I. Other Costs	5,815.00		875.42			4,939.58
Total:	305,000.00	43,160.84	85,258.10	0.00	0.00	176,581.06

305,000.00

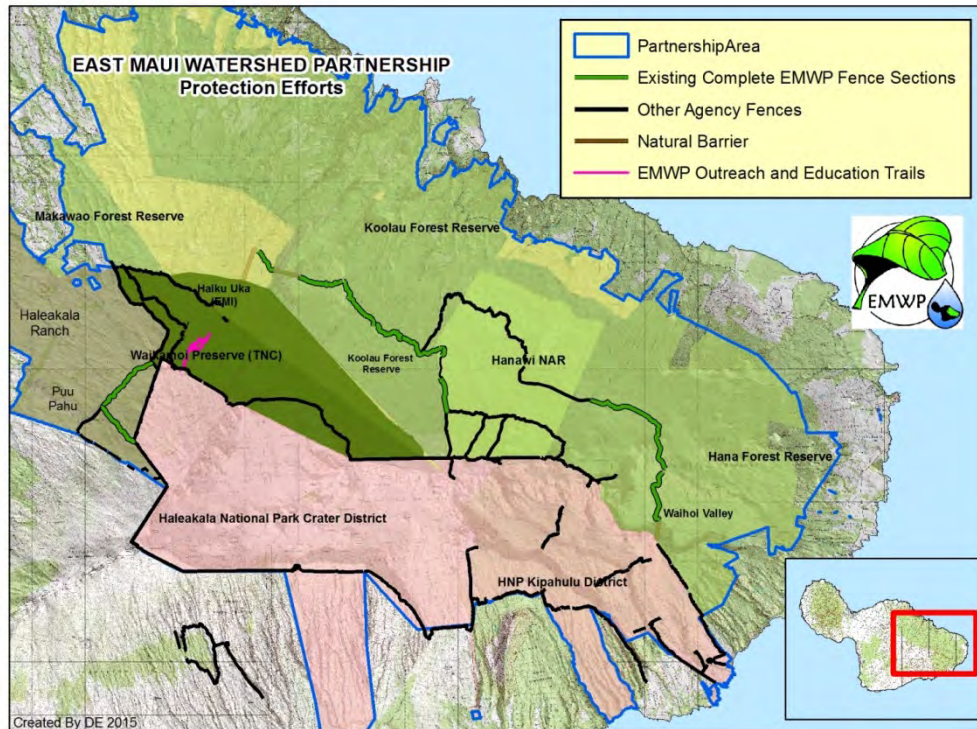
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**East Maui Watershed Partnership
Quarterly Progress Report
October 1, 2017 – December 31, 2017
to the
Maui County Department of Water Supply
for the
FY 2017 East Maui Watershed Partnership
Source Protection Program
Contract WC-0905; Acct# 4502994**



East Maui Watershed Partnership works on landscape level watershed protection projects across land ownership boundaries.



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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 regularly 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.

Tasks completed by EMWP during the report period (10/1/2017—12/31/2017)

1. Animal Control by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Fence Inspections (1,952 meters/1.21 miles):** Fence was checked 1 time. The newly replaced apron on the fence was secured and the fence is now in good condition once again.
- ii. Ungulate Control:** All ungulate traps will be checked once again in the project period.
- iii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects are scheduled to be checked later in the period of performance.
 2. Scouting was conducted along the fence line and during weed control in the unit. No Ungulate sign was noted this quarter.

b. Wailuanui Management Unit (934 acres)

- i. Fence Inspections (2,410 meters/1.55 miles):** Fence was checked 1 time with no repairs needed.
- ii. Ungulate Control:** All ungulate traps in the management unit were checked earlier in the year and will be checked again before the end of the project period.
- iii. Ungulate Monitoring/Scouting**
 1. All ungulate presence transects are scheduled to be checked later in the period of performance.
 2. Scouting was conducted along the fence line, no pig sign was noted inside the unit.

c. Wailuaiki Management Unit (847 acres)

- i. Fence Inspections (1,450 meters/1.1 miles):** Fence was checked 1 time and one stream crossing was in need of repair. A temporary repair was made and additional materials for a permanent repair will be brought to the site for a permanent repair as soon as possible.
- ii. Ungulate Control:** All ungulate traps in the management unit were checked earlier in the year and will be checked again before the end of the project period.
- iii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects are scheduled to be checked later in the period of performance.
 2. Scouting was conducted along the fence line with no sign reported.

d. Kopiliula Management Unit (1,867 acres)

- i. Fence Inspections (3,630 meters/2.8 miles):** Fence was checked 1 time with no repairs needed.
- ii. Ungulate Monitoring/Scouting:**
 1. All ungulate presence transects were checked once this quarter.
 2. Scouting was conducted along the fence line with no sign reported in the unit.

e. Kuhiwa Unit (Upper Hana Forest Reserve) (2,204 acres)

- i. **Ungulate Control:** Ungulate control objectives at Kuhiwa Unit for this project are complete.

2. Weed Control/ Invasive Plant Species Work by Management Unit

a. Ko`olau Gap Management Unit (1,349 acres)

- i. Priority weed targets along fence lines (1,952 meters/1.21 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. Ginger removal continued at the target control area this quarter. 39.18 acres of ginger were swept for and controlled.
- iii. All weed transects will be checked before the end of the year as specified in the grant proposal.

b. Wailuanui Management Unit (934 acres)

- i. Priority weed targets along fence lines (2,410 meters/1.55 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

c. Wailuaiki Management Unit (847 acres)

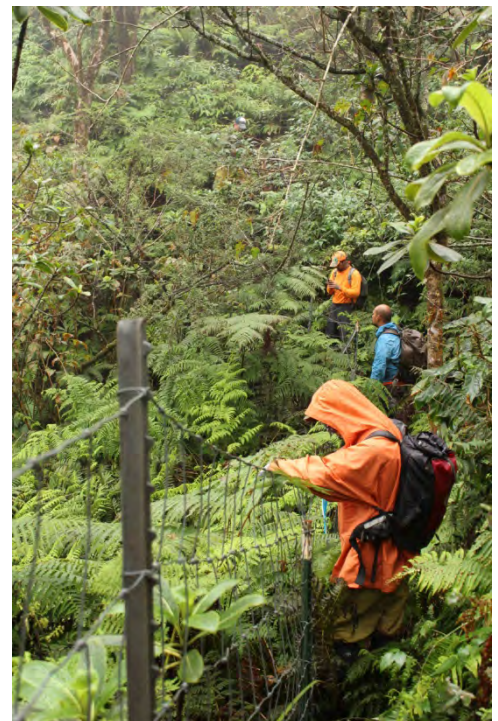
- i. Priority weed targets along fence lines (1,450 meters/1.1 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.

d. Kopiliula Management Unit (1,867 acres)

- i. Priority weed targets along fence lines (3,630 meters/2.8 miles) and in LZs were removed by hand or treated with approved herbicides.
- ii. All weed transects will be checked before the end of the year as specified in the grant proposal.



EMWP staff controlling priority invasive weeds at a helicopter landing zone in Koolau Gap management unit (Left) And inspecting the ungulate proof fencing in Koolau Gap (Right)



3. Community Outreach & Education Accomplishments

Event			
Date	Audience	# People	Summary
2017-10-05	Talk Story Thursday	6	Special Event at Talk Story Thursday (Hui No'eau Visual Arts Center): In support of Mālama Wao Akua Art Exhibition EMWP Program Manager Dan Eisenberg, gave a free talk discussing the partnership and species on display in the exhibit.
2017-10-19	Talk Story Thursday	20	Special Event at Talk Story Thursday (Hui No'eau Visual Arts Center): In support of Mālama Wao Akua Art Exhibition TNC Plant Specialist II Pat Bily, gave a free talk discussing the the species on display in the exhibit and biocontrol.
2017-11-02	Talk Story Thursday	60	Special Event at Talk Story Thursday (Hui No'eau Visual Arts Center): In support of Mālama Wao Akua Art Exhibition Auwahi Forest Restoration Dr. Art Medeiros, gave a free talk discussing the the species on display in the exhibit and their work.
2017-11-04	Arbor Day	60	Information Table at Arbor Day (Maui Nui Botanical Garden): Handed out native plants and informed people about the work we do and why native plants are important to watersheds.
Total People: Event		146	

Hike			
Date	Audience	# People	Summary
2017-12-01	Maui Preparatory Academy	19	School (K-12) hike on the Rose Gardner Boardwalk trail.
Total People: Hike		19	

Media			
Date	Audience	# People	Summary
2017-10-05	Lahaina News	11,000	Community news article about both upcoming MMCATs
2017-11-01	Maui no Ka Oi Magazine	85,000	Article of MNKO Magazines top 20 "shaka" list. EMWP's MWA was featured as #13.
2017-11-23	Maui Time	45,000	Yearly holiday giving guide for local organizations with information on who we are and what we do along with needs.
2017-12-18	MauiNow.com	13,000	Article about native species habitat including work conservation groups including EMWP do to protect them.
2017-12-31	The Maui News	20,000	MWA had a mention in the hana hou Pau Hana section recap of their favorite topics covered during 2017
Total People:		174,000	
Media			

Presentation			
Date	Audience	# People	Summary
2017-10-18	Maui Mauka Conservation Awareness Training	20	Presentation given to 20 persons from Tour Guide/Operators / 3 hour training for Maui tour guides to educate them on conservation work and organizations (EMWP, MFBRP, MISC) on Maui and provide topics they can share with their guests. Included guest speaker.
2017-10-25	Kamehameha Schools	52	Presentation given to 52 persons from School (K-12) / Watershed demonstrations to two 4th grade classes showing invasive impacts throughout time.
2017-10-30	Maui Mauka Conservation Awareness Training	11	Presentation given to 11 persons from Tour Guide/Operators / 3 hour training for Maui tour guides to educate them on conservation work and

			organizations (EMWP, MFBRP, MISC) on Maui and provide topics they can share with their guests. Included guest speaker.
2017-11-03	Carden Academy of Maui	18	Presentation given to 18 persons from School (K-12) / Presentation and gallery walk through of MWA for art students.
2017-11-27	King Kekaulike H.S.	32	Presentation given to 32 persons from School (K-12) / Presentation to 2 classes on a career path in Natural Resource Management. Presented along with Nā Hua Ho‘ohuli I ka Pono and UH Maui College.
2017-11-28	King Kekaulike H.S.	20	Presentation given to 20 persons from School (K-12) / Presentation to 2 classes on a career path in Natural Resource Management. Presented along with Nā Hua Ho‘ohuli I ka Pono and UH Maui College.
Total People: Presentation		153	

Volunteer Planting

Date	Audience	# People	Summary
2017-12-11	Roots School	11	School (K-12) volunteer trip at Pu'u Pahu.
Total People: Volunteer Planting		11	

Total Outreach Figures:

174,329

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY17 Grant Number: WC-0905
 Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	FY17 Q1	FY17 Q2	FY17 Q3	Payment #4 (Final Payment)	Balance
		(NTP - 6/30/17)	(7/1/17 - 9/30/17)	(10/1/17 - 12/31/17)		
		Payment #1	Payment #2	Payment #3		
A. Personnel	161,906.00	37,244.27	59,199.50	55,434.13		10,028.10
B. Transportation ²	3,600.00	944.89		977.62		1,677.49
C. Contractual Services	75,590.00		15,466.00	11,704.00		48,420.00
D. Utilities	3,990.00	782.48	1,187.32	1,672.31		347.89
E. Travel	7,024.00		741.64	1,105.63		5,176.73
F. Field Crew Costs ³	0.00					0.00
G. Supplies, Materials & Equipment	6,144.00	265.50	37.49	1,558.30		4,282.71
H. Administrative & Overhead Costs	40,931.00	3,923.70	7,750.73	7,388.64		21,867.93
I. Other Costs	5,815.00		875.42	4,234.50		705.08
Total:	305,000.00	43,160.84	85,258.10	84,075.13	0.00	92,505.93

305,000.00

Notes:

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EMWP Weed Management Efforts Matrix

Summarizes EMWP's work for FY2015 thru FY2017

*Indicates Priority Species

Taxon Name	Common Name	Location of infestation	IPM Control method	Desc. of mechanical removal	Person days	Restricted use pesticides	Date treatment began with County Funds
<i>*Hedychium gardnerianum</i>	Himalayan Ginger	Koolau Gap, Wailuanui	Mechanical, Chemical & Preventive	Plants found near water must be entirely dug out using hand tools and removed from the site	275	No	FY2012
<i>*Psidium cattleianum</i>	Strawberry Guava	Koolau Gap infested below 3000 ft elevation	Biological, Preventive	N/A	8	No	FY2016
<i>*Clidemia hirta</i>	Koster's Curse	Occasionally found in Honomanu Makai, Wailuanui & Kopiliula; Koolau Gap infested below 3000 ft elevation	Mechanical, Preventive	Hand pull outlying plants	Opportunistic Only	No	
<i>Ulex europaeus</i>	Gorse	Puu Pahu Reserve	Mechanical, Chemical & Preventive	Large plants are cut to the ground with hand or power tools and the trunks are typically treated chemically	191	No	FY2017
<i>Pinus patulata</i>	Mexican Weeping Pine	Not found in EMWP Units	Preventive	N/A	N/A	No	
<i>Pinus radiata</i>	Monterey Pine	Not found in EMWP Units	Preventive	N/A	2	No	
<i>Rubus argutus</i>	Blackberry	Scattered throughout EMWP units	Mechanical, Chemical & Preventive	Hand pull outlying plants	Opportunistic Only	No	
<i>Rubus discolor</i>	Blackberry	Not found in EMWP Units	Preventive	N/A	N/A	No	
<i>Rubus glaucus</i>	Blackberry	Not found in EMWP Units	Preventive	N/A	N/A	No	
<i>Angiopteris evecta</i>	Mule's-foot fern	Koolau Gap below 3000 ft elevation & Wailuanui below 4000 ft elevation	Mechanical, Preventive	Entire plants are dug from the ground and removed from the site in a plastic bag if feasible.	Opportunistic Only	No	
<i>Sphaeropteris cooperi</i>	Australian tree fern	Not found in EMWP Units	Preventive	N/A	N/A	No	

WR Committee

From: Dan Eisenberg (EMWP) <coordinator@eastmauiwatershed.org>
Sent: Tuesday, March 20, 2018 11:02 AM
To: WR Committee
Subject: RE: March 9 WR-5, Watershed Management and Protection
Attachments: Application Forms A-P_EMWP_DWS FY19.pdf; EMWP_DWS_FY15FY16_FinalReports.pdf; EMWP_March9_2018.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for the opportunity to provide information for discussion at the WR committee meeting. Please see East Maui Watershed Partnership's responses to the letter dated March 9 attached.

Dan

From: WR Committee [mailto:WR.Committee@mauicounty.us]
Sent: Friday, March 16, 2018 8:15 AM
To: Dan Eisenberg (EMWP)
Cc: WR Committee
Subject: WR-5, Watershed Management and Protection

Mr. Eisenberg,
Please review attached correspondence for response to the Maui County Council's Water Resources Committee. The hard copy is being mailed to you as well.
Thank You,
Water Resources Committee staff



East Maui Watershed Partnership

Watershed Partners

County of Maui/
Department of
Water Supply

The Honorable Alikea Atay
County of Maui
200 S. High St.
Wailuku, HI 96793

East Maui
Irrigation
Company

RE: Response to March 9, 2018 Request

Dear Councilmember Atay:

I am writing to provide the information requested in your March 9, 2018 letter for discussion at the March 20, 2018 meeting of the Committee on Water Resources. Attached to this letter are the East Maui Watershed Partnership's (EMWP) final reports to the Maui County Department of Water Supply for FY2015 and FY2016. EMWP was also awarded funding from Maui County Department of Water Supply in FY2017 and FY2018, but the FY2017 project is still in progress and the FY2018 project is projected to begin very soon, so final reporting has not yet been completed. EMWP was not awarded money from the Office of Economic Development for FY2015-FY2018 so no reports to the Office of Economic Development are being provided.

Haleakala
National Park

Haleakala Ranch

Additional Responses:

1. **History of funding from Maui County:** EMWP received funding from the Office of Economic Development each year from FY2006 thru FY2012. EMWP received funding from the Department of Water Supply each year from FY2005 thru FY2018.

State of Hawaii
Department of
Land and Natural
Resources

2. **FY2019 Requests:** EMWP has requested \$312,000 in FY2019 funding from Department of Water Supply, and not applied for funding from Office of Economic Development in FY2019.

The Nature
Conservancy

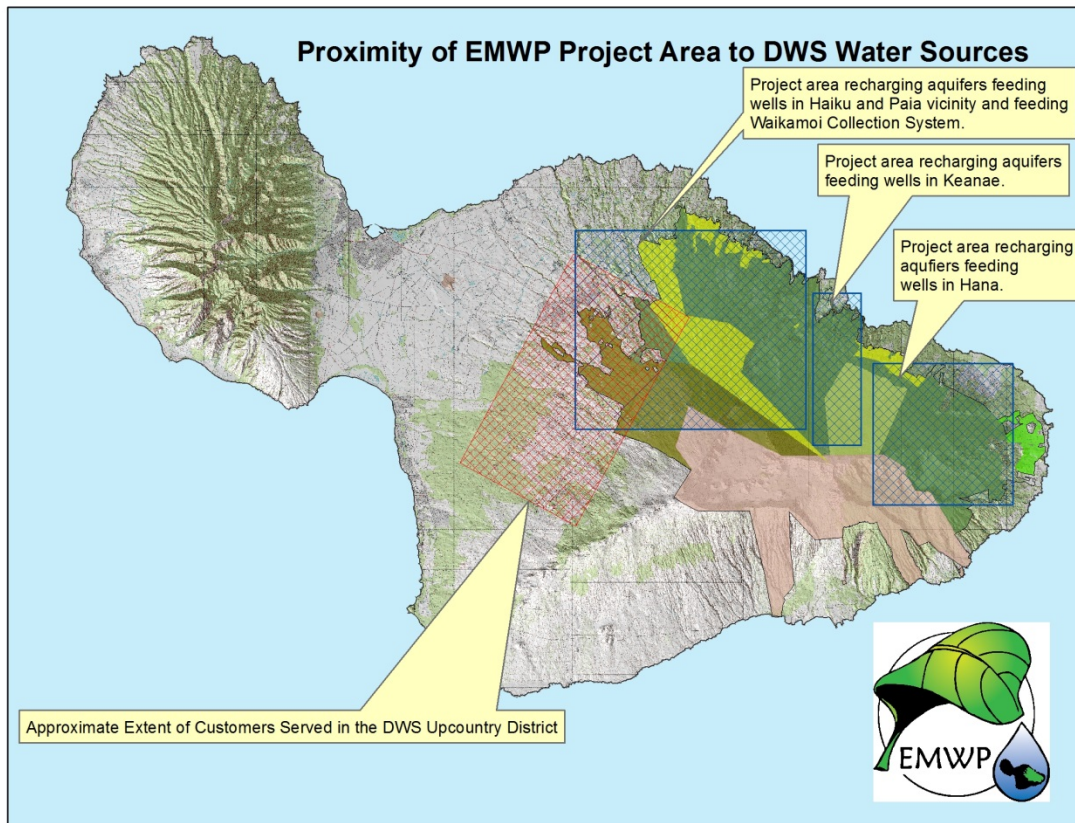
3. **FY2019 Budget:** A detailed budget of EMWP's FY2019 request is attached. Funding is requested for "Invasive Plant Control Supplies" which, if fully awarded, would primarily be used to purchase equipment to facilitate safe transport of pesticides, application equipment, hand/power tools and personal protective equipment related to mechanical and chemical control of priority invasive weeds. No specific or dedicated supplies or materials are being requested for ungulate control.

Thank you for the opportunity to discuss our watershed protection efforts with the committee.

Sincerely,

Dan Eisenberg
EMWP Program Manager

**East Maui Watershed Partnership
Final Report
September 15, 2014 – September 14, 2015
to the
Maui County Department of Water Supply
for the
FY 2015 East Maui Watershed Partnership
Source Protection Program
Contract WC-0812; Acct# 0006800**



An overview of the East Maui Watershed Partnership partner protection area.



BACKGROUND

The East Maui Watershed Partnership (EMWP) was created in 1991. It 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.

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 gauge, 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 (DWS) 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 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 aquifers. Even during droughts, our watersheds can produce water, pulling water out of the clouds by collecting fog drip. This uniquely evolved, specialized forest is the key to Maui's healthy water supply.

EMWP focuses its efforts through on the ground natural resource management. Efforts target the highest priority threats, namely zero tolerance of feral ungulates and invasive plant control. Other activities EMWP engages in include maintaining stream water quality monitoring equipment in the Upper Hāna Forest Reserve's Waiho'i Valley, administering a robust educational outreach program to increase public awareness about the importance of protecting Maui's water resources, and cultivating strong inter-agency and partner-organization relationships in order to leverage resources to protect our county's water. 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 accomplished the goals and objectives of this grant through maintaining the timelines set out in the grant proposal, securing additional funding through leveraging DWS funds, and week after week of on the ground natural resource management.

GOALS/OBJECTIVES

- 1) Maintenance and inspection of 7.77 miles of existing watershed protection fences.
- 2) Zero tolerance ungulate control within fenced areas according to the ungulate control plan.
- 3) Control of 60 acres of Himalayan Ginger in Wailuanui management unit. Control of priority invasive weed species in core and buffer areas identified by management plans.
- 4) Reporting any new incipient weed populations to MISC and landowner.
- 5) Monitoring existing transects and installing 6 new transects.
- 6) Coordination of watershed management activities including creating and managing geo-databases.
- 7) Maintain stream monitoring site at Waiohonu Stream for duration of the grant period.
- 8) Outreach and education focused on watershed improvement. Outreach goals include 16 interpretive hikes through the forested watershed, annual Malama Wao Akua art exhibition, 10 classroom presentations, robust web presence (about 36 posts or updates per year).

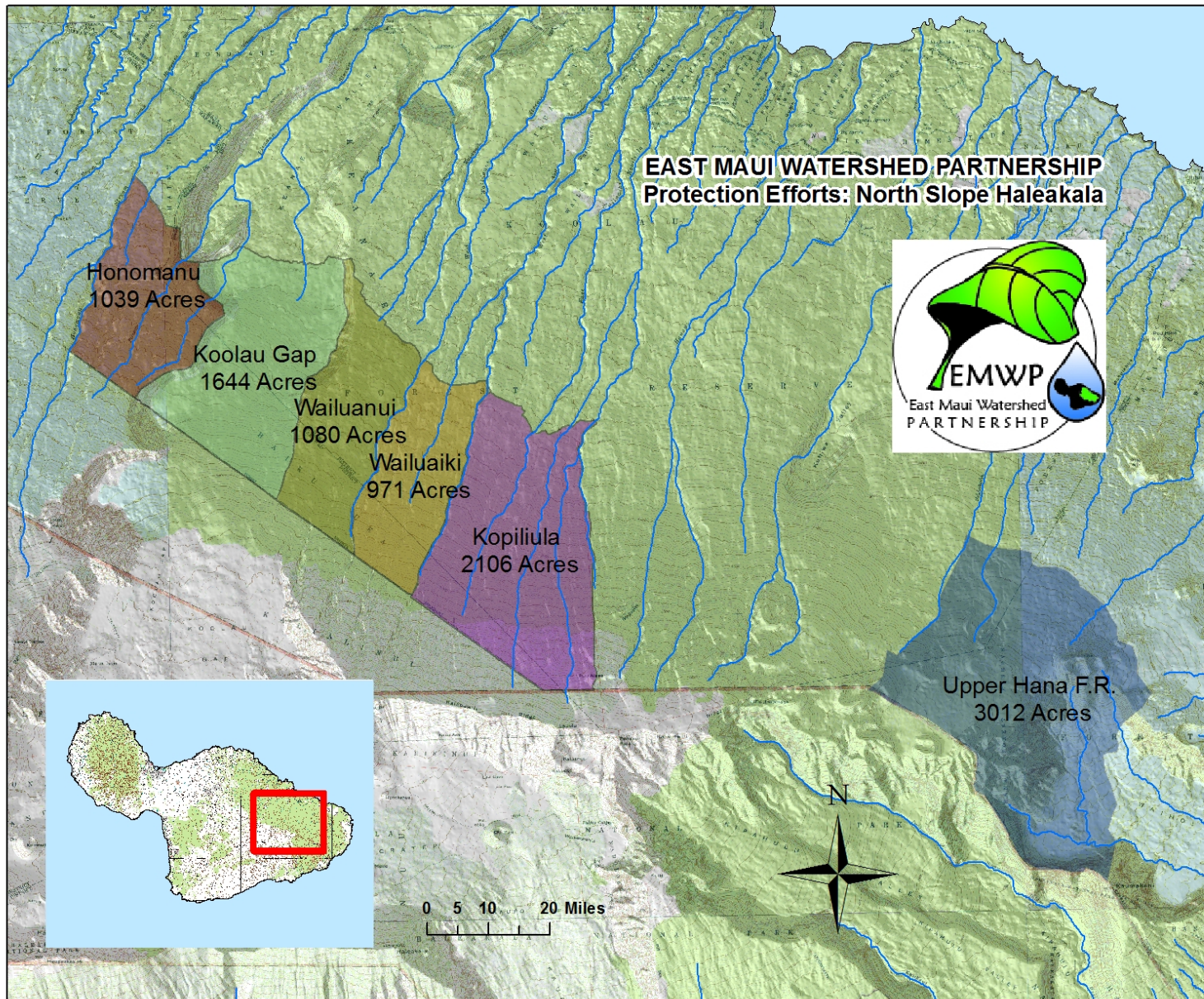
BENEFITS TO MAUI COUNTY

- Improved water quantity and quality over time; proving sustainable sources of water for the upcountry surface water collection system and improved recharge of aquifers below all wells in East Maui.
- Reduced non-point source pollution down streams and to the near-shore environment.
- Leveraging of funds to ensure State and Federal resources contribute to watershed protection.
- Investing in the future of watershed protection by providing resources for teachers to educate students in the classroom and in the field about Hawaii's watersheds. Educating the community about their local watershed and the important role it plays in fresh water retention.



Koolau Gap as seen from Wailuanui management unit.

TABLE SUMMARY OF FIELD GOALS & ACCOMPLISHMENTS									
	9/15/2014 - 12/15/2014		12/16/2014 – 3/31/2015		4/1/2015 – 6/30/2015		7/1/2015 – 9/15/2015		
Scope of Work Description	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Year End Summary
Fence Checked (m/mi)	12.5 km/7.77 mi	100%	12.5 km/7.77 mi	100%	12.5 km/7.77 mi	100%	12.5 km/7.77 mi	100%	100%
Traps Checked (#)	Not scheduled	n/a	2228 traps in 399 groups	96%	Second (of 3) check in Honomanu	100% Also checked remaining traps from last quarter	2228 traps in 399 groups	100%	100%
Transects Checked (#)	Not scheduled	n/a	Not scheduled	n/a	Not scheduled	n/a	21	100%	100%
Weeds Controlled – Ginger (# times)	3 x	100% (9.2 acres controlled)	3 x	133% (12.88 acres controlled) exceeding goal by 1 trip	3 x	66% (13.39 acres controlled)	3 x	100% (12.26 acres controlled)	100%
Outreach and Education (community members reached)	111	100%	23,920	100%	262,790	100%	180,550	100%	100%
Stream monitoring at upper Hana	3x	100%	3x	100%	3x	100%	3x	100%	100%



TASKS COMPLETED FY15

Maintenance of ungulate proof fence:

7.77 miles of fence was checked quarterly and minor repairs were made as necessary. No signs of ungulate ingress into fenced areas were noted.

Ungulate Control inside fenced units:

All ungulate traps were checked at least twice during the year. The traps in Honomanu unit were checked three times. One pig was removed in Koolau Gap management unit. This shows great progress and extremely low animal numbers across the whole project site, and no pigs observed in the previously troublesome Honomanu unit.



EMWP staff controlling invasive Himalayan Ginger in Wailuanui management unit.

Transect Monitoring:

21 Transects (ranging from 500 meters to 2388 meters) were checked once for ungulate and alien plant presence or absence during the period. Ungulate presence along transects has remained at near zero levels since 2009. EMWP installed six new transects. Four of which were intended to access the forest composition in a non fenced part of Koolau Forest Reserve, two were in remote parts of Honomanu unit.

Invasive Weed Control:

EMWP placed an emphasis this year on aggressive control of the only known population of Himalayan ginger in Wailuanui unit, the entire population was swept and controlled in 12 monthly trips as planned. Follow up control will not be needed for two to three years, and should require less effort, as it will require control of only newly sprouted seedlings. Additionally, priority weeds are regularly controlled along fence lines and on trails to prevent their spread through EMWP's managed areas.

Community Outreach:

EMWP gave 15 presentations at K-12 schools and community groups, participated and hosted information both at 10 Community Events, led 16 hikes with K-12 schools and community groups, and made 57 media releases for print and digital publication.

STAFF EMPLOYED

In 2015 EMWP maintained a base staff of 9 for a total 8.3 FTE (7 full-time, 2 part time and several short term hire staff). In 2015, DWS provided 37% of EMWP's salary funding, supporting 3.1 FTE staff.

A total of 17,264 hours was worked by EMWP staff in 2015 (40 hours/week x 52 weeks/year x 8.3 FTE). EMWP's labor cost funded by DWS in 2015 , including salary, benefits and fringe, was \$166,731.

EMWP is constantly looking for funding from other sources to diversify its salary funding and build staff capacity.



Six members of EMWP's 2015 staff

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

Equipment Item (name and brand)	Value when purchased	How used	When acquired
Equipment Item (name and brand)	Value when purchased	How Used	When acquired
Samsung Galaxy Tab Active 16GB tablet	\$624.40	For field GIS data collection	4/17/2015
Kenwood TK2180K2 VHF 512CH Portable 136-174 Radio with DTMF Keypad (Model #TK2180K2)	\$511.84	For field communications in remote work areas	5/4/2015
Kenwood TK2180K2 VHF 512CH Portable 136-174 Radio with DTMF Keypad (Model #TK2180K2)	\$511.84	For field communications in remote work areas	5/4/2015
M-1 Heavy duty front bumper for 2011 Toyota Tundra Lic. #E622	\$1,299.99	Installed on project vehicle Toyota Tundra Lic. #E622. Heavy duty bumper required in order to install winch which is needed for driving in rugged, off- road conditions	6/26/2015
Gen 2 X20 Wireless Winch for 2011 Toyota Tundra Lic. #E622	\$648.99	Installed on project vehicle Toyota Tundra Lic. #E622. Winch is required for driving in rugged, off-road conditions	6/26/2015

AMOUNT OF FUNDING LEVERAGED

FY15 Funding Received from DWS	Leveraged Funding Received	Leveraged Fund Source	Agency Type
\$290,028	\$195,000	Department of Land & Natural Resources, Division of Forestry & Wildlife - Watershed Partnership Program FY15	State
	\$60,000	National Fish and Wildlife Foundation – 2014 Pulling Together Initiative	Federal
\$220,000	\$255,000	TOTAL	

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

- Expand network of ungulate control scouting trails, with priority near unfenced natural barriers.
- Increased ability for rapid response to any storm related damage or observed ungulate activity.
- Expanded on the ground scouting and mapping to delimit invasive weeds and more accurately monitor their spread.
- Create a second fence in Koolau Gap unit at about 4000’ elevation, to improve management effectiveness.
- Develop new technology to increase efficiency of management efforts.
- Expand protection efforts to additional forested lands with high water resource value.

CONSEQUENCES OF A DECREASE IN FUNDING

- Without funding to conduct routine fence checks and ungulate control, a single event like a tree fall or stream washout could allow the flow of animals into a managed unit, negating years of work.
- Without routine weed control efforts, invasive plants would expand, becoming a more expensive and potentially irreversible problem in the future.
- EMWP would have less ability to leverage funds, further decreasing capacity for watershed protection.



EMWP staff hiking through rough terrain to set and check traps for feral ungulates.

County of Maui
Department of Water Supply
Watershed Protection Grants
Fiscal Year 2015

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY15 Grant Number: WC-0812
Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	NTP (9/5/14 - 9/30/14)	10/01/14 - 12/15/14	12/16/14 - 3/31/15	4/1/15 - 6/30/15	7/1/15 - 9/15/15	Balance
		Payment #1	Payment #2	Payment #3	Payment #4	Final Payment	
A. Personnel	160,616.00	0.00	3,687.09	11,167.51	38,710.04	125,956.15	(18,904.79)
B. Transportation ²							0.00
C. Contractual Services	71,750.00	0.00	2,450.00	20,090.00	18,525.68	32,257.54	(1,573.22)
D. Utilities	4,634.00	0.00		1,695.68	1,729.66	1,044.39	164.27
E. Travel	7,577.00	0.00		113.33	94.53	3,710.28	3,658.86
F. Field Crew Costs ³							0.00
G. Supplies, Materials & Equipment	12,050.00	0.00	199.16	2,013.96	6,284.99		3,551.89
H. Administrative & Overhead Costs ⁴	23,619.00	0.00	223.01	1,266.25	2,357.44	5,959.78	13,812.52
I. Other Costs	9,782.00	0.00	35.42	1,098.20	2,010.42	7,311.02	(673.06)
Total:	290,028.00	0.00	6,594.68	37,444.93	69,712.76	176,239.16	36.47

Grant Total Recheck 290,028.00

Notes:

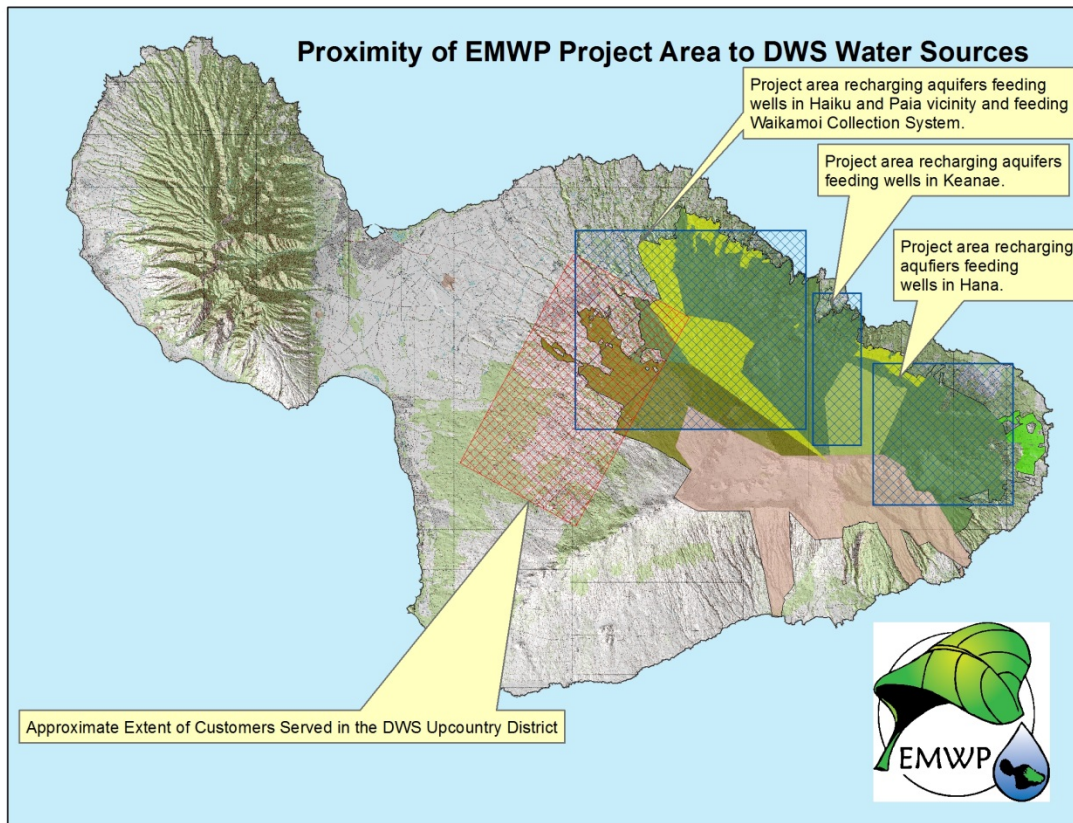
¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the contract between Maui County Department of Water Supply and the Research Corporation of the University of Hawaii dated September 5, 2014, entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed Partnership," contract WC-0812, Account #0006800 for FY2015.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.

⁴ "I. Admin & Overhead Costs" = PCSU \$13,811 (@5%) + RCUH \$9,808 (@3.5%) = \$23,619

**East Maui Watershed Partnership
Final Report
May 19, 2016 – May 18, 2017
to the
Maui County Department of Water Supply
for the
FY 2016 East Maui Watershed Partnership
Source Protection Program
Contract WC-0875; Acct# 4502396**



An overview of the East Maui Watershed Partnership partner protection area.



BACKGROUND

The East Maui Watershed Partnership (EMWP) was created in 1991. It 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, Hawai'i State Department of Land Natural Resources (DLNR), Haleakalā National Park, East Maui Irrigation Company, Haleakala Ranch Company and The Nature Conservancy.

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 gauge, 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 (DWS) 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 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 aquifers. Even during droughts, our watersheds can produce water, pulling water out of the clouds by collecting fog drip. This uniquely evolved, specialized forest is the key to Maui's healthy water supply.

EMWP focuses its efforts through on the ground natural resource management. Efforts target the highest priority threats, namely zero tolerance of feral ungulates and invasive plant control. Other activities EMWP engages in include transferring information and technology among other resource management programs on Maui, administering a robust educational public outreach program to increase awareness about the importance of protecting Maui's water resources, and cultivating strong inter-agency and partner-organization relationships in order to leverage resources to protect our county's water. 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.

GOALS/OBJECTIVES

- 1) Maintenance and inspection of 7.4 miles of existing watershed protection fences.
- 2) Zero tolerance ungulate control within fenced areas according to the ungulate control plan including installation and management of additional traps in Hana Forest Reserve.
- 3) Control of 40 acres of Himalayan Ginger in Koolau Gap management unit. Control of priority invasive weed species in core and buffer areas identified by management plans.
- 4) Reporting any new incipient weed populations to MISC and landowner.
- 5) Assist in spread of strawberry guava biocontrol agent into backcountry east Maui.
- 6) Monitor existing transects.
- 7) Coordination of watershed management activities including creating and managing geo-databases.
- 8) Outreach and education focused on watershed improvement and establishment of a volunteer based native plant restoration project. Outreach goals include 16 interpretive hikes through the forested watershed, annual Malama Wao Akua art exhibition, 10 classroom presentations, robust web presence (about 36 posts or updates per year).

BENEFITS TO MAUI COUNTY

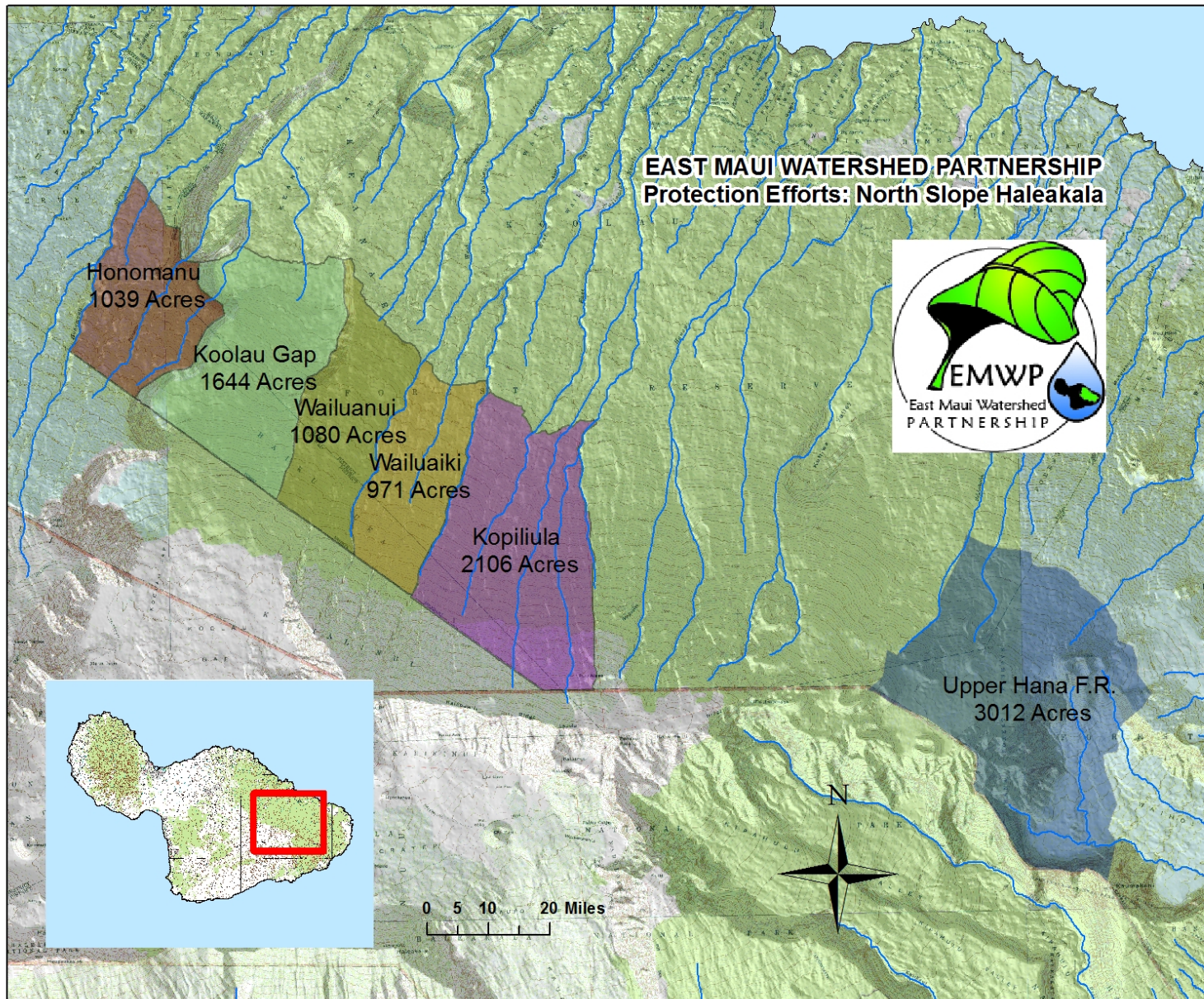
- Improved water quantity and quality over time; providing sustainable sources of water for the upcountry surface water collection system and improved recharge of aquifers below all wells in East Maui.
- Reduced non-point source pollution down streams and to the near-shore environment.
- Leveraging of funds to ensure State and Federal resources contribute to watershed protection.
- Eyes on the ground to potentially detect Rapid Ohia Death, which could decimate watershed function if established.
- Investing in the future of watershed protection by providing resources for teachers to educate students in the classroom and in the field about Hawaii's watersheds. Educating the community about their local watershed and the important role it plays in fresh water retention.



Clean water from
Wailuanui
Stream in the
east Maui
watershed

TABLE SUMMARY OF FIELD GOALS & ACCOMPLISHMENTS

	5/19/2016 - 7/31/2016		8/1/2016 – 10/31/2016		11/1/2016 – 1/31/2017		2/1/2017 – 5/18/2017		
Scope of Work Description	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Goals For Quarter	% Completed For Quarter	Year End Summary
Fence Checked (m/mi)	11.9 km/7.4 mi	100%	11.9 km/7.4 mi	100%	11.9 km/7.4 mi	100%	11.9 km/7.4 mi	100%	100%
Traps Checked (#)	Not scheduled	n/a	1,940 traps in 371 groups	100%	Not scheduled	n/a	1,940 traps in 371 groups	100%	100%
Transects Checked (#)	Not scheduled	n/a	Not scheduled	n/a	Not scheduled	n/a	20	100%	100%
Weeds Controlled – Ginger (# times)	10 acres controlled	0%	10 acres controlled	0%	10 acres controlled	267% (26.7 acres controlled)	10 acres controlled	146% (14.6 acres controlled)	100%
Scope of Work Description	Community members reached	% Completed For Quarter	Community members reached	% Completed For Quarter	Community members reached	% Completed For Quarter	Community members reached	% Completed For Quarter	Year End Summary
Outreach and Education (community members reached)	152 plus 131,548 through print media, social media, and website	100%	3,816 plus 628,278 through print media, social media, and website	100%	3,905 plus 227,389 through print media, social media, and website	100%	1,132 plus 111,169 through print media, social media, and website	100%	100%



TASKS COMPLETED FY16

Maintenance of ungulate proof fence:

7.4 miles of fence was checked quarterly and minor repairs were made as necessary. No signs of ungulate ingress into fenced areas were noted. However substantial deterioration of the fence in Koolau Gap unit was noted. Substantial repairs will be carried out next year.

Ungulate Control inside fenced units:

All ungulate traps were checked at least twice during the year. Additional trapping was completed as planned in Upper Hana Forest Reserve, helping to protect an additional 3,000 acres of important watershed above Hana this year.



Transect Monitoring:

Existing transects (ranging from 500 meters to 2388 meters) were checked once for ungulate and alien plant presence or absence during the period. Ungulate presence along transects has remained at near zero levels since 2009. EMWP also checked all the transects for presence of any non-native plants this year.

A water catchment system constructed this year. This system adds efficiency and reduces costs by reducing the need to transport water by helicopter during weed control efforts. The empty system can be moved by helicopter.

Invasive Weed Control:

EMWP placed an emphasis this year on aggressive control of Himalayan ginger in Koolau Gap unit, the entire population was swept and controlled as planned. Follow up control will not be needed for two to three years, and should require less effort, as it will require control of only newly sprouted seedlings. These control actions are part of a multi-year strategy to stop or slow the advance of Himalayan Ginger into more pristine parts of the watershed. Additionally, priority weeds are regularly controlled along fence lines and on trails to prevent their spread through EMWP's managed areas.

Community Outreach:

EMWP gave 15 presentations at K-12 schools and community groups, participated and hosted information both at 10 Community Events, led 16 hikes with K-12 schools and community groups, and made 57 media releases for print and digital publication.

STAFF EMPLOYED

In 2016 EMWP maintained a base staff of 7 for a total 6.5 FTE (5 full-time, 2 part time and one short term hire staff). In 2016, DWS provided 40% of EMWP's salary funding, supporting at least 2.6 FTE staff.

A total of 13,520 hours was worked by EMWP staff in 2016 (40 hours/week x 52 weeks/year x 6.5 FTE). EMWP's labor cost funded by DWS in 2016, including salary, benefits and fringe, was \$162,806.

EMWP is constantly looking for funding from other sources to diversify its salary funding and build staff capacity.



Six members of EMWP's 2016 staff during a back country trip to repair the Koolau Gap watershed protection fence.

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

Equipment Item (name and brand)	Value when purchased	How Used	When acquired
Dell Precision Tower 5810 XCTO computer	\$2,387.25	EMWP Administrative Data Computer used for budget tracking and project support.	1/19/2017
Dell Precision Tower 5810 XCTO computer	\$2,387.25	EMWP Program Manager computer for program management	1/19/2017
Dell Mobile Projector	\$704.64	Projector used for staff training, partnership meetings, school presentations by EMWP Project Staff	1/19/2017

AMOUNT OF FUNDING LEVERAGED

FY16 Funding Received from DWS	Leveraged Funding Received	Leveraged Fund Source	Agency Type
\$290,000	\$258,000	Department of Land & Natural Resources, Division of Forestry & Wildlife - Watershed Partnership Program FY15	State
	\$13,634	Hawaii Tourism Authority- Natural Resources Program	State
\$290,000	\$271,634	TOTAL	

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

- Increased monitoring for and rapid response to Rapid Ohia Death Fungus, which could quickly decimate the function of East Maui’s watershed and is currently only found on Hawaii Island.
- Expand network of ungulate control scouting trails, with priority near unfenced natural barriers.
- Increased ability for rapid response to any storm related damage or observed ungulate activity.

- Expanded on the ground scouting and mapping to delimit invasive weeds and more accurately monitor their spread.
- Create a second fence in Koolau Gap unit at about 4000' elevation, to improve management effectiveness.
- Develop new technology to increase efficiency of management efforts.
- Expand protection efforts to additional forested lands with high water resource value.

CONSEQUENCES OF A DECREASE IN FUNDING

- Without funding to conduct routine fence checks and ungulate control, a single event like a tree fall or stream washout could allow the flow of animals into a managed unit, negating years of work.
- Without routine weed control efforts, invasive plants would expand, becoming a more expensive and potentially irreversible problem in the future.
- EMWP would have less ability to leverage funds, further decreasing capacity for watershed protection.



View from the south portion of the east Maui watershed.

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

Budget Summary/Reimbursement Request Form¹

Fiscal Year: FY16 **Grant Number:** WC-0875
Organization: EAST MAUI WATERSHED PARTNERSHIP

Expense Categories	Grant Amount	FY16 Q1	FY16 Q2	FY16 Q3	FY16 Q4	Total Expenditures	Balance
		(NTP - 7/31/16)	(8/1/16 - 10/31/16)	(11/1/16 - 1/31/17)	(2/1/17 - 5/18/17)		
		Payment #1	Payment #2	Payment #3	Payment #4 (Final)		
A. Personnel	181,319.00	35,107.04	23,579.79	25,873.44	102,990.73	187,551.00	(6,232.00)
B. Transportation²						0.00	0.00
C. Contractual Services	54,075.00	0.00	13,034.50		39,487.66	52,522.16	1,552.84
D. Utilities	4,650.00	442.46	1,338.30	1,423.38	1,646.84	4,850.98	(200.98)
E. Travel	4,892.00	0.00	695.10		1,393.27	2,088.37	2,803.63
F. Field Crew Costs³						0.00	0.00
G. Supplies, Materials & Equipment	8,285.00	153.12	799.30	2,902.03	6,539.04	10,393.49	(2,108.49)
H. Administrative & Overhead Costs	26,364.00	3,570.27	3,983.24	3,020.92	15,466.80	26,041.23	322.77
I. Other Costs	10,415.00	0.00	1,085.42	1,410.42	4,010.96	6,506.80	3,908.20
Total:	290,000.00	39,272.89	44,515.65	34,630.19	171,535.30	289,954.03	45.97

Grant Total Recheck

45.97

Notes:

¹ All work performed, as reported herein, and for which payment is being requested, was performed in accordance with the grant agreement dated May 9, 2016, between Maui County Department of Water Supply and the Office of Research Services of the University entitled: "Grant Agreement for the Source Protection Program of the East Maui Watershed," contract number WC-0875, Account #4502396 for FY2016.

² Transportation costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for fuel; and 2) "I. Other" for vehicle maintenance and repair.

³ Field Crew Costs are included in the following budget categories: 1) "G. Supplies, Materials & Equipment" for field gear, supplies and tools; 2) "E. Travel" for backcountry camping per diems for travel related to field work; 3) "I. Other" for field-related goods and services such as vehicle maintenance and repair, equipment maintenance, and vehicle insurance; and 4) "A. Payroll" for field crew salaries, taxes and fringe.



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM

(FORM A) APPLICANT INFORMATION

Fiscal Year

Date of Application _____

Organization _____

Mailing Address	_____	_____	_____
	City	State	Zip Code

Physical Address	_____	_____	_____
	City	State	Zip Code

Field Operations Address	_____	_____	_____
	City	State	Zip Code

Executive Director	_____	Phone	_____
		Email	_____

Authorized Administrator	_____	Phone	_____
		Email	_____

Grant Project Manager	_____	Phone	_____
		Email	_____

Grant Project Coordinator	_____	Phone	_____
		Email	_____

Fiscal Year 2018 Grant Funding Received _____

Fiscal Year 2018 Grant Funding Spent _____



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM

(FORM B) REQUIRED DOCUMENTS & FORMS CHECKLIST

FISCAL YEAR

Applicant/Grantee:		ATTACHED
DOCUMENT AND FORM		
A. Tax Clearance Certificate or Certification of Vendor Compliance (certified and dated within the last six (6) months).		<input type="checkbox"/>
B. Annual Financial Statements: Current financial statements for the past three (3) years. One (1) year must be audited.		<input type="checkbox"/>
C. DWS Grants General Terms and Conditions signed by the authorized grant administrator and its executive director.		<input type="checkbox"/>
D. The names of other funders and grants for the proposed project with DWS, including their individual contribution amount.		<input type="checkbox"/>
E. An administration and overhead (A&O) breakdown of direct and indirect cost rates not exceeding the allowable percentage of the total grant amount. The direct and indirect administrators must also be identified. [The expenditure functions for both direct and indirect A&O will be outlined in the General Terms & Conditions]		<input type="checkbox"/>
F. All fillable forms included in the Watershed Protection Grants Program Application (Forms C through P)		<input type="checkbox"/>



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM

(FORM C) DELIVERABLES REPORTING FORM

FISCAL YEAR

Performance Period = 4 Quarters
 (4 Qtrs = 100%)

Applicant/Grantee:	Included	Target	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter		Percent Completed Final Report	
	(yes/no)	Goal	Goal Amount 1st Qtr	% 1st Qtr	Goal Amount 2nd Qtr	% 2nd Qtr	Goal Amount 3rd Qtr	% 3rd Qtr	Goal Amount 4th Qtr	% 4th Qtr	Total %	Target Goal Reached
UNGULATE CONTROL	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Fence construction (ft)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Fence inspection (ft)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Surveyed transects (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Install traps (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Maintain traps (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Ungulate removal (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
WEED CONTROL AND ERADICATION	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Survey sites (number of acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Weed removal (number of acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Apply herbicide - HBT (number of applications or acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
INVASIVE PLANT CONTROL	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Ground Surveys (number of acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Aerial Surveys (number of acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Invastive plant(s) controlled (combined acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Miconia (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Pampas grass (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Fountain grass (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Himalayan ginger (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Gorse (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Ivy gourd (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Strawberry guava (acres)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other plant (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
RESOURCE MONITORING/RESEARCH	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Monitor rain gauges (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
COMMUNITY OUTREACH (#/hrs)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Educational hikes (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Volunteer trips (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Outreach events (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Public presentations (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Volunteer recruitment (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Volunteer outplanting (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
RESEARCH, GERMINATION, AND PLANTING	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Collect native seeds for revegetation - attach species (lbs/kg)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Locate seed sites for planting (number in watershed)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Collect wilt resistant koa seeds (lbs/kg)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Distribute wilt resistant koa seeds (to watershed partners)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Outplanting for reforestation and management (number)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No
Other (please describe)	<input type="radio"/> Yes <input type="radio"/> No											<input type="radio"/> Yes <input type="radio"/> No

● Careful consideration should be given to your Target Goal. Reaching your Target Goal may be obtained incrementally over 4 quarters until the deliverable is 100% complete. Be sure to provide justification if you do not attain your Target Goal due to unexpected technical and personnel issues or weather related delays. Your proposal and updated quarterly reports will be used as reference, if more detail about your planned project activities to complete deliverables is needed.

*Please attach narrative justifications or additional descriptions behind this form.



**COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM**

(FORM D) PROJECT BUDGET SUMMARY

- Applicants should exercise caution and responsibility when requesting funds. Awards are considered based on applications with clear justification concerning the costs and activities to achieve contracted deliverables.
- Awarded funds are limited. Only request amounts that you are prepared to spend in a given performance period. Plan and follow project eligibility requirements under number one of Part VI, Eligible Projects, in the RFP.
- See Budget Instructions (Section 1.5), Grant Performance Period (Section 2.3), Gen. T&C's (Section 3.0), and Request for Reimbursements (Section 4.2.7) for guidance, limitations, and restrictions that may prohibit the reimbursement for your expenses.
- Grantees should ensure that totals for each expense categories are reconciled accordingly. Requesting budget changes after the submission of your Project Budget Summary can result in long delays in reimbursement.
- Grantees should not attempt to spend down remaining funds close to their project closeout date that alters your initial Scope of Work under Payments of the T&C without ample justification.
- Vehicles, equipment, supplies, and materials are for project-based work only and personal or recreational use is strictly prohibited.
- Please provide narratives for large unspent amounts if they were included in your initial grant proposal.

FISCAL YEAR:	GRANT NUMBER:			NTP Start Date:		NTP End Date:		
PROJECT BUDGET SUMMARY - APPLICANT/GRANTEE	Requested Budget Amount	Matching Funds	Award Amount	1st Qtr Drawdown Amount	2nd Qtr Drawdown Amount	3rd Qtr Drawdown Amount	4th Qtr Drawdown Amount	Grant Award Remaining Balance
EXPENSES								
A. Personnel (payroll taxes & fringes)								
B. Transportation (e.g. fuel, etc)								
C. Contractual (e.g. helicopter, consultant, contractor, etc)								
D. Facility Rental								
E. Utilities (e.g. telephone, mobile, water, electricity)								
F. Travel								
G. Field Crew (e.g. equipment, training)								
H. Supplies & Materials								
I. Administrative & Overhead								
J. Other Expenses								
TOTALS								

*Comments/Notes Section Below

PLEASE ATTACH BUDGET NARRATIVE/JUSTIFICATIONS BEHIND THIS FORM IF NECESSARY

Narrative Justification

Section E – PAYROLL

EMWP Position Descriptions:

The job descriptions listed below include job descriptions for all staff for whom salary will be paid under this grant.

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.

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.

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.

FIELD ASSISTANT(S) #1, #2, #3 - 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.

Narrative Justification

Section E – PAYROLL, cont'd

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. Supervises volunteers during service trips.

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.

PCSU SPECIALIST – Pacific Cooperative Studies Unit, Department of Botany, College of Natural Sciences, University of Hawaii (PCSU) handles the administration of payroll, purchasing and accounts payable, employee benefits and additional human resource services. PCSU also provides project management advice, scientific expertise and a direct connection to University staff, students and other resources, all of which benefit EMWP. The PCSU direct rate for this grant is 5% of the project costs.



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM

(FORM F) TRANSPORTATION

Applicant/Grantee:			FISCAL YEAR	Performance Period Drawdowns				NTP start date	NTP end date	Remaining Balance (\$)
Item Description			REQUESTED BUDGET AMOUNT (\$)	PURPOSE	1st Quarter ACTUAL EXPENSES (\$)	2nd Quarter ACTUAL EXPENSES (\$)	3rd Quarter ACTUAL EXPENSES (\$)	4th Quarter ACTUAL EXPENSES (\$)		
ITEM	Vehicle	VIN #								
* All included expense invoices must be dated within NTP start and end dates										
TOTALS										

*Comments/notes section below

PLEASE ATTACH ADDITIONAL NARRATIVE/BREAKDOWN BEHIND THIS FORM IF NECESSARY

Narrative Justification

Section F – TRANSPORTATION

EMWP Fleet Vehicles: EMWP maintains a fleet of four vehicles to support its operations. The vehicles are legally owned by the agencies listed below. Costs for operating and maintaining the vehicles are borne by EMWP as described herein.

Vehicle Description	VIN	Licence Plate	Ownership
Ford F-350 (2003)	1FTSW31P93ED53901	A939	DLNR/DOFAW*
Toyota Tundra (2011)	5TFUY5F1XBX195042	E622	University of Hawaii**
GMC Pickup (1998)	1GTEK14W5WZ506254	SHC855	University of Hawaii**
Toyota Tacoma (2015)	3TMLU4EN4FM180422	SHF791	University of Hawaii**

*DLNR/DOFAW: State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife

**University of Hawaii, UH Transportation Services

Maintenance & Repair: Maintenance and repair is required on project vehicles to keep them in safe, running condition. Recurring maintenance includes oil changes, brake service and tire replacement. Occasional unexpected repairs may also occur. To cover these costs, EMWP is budgeting as follows:

Vehicle Description	Licence Plate	Total
Ford F-350 (2003)	A939	\$ 1,200
Toyota Tundra (2011)	E622	\$ 400
GMC Pickup (1998)	SHC855	\$ 600
Toyota Tacoma (2015)	SHF791	\$ 400
Total		\$ 2,600

Fuel (vehicle): EMWP project vehicles are used for transportation of personnel and supplies between its Pi‘iholo Baseyard and work sites. Project vehicles also support operational needs, such as making supply runs and attending project-related meetings. We are budgeting approximately six months (one-half year) for vehicle fuel in this proposal.

Description	Cost Per Month	# of Months	Total
Fuel for all project vehicles	\$ 220	6	\$ 1,320

Insurance (vehicle): Insurance for all of EMWP's vehicles is covered by the State of Hawaii, Department of Commerce and Consumer Affairs, Insurance Division under a Certificate of Self-Insurance. For one of its vehicles (Ford F-350 Lic. A939), the annual cost of this vehicle insurance is borne by DLNR/DOFAW, and there is no cost to the project. For the project's other three vehicles which are owned by the State via the University of Hawaii, EMWP pays \$125 per year per vehicle to UH. EMWP is budgeting six months (one-half year) of insurance as follows:

Vehicle Description	Licence Plate	Ownership	Cost Per Per Year*	Cost for 6 Months (one-half year)**
Ford F-350 (2003)	A939	DLNR/DOFAW	\$ -	\$ -
Toyota Tundra (2011)	E622	UH	\$ 125	\$ 63
GMC Pickup (1998)	SHC855	UH	\$ 125	\$ 63
Toyota Tacoma (2015)	SHF791	UH	\$ 125	\$ 63

*Annual cost of \$125 per vehicle per year based on 7/1/2017 rates.

**rounded to nearest dollar

Vehicle Safety Inspections: The State of Hawaii requires all vehicles to be inspected each year for safety. The cost per vehicle per inspection is budgeted as follows:

# of EMWP Vehicles	Cost Per Inspection	Total Cost
4	\$ 20	\$ 80

Narrative Justification

Section G – CONTRACTUAL SERVICES

1. Helicopter Contract Services: Most of EMWP's management units are in high-elevation areas of windward Haleakala which can only be accessed by helicopter. We are budgeting helicopter contract services as follows for the scopes of work contemplated in this proposal:

Scope of Work	# Trips	# of Units	# Heli Hours Per Trip	Total Heli Hours	Est. Cost Per Hr	Total
Fence inspections and ungulate trap checks in Ko'olau Gap, Wailuanui, Wailuaiki and Kopiliula Management Units	2	3	2.5	15	\$1,195	\$17,925.00
Ungulate Hot Spot Response (various management units)	1	1	2.5	2.5	\$1,195	\$2,987.50
Invasive weed (Himalayan ginger) control in Wailuanui Management Unit	6	1	3	18	\$1,195	\$21,510.00
Ungulate control in Kuhiwa Management Unit	3	1	4.5	13.5	\$1,195	\$16,132.50
Storm event fence checks and contingency for cancelled weather operations (various management units)	3	1	1	3	\$1,195	\$3,585.00
Total				52		\$62,140.00

2. Database Maintenance: EMWP maintains two databases, one to track field work and one for outreach and education efforts. Our field work database conforms to statewide data collection protocols and aids in both planning and quantitative reporting of accomplishments. The outreach database tracks who and how many people are reached by educational and community events. Both require maintenance and upgrades. We are budgeting as follows for this work.

Item	# of Hours	Cost Per Hour	Total
Field database maintenance contractor	20	\$ 125	\$ 2,500
Outreach database maintenance contractor	10	\$ 90	\$ 900
Total	30		\$ 3,400



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY WATERSHED PROTECTION GRANT PROGRAM

(FORM H) FACILITIES

Applicant/Grantee:	FISCAL YEAR		Performance Period Drawdowns	NTP start date	NTP end date	Remaining Balance (\$)	
	COST (\$)	PURPOSE	1st Quarter ACTUAL EXPENSES (\$)	2nd Quarter ACTUAL EXPENSES (\$)	3rd Quarter ACTUAL EXPENSES (\$)		4th Quarter ACTUAL EXPENSES (\$)
ITEM			* All included expense invoices must be dated within NTP start and end dates				
TOTALS							

*Comments/notes section below

PLEASE ATTACH ADDITIONAL NARRATIVE/BREAKDOWN BEHIND THIS FORM IF NECESSARY

Narrative Justification

Section H – FACILITIES

EMWP Pi'iholo Baseyard Usage Fee: The EMWP Pi'iholo Baseyard is located at 820 Piihola Road, Makawao, HI 96768 on a University of Hawai'i College of Tropical Agriculture & Human Resources (CTAHR) property. This serves as the base for all of EMWP's operations, both field and administrative. In 2016, EMWP negotiated a one year agreement with CTAHR to continue to operate at this location at a rate of \$350 per month. EMWP is budgeting the cost of six months (one-half year) of baseyard usage in this proposal.

Item	# of Months	Cost Per Month	Total
EMWP Pi'iholo Baseyard Usage Fee	6	\$ 350	\$ 2,100



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM

(FORM I) UTILITIES

Applicant/Grantee:	FISCAL YEAR		Performance Period Drawdowns	NTP start date	NTP end date	Remaining Balance (\$)	
	COST (\$)	PURPOSE	1st Quarter ACTUAL EXPENSES (\$)	2nd Quarter ACTUAL EXPENSES (\$)	3rd Quarter ACTUAL EXPENSES (\$)		4th Quarter ACTUAL EXPENSES (\$)
ITEM			* All included expense invoices must be dated within NTP start and end dates				
TOTALS							

*Comments/notes section below

PLEASE ATTACH ADDITIONAL NARRATIVE/BREAKDOWN BEHIND THIS FORM IF NECESSARY

Narrative Justification

Section I – UTILITIES

EMWP is budgeting 6 months (one-half year) of utilities and communications services required to support field operations at its Pi'iholo Road Baseyard as follows:

	Cost Per Month	# of Months	Total
1. Electricity at Baseyard	\$ 195	6	\$ 1,170
2. Water (County water service at Baseyard)	\$ 65	6	\$ 390
3. Refuse (trash collection) at Baseyard	\$ 25	6	\$ 150
4. Telephone and internet service at Baseyard	\$ 275	6	\$ 1,650
5. Field cell phone	\$ 50	6	\$ 300
6. Satellite Texter (Garmin InReach satellite text service for field and emergency communications)*	\$ 40	6	\$ 240
Total			\$ 3,900

*Satellite Texter - EMWP has radio communication capabilities between most of its remote work sites in locations on the windward side of Haleakalā. However, some locations, such as Ko'olau Gap, have poor or no radio coverage due to geological obstruction (pu'u's and gulches) and radio tower placement. To improve communications and ensure the safety of its crew, we have purchased a Garmin satellite texter that enables us to have text communication with all locations. This texter also provides a redundant mode of communication in case radio tower equipment goes down.



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY WATERSHED PROTECTION GRANT PROGRAM

(FORM J) TRAVEL

Applicant/Grantee:	FISCAL YEAR		Performance Period Drawdowns	NTP start date	NTP end date		Remaining Balance (\$)
	COST (\$)	PURPOSE	1st Quarter ACTUAL EXPENSES (\$)	2nd Quarter ACTUAL EXPENSES (\$)	3rd Quarter ACTUAL EXPENSES (\$)	4th Quarter ACTUAL EXPENSES (\$)	
ITEM * All included expense invoices must be dated within NTP start and end dates							
TOTALS							

*Comments/notes section below

PLEASE ATTACH ADDITIONAL NARRATIVE/BREAKDOWN BEHIND THIS FORM IF NECESSARY

Narrative Justification

Section J – TRAVEL

1. Field Travel Per Diems (backcountry travel): EMWP personnel camp at project sites to increase efficiency and reduce helicopter transport costs. Per diems are paid to staff at a rate of \$20 per day. The following are backcountry work trips planned in this proposal:

Item	# of Trips	Days Per Trip	# of Staff	Cost Per Trip	Total
Invasive ginger control in Wailuanui Management Unit	6	4	5	\$ 20	\$ 2,400
Ungulate control Kuhiwa Management Unit	1	4	5	\$ 20	\$ 400
Total					\$ 2,800

2. Airfare: Air travel is sometimes required to attend business meetings and conferences on other islands, such as O'ahu. We are budgeting as follows for air travel:

Item	# of Flights	Cost Per Flight	Total
Inter-island airfare for Program Manager to attend one off-island project meeting	1	\$ 200	\$ 200
Airfare for 3 EMWP staff to attend HCA Conservation Conference ¹	3	\$ 200	\$ 600
Total			\$ 800

3. Off-Island Lodging: Overnight lodging is sometimes required to attend off-island business meetings and conferences. We are budgeting as follows for lodging:

Item	# of Staff	Cost Per Trip	Total
Overnight lodging for Program Manager to attend one off-island business meeting on O'ahu	1	\$ 375	\$ 375
Lodging for 3 EMWP staff to attend HCA Conservation Conference ¹ (2 staff to share 1 room, 1 staff single room)	2	\$ 450	\$ 900
Total			\$ 1,275

4. Off-Island Transportation: Taxi or shuttle service is sometimes required when attending off-island business meetings and conferences. We are budgeting as follows for off-island transportation.

Item	# of Trips	Cost Per Trip	Total Cost
Taxi or shuttle service. (Rates based on roundtrip service to/from Honolulu airport to Honolulu Convention Center)	2	\$ 90	\$ 180
Total			\$ 180

5. Off-Island Per Diems: When staff attend off-island business meetings and conferences, EMWP reimburses them for meals and incidental expenses (M&IE). EMWP has set an off-island per diem rate of \$50 per day, a rate far below the \$111 per day rate allowed for Honolulu by the U.S. Department of Defense as of August 2017. We are budgeting the following for off-island per diems:

Item	# of Staff	# of Days	Cost Per Day	Total
Per diem for Program Manager off-island meetings	1	2	\$ 50	\$ 100
Per diem for HCA Conservation Conference. ¹	3	3	\$ 50	\$ 450
Total				\$ 550

6. Mileage Allowance: EMWP staff primarily use project vehicles to conduct project business. However, occasionally staff are required to use their personal vehicles for business purposes. To cover this contingency, EMWP is budgeting as follows:

Item	# of Trips	Miles Per Trip	Total Miles	Cost Per Mile	Total
Mileage reimbursement for use of personal vehicle on EMWP business (Based on the 2017 Federal business rate of \$0.535 per mile.)	10	30	300	\$ 0.535	\$ 161
Total					\$ 161

¹The Hawai'i Conservation Alliance's annual Hawai'i Conservation Conference is an important forum for EMWP staff to exchange information about the latest tools, techniques and best practices in watershed management. It also provides an opportunity to network and strengthen partner, funder and inter-agency relationships.



COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
WATERSHED PROTECTION GRANT PROGRAM

(FORM K) FIELD CREW

Applicant/Grantee:	FISCAL YEAR		Performance Period Drawdowns	NTP start date	NTP end date	Remaining Balance (\$)	
	COST (\$)	PURPOSE	1st Quarter ACTUAL EXPENSES (\$)	2nd Quarter ACTUAL EXPENSES (\$)	3rd Quarter ACTUAL EXPENSES (\$)		4th Quarter ACTUAL EXPENSES (\$)
ITEM			* All included expense invoices must be dated within NTP start and end dates				
TOTALS							

*Comments/notes section below

PLEASE ATTACH ADDITIONAL NARRATIVE/BREAKDOWN BEHIND THIS FORM IF NECESSARY

Narrative Justification

Section K – FIELD CREW

Field crew costs are covered on the following forms:

Form L – Supplies & Materials

Form N - Other

Narrative Justification

Section L – SUPPLIES & MATERIALS

1. Field Crew Gear: Field staff work in high-elevation, wet conditions which require the proper clothing and tools to efficiently fulfill the goals of this proposal. This gear includes items such as work pants, long-sleeve work shirts, leather boots, rain gear (jackets and pants), water-proof gaiters, work gloves, rubber boots, backpacks. EMWP requires staff to use dedicated work clothing at different project sites to avoid the unintentional transport of invasive weeds and pathogens from one management unit to another. For example, clothing and gear worn in Ko'olau Gap Management Unit is not used in any other management unit due to the high prevalence of invasive weeds (strawberry guava, *Clidemia hirta*, invasive grasses) there. Field crew must have multiple sets of clothing and gear to work in the different management units. Additionally, the gear sees rugged use with much wear and tear, so items regularly require repair or replacement.

Item	# of Crew	Cost Each	Total
Replacement field crew gear per person per year	5	\$ 350	\$ 1,750

2. Safety Gear & Equipment: EMWP places a high priority on safety. Working in steep, uneven terrain at high elevation in the rain, cold and sun requires specialized and functioning PPE (Personal Protection Equipment). Most of our work also requires transport to and from worksite by helicopter, which comes with its own set of safety considerations. EMWP requires all staff to wear non-flammable Nomex flight suits and flight gloves when flying, and leather boots (as opposed to synthetic material) which are less likely to catch fire in case of an accident. Below is a sample budget for some of the safety equipment and which EMWP purchases for its crew.

Basic Safety Gear for One Field Crew	Cost
Nomex flight suit	\$ 200
Nomex flight gloves	\$ 25
Safety vest for helicopter operations	\$ 15
Safety glasses	\$ 5
Hearing protection (ear muffs)	\$ 15
Leather or rubberized work gloves	\$ 10
Hardhat for helicopter operations	\$ 15
Total	\$ 285

While not all safety gear is replaced every year, some is replaced more often than once a year. EMWP is budgeting as follows for this category:

Item	# of Crew	Cost Per Person	Total
Safety Gear & Equipment	5	\$ 125	\$ 625

3. Backcountry Camping Supplies & Expendables: In this proposal, EMWP is planning intensive invasive weed (Himalayan ginger) control in its Wailuanui Management Unit, along with thrust of ungulate control in our Kuhiwa Management Unit. Because these units are only accessible by helicopter, work is more cost effectively accomplished by scheduling multiple-day camping trips. Field crews typically fly into a unit on Monday, work and camp for three or four days, and fly out on Wednesday or Thursday. Camping requires field staff to sleep in tents and cook outdoors. The camping supplies required for this include items such as sleeping bags, cot tents, rain tarps, drybags and headlamps.

Some camping supplies are expendables (i.e., disposable) and must be re-supplied for each trip. These include items such as propane or charcoal for cooking, dish soap, paper towels, toilet paper, disposable plates and utensils, nitrile gloves, trash bags and resealable plastic bags for food storage.

For all backcountry work, including day and camping trips, field gear must be cleaned and decontaminated so as not to carry invasive seeds and pathogens to and from worksites. Supplies needed for decontamination include laundry detergent, Simple Green, waterproofing tek wash, seam sealer and fabric repair tape and occasionally the purchase of a new wash tub or folding table to use as a work station.

Narrative Justification

Section L – SUPPLIES & MATERIALS, cont'd

EMWP is budgeting as follows for backcountry camping supplies and expendables:

Item	# of Trips	Cost Per Trip	Total
Invasive Weed Control in Wailuanui Management Unit	6	\$ 50	\$ 300
Ungulate Control Kuhiwa Management Unit	1	\$ 50	\$ 50
Decontamination and waterproofing supplies			\$ 200
Total			\$ 550

4. Invasive Plant (Weed) Control Supplies: EMWP is planning invasive Himalayan ginger and gorse control in this proposal. Typical equipment for invasive weed control includes herbicide, surfactants, dye, herbicide applicators (2-liter pump or 4-liter backpack sprayers), sickles, protective gloves and goggles. EMWP is budgeting the following for supplies for the invasive plant control contemplated in this proposal.

Item	Total
Himalayan ginger control in Wailuanui Management Unit	\$ 2,200
Gorse control in Pu'u Pahu Management Unit	\$ 1,100
Total	\$ 3,300

5. Plants and Tools for Volunteer Watershed Restoration Planting: The following supplies support the EMWP's service-based outreach program to aid watershed recovery in Pu'u Pahu.

Item	# of Trips	# Per Trip	Total Plants	Cost Each	Total
Native plants (māmane, 'a'ali'i, 'iliahī a/k/a sandalwood, etc.)	3	100	300	\$ 4.00	\$ 1,200
Planting tools (Shovels, spades, o'o, etc.)					\$ 225
Total					\$ 1,425

Narrative Justification

Section M – ADMINISTRATIVE & OVERHEAD

University of Hawai'i Office of Research Services (UH ORS): The University of Hawai'i handles compliance and accounting for sponsored projects. As a project of the University's Pacific Cooperative Studies Unit (PCSU), EMWP qualifies to utilize UH ORS, benefitting from its grant management systems, expertise, oversight and the increased access it provides to government and private funding via instruments such as Negotiated Indirect Cost Rate Agreements (NICRA's). UH will charge 10% of the Modified Total Direct Costs (MTDC) for indirect costs. MTDC excludes facility rental costs.

Narrative Justification

Section N – OTHER EXPENSES

1. Training & Certifications: EMWP implements rigorous safety protocols for field work. Staff is trained for the different types of field work being performed. (Example: Basic Aviation Safety and Helicopter Transport of External Cargo training for helicopter work, competency training for use of ropes on high angle slopes for fence building and maintenance in mountainous areas, computer software trainings, and other professional development) Certifications are renewed at regular intervals to keep skills refreshed. While some training can be acquired from partner agencies at no cost, other trainings have costs associated with them. We are budgeting as follows for training in this proposal.

Item	# of Staff	Cost	Total
Wilderness First Aid Training (with CPR & AED) - All staff are required to maintain current First Aid/CPR/AED certifications which are refreshed every two years. Because field work occurs in remote backcountry areas, EMWP takes the additional step of providing Wilderness First Aid training for field staff. While this training comes at a slightly higher cost than regular first aid (normally \$95 per person), EMWP feels the safety benefits realized more than justify this expense. This budget is for all 5 EMWP field staff to refresh Wilderness First Aid.	5	\$ 320	\$ 1,600
Chainsaw training - Safe operation and proper maintenance is essential for working with power tools like chainsaws. Regular training is required to safely operate chainsaws efficiently in remote settings.	3	\$ 300	\$ 900
High Angle Ropes Training - EMWP maintains regular trainings in high angle rope work in order to safely work on high angle slopes to construct/maintain ungulate proof fences and remove invasive weeds.	4	\$ 300	\$ 1,200
Hawaii Conservation Alliance Foundation Conservation Conference Registration: The Hawai'i Conservation Alliance' Foundation (HCA) sponsors a n annual conference in Hawai'i dedicated to conservation issues and challenges affecting the state. The conference is an important forum for exchanging information about the latest tools, techniques and best practices in watershed management and provides an opportunity to network and strengthen partner, funder and inter-agency relationships. EMWP is budgeting for the following staff to attend.	3	\$ 375	\$ 1,125
Total			\$ 4,825

