



Quarterly Report to the MISC Committee

FY 2008, Third Quarter

January 1 to March 31, 2008

Manager's Report

During interviews for MISC field positions, we always emphasize the need for flexibility. Searches for veiled chameleons require working at night, when the critters are more visible. The best laid plan for the day can suddenly change with the weather or the functionality of our sometimes finicky vehicles. For the vertebrate crew, most weeks will be night shifts, but others will follow a more traditional schedule. Did we mention the weeks in Hāna, Lāna'i, Moloka'i or Kaho'olawe? Or the heli-drop camp in Honomanū: we do our best to get crews out on schedule, but given the way the clouds themselves like to camp in that particular pocket of the mountain an extra night in the field is not uncommon.

We ask a lot of our staff and they give in buckets, not only in time and effort, but also in willingness to assume a variety of responsibilities. Our ability to respond to new challenges benefits tremendously from the high caliber of our staff. We have been able to tap those strengths by moving current staff into new responsibilities or even new positions. A few recent examples are in order.



Lissa Fox got her start with MISC on the Hāna miconia crew, some four years ago. When the need arose, she accepted more responsibility for data management. Her next challenge found her promoting the Hō'iike curriculum to Maui's teachers and working in the classrooms. At the same time, Lissa took on managing logistics and data for our pampas grass operations. She flew the vast majority of our aerial control missions in 2007. Now, as MISC's new PR/Education Specialist, Lissa's varied experience is enhancing her ability to share the MISC mission with the public.

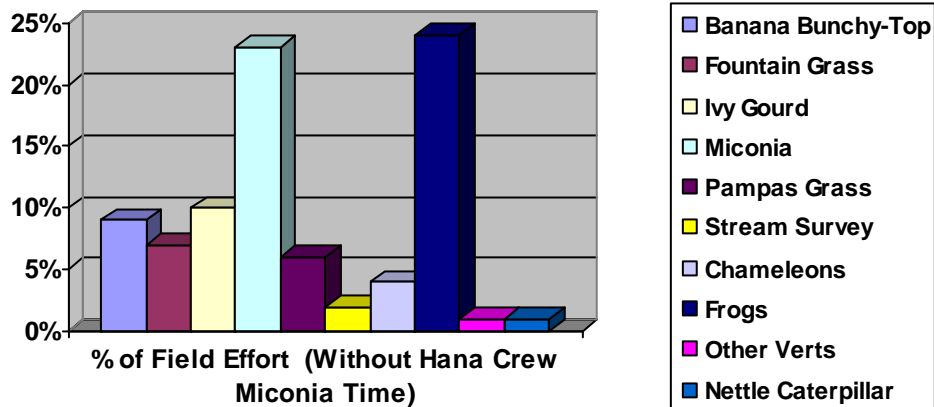
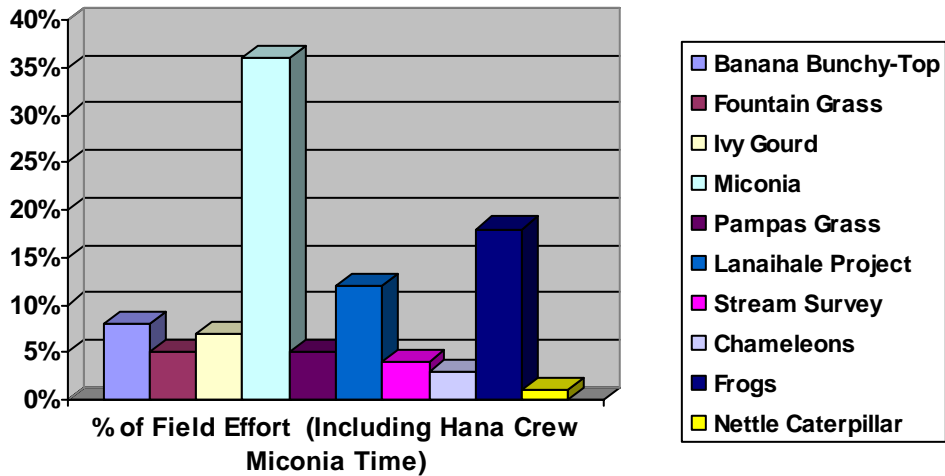
Stephanie Miller and Willie Midgley both started at MISC ~2.5 years ago. Given the complexity of the pampas grass project, we needed to ensure that we maintained adequate focus on that target despite Lissa's transition. Steph's demonstrated ability to work with the data and her interest in gaining more experience with GIS tools seemed a logical fit for taking over the wildland pampas grass operations. She also will don the flight suit and become our ace pampas spotter this season. Around the same time, Willie highlighted the need to have someone focus on recalcitrant landowners. We are lucky to have someone on staff with a gift for persuasion who considers getting to "yes" to be a fun challenge. Willie also is focusing on getting the coqui-free certification project up and running, continues to maintain our native plant nursery for plant give-aways, and will assist with MISC's Early Detection program.

Although not quite so recent, other examples include Brooke Mahnken's move from a focus in the field to data technician. His field experience continues to be very valuable. He has made significant improvements to our data systems and increased our efficiency as a result of his firsthand understanding of where the limitations were. In the miconia world, Elisse Delissegues has assumed greater responsibility for operational planning, logistics, and data - work that also draws on her many hours of field experience working in Hāna.

These recent changes at MISC highlight the value of providing opportunities for a diverse work experience. They are more the norm than the exception. We truly are blessed to have such fine staff working at MISC. Thank you for helping to support all that we do.

Quarterly Highlights

MISC FIELD TIME SUMMARY



ACTIVITY HIGHLIGHTS

- Jan 7: Teya to O'ahu for Senate briefing
Jan 16: Teya to O'ahu for opening day of the Legislature
Jan 22-25: Both crews to Lāna'i for fountain grass control
Jan 26: Hō'ike Teacher Workshop
Jan 28: Jeremy gives miconia presentation in Hāna for MEO
Jan 29: Interviews for MISC PR/Education Specialist
Jan 31: Brooke to Lāna'i to set up monitoring for Lāna'ihale restoration project
- Feb 1: MISC Meeting
Feb 2: Hō'ike Teacher Workshop
Feb 4: Miconia operations meeting
Feb 5: Ke'anae YMCA site visit for 2009 miconia conference
Lissa attends training at Haleakalā to become a park volunteer leader
Feb 6: Teya attends MoMISC Meeting
Feb 7-9: Coqui Conference in Hilo
Feb 11-13: Lissa leads Seabury Hall trip to control rabbit's foot clover in the crater
Vertebrate crew to Moloka'i for BBTV surveys
Feb 14: Teya attends meeting on ICS exercise
Feb 15: Teya meets with Nelson Sakamoto re: MISC position management
Feb 17: Meeting with Nāhiku Community Association re: miconia
Feb 19: Students from Kamehameha Schools volunteer with the Hāna crew
Feb 21: Dennis & Dave attend basic helicopter training
Feb 21: Educational booth at MCC Agriculture Fair
Feb 22: Early detection workshop
Miconia conference planning meeting
Feb 25: Teya to O'ahu for Established Pest Working Group meeting
Feb 29: Chris Candito's last day with MISC
- Mar 1: Lissa Fox starts as MISC's PR/Education Specialist
Mar 3: Teya & Lissa to O'ahu for HISC PR/Outreach meeting
Mar 3-5: Adam provides rappelling training/refresher for OISC
Mar 4-5: Brooke to Lāna'i to set up monitoring for Lāna'ihale restoration project
Mar 7: Multi-agency GIS meeting in Kapalua
Mar 8: Ha'ikū Ho'olaule'a
Mar 10-14: Seven crewmembers to Lāna'i to assist with guava control on Lāna'ihale
Mar 11: Teya attends Maui Conservation Managers meeting
Mar 13: Teya, Elizabeth & Lissa meet with AmeriCorps staff
Mar 18-19: Snake & vertebrate training
Mar 20: Lissa gives public presentation for Pacific Whale Foundation
Mar 24: Miconia conference planning meeting
Mar 24-28: Seven crewmembers to Lāna'i to assist with guava control on Lāna'ihale
Mar 25: RCUH Health & Benefits Fair
Mar 31: Teya & Brooke attend land cover mapping meeting



MISC IN THE NEWS

The vertebrate crew's recent travels to the Big Island and Moloka'i garnered some press attention for MISC on neighbor islands. The Hawai'i Tribune Herald published an article about the 1st Annual Conference on the Coqui Frog, including quotes from Adam Radford. The Moloka'i Times reported on MISC's visit to Moloka'i to assist MoMISC with Banana Bunchy Top surveys.

MISC's monthly column published in the Maui News, Kia'i Moku, covered rubber vine in January and generated a new report of plants in Lahaina. February's column highlighted *Pittosporum undulatum* followed in March by an article about ivy gourd.

REACHING OUT TO THE COMMUNITY

MISC participated in two community fairs this quarter - the MCC Agriculture Fair and the Ha'ikū Ho'olaule'a. The MCC Ag Fair on February 21st was attended primarily by high school students and gave them a chance to learn about career opportunities in the fields of conservation and agriculture. There were also members of the general public present and MCC students stopped by during breaks between classes. Elizabeth Speith of USGS-PBIN helped with the event, answering questions and providing resources for approximately 60 people who stopped at the MISC table. Excellent weather was the highlight of the Ha'ikū Ho'olaule'a this year. The outreach tent was at the edge of the fair and there was not much traffic with only 54 people visiting the MISC table.

Lissa gave a presentation to the Pacific Whale Foundation as part of its "Making Waves" lecture series. Twelve people attended the talk, a mix of both residents and visitors. The presentation covered information regarding MISC target species and operations.

ENVIRONMENTAL EDUCATION



Fourteen teachers attended a three-day workshop on the Hō'ike o Haleakalā curriculum. Background information was provided by guest speakers. Jeff Basgshaw of Haleakalā National Park provided information about the development of the curriculum and resources the park can offer to teachers. Philip Thomas, the man behind the HEAR website, gave a presentation on invasive species in Hawai'i. Kat Lui of the East Maui Watershed Partnership talked about native

rainforests and their function in a watershed. Hanna Mounce of the Maui Forest Bird Recovery Project presented information about rainforest birds and Paul Krushelnycky, a cooperater with the U.S. Geological Survey Biological Resources Division, talked about the impact of the Argentine ant in the alpine ecosystem. As part of the workshop, teachers participated in activities as though they were students doing the activities. Each teacher left the workshop with a game box containing the materials to replicate the activities that were covered. The final day of the workshop was a short hike on the Maile Trail in the Waikamoi Preserve.



The Hō'ike workshop generated two requests for class visits, reaching 137 students. Lissa went to Lahainaluna High School to assist students in surveying and identifying little fire ants. Another workshop attendee requested a class visit to illustrate the genetic characteristics that make plants invasive. Illustrating the effects of a miconia invasion by building a "rainforest in a box" helped the 7th grade class at Kalama grasp the concept.

VOLUNTEERS



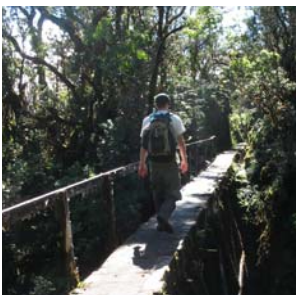
MISC once again hosted a group of Seabury Hall students for their Winterim project. This year a group of ten students and their chaperone did trail maintenance, cabin maintenance, and removal of rabbit's foot clover near Hōlua cabin in Haleakalā crater during a 3-day work trip.

Kamehameha student Kelly Luis organized five classmates and a chaperone for a day of miconia work in Hāna. As a former volunteer with the coqui control project, Kelly was familiar with MISC but not our work on miconia. The trip was deemed a success because tired students reported that the worst part was not being able to jump out of the truck during a tour of the core to pull miconia plants.



Plant Updates

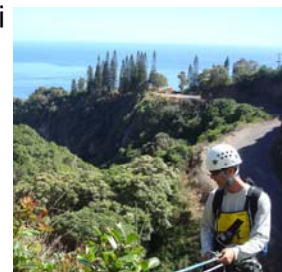
PAMPAS GRASS



As a result of MISC's pampas grass control efforts this quarter, there are 384 fewer pampas plants on Maui. The majority of recent pampas grass work was done on the ground in the area around the Waikamoi reservoirs. Crews spent several long and muddy days accessing areas on the ground to control plants. We hope to have a dedicated pampas spray ball by the time spring heliops begin.

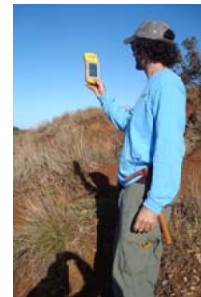
FOUNTAIN GRASS

All known populations of fountain grass continue to be systematically surveyed and controlled. Fountain grass germination appears to be triggered by any measurable rainfall. Two plants were controlled in an irrigated planter at a Kihei residence and one deer-grazed plant was controlled at Mākena Golf Course. The Maui Lani Water Tank and Wai'eahu Water Tank sites each had one plant this quarter. We have been able to cover the entire pali surface at the Kahakuloa site via rappelling. Despite frequent rainfall, no mature plants were found at Kahakuloa this quarter. The last plant at the site was found in June 2007





Both Pi'iholo based crews traveled to Lāna'i in January for a week of fountain grass work and everyone's favorite - navigating through the lantana obstacle course. The infamous "Gary's Island" site has been quite a challenge because of substantial amounts of germination from the original suppressed population. At Kō'ele Golf Course over 70 mature plants were controlled during our January visit. Another site along a power line road continues to produce numerous immature plants. Fewer than 10 mature plants were found in the Kanepu'u area during our January visit. The total number of plants controlled continues to decline at all known fountain grass sites.



IVY GOURD

It appears that initial seed bank reserves are close to extinguished at most known Maui sites. The number of plants controlled, from seedling to mature, continues on a steady decline island wide. On Lāna'i both non-flowering and flowering plants were controlled this past quarter. Minimal to no fruiting was observed. Seedling germination continues to be right on schedule as favorable growing conditions exist due to significant rainfall this winter.

RUBBER VINE

MISC's January Maui News column on rubber vine generated a new report from a Lahaina residence. MISC crew controlled over 20 plants at a Front Street address. Surveys at other known rubber vine sites have resulted in no new plants found. Landowner permission continues to be an issue at several central Maui sites.

MICONIA

This quarter ground crew miconia sweeps covered the units generally known as the "Buffer Zone" area in the vicinity of the Hāna Core. These units border the east, west, and makai residential and agricultural interface areas. Recent ground efforts also continued in the Nāhiku mauka area between Kahawaihapapa stream and Kūhiwa, mauka of the Hāna highway.

Outlier ground sweeps were initiated in the East and West Wailua Iki areas makai of the Hāna highway. Numerous plants were treated that had sprouted and grown to a height of 3-6 meters since the last visit to the area three years ago. However, no mature individuals were found. Efforts were also begun to sweep areas adjacent to lower Nāhiku between Hanawī and Makapipi streams. The area is a matrix of small private parcels, EMI and State of Hawai'i lands. When complete, the area covered will span from Hāna highway to the ocean.

Aerial operations have concentrated on both core infestation areas and outlier sites. A total of nine operational days with multiple aircraft, totaling 23 helicopter days, were conducted during the reporting period. Weather conditions improved significantly in February and March, allowing for increased productivity relative to the last reporting period.

A presentation was given to the Nāhiku Community Association to inform concerned Nāhiku residents about the miconia control operation and MISC. Several residents and board members were in attendance and asked numerous questions regarding general operations and the overall miconia control strategy. A number of permissions were granted for ground crews to survey parcels in lower Nāhiku.



LĀNA'ĪHALE FOREST AND WATERSHED RESTORATION

MISC staff spent two weeks in March assisting with strawberry guava control in the Lāna'ihale petrel nesting area. This upper elevation ua'u habitat restoration project was quite the workout for our crew. The amount of biomass removed was huge. This DLNR-PCSU project is funded by Castle & Cooke as part of a Habitat Conservation Plan. MISC was asked to assist with initial control work and is helping to train the recently hired Lāna'i project staff.

PLANT DATA JANUARY 1 TO MARCH 31, 2008

Maui

	<i>Plants Controlled</i>			<i>Acres</i>
	<i>Mature</i>	<i>Immature</i>	<i>Total</i>	<i>Inventoried</i>
Priority Target Species				
<i>Miconia calvescens</i>	270	19,105	19,375	11,700.51
<i>Cortaderia spp.</i>	23	361	384	243.732
<i>Pennisetum setaceum</i>	0	4	4	150.17
<i>Coccinia grandis</i>	343	617	915	469.81
<i>Arundo donax</i>	0	0	0	18.38
<i>Cryptostegia grandiflora</i>	11	40	51	1.22
Grand Totals:	647	20,127	20,729	12,583.83

Lāna'i

	<i>Plants Controlled</i>			<i>Acres</i>
	<i>Mature</i>	<i>Immature</i>	<i>Total</i>	<i>Inventoried</i>
Priority Target Species				
<i>Pennisetum setaceum</i>	90	537	627	109.5
<i>Coccinia grandis</i>	27	5,207	5,234	139.75
Grand Totals:	117	5,744	5,861	249.26

BANANA BUNCHY TOP VIRUS

Unfortunately, a substantial amount of bunchy top was found in central Moloka'i this quarter. The vertebrate crew traveled to Moloka'i the week of February 11th to assist MoMISC with island-wide survey and control. Bunchy top was found on several properties in Ho'olehua, Kualapu'u, and Kala'e. BBTV surveys on East Maui continued.



- This quarter MISC crews spent 349 hours surveying properties on Moloka'i and in Hāna, Kula, Kihei, Pukalani, and Makawao on Maui for BBTV.
- 895 properties were visited on Maui this quarter. Of those, 576 properties were surveyed for BBTV, while the 319 remaining properties were given informational handouts or did not have bananas on the property.
- A total of 42 sites on Maui were found to have bunchy top this quarter. Twenty-five of these have been treated to date.

Vertebrate Status

COQUI FROGS

Of the fourteen known coqui population centers on Maui, six are considered eradicated. Two new sites were added to the eradicated list after reaching the one year threshold with no coqui heard. Work at the remaining coqui locations is going very well and all but Māliko Gulch are considered contained. Plans for control in the gulch are ongoing and installation of control equipment, access roads, and trails should be finished later this spring. In the meantime, the coqui crew has been surveying the entire gulch for access points and further delimiting the population perimeter.



The entire vertebrate crew (and Teya) attended the First International Conference on the Coqui Frog in Hilo in February. Everyone was impressed by the quality of the information presented as well as the large extent of the coqui frog infestation on the Big Island. Adam gave a presentation on the Maui coqui perspective.



Willie Midgley sent coqui distribution, weather and activity level data to Miyako Warrington of UH-Hilo this quarter. Miya is a graduate assistant for William Mautz, a well known coqui researcher. Coqui specimens were sent to Francheska Ruiz, a Puerto Rican researcher, for her study of the morphology or genetic composition of the species. Francheska's interests focus on the potential differences between the coqui populations in Hawai'i and Puerto Rico given our unique environments and ecological conditions.

- This quarter MISC received 11 new frog-related reports and all have had appropriate follow-up.
- Crews made 103 separate visits to 53 frog-infested areas and/or suspect locations this quarter.
- MISC crews spent 466 hours at a variety of locations working on frog control.
- 4,010 lbs. of citric acid were used this quarter. The amount of citric acid used each quarter continues on a downward trend because of a reduction in coqui activity at most sites. Look for that number to greatly increase as our Māliko coqui sprinkler system comes online this summer. 200 lbs. of citric acid were donated to residents who live in the heart of the Māliko infestation. They are continuing their efforts to control coqui in their neighborhood.

VEILED CHAMELEONS

MISC crews are almost finished with surveys of potential habitat for veiled chameleons in Makawao. We continue to narrow our focus to known hotspots. The exercise of searching suspect locations has resulted in the identification of several new hotspots. These new areas have been integrated into our core search efforts. A public outreach campaign and wrap-up of suspect area surveys are both nearing completion. We are in the process of re-evaluating our program.

- During our January search, nine properties were searched. Searches were limited to one night due to inclement weather. Three of the properties had not been searched before. No chameleons were found.
- During our March search, 15 properties were searched over two nights. One adult male was found during the March search.
- One veiled was recovered in Makawao in January as a result of a phone report.
- On March 17, MISC crews resurveyed the Kā'anapali area where the first Maui veiled chameleon was found in 2002. No chameleons were found.

OTHER VERTEBRATES AND INVERTEBRATES

A huge thanks goes out to Dr. Fern Duvall for conducting an Alien Vertebrate Training class for MISC staff and partners in March. Fern did an excellent job of providing relevant biologic and historic information, and a discussion of the potential impacts of a variety of species. Fern set up a mock snake search on the first evening of the training and joined MISC crews for a veiled chameleon search on the following evening.

Crew responded to a report of a possible red-eared slider in Kihei. The animal had not been seen in some time when it was reported and nothing was found during subsequent searches. In February, a feral rabbit was trapped in Ha'ikū and a dead garter snake was recovered from Maluhia Country Estates. A three-toed box turtle was recovered from Kapalua in March. MISC concluded four months of monitoring nettle caterpillar pheromone traps in Ha'ikū at the end of February. A detailed map of our findings and trap count data were submitted to HDOA for management purposes.

MoMISC crews also set-up nettle caterpillar pheromone traps and kept an eye out for other MoMISC target species