



Quarterly Report to the
MISC Committee
FY 2008, First Quarter
July 1 to September 30, 2007

Manager's Report

For or against? The Superferry saga seems to lend itself to an easy black or white dichotomy, but the reality of this situation has been much more complex. After many months of involvement with the ferry, I am left with three main impressions: first, invasive species as a serious environmental issue has gained broad currency in Hawai'i as evidenced by the many statements of concern during public hearings; second, we need a better approach to resolving complex environmental issues; and third, the need for improved inter-island quarantine could not be more pressing.

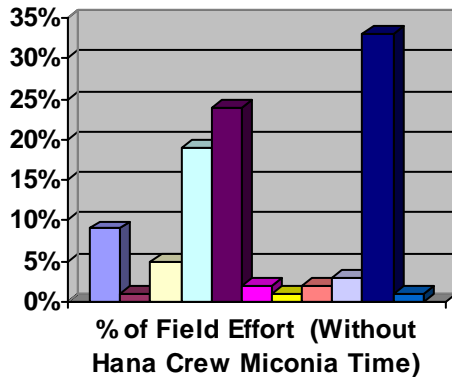
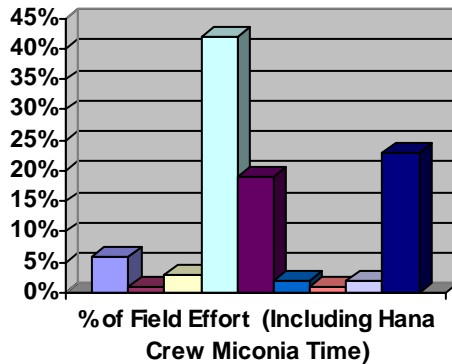
Not everyone believes the ferry poses a significant threat to our islands. This belief hinges on the premise that species already move between islands and that such movement is basically inevitable. A 2006 analysis of Hawai'i's biosecurity system by New Zealander, Paula Warren, commented on this "fatalistic view" of some within the invasive species community. She noted, "With increased movements and faster/higher volume vehicles, such as the superferry, this situation is becoming worse rather than better." But she concluded, "There is an urgent need to develop cost-effective inter-island quarantine processes, even if they only address some risks to some extent."

Whether legislative action will finally resolve the Superferry issue or instead herald greater social unrest on the neighbor islands is unclear at this point. What is clear is that MISC will continue to have its work cut out for it, whether that means working to help limit the impacts of a new pathway, cleaning up after what gets through the current system, or working to support improvements to inter-island quarantine. Mahalo for all your work on these important issues.



Quarterly Highlights

MISC FIELD TIME SUMMARY



ACTIVITY HIGHLIGHTS



- July 5: Mike to O'ahu for West Nile virus training
- July 6: Mapu Hanapi's last day working for MoMISC
- July 6: Teya attends Maui Conservation Managers meeting
- July 7: MISC participates in the Makawao 4th of July Parade
- July 9: Teya attends CGAPS Steering Committee meeting

- July 10-13: Crew dropped into Honomanū for pampas grass control
- July 13: Teya & Mike meet with Penny Levin re: Maui stream surveys
- July 9-12: Kamehameha school intern, Aubrey Matsuura, works with the coqui crew
- July 15: Miconia Planning/Management meeting at MISC
- July 16: Sling load training for Pi'iholo crew
- July 17: Nettle caterpillar training with Mach Fukada for the vertebrate crew
- July 17-20: Crew dropped into Honomanū for pampas grass control
- July 19: Teya attends HISC meeting on O'ahu
- July 24: Teya attends CGAPS meeting on O'ahu
- July 25-27: MISC staff attends Hawai'i Conservation Conference
- July 30-Aug 1: Crew to Lāna'i for ivy gourd control
- July 30-Aug 3: Mike, Teya & Lori attend botany course at Bishop Museum

Aug 1: Stephanie attends stream survey training on O'ahu
 Aug 6-9: Crew dropped into Honomanū for pampas grass control
 Aug 8-10: Adam gives presentation at Invasive Vertebrate symposium in Colorado
 Aug 9-10: Jason Hanley & Karl Buermeyer from USFWS visit MISC
 Aug 10: MISC annual Priority Setting meeting
 Aug 13: MoMISC meeting
 Aug 13: Joy attends HISC PR/Outreach meeting on O'ahu
 Aug 16: Joey Hodara's last day on the coqui crew – returning to school
 Aug 20: Joy joins Kuhea for cruise ship tour
 Aug 22: Teya & Elizabeth attend ISC Admin meeting on O'ahu
 Aug 23: Nick Schlag's last day on the coqui crew – returning to school
 Aug 24-25: Adam gives presentation at banana conference on O'ahu
 Aug 27: Teya attends Maui Conservation Managers meeting
 Aug 29-30: Mike with OISC as safety observer
 Aug 30-31: All staff CPR refresher

Sept 4-6: Crew to Lāna'i for ivy gourd control
 Sept 6: Stream flow measurement training w/ Penny Levin
 Sept 6-7: MISC hosts banana researchers Cerruti Hooks and Koon-Hui from UH
 Sept 7: Joy gives presentation at Maui County brown bag lunch
 Sept 10-11: Brooke attends ISC Data Hui on O'ahu
 Sept 10-13: Teya testifies at Superferry hearings on Maui
 Sept 17-24: Interagency pampas sweeps on Haleakalā – “Hands Across the Crater”
 Sept 19: RC&D Coordinator from Saipan visits MISC
 Sept 24: Joy goes on maternity leave
 Sept 24: Teya meets with HDOA re: nettle caterpillars
 Sept 25: Teya attends Maui Conservation Managers meeting
 Sept 27-30: MISC booth at the Maui County Fair

PR & Education News

5TH ANNUAL MĀLAMA I KA 'ĀINA AWARD

MISC will be presenting the fifth Mālama i ka 'Āina Award in November. Co-sponsored by the Maui Association of Landscape Professionals (MALP) and the County of Maui, the award recognizes a professional landscaper, plant provider, or commercial/agricultural property owner/manager for their efforts to protect Maui County from invasive species. The award will be presented at the Lawn and Garden Fair and Hawaiian Tree Giveaway event at the Maui Nui Botanical Garden on November 3, 2007. Past Mālama i ka 'Āina Award recipients include:

- William Jacintho (2006) for the actions that he and his family take to keep invasive species out of their nursery and cattle operations, Beef and Blooms, and for his efforts to educate students at Maui Community College about pest species;
- Nancy Snow (2005), Nursery Manager of Kula Hardware and Nursery, for her work to prevent coqui frogs from being introduced into Maui County via nursery shipments;
- Arlene Taus (2004), a certified arborist who shares her knowledge of pest species with her clients, often convincing them to replace invasive plants with native plants; and
- The Maui Tropical Plantation (2003) for their efforts to change their plantings and for educating their employees and visitors on ways to protect our island from invasives.

MISC IN THE NEWS

We continue to have good coverage in the Maui News with our Kia'i Moku column. Published on the second Sunday of each month, the column educates the public about invasive species that are of concern for Maui County. In July, committee member Steve Anderson shared his personal experiences with yellow Himalayan raspberry. In August, we highlighted the many facets of the Australian tree fern and its impacts in Kipahulu Valley and on other islands. September's article educated people about ways invasive species can travel inter-island and intra-island. Back issues of these articles are available on the MISC website at www.mauiisc.org.

Another way that MISC reaches out to the public is with the publication of our newsletter, Kia'i Nā Moku O Maui Nui. Our third newsletter was published just in time for the Maui County Fair and focuses on miconia. The newsletter highlights the great work that's being done by the Hāna miconia crew, takes a look at the current status of miconia biocontrol agents, and explores our future goals for miconia control. In each newsletter we feature the unique talents of our staff and committee members.

"The Musical Men of MISC" article highlights our musically inclined field staff. Don't be surprised if you hear a MISC theme song one of these days from these talented gentlemen. We also spotlighted the excellent work MoMISC is doing on Moloka'i - MoMISC is "mo 'bettah!" The Fall 2007 Kia'i Nā Moku O Maui Nui newsletter is available on-line at www.mauiisc.org or you can sign up to be on our mailing list by e-mailing miscpr@hawaii.edu.



REACHING OUT TO THE COMMUNITY

This quarter MISC participated in several community events. In early July, we celebrated Independence Day at the Makawao Parade. This was the second year MISC had a float in the parade. Our float proved to be quite unusual with a papier-mâché coqui frog sticking its head out the back window of the truck, a 13-foot long snake slithering out of the bed of the truck, and a large cage containing a toy parrot with a sign saying, "Keep your pets contained." This year we added a papier-mâché veiled chameleon, perched on the roof of the truck, to our menagerie. MISC staff handed out our new magnets, pens and rulers to the crowd. We won the "Most Unusual Float" award for the second year in a row!



We also participated in the Ke'anae Ho'olaule'a and the Maui County Fair. The Ke'anae Ho'olaule'a was smaller than usual this year but was still a success with 187 people stopping at our booth. The Maui County Fair was held from September 27th through the 30th. Over 1,900 people visited our booth, 700 more than last year. Crew staffing the booth remarked on how many people knew who we were and what we did. We were outside in front of the crafts building, next to the CGAPS booth with their live plant samples, which proved handy when answering questions. Thank you to all the MISC staff and committee members who helped to educate the public during this event.

ENVIRONMENTAL EDUCATION & VOLUNTEERS

It was a quiet quarter for education. Joy and Lissa visited two classes of Kamehameha School 7th graders and were otherwise occupied with preparations for the Hō'ike o Haleakalā Teacher Workshop, now rescheduled for early February. Aubrey Matsuura of Kamehameha Schools did an internship with the coqui crew in July. Aubrey rejoined the coqui crew for her senior project at the end of September and organized a group meeting and field trip for October.

Plant Updates

PAMPAS GRASS

It's been a very busy summer with pampas grass operations, 1,107 hours of busyness to be exact. The majority of our effort this quarter has focused on backcountry populations. We've covered 8,500 acres via aerial surveys and 1,540 acres on the ground. There have been three camping trips to control the Honomanū population, with the last trip in August incorporating helicopter "bumps."



The August trip coincided with four days of previously scheduled helicopter operations so we took the opportunity to have the pilot pick the crew up first thing in the morning and fly them 1.5 miles up the hill. The crew then walked back to camp each day, maximizing ground coverage since they were not repeating what they had covered that morning. Crew on the ground were able to continue working through the inclement weather that limits helicopter operations and were able to control over 300 plants, including many keiki. Helicopter operations just west of the Honomanū population were only able to control 35 plants during the same week. Plans for more intensive backcountry ground operations are underway.

The majority of our previously identified suspect-gulches in Haleakalā Ranch have been swept and many plants were found. The annual "Hands-Across-the-Crater" frontcountry pampas sweeps provided many bonding opportunities with staff from other agencies including Leeward Haleakalā Watershed Partnership, Natural Area Reserves, the East Maui Watershed Partnership, and Haleakalā National Park. A total of 650 acres were swept despite rainy weather and three pampas plants were found and controlled.

IVY GOURD



The number of mature ivy gourd plants is on a steady decline. The time between revisits continues to be lengthened for ivy gourd sites where no control work has been required. Regular visits to the Lāna'i ivy gourd site have resulted in a steady decline in the number of mature plants. By the end of this quarter, all known golf course area sites on Lāna'i had been reduced to needing control of seed bank germination only. During our September visit, one fruiting plant was controlled in kiawe canopy.

FOUNTAIN GRASS

There were no plants found during the past two visits to the Kahakuloa rappel site. The last plant found at the site was in June 2007. Plants have been found at the Maui Lani water tank site, Wai'ehu water tank site and Wai'ehu dunes site. No plants were found at the Mokulele Highway, Pukalani, or Waipoli Road sites this quarter. The number of mature plants found on Lāna'i continues to decline. In June of 2005, 1,500 mature plants were controlled at one Kō'ele Golf Course site. In June 2007, the same site yielded only 50 mature plants.

PITTOSPORUM UNDULATUM



Chris Candito has taken the lead in coordinating our work on *Pittosporum undulatum*. Additional survey work has been completed and permissions have been secured for all known sites. The ability to offer landowners plants to replace their *Pittosporum* hedges has helped conquer some of the reluctance initially encountered. Control work has begun with more to come in the next quarter.

HĀNA MICONIA

The Hāna miconia crew worked mostly in the Ka‘elekū area, as an extension of efforts that were begun this past spring, opening an expanded trail system and establishing sweep areas for large crews. The crew concentrated on establishing and maintaining a comprehensive trail system that can be used to continue treating miconia in close proximity to houses where helicopter operations are not an option. An area in Nāhiku was swept in July following a flight in June that revealed a mature plant in a pasture area. Although there was only one mature plant found in that area, numerous smaller plants were treated. Several plants were also found in a waterfall corridor. A rappel operation will be scheduled in the near future to treat these plants.



A significant accomplishment was the completion of rappel efforts along the Wailua wall, both above and below the highway. Due to the difficulty of locating appropriate anchors in some places, the crew used a vehicle as an anchor to successfully remove miconia while directing traffic around the vehicle. Seven separate rappel anchors were set using a vehicle in a period of 3.5 hours. Thirty-seven miconia plants that could not be removed using any other method were controlled.

A reconnaissance effort was launched in the “Maidenhair” area of Pi‘ina‘au due to concerns that a “new” population had been discovered by a Ke‘anae hunter. A small group was mobilized to enter the area on the ground followed by helicopter time to document the reported infestation. The area was located and found to be previously under bi-annual aircraft monitoring and control. In the future, targeted ground access to the area will be used to control recruitment.

Three days of helicopter operations were completed in September, focusing primarily on outlier populations that had not received comprehensive treatment since last spring. Observations in outlier areas were encouraging despite the reduced aerial effort over the previous months. However, in high density populations such as the Hāna Core, it was apparent that we had not entered the area in awhile.

BANANA BUNCHY TOP VIRUS

After reassessment of the BBTV population on Maui, we have fine-tuned our strategy to focus on three components: 1) outreach and education, 2) increased public reporting, and 3) management of the most infested areas. We have begun training more searchers. We recently trained most of the Hāna crew in identification and control methods and the entire Pi‘iholo-based field staff has been trained as well. MISC continues to work closely with banana farmers and residents and we are hopeful that a banana cultivar program through UH will be available for Maui residents soon. Bunchy top signage and informational brochures continue to be posted and distributed. Adam presented a Maui banana bunchy top perspective at the 38th Annual Hawai‘i Banana Industry Association meeting on O‘ahu in August.

MISC hosted two researchers, Cerruti Hooks and Koon-Hui, from the University of Hawai'i in early September. The researchers visited several banana farms on Maui and offered valuable feedback for our bunchy top management on the island. Cerruti is sampling banana orchards in order to learn more about the distribution of banana aphids within the mat. Part of the purpose of the sampling is to determine which plants are most likely to be hosts for the aphids. Koon-Hui is surveying the soil and roots of banana plants to examine nematodes and beneficial organisms. Hopefully, we will see the results of their aphid and nematode studies soon.

- This quarter MISC crews visited 794 properties on Maui encompassing 209 acres.
- A total of 39 sites on Maui were found to have bunchy top this quarter, of which 30 have been treated.

PLANT DATA JULY 1 TO SEPTEMBER 30, 2007

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>Coccinia grandis</i>	15	489	504	134.15
Grand Totals:	15	489	504	134.15

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>	38	29,148	29,186	3,122.96
<i>Cortaderia spp.</i>	372	1,225	1,597	10,128.93
<i>Pennisetum setaceum</i>	4	47	51	211.82
<i>Coccinia grandis</i>	157	136	293	213.47
Eradicable Species Project				
<i>Pittosporum undulatum</i>	18	6	24	1,972.60
Grand Totals:	589	30,562	31,151	15,649.78

Vertebrate Status

COQUI FROGS

Things continue to move forward in the coqui frog world. Two of our three summer temporary hires returned to school in late August. Temporary hire Dennis Green will stay on with the crew in a regular position. This brings the crew to six full-time employees. Of our original 13 known coqui population centers, four are now considered eradicated, meaning we have not heard a vocalizing coqui at the site for a year or more. Unfortunately, one site previously considered eradicated has become active again as coqui were moved back to the site by landscapers. Control work at that location has begun again. This highlights our concerns over re-infestation of coqui frogs from both on and off-island sources. A total of three of our thirteen known population centers have already had occurrences of re-infestation. Both Kīhei sites are now in a monitoring phase with no coqui heard since March of this year. Six of our remaining active sites have very few frogs and we are hopeful they too will move to a monitoring phase soon. One frog was reported and caught in Hāna this quarter by MISC's Hāna miconia crew.

Work near Māliko gulch continues and preliminary results are very encouraging. Coqui numbers seem greatly reduced in the residential area and we have begun developing an infrastructure for control in the gulch. We have already started installing access trails and roads, pinned down a storage facility near the gulch, addressed water and chemical application equipment issues, and are finalizing plans for large-scale experimental control methods. We hope to have our entire infrastructure in place this winter and begin comprehensive control efforts next spring. DLNR assisted MISC with development of an access road in the Māliko area by transporting gravel to the site. Bob Flint, a neighborhood resident, assisted by spreading the gravel and grading the area.



Adam co-presented the statewide status of coqui frogs with Hans Sin from the Big Island DLNR-DOFAW office at the Managing Invasive Vertebrate Species symposium in Colorado. The symposium gave Hans and Adam an opportunity to network with other invasive vertebrate managers and researchers as well as submit a summary of statewide efforts for peer review. The symposium proceedings are expected to be published by next spring.

- This quarter MISC received 19 new frog related reports and all have had appropriate follow-up.
- Crews made 196 separate visits to 76 frog infested areas and/or suspect locations.
- MISC crews spent 1,043 hours at a variety of locations working on frog control. That's more than double the 430 hours spent last quarter.
- 16,911 lbs. of citric acid were used this quarter, more than double what was used last quarter.

VEILED CHAMELEONS

MISC crews continue to survey likely peripheral areas for veiled chameleons as well as our known hotspots. This approach seems to be working with several new “hotspots” recently identified. The new areas have been integrated into our core search efforts. We should complete our surveys of suspect areas this fall with a public outreach effort to follow. We will re-evaluate our program and search methods at that time to best allocate our limited resources.



- During our July search, 14 properties were searched over three nights. Two of these properties were new.
- During our September search, 23 properties were searched over three nights. Nine of these were new properties.
- No veiled chameleons were found during our searches this quarter.

MITRED CONURES AND PARROT-LIKE BIRDS

Conure control efforts have slowed a bit, but continue to yield positive results. Observations indicate that roughly 20 birds remain at the Huelo Point location. An estimated 24 conures have been seen in Waipio Bay to the West. To date, 113 birds have been removed from the population through the efforts of our partners. One animal was recovered and necropsy data obtained by Dr. Fern Duvall II revealed that the adult male was in good health and had been feeding on *Ficus spp.*, guava (*P.guajava* and *P. cattleianum*), *Clidemia hirta*, and other unidentifiable items. Contents of the intestinal tract were planted as separate slurries on soil/cinder and placed into a mist room for sprouting tests at DOFAW.

OTHER VERTEBRATES AND INVERTEBRATES

Abe Vandenberg and William Midgley responded to one false turtle report this quarter. Mike Ade recovered a western fence lizard on 8/3/07, a new state record, and turned it over to HDOA. The vertebrate crew attended nettle caterpillar training with Mach Fukada at the Kahului HDOA office in mid-July and immediately went into the field to take GPS points at known locations, speak with residents, and search for nettle caterpillar sign. No caterpillars were found that day. MISC began assisting HDOA with a comprehensive survey of Ha'ikū on 9/27/07. MISC crews placed pheromone traps in 16 square-mile grids and began checking traps weekly for moths.



MoMISC Activities

During this reporting quarter MoMISC suppressed, maintained, monitored, or surveyed for approximately 17 plant species and two animal species. Fieldwork highlights for the quarter included early detection aerial surveys for miconia and Australian tree fern in the north central districts of Moloka'i. Neither target was detected from the air. MoMISC now has a dedicated container at the TNC base-yard for storage of gear and supplies. Decontamination pipes and drainage for the container have been installed.

Informational displays at the airport and harbor were changed this quarter. Articles on invasive species were submitted to the Moloka'i paper and The Nature Conservancy's "Nature's Newsflash." MoMISC hosted and provided training for the Youth Conservation Corps.