



Quarterly Report to the MISC Committee
FY 2013, Second Quarter
October 1 to December 31, 2012

Manager's Report

He pūko 'a kani 'āina

A coral reef that grows into an island.
A person beginning in a small way gains steadily
until he becomes firmly established.



Every now and then, something triggers a review of how long folks have been with MISC. It might be a proposal emphasizing the experience and commitment our staff and Committee bring to the work. It might be budget projections that take into account newer employees qualifying for retirement benefits. And sometimes it occurs when staff hit milestones – such as 5 years or 10 years with the project. One such milestone happened in November when our illustrious Lloyd Loope retired from the U.S. Geological Survey.

When Lloyd first arrived on Maui, who would have been able to divine his involvement in so many of Hawai'i's critical conservation issues over the next three decades? Thirty-five years ago, who could know how many future conservationists would call Lloyd their mentor? And who could have predicted Lloyd would help launch the first ISC, still going strong some 14 years later? Not only is Lloyd "firmly established" in the islands, but the work he began, fostered, and fought for continues to steadily gain ground. If I were to check the crystal ball, I'd certainly hope it shows Lloyd's continued involvement with MISC and other important conservation organizations in Hawai'i.

If we focus only on the reef, it's easy to miss the island growing slowly steadily above the water. Lloyd's alleged retirement provided a wonderful opportunity to gather in celebration, to bring the Maui conservation community together, and to appreciate how lucky we are to work at Pi'iholo. Mahalo nui to Lloyd and all of the MISC 'ohana for making the island happen.



Employee of the Quarter



As is true for a number of MISC staff, our Employee of the Quarter started out with a temporary assignment. Adam Radford was initially hired for a short-term project to ramp up outreach efforts on banana bunchy top virus. He did such a thorough job, the County of Maui decided to provide more funds for BBTV work and we decided we'd better keep him. Before long, but while keeping BBTV under his wing, Adam moved on to become our Vertebrate Operations Supervisor, where he added the daunting tasks of taming coqui frogs, wrestling with veiled chameleons, and going *mano-a-mano* with the conures. In all his efforts, Adam brings a thoughtful, analytical approach to the work, while also striving to keep it fun for the crew. It's the same approach he now uses as

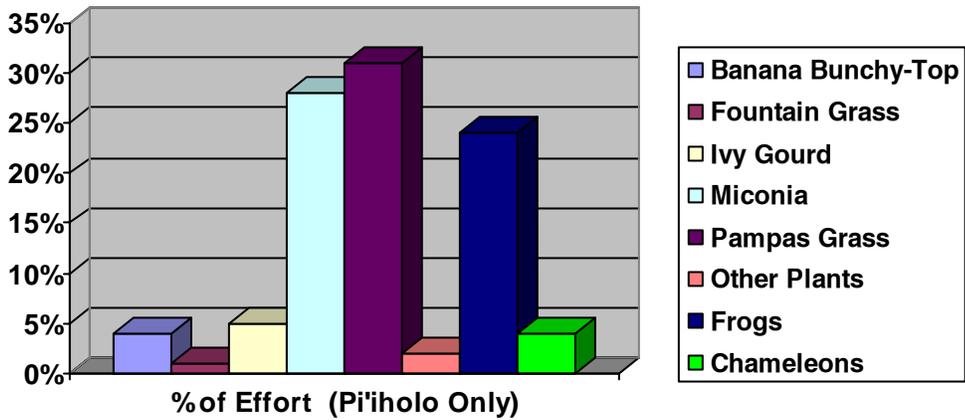
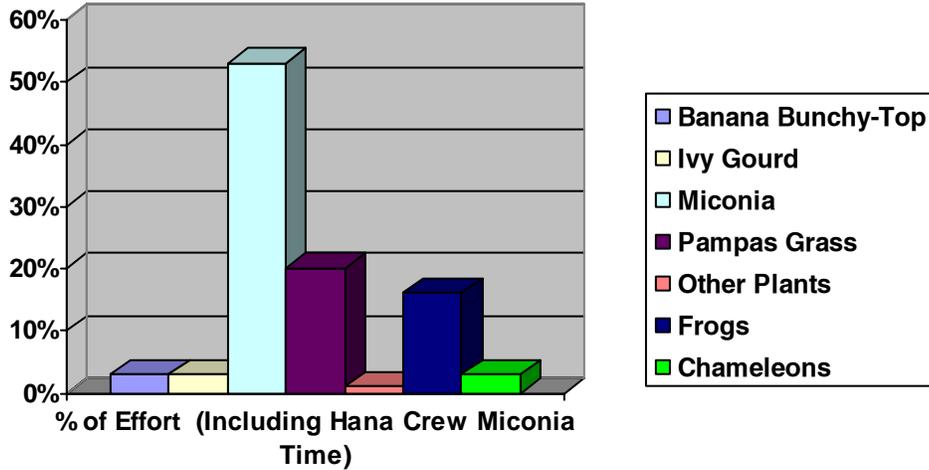
MISC's Operations Manager, where he's been working to establish clearer objectives and priorities for all our target species, and, in his spare time, writing proposals, reports and an environmental assessment, and representing MISC at public events and professional meetings. We're not sure how you're managing it all, but are very glad you are! Way to go, Adam!

Quarterly Highlights

- Oct 5: Elizabeth, Mike, Darrell attend AmeriCorps orientation
- Oct 8-12: Crew to Honomanū for pampas grass control
- Oct 15: Pi'iholo site visit by new CTAHR Dean
- Oct 16: RCUH safety visit at Pi'iholo baseyard
- Oct 17-19: Crew to Honomanū for pampas grass control
- Oct 23-25: Haleakalā frontcountry pampas sweeps
- Oct 24: Teya attends Maui Conservation Alliance meeting
- Oct 25: Teya, Randy, & Dale meet with Will Spence re: the Conservation Campus
- Oct 30: Teya attends CGAPS meeting on O'ahu

- Nov 3: MALP Lawn & Garden Fair & presentation of Malamā i ka 'Āina Award
Retirement party for Lloyd Loope at Pi'iholo
- Nov 7-8: Veiled chameleon searches
- Nov 15: Teya meets with new DOFAW Branch Manager, Scott Fretz
- Nov 19: Year-long AmeriCorps intern Heather Coad starts work
- Nov 26-29: All staff work trip to Hāna
- Nov 29: Abe & Chuck judge 'Īao School Science Fair
- Nov 30: All staff meeting & field trip to Maui Bird Conservation Center

- Dec 4-6: Miconia overflights with Celestine Duncan, Rob Hauff & Dan Clark
- Dec 4-5: Teya to O'ahu for Hawai'i Conservation Alliance retreat
- Dec 7: Miconia operations meeting and presentations to DOH
MISC Soiree: surrogate species
- Dec 10-11: Adam conducts rappelling training for EMWP staff
- Dec 18: Teya meets with Haleakalā Ranch, Ulupalakua Ranch & Maui County Farm Bureau
- Dec 19: Teya attends Maui Conservation Alliance meeting



MISC IN THE NEWS

During this quarter MISC was highlighted in a Maui Time article celebrating the outcome of Patrick Dougherty’s sculpture at the Hui one year later. Press releases resulted in articles on the Malamā i ka ‘Āina award and an article on the possible eradication of the veiled chameleon. MISC staff were quoted in articles related to the illegal transport of deer from the Big Island and in response to the release of a biological control for fireweed.

Through the Kia’i Moku column in the Maui News this quarter, MISC had articles on how introduced ants affect Hawaiian seabirds, plants native to Hawai’i that are invasive elsewhere, and how GPS technology has aided invasive plant control. These articles, as well as previous articles written for the Kia’i Moku column, are available online at www.hear.org/misc/mauinews/. Articles in the Maui News helped us reach the 22,000 readers in Maui County. The article in Maui Time put us in touch with a circulation of 18,000.

Article Date	Article Name	Topics Discussed
November 8	Maui Time: The ultimate tree house	Patrick Dougherty’s sculpture at the Hui, Strawberry guava impacts
November 14	Hawai’i Tribune Herald: Man convicted in axis deer case feels unjustly targeted	Ungulate impacts
November 18	Maui News: McCluer awarded for invasive species work	MISC’s Malamā i ka ‘Āina award winner
November 27	Maui News: Creature nears eradication with no sightings since ‘08	Veiled chameleons
December 13	Maui News: Moth OK’d for plant’s control	Biocontrol, fireweed
Kia’i Moku		
October 14	Kia’i Moku: Ants a major problem for birds	Ants, Hawai’i’s seabirds
November 11	Kia’i Moku: Familiar plants can wreak havoc elsewhere	Hawai’i natives invasive elsewhere
December 9	Kia’i Moku: Accurate mapping critical to controlling invasive species	GPS use in conservation, miconia
	Total articles/reach	8 articles–40,000 readers

REACHING OUT TO THE COMMUNITY

Events & Presentations

The quarter wrapped up with the Maui Association of Landscape Professionals' Lawn & Garden Fair. At this event MISC alongside MALP and the County of Maui presented the Malamā i ka 'Āina Award. This year's recipient was Doug McCluer and he received a plaque with a glass sculpture of an 'ohai by local artist Jupiter Nielson. During his 39-year career with Maui Land & Pineapple Co. McCluer was an ardent supporter of invasive species control. His commitment to invasive species management continues today through his participation in ag-related boards and committees, as a founding member of Haili'imaile Pineapple Committee, and as a volunteer removing fireweed and gorse on local ranches.



Date	Event/Presentation	Topics	Audience
October 6	LICH Conference	Coqui-free certification program	18
October 10	Maui Bird Conservation Center	Overview of MISC	4
November 3	MALP Lawn & Garden Fair/ Malamā i ka 'Āina award presentation	Little fire ants, recognition of local efforts	61
November 3	Lloyd Loope retirement celebration		80
	Total:	4 events	163

Internet

There were a total of 6,595 page/post views through five MISC sponsored and maintained Internet sites. Of note this quarter, MISC's blog set a record for the highest number of page views per day (171) for a posting about plants native to Hawai'i but invasive elsewhere. The Maui Invasive Species Committee (MISC) Facebook Page "Likes" increased to 328, an increase of 22 people this quarter. Additionally, MISC maintains a "MISC Maui" Facebook Profile page that does not generate statistics other than its 410 unsolicited "Friends." Through a web-based identification service at Flickr, MISC early detection specialists assisted members of the public with 75 plant and 19 insect identifications over the past quarter.

Website	Topics	Page/Post Views
Main website: mauiisc.org	Miconia, fountain grass, pampas grass, coqui frog, little fire ants, BBTV	627
Blog: mauiinvasive.org	Fountain grass, coqui frogs, pampas grass, miconia, little fire ants	2,938
lfa-hawaii.org	Little fire ants	672
coquifreemaui.org	Coqui frogs, coqui-free certification program	58
Facebook - MISC	Miconia, fountain grass, pampas grass, coqui frog, little fire ant, BBTV	2,300
Flicker plant/insect ID service	Early detection	94
	Total:	6,689 page/post views

Media

The little fire ant PSAs as well as a miconia PSA continued airing on the Maui County public access station, Akakū, regularly throughout the quarter. The little fire ant PSAs aired statewide on the ABC-KITV station beginning August 15th 2012. The Maui Huliau Foundation worked with MISC to produce two student project short films about miconia and coqui that will be presented in early 2013 to the Maui County Council. On October 8, two students conducted interviews with Adam Radford and Darrell Aquino about MISC’s coqui control program at the MISC Pi’iholo baseyard. Adam and other staff were also interviewed earlier in the quarter for the miconia component.

Date	Media	Topics	Audience Reached
October 1 – December 31	Public Service Announcements on Akakū	Little fire ants, miconia	Maui County cable subscribers
October 1 – December 31	Public Service Announcements on KITV	Little fire ants	Statewide viewers
October 8	Maui Huliau Foundation Student Films	Coqui interviews	

MISC IN THE CLASSROOM

Abe Vandenberg reached 612 students/educators through 25 activities during this quarter testing new Hō’ike o Haleakalā lessons in addition to giving presentations covering little fire ants and general invasive species targets/topics.

Date	School/Group Visited	Topic	Participants
October 4	Pacific Whale Foundation	Hō’ike: Raindrops & Watersheds	22
October 9	Kamehameha School 4th Grade	Hō’ike: In Our Lifetime	50
October 11	King Kekaulike High School	Hō’ike: Raindrops & Watersheds	17
October 16	King Kekaulike High School	Hō’ike: Frogs on Floor Four	17
October 18	Makawao Montessori	Little fire ants – artwork	8
October 23	Kalama Intermediate 7th Grade (6 classes)	Hō’ike: In Our Lifetime	150
November 7	Kalama Intermediate 6th Grade (6 classes)	Hō’ike: Raindrops & Watersheds	150
November 14	Watercolor Art Class, Kihei	Little fire ants	10
November 15	Maui High Biology Classes (5 classes)	General MISC and LFA	104
November 29	‘Īao School Science Fair	Science projects/experiments	30
December 3	Kahului Boy Scouts KHM Troop 64	Little fire ants	14
December 6	Kihei Charter School 7th/8th Grade	BBTV demonstration	40
	Total:	25 Activities	612 Participants

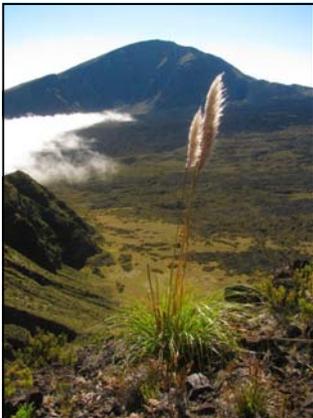
Plant Updates

PAMPAS GRASS

Cortaderia efforts wound down for the winter with two final trips into Honomanū. One of those trips was an exploratory mission where plants that had been treated by helicopter in the past were surveyed from the ground. During this four-day trip, 12 mature plants and 5 immature plants were controlled. In addition to survey and control work, new trails were flagged and locations recorded with GPS units to support future control missions. Efforts in Honomanū continue to pay off with a steady decline in plant numbers, both immature and mature.

In addition to working in Honomanū, the crew also conducted ground surveys in other areas previously covered only by helicopter. One crew spent three days in an area near Waiho'i in East Maui where 19 immature plants and 2 mature plants were found and controlled. Control efforts in these backcountry areas will increase again in the spring.

A small crew collaborated with the West Maui Mountains Watershed Partnership during a three-day trip to Hana'ula where two immature and two mature pampas plants were controlled. The WMMWP crew also found a new population of plants near Pana'ewa and subsequently controlled 71 immature and 10 mature *Cortaderia* plants. The area was later surveyed by helicopter and another mature plant was found and controlled.



With camping activity slowing down by the end of the quarter, the crew focused more of efforts along the Waikamoi flume. During ten days of surveying buffered plant points in the area, a total of 231 immature plants and 4 mature plants were controlled. The Waikamoi flume area will continue to be a high priority until the busy camping season begins in the spring.

The annual front-country Haleakalā sweeps took place with MISC and Haleakalā National Park crews. The surveys took place within Haleakalā National Park and a portion of Haleakalā Ranch that is adjacent to the park. During the three days, 250 acres were surveyed and two immature pampas were controlled inside the National Park, as well as a number of fireweed plants and pine trees.

In the Upcountry area of Maui, 13 *Cortaderia jubata* residential sites were visited as well as 9 *C. selloana* sites and 16 properties located within a 200-meter buffer around known sites. There were no plants found at the *C. jubata* sites, however while completing surveys in the buffer area, a new *C. selloana* plant was found and controlled. The crew also gained permission to control a large pampas plant at one of the *C. selloana* sites that had been recalcitrant since 2005. Due to the large size of the plant, the control work took two days and the crew controlled two immature plants at the site as well.

Aerial operations also slowed to a halt during this period. The last 11 missions of the quarter were split fairly evenly between reconnaissance and spray with a little heavier emphasis on West Maui operations. On West Maui, the season ended with 86 immature and 80 mature *Cortaderia* plants controlled, while 32 mature pampas plants were controlled aerially on East Maui.

MICONIA

Miconia work this quarter was concentrated in the Makapipi and Olopawa Track Road units. Work in Makapipi was hampered by dense uluhe, lantana, strawberry guava, and cane grass. Work this quarter was augmented by assistance from the Lānaʻihale Native Species Recovery Program crew and by an all staff MISC work trip to Hāna in late November. Crew also followed up on seeders found during heliops in the Nāhiku Elliot Ann unit. Three large seeding plants that could not be reached by air were controlled and a buffer was swept around the area. Forty mature seeding plants, spotted via heliops in a residential area in Lower Nāhiku Unit 3, were also controlled on the ground despite an endless wall of entwined hau. 165 mature and 9,409 immature plants were controlled by the ground crew this quarter while covering 288 acres.



Ten days of miconia helicopter work occurred in east Maui this quarter. Herbicide ballistic technology (HBT) operations focused on outlier populations. Some of these stand-alone populations had been treated using HBT in the past, but operations this quarter expanded efforts to new areas or reached the extent of these infestations. Long-line operations were centered on the Nāhiku area and other heavily infested locations. A total of 3,293 immature and 528 mature plants were controlled from the air while covering 2,878 acres this quarter.

FOUNTAIN GRASS

No new fountain grass locations were discovered this quarter. Access continues to be an issue at the Pukalani and Waiehu Dunes sites. There is a large seed bank reservoir at the Pukalani site. All other known locations of *Pennisetum setaceum* were monitored and no fountain grass plants were found. Lack of precipitation made a visit to Lānaʻi unnecessary this quarter.

IVY GOURD

A new location behind The Shops at Wailea was discovered during BBTV surveys in the South Kihei area. One mature plant with 225 rooted nodes was controlled. Maui Meadows subdivision survey/control work continued with a steady decline in plants found due to the elimination of germinating seed bank. No fruiting plants were found in Maui Meadows this quarter. A *Coccinia grandis* location in Waiehu continues to be controlled by field crew. The owner of the Waiehu property is monitoring for re-growth. One mature plant was found at the Kēnui Street site property. The site was recently leveled by a bulldozer. Overall there was a decrease in the number of ivy gourd plants found and controlled this quarter and no viable fruit was discovered at any site.

OTHER PLANTS

- Arundo (*Arundo donax*): eight plants were controlled by rhizome removal this past quarter along Kahului Beach Road.
- Parasol leaf tree (*Macaranga tanarius*): two plants were controlled as crew continues to monitor nurseries for the potential of plant movement in landscape containers.
- Osage orange (*Maclura pomifera*): root suckers continue to be controlled at the only known location on Maui.
- Wax myrtle (*Morella cerifera*): 38 plants were controlled at the Haʻikū population. Due to the probability of root suckering the field crew will monitor this site quarterly.
- Cape pittosporum (*Pittosporum undulatum*): a large hedge consisting of fruiting plants was controlled along Haleakalā Highway. MISC continues to seek permission for control on individual residences.
- Milk thistle (*Silybum marianum*): survey/control efforts continued this past quarter with no plants discovered.

SUMMARY OF WORK ON INVASIVE PLANT SPECIES OCTOBER TO DECEMBER 2012

Common Name	Island	Plants Controlled	Acres Surveyed
Giant reed	Maui	8	3
Ivy gourd	Maui	414	248
Pampas grass	Maui	563	8,471
Osage orange	Maui	8	2
Miconia	Maui	13,395	3,166
Fountain grass	Maui	0	111
Milk thistle	Maui	0	10
Rubber Vine	Maui	0	1
Cape pittosporum	Maui	8	4
Vicotorian box tree	Maui	18	14
Wax myrtle	Maui	38	2
Cat's claw	Maui	0	3
Himalayan raspberry	Maui	0	4
Parasol leaf tree	Maui	2	36
Rubber vine	Moloka'i	1	8
Australian tree fern	Moloka'i	1	60
Barbados gooseberry	Moloka'i	6	11
New Zealand flax	Moloka'i	0	36
Tumbleweed	Moloka'i	0	42
Fireweed	Moloka'i	0	103
Bo tree	Moloka'i	4	2
Total		14,466	12,337

BANANA BUNCHY TOP VIRUS (BBTV)



The focus of BBTV survey efforts this quarter was on properties that were known to have recently had BBTV. Many of these properties had BBTV the previous quarter, or earlier, but still needed to be treated. Often properties fall into the “need treatment” category because bunchy top was spotted from the road or a neighboring property but staff have not been able to contact residents to grant permission for control. Very few such properties now remain.

This quarter, 80 properties were visited on Maui and 61 of these were surveyed. Of the 20 that were found to have bunchy top, 18 were treated. The remaining sites will be treated next quarter pending resident / owner permission. One hundred and seventy-two hours were spent working on banana bunchy top virus.

LITTLE FIRE ANTS

A total of 155 baited vials were set and collected from 16 sites on Maui this quarter. Most of the vials were collected from locations where suspect ants had been reported. A total of 314 samples were screened; no LFA were found.

Vertebrate Status

COQUI FROGS

Two exciting and one disappointing coqui-related events occurred this quarter. MISC purchased a new tractor, with funds secured from private foundations, to assist with coqui control work. The tractor will help significantly with habitat work and infrastructure maintenance at the Māliko infestation. It will also make moving 50-pound bags of citric acid and thousands of gallons of water much easier, freeing up crew time for other tasks and actual control work. The vertebrate crew also secured permission to access one of the few recalcitrant properties near Māliko. Access to the property had been refused for years so this is a huge accomplishment. Control work is scheduled to begin next quarter. Disappointingly, a new coqui population was discovered near Wailea Point. This site is not densely infested (ten or fewer calling males were heard) and control of this population is underway. To date, MISC has discovered eighteen discrete populations. Frogs have been completely removed from eleven of those populations.



This quarter:

- Crews made 100 separate visits to 59 frog-infested areas, suspect locations, or coqui-free participant businesses.
- Five new reports were received and all had follow-up.
- MISC staff and volunteers spent 522 hours working on the coqui project.
- 27,561 lbs. of citric acid was used. One hundred pounds of citric acid was given to two Māliko area residents who wanted to help control coqui.
- Crews treated 51 acres of infested area on Maui, mostly in Māliko Gulch.

VEILED CHAMELEONS

Veiled chameleon searches occurred on two consecutive nights in November. Eighty-three person hours were spent searching 24 properties. Searches focused on properties where veiled chameleons were most recently found, those with suitable habitat (i.e., vegetated not barren), and properties with historically high numbers of Jackson's chameleons. Two searchers from the height of veiled chameleon activity and Josh Atwood (Hawai'i Invasive Species Council Coordinator) joined MISC staff for this round of searches.

MISC staff visited nearly 200 properties that have had veiled chameleons, are near properties that have had the chameleons, or are along a natural corridor that runs through the historic "core" population. Staff spoke with residents and dropped off informational flyers in an effort to solicit reports. MISC also sent thank you letters to residents of properties searched and The Maui News published a veiled chameleon related press release the same month searches were conducted. No veiled chameleons were found or reported. The last veiled chameleon was found on March 19, 2008.

MITRED CONURES

No conure control activity occurred this quarter.

MoMISC Activities

During this quarter MoMISC captured two coqui frogs that arrived on a shipment of plants coming from the Big Island to a nursery on Moloka'i. MoMISC also baited for little fire ants at the same nursery because the LFA infestation on the Big Island is widespread and Moloka'i has no known populations of LFA. The Moloka'i nursery is a participating member of the coqui-free certification program. If the nursery was not participating in the program, the frogs could have gone undetected and there would have been a high probability that the frogs would establish in the wild. Several properties on Moloka'i were surveyed for BBTV this quarter and infected plants were removed.

MoMISC continued to monitor and control priority species. Highlights include:

- Rubber vine (*Cryptostegia madagascariensis*): MoMISC surveyed eight acres and controlled one immature plant.
- Australian tree fern (*Cyathea cooperi*): one plant was controlled and over 59 acres surveyed.
- Bo tree (*Ficus religiosa*): four immature plants were controlled.
- Barbados gooseberry (*Pereskia aculeata*): 11 acres were surveyed and 6 plants controlled.
- New Zealand flax (*Phormium tenax*): 26 acres were surveyed and no plants found.
- Tumbleweed (*Salsola kali*): no plants were found on 42 acres that were surveyed.
- Fireweed (*Senecio madagascariensis*): 103 acres were surveyed and no plants found.