



Quarterly Report to the MISC Committee
FY 2013, Third Quarter
January 1 to March 31, 2013

Manager's Report

'U'uku ka hana, 'u'uku ka loa'a.
Little the work, little the gain.

The first quarter of each calendar year is the Legislative season and the time when our elected officials meet to consider passing new laws and to set the budget, including funding for work by the Invasive Species Committees. This quarter, the ISCs, Watershed Partnerships, and other entities had several opportunities to share how much we work and how much we've gained in the process.

MISC and MoMISC attended a legislative briefing, a meeting of the Hawai'i Invasive Species Council, a briefing for the U.S. Fish & Wildlife Service, and an informational session as part of the Hawai'i Invasive Species Awareness Week (HISAW). Every time we're asked to present information about our program, I am struck by just how much we've accomplished since MISC first hired staff in 1999. What is also impressive is that we've not just rested on our laurels. We continue to push the envelope, trying to work smarter as well as harder. We see this in our herbicide ballistic technology (HBT) work, Māliko Gulch coqui efforts, remote pampas operations, little fire ant (LFA) outreach, and recent efforts to drill down on each species to get even more specific about how much we'll work and where and what gains we can expect to see.

As we chronicle both our effort and success, it's important to acknowledge our partners who help make it possible. The HISAW event at the State Capitol allowed us to recognize one of our unsung heroes – Windward Aviation Senior Pilot Pete Vorhes. Long known to many members of the conservation community for his excellent ferrying of personnel and supplies in and out of some of the most remote spots on the island, Pete is also a star advocate for conservation work. During trips with funders, media, or elected officials, Pete morphs into an outreach maven, highlighting the importance of our work, with a few amusing stories thrown in for good measure. It was an honor to see his hard work and commitment recognized at the state level as Maui County's "Most Valuable Player." Of course, Pete took the opportunity to take to the podium and say a few words about everyone else. Thanks, Pete, for all your support and encouragement!



Senator Kalani English presents award to Pete Vorhes

Staff Highlights

Aloha and A Hui Hou! Shortly after the end of this quarter we bid a fond aloha to Mapu Kowalski. Known as Stephanie by most of her family and friends, when she came to MISC in 2008, we already had a “Steph” on staff. She told us to call her Mapu, short for Mapuana, her Hawaiian name. Mapu grew up on Maui and also spent a lot of time on Lāna‘i, which may explain the niche she filled at MISC. Because she is so good with the public, she quickly came to fill roles at MISC that others weren’t so fond of – working with residential properties on pampas grass, ivy gourd, and little fire ant surveys.



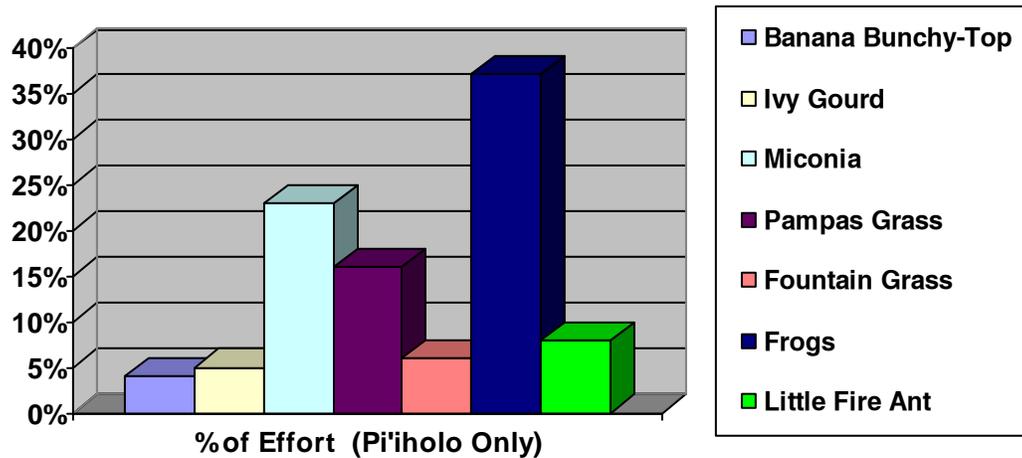
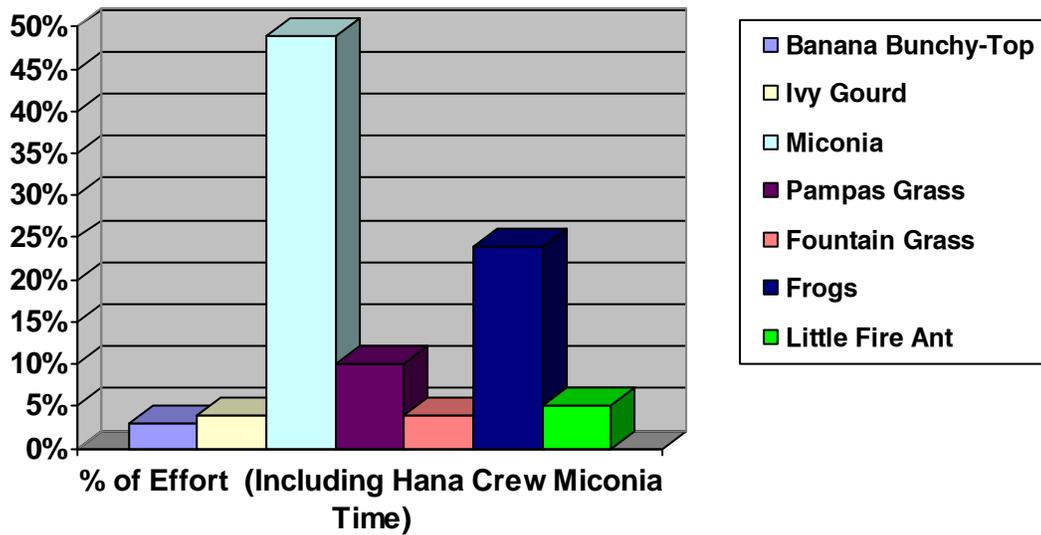
It turned out that Mapu has a knack for getting people to “Yes” when it comes to asking for permission to look for and control our target species. She was a natural at outreach events, with both the keiki and adults. We also discovered she has an ability to zero in on accurate data collection and entry. Mapu is leaving MISC to pursue her true passion, scuba diving, and to finish her degree. Mapu, we will miss your easygoing nature, persistence under challenging circumstances, and stories of your family and adventures. Hope to see you in the water! Mahalo, Mapu.

Quarterly Highlights

- Jan 7-11: Crew to Lāna‘i for ivy gourd & fountain grass survey/control
- Jan 8: Lissa to O‘ahu for POWG & HISC meetings
- Jan 9: Adam conducts rappelling refresher for WMMWP/DLNR
- Jan 11: Teya to O‘ahu for legislative briefing
- Jan 14-18: Heli Manager training: Adam, Mike, Brooke, Jared, Christian, & Chad
- Jan 22: Teya to O‘ahu for CGAPS meeting
- Jan 23-24: Adam conducts rappelling training/refresher for MISC staff
- Jan 25: MISC Meeting
- Jan 31: RCUH safety review at MISC

- Feb 7: Adam to O‘ahu for FWS briefing
- Feb 11-14: Seabury Winterim in Hāna
- Feb 13-14: MISC management staff retreat, Ke‘anae
- Feb 19: Miconia operations meeting
- Feb 20: Teya attends Maui Conservation Alliance meeting
Teya attends the Mayor’s State of the County address
- Feb 22: Teya to O‘ahu for HCA meeting
- Feb 25-26: Teya to O‘ahu for ISCs’ training

- Mar 4: Teya to O'ahu for Invasive Species Awareness Week awards
- Mar 5: Pampas expert Joe DiTomaso from UC Davis visits MISC
- Mar 6: Teya attends Maui Deer Working Group meeting
- Mar 7: Linda Hara from PCSU visits MISC
- Mar 11: Teya to O'ahu for CGAPS Fellow interviews
- Mar 14 & 18: Interviews for Maui Axis Deer Coordinator position
- Mar 22: MISC Meeting
- Mar 25: All staff meeting, Ke'anae
- Mar 27: Teya to O'ahu for CGAPS Plant Health Emergency Plan meeting
- Mar 27- 28: Adam participates in interviews for summer AmeriCorps interns
- May 29: Teya assists with interviews for new Tri-Isle Executive Director



PR & Education News

MISC IN THE NEWS

Deer and herbicide ballistic technology were in the news this quarter and Teya Penniman was interviewed on both topics. Additionally, a press release from East Maui Watershed Partnership resulted in an article about the MISC/EMWP collaboration on Kihei Charter School class visits and field trips to Waikamoi Preserve.

In the Kia'i Moku column in the Maui News we covered biofouling and ballast water contaminants, the impact of conservation on the economy in Hawai'i, and clarification that the crown-of-thorns starfish is not an invasive species, but rather a native species that can act invasively due to shifting environmental conditions.

Article Date	Article Name	Topics Discussed	Audience
January 12	Maui News: Most pests sneak in with 40 products	AP article covering information presented to the Legislature. Teya Penniman quoted on coqui and miconia	16,000 Maui News 209,915 Star-Advertiser
January 25	Maui News: Grant to help manage Maui deer problem	Ungulate impacts and plans to address the problem	16,000 Maui News
February 1	Honolulu Magazine: Environment: weed wars	James Leary's HBT for use on miconia	126,000 statewide
March 27	Maui News: Students learn about Maui watersheds	Classroom visits and field trips, Kihei Charter School	16,000 Maui News
Kia'i Moku			
October 14	Kia'i Moku: Biofouling: an important issue in vessel maintenance	Aquatic invasive species	22,000 Maui News
November 11	Kia'i Moku: Report: Natural resource work in Hawai'i also has economic benefit	Funding, miconia	22,000 Maui News
December 9	Kia'i Moku: Too many crown-of-thorns starfish can harm Hawai'i reefs	Aquatic invasive species	22,000 Maui News
		Total articles/reach:	7 articles in 3 publications-total circulation of 357,915

REACHING OUT TO THE COMMUNITY

Events & Presentations

To coincide with statewide activities for the Hawai'i Invasive Species Awareness Week, MISC held a radio contest about the little fire ant on local radio stations KPOA and KISS from March 4-8. Each station played a series of five PSAs about the little fire ant for a two week period preceding and during the contest. On KISS, deejays asked a multiple choice trivia question which the ninth caller had a chance to answer. On KPOA, the morning deejay read a fact about little fire ants; in the afternoon a deejay asked a question about that fact which the third caller had a chance to answer. MISC received over \$2,400 in prize donations from local businesses: Ritz-Carlton-Kapalua, Kā'anapali Beach Resort, Mākena Beach and Golf Resort, Blue Hawaiian Helicopters, Pi'iholo Ranch Zipline, and the Maui Arts and Cultural Center. Additionally, to promote the contest, staff visited different communities across Maui wearing the little fire ant costume and talking to people.



The public service announcements are online at www.lfa-hawaii.org.

Date	Event/Presentation	Topics	Audience Reached
March 4-8	"Spot the Ant & Stop the Ant" radio contest-on air & PSAs	Little fire ant	3,698
March 4-8	"Spot the Ant & Stop the Ant" radio contest-ant in the community	Little fire ant	278
		Total:	3,976

Media

The little fire ant PSAs as well as a miconia PSA continued airing on the Maui County public access station, Akakū, throughout the quarter. Additionally, the little fire ant PSAs aired on Oceanic Time Warner Stations throughout Maui County to coincide with the "Spot the Ant & Stop the Ant" radio contest.

Date	Media	Topics	Audience Reached
January 1 – March 31	Public Service Announcements on Akakū	Little fire ants, miconia	Maui County cable subscribers
February 25- March 11	Public Service Announcements on Maui County Oceanic Time Warner Cable	Little fire ants	Maui County Cable subscribers
		Total:	52,600 people



Internet

There were a total of 8,463 page/post views through five MISC sponsored and maintained Internet sites. These numbers reflect the number of times web pages and blog/Facebook posts were viewed. Of note this quarter, there was an increase of almost 1,900 page views from last quarter. This may be in part due to the “Spot the Ant Stop the Ant” radio contest that encouraged listeners to visit the lfa-hawaii.org site. The Maui Invasive Species Committee (MISC) Facebook Page “Likes” increased to 358, an increase of 30 people this quarter. Additionally, MISC maintains a “MISC Maui” Facebook Profile page that does not generate statistics.

Through a web based identification service at Flickr, early detection staff assisted members of the public with 149 plant and 75 insect identifications over the past quarter. They also responded to 113 plant, insect, bird, and slug identification requests on the Noah project during Invasive Species Awareness Week.

Website	Topics	Page/Post Views
Main website: mauisc.org	Miconia, fountain grass, pampas grass, coqui frog, little fire ants, BBTV	1,162
Blog: mauiinvasive.org	Fountain grass, coqui frogs, pampas grass, miconia, little fire ants	3,299
lfa-hawaii.org	Little fire ants	511
coquifreemaui.org	Coqui frogs, coqui-free certification program	36
Facebook - MISC	Miconia, fountain grass, pampas grass, coqui frog, little fire ants, BBTV	3,455
	Total:	8,463 page/post views

MISC IN THE CLASSROOM



Outreach staff were very busy this quarter visiting students across the island. A total of 728 students in 28 classes were reached while testing new activities for the Hō’ike Invasive Species module as well as doing an extensive activity with Kihei Charter School. In partnership with East Maui Watershed Partnership, MISC took 125 students out into Waikamoi for two-hour field trips over the course of five days. These field trips followed classroom visits with the students learning information about Maui’s watersheds and the threats to them.

Date	School/Group Visited	Topic	Participants Reached
January 24	Seabury High School-Winterim prep	Miconia	14
January 29-30	Seabury High School	Hō’ike: invasive species and public health	84
January 31	Ha’ikū Elementary	Little fire ants	95

Date	School/Group Visited	Topic	Participants Reached
February 1	Kula Elementary	Overview of MISC	17
February 7	Elementary Art Class in Makawao	Miconia	10
February 12-14	Seabury High School - Winterim	Miconia	Repeat students
February 15	Pacific Whale Foundation ECO Day-Elementary Schools	Little fire ants	44
February 20-26	Kihei Charter School	MISC overview, watersheds	125 students in 5 classes
February 20	Elementary Art Class in Kihei	Miconia	10
February 26	Hāna High School Fieldtrip	Miconia	13
February 27 - March 13	Kihei Charter School Fieldtrips to Waikamoi	Watersheds, native species, invasive species	125 students in 5 trips
March 7	Kamehameha High School	Hō'ike: strawberry guava	51 students in 2 classes
March 14	Kalama Intermediate	Hō'ike: human impacts on environment	123 students in 6 classes
March 19	Roots Elementary	Little fire ants	17 students
	Total:	25 activities	728 participants in 28 classes

Plant Updates

MICONIA

Miconia sweeps were completed this quarter in several units including Kūlani Mauka, Kūlani Makai, Kupau Units 1 and 2, Ke'anae Water Crest, and Tom Backhoes. The Kūlani units were particularly challenging in that they required a 45 minute hike to reach the beginning of the sweep area. Trails for these units were completed through uluhe mixed in with clidemia, lantana, and thimble berry. The crew ran into a steep drop-off while covering Kupau Unit 2 and they were not able to cover the entire unit on the ground. The unit was completed via aerial operations. At the request of the owner, the



crew also swept Helani Gardens. The property was fairly clean with just a few plants discovered. Work began on the Walter Boteilho and Ke'anae Pi'inau Flats Units and will continue on these areas next quarter. During this quarter, the crew had help from 13 Seabury Hall students during their Winterim trip and later from 15 Hāna High students. A total of 221 mature and 17,284 immature plants were controlled by the ground crew this quarter while covering 507 acres.



Four days of herbicide ballistic technology (HBT) focused helicopter work occurred this quarter. Suppression efforts at “outlier” infestations continued to be the top priority for HBT operations. Notably, fewer plants are being found at these sites the area surveyed keeps growing even as available flight time remains the same. These are just the results we are striving for! This quarter, 1,539 immature and 37 mature plants were controlled from the air while surveying 3,198 acres.

PAMPAS GRASS

During the last few months the crew has been finishing up with residential and frontcountry *Cortaderia* surveys before the busy backcountry camping season begins again. The crew visited 114 residential sites this quarter and controlled nine immature and one mature *C. jubata* plants. Seven visits were made to three ranch sites with four immature *Cortaderia* plants controlled. The crew also made eight visits to the Waikamoi flume and controlled 91 immature and two mature plants.

In addition, there was one overnight trip to the Waikamoi / Hosmer’s Grove area where one MISC employee and two volunteers (including a former MISC employee) surveyed several areas with *Cortaderia* that had previously only been controlled by helicopter. In addition to surveying for pampas grass the crew collected data for TNC and used a camp that is maintained by the Maui Forest Bird Recovery Project. There were no new pampas plants found during these surveys.

FOUNTAIN GRASS

Access to the Waiehu Dunes site was obtained this quarter and twelve plants were controlled. Lack of access continues to be a problem at the Pukalani site. Ten mature and five immature plants were controlled this quarter during surveys over 115 acres.

On Lāna‘i, the number of fountain grass plants controlled increased slightly from last quarter. Eight immature plants were controlled during field surveys covering 186 acres.



IVY GOURD

The number of plants controlled at all known Maui Meadows locations continues on a steady decline. A location in Waiehu continues to be controlled by field crew. At the Old Cannery Mall in Lahaina, control work continued with no mature plants found. Out of 178 active locations, plants were found at only 16 sites this quarter. For the past three quarters no viable fruit has been discovered at any ivy gourd site.

On Lāna‘i, the Mānele plant nursery is under new management and has been fenced and cleared of clutter. The golf course landscape is in the process of a “makeover.” The entire golf course fringe was previously covered by a kiawe canopy and is now open sky. The kiawe fringe was the area of the original ivy gourd infestation. Field crew surveyed the entire Mānele area plants and found plants in only five locations. Thirty-three sites totaling 137 acres were surveyed.

OTHER PLANTS

- Arundo (*Arundo donax*): six plants were controlled near the old train trestle along Kahului Beach Road.
- Rubber vine (*Cryptostegia grandiflora*): no new locations were found this quarter.
- Parasol leaf (*Macaranga tanarius*): no plants were found this past quarter as we continue to monitor nurseries for the potential of plant movement in landscape containers.
- Feather grass (*Nassella tenuissima*): The property owner is supportive of our control effort and continues to monitor for seedling germination on the property.
- Milk thistle (*Silybum marianum*): twelve acres were surveyed and no plants discovered.
- Common mullein (*Verbascum thapsus*): no plants were found during surveys this quarter.
- Downy rose myrtle (*Rhodomyrtus tomentosa*): no plants were discovered during a survey this past quarter on Lānaʻi.

EARLY DETECTION

Early detection staff were contacted by the new owners of Enchanting Floral Gardens of Kula and surveyed the garden. The new owners were alerted to the *Rubus* and *Rhodomyrtus* occurrences on the property. The *Rubus* was dug out under the previous owner's tenure and it is still gone. The *Rhodomyrtus* has grown back, but the new owners are aware of it now and will have their grounds crew remove it. A new island record for Maui, devil's horsewhip (*Achyranthes aspera*) was found during LFA surveys around a new subdivision near Kahului Airport. The single plant was pulled.

BANANA BUNCHY TOP VIRUS (BBTV)

This quarter, 119 properties were visited on Maui and 93 of these were surveyed. Of the 15 that were found to have bunchy top, 11 were treated. The remaining sites will be treated next quarter pending resident / owner permission. One hundred and ninety-two hours were spent on banana bunchy top virus.



LITTLE FIRE ANTS (LFA)

A total of 2,066 baited vials were set and collected from 29 sites on Maui this quarter. Most of the vials were collected from locations near the Waihe'e infestation (now considered eradicated). No LFA were found. Editing work progressed on the LFA video, which is nearing completion. A short piece focused on impacts on people in Tahiti was produced to share with individuals from the Hawai'i Tourism Authority. See the Outreach section for additional LFA work using radio broadcasts.



Vertebrate Status

COQUI FROGS



Torrential rains in February caused major flooding in Māliko Gulch and resulted in a cottage near Kaluanui Road being swept away. Debris from the cottage is scattered throughout the gulch along with a lot of the infrastructure MISC installed for coqui control work. About half a mile of the three and a half mile long pipe system was permanently lost, the rest was severely damaged. The pipe is a major component of the gravity-fed coqui control system which delivers a citric acid solution to applicators in the gulch. Fortunately, with the help of all Pi'iholo-based crew and East Maui

Watershed Partnership crew, most of the pipe has been repaired or replaced. The remainder will be repaired or replaced next quarter.

This quarter:

- Crews made 88 separate visits to 50 frog-infested areas, suspect locations, or coqui-free participant businesses.
- Eight new reports were received and all had follow-up.
- MISC staff and volunteers spent 665 hours working on the coqui project.
- 29,815 lbs. of citric acid were used. One hundred and one pounds of citric acid were given to four Māliko area residents who wanted to help control coqui.
- Crews treated 22 acres of infested area on Maui, mostly in Māliko Gulch.
- Three containers (102,550 lbs.) of citric acid were unloaded and stored at a private Māliko area property.



VEILED CHAMELEONS

No veiled chameleons were found or reported this quarter. No surveys were conducted. The last veiled chameleon was found on March 19, 2008.

MITRED CONURES

No MISC conure control operations occurred this quarter. An area resident was able to remove two birds from the population. Operations should increase next quarter as we move into the nesting season when the birds are known to stay closer to the cliffs throughout the day.

MoMISC Activities

MoMISC in partnership with DLNR-DOFAW and Pono Pacific staff conducted Early Detection surveys for Australian tree fern and mule's foot fern on state lands in the Moloka'i Forest Reserve and Pala'au State Park. Over 158 acres were surveyed and 126 hours spent with no plants detected. Early detection surveys are crucial to detect high priority incipient pests before they have a chance to become established.

MoMISC also partnered with DLNR's entomologist, Cynthia King, on an Early Detection survey for naio thrips after MoMISC submitted a suspect voucher to the Department. Ten sites were surveyed including nurseries, out-plantings and naturalized populations. A total of 234 acres were surveyed over the course of 33 hours; no thrips were detected. MoMISC is working with DLNR to develop a response plan for naio thrips on Moloka'i.

MoMISC continued to conduct early detection surveys for coqui frog and little fire ants on plants being imported to the local nursery from the Big Island. Mahana Gardens is a voluntary participant in the coqui-free certification program. MoMISC was also asked to do a secondary screening of imported plants by community members.

MoMISC partnered with Pono Pacific for a day to monitor for New Zealand flax on the borders of the Kamakou Preserve and Kawela Plantation, part of the East Molokai Watershed Partnership. Fifty-two juvenile plants were manually removed during six hours of work.

- Mule's foot fern (*Angiopteris evecta*): over 36 acres were surveyed and no plants found.
- Rubber vine (*Cryptostegia madagascariensis*): MoMISC surveyed four acres; no plants were found.
- Australian tree fern (*Cyathea cooperi*): no plants were found during surveys covering 122 acres.
- Bo tree (*Ficus religiosa*): seven immature plants were controlled.
- Tree daisy (*Montanoa hibiscifolia*): 31 immature plants were controlled.
- New Zealand flax (*Phormium tenax*): 52 immature plants were controlled.
- Fireweed (*Senecio madagascariensis*): over 27 acres were surveyed and no plants found.