



**Quarterly Report to the MISC Committee**  
*FY 2008, Fourth Quarter*  
*April 1 to June 30, 2008*

## Manager's Report

*He lawai'a no ke kai papa'u, he pokole ke aho; he lawai'a no ke kai hohonu he loa ke aho.*

A fisherman of shallow seas uses only a short line; a fisherman of the deep sea uses a long line.

During the last quarter of the fiscal year, state and county legislative bodies work on the next year's budget. Since the vast majority of our funding comes from government sources – state, county, and federal – this process is of great interest to us. Over the last five years, our work has benefited from a growing awareness of the importance of invasive species. We have seen increased support from all levels of government and MISC has grown accordingly.

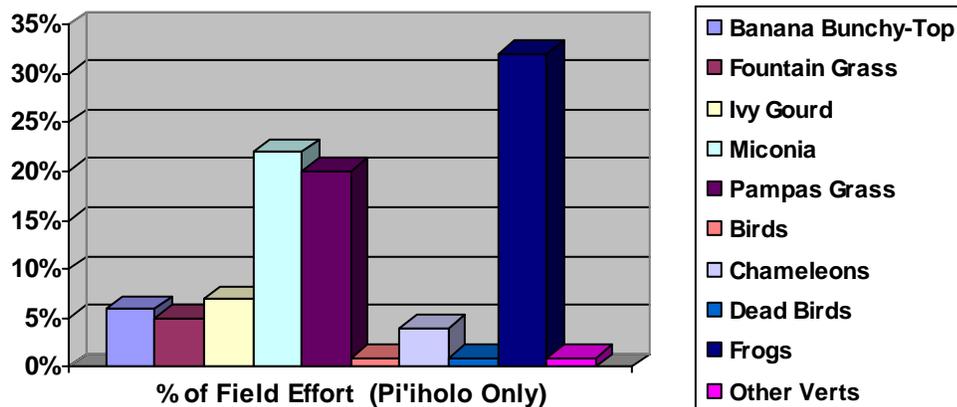
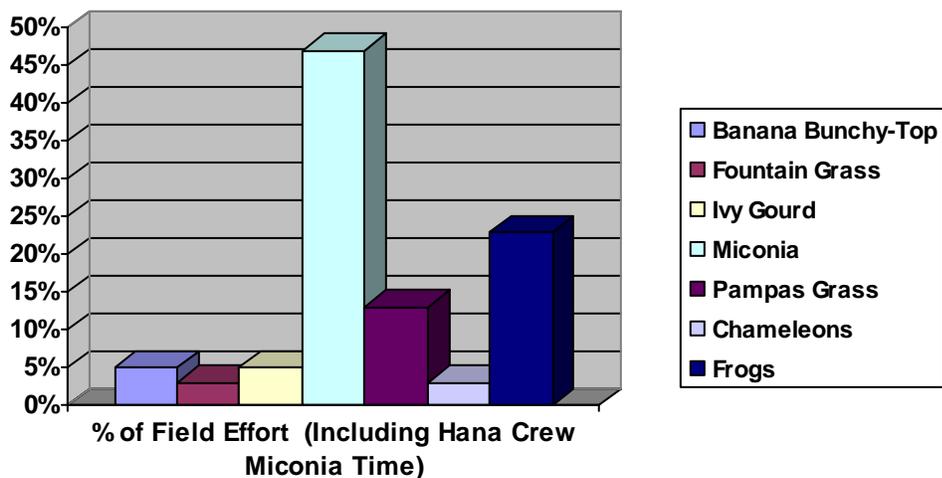
However, there are risks associated with too much reliance on the public sector. During leaner economic times, environmental issues, including invasive species, are often relegated to a lower priority status. That has happened this year. Despite appropriations by the state legislature to support work on coqui frogs, substantial reductions in anticipated revenues statewide resulted in cuts to that funding as well as other state funds for the Invasive Species Committees. The overall economic picture has state agencies facing major budget cuts. MISC fared well at the county level during budget hearings, but the county is facing similar reductions in revenues. Helping to balance out these financial twists and turns, we were able to celebrate the successful launch of the National Park Service's Centennial Initiative this quarter, which is providing significant funds to augment our work. We are hopeful this will continue into next year as well. We also have received funding again from the US Forest Service and US Fish and Wildlife Service.

Since its inception, MISC has faced varying funding levels yet has always managed to keep our important work going. This quarter's report details both our efforts and successes. However, to ensure our stability into the future while retaining the flexibility that makes us effective, MISC must explore additional sources of funding.

Our fishing lines need to be long to reach our goals and we will be looking at ways to diversify our funding. Thank you to all for being part of the continued journey into deeper waters.

# Quarterly Highlights

## MISC FIELD TIME SUMMARY



Apr 1: Teya to Kihei for budget hearings  
 Apr 2: Teya to DLNR for budget hearings  
 Apr 3: Teya & Lissa give presentation for Landowner Conservation Workshop  
 Apr 4: Field Worker interviews  
 Apr 7: Teya to Hāna for budget hearings  
 Apr 7-9: Pesticide training for new staff  
 Apr 8: Teya to Pā'ia for budget hearings  
 Apr 8-11: Mike & Russ to Lāna'i for ivy gourd control  
 Apr 15: Teya & Lissa to O'ahu for CGAPS & HISC Outreach Working Group meetings  
 Apr 17: Adam & Brooke to brown treesnake meeting on O'ahu  
 Apr 19: Earth Day booth at Maui Nui Botanical Garden  
 Apr 21: Hāna Field Worker interviews  
 Apr 24: Early Detection workshop for MISC Pi'iholo-based staff  
 Apr 25: All staff tour of Fleming Arboretum  
 Teya & Lissa attend NPS Centennial Challenge launch  
 Apr 26: Booth at Maui Taro Festival  
 Apr 29: Teya attends Maui Conservation Alliance meeting  
  
 May 2: Miconia conference planning meeting  
 May 5: Miconia operations meeting  
 May 9: MISC Meeting – strategic planning  
 May 12: Pampas partners meeting  
 Lissa & Stephanie attend Haleakalā volunteer luncheon  
 Adam Knox joins the Pi'iholo plant crew  
 May 14-15: Teya & Brooke attend ISCs Data Hui  
 May 16: Teya attends ISC coordinators meeting  
 May 19: Carrie Ade joins the Pi'iholo vertebrate crew  
 May 19-20: Brooke attends GIS training on O'ahu  
 May 19-23: Plant crew to Lāna'i for fountain grass control  
 May 22: Early Detection workshop for the public in Kihei  
 May 27: Lissa attends HISC Outreach Working Group meeting & MALP meeting  
 Miconia operations meeting  
 May 29: Miconia conference planning meetingJ  
  
 June 2-3: Mike & Adam R. to Kipahulu Valley for orientation  
 June 2-5: Crew to Hana'ula for pampas grass control  
 June 4: MISC & Pat Bily host USFS & DLNR staff for visit and Waikamoi tour  
 June 6: All staff training – conflict resolution, map & compass  
 June 9: Field Worker interviews  
 June 10: Early Detection workshop for the public in Kula  
 June 10-12: S271 helicopter training for field staff  
 June 10-13: Teya participates in ICS fire ant exercise  
 June 13: Teya attends HISC Public Outreach Working Group meeting  
 June 14: MISC hosts Pacific Fellows  
 June 16: Cliff Smith and Cliff Morden visit MISC & tour via helicopter  
 June 17: Teya attends Maui Conservation Alliance meeting  
 June 18: Miconia helicopter tour for DWS & the Mayor's office  
 June 20: Early Detection workshop for state workers  
 June 21-22: Lissa attends InDesign training on O'ahu  
 June 22: MISC booth at Year of the Reef Event, Maui Ocean Center  
 June 24: Early Detection workshop for TNC & EMWP  
 June 26: Miconia conference planning meeting  
 Early Detection workshop for the public in Pā'ia

# PR & Education News

## MISC IN THE NEWS

MISC made the front page of the Maui News twice this quarter. With the announcement of the NPS Centennial Challenge grants there were several articles highlighting the partnership between MISC and Haleakalā National Park. The ceremonial blessing for the launch of the initiative made the front page of the April 26<sup>th</sup> edition. Both Steve Anderson and Teya were quoted in the article, and if you look closely you can find several familiar faces, including Lissa carrying a tray of silverswords. Additionally, there was an article in the Honolulu Advertiser covering the partnership. A June 15<sup>th</sup> Maui News article focusing on biocontrol possibilities for fireweed, gall wasp, and nettle caterpillar included quotes by Lissa.

MISC's monthly Kia'i Moku column in the Maui News featured articles about the potential damage an uncontrolled population of feral rabbits could do (April) and the eradication of Osage orange on Maui (May). The June article was written by guest author, Chuck Chimera, and discussed the Hawai'i Pacific Weed Risk Assessment.

## REACHING OUT TO THE COMMUNITY

The spring fair season continued with Earth Day at the Maui Nui Botanical Garden. MISC's booth at the community event and plant sale attracted 103 people. The following week was the Taro Festival in Hāna. The beautiful weather brought out a lot of people and approximately 184 people interacted with MISC staff at the event. Thanks to Catherine Berg MISC had a table at the International Year of the Reef celebration held at Maui Ocean Center. The evening event was very popular with both residents and visitors. One hundred and fifty-one people stopped by our table and asked questions about invasive algae or MISC in general.



## MISC IN THE CLASSROOM

To follow up on an earlier series of class visits at Kalama Intermediate School, Lissa and Kat Lui of East Maui Watershed Partnership led approximately 120 7<sup>th</sup> grade students on hikes through TNC's Waikamoi Preserve. The students were divided into groups of 8-10 and visited the area over the course of 4 days. MISC and EMWP staff



helped them with their assignment of identifying two native and two invasive plants along the hike to photograph for class presentations later. In another collaborative project with EMWP, Kat and Lissa did a class presentation for two classes of Kamehameha School 7<sup>th</sup> graders. In total, we worked with approximately 180 of Maui's 7<sup>th</sup> graders this quarter .



## EARLY DETECTION PROGRAM

Finalization of the Early Detection Booklets and the return of Elizabeth Speith to USGS-PBIN have helped to reinvigorate the Early Detection Program on Maui. Elizabeth S. coordinated a series of public lectures in Kihei, Kula, Pā'ia, and Kīpahulu. A MISC staff member has assisted with each workshop and provided information on MISC. Workshops were also held for DLNR-DOFAW, and NARS staff on Maui as well as TNC and EMWP staff members. A total of 45 participants have been trained. Additionally, all MISC field staff based in Pi'iholo and Hāna have been trained.

## VOLUNTEERS

Ian Gregg joined MISC as a Youth Conservation Corps volunteer for a six week internship this summer. Ian worked with both the plant and vertebrate crews and spent a couple of weeks in Hāna. He will be a senior at King Kekaulike High School this fall and he hopes to volunteer with MISC occasionally during the school year. Poha Kanakaole joined the Hāna crew as a summer AmeriCorps volunteer. Poha graduated from Hāna High School this spring and will be studying biology at MCC in the fall. She has a strong interest in native plants and Hawaiian history/culture. Poha would like to work on the Hāna crew again next summer.



# Plant Updates

## PAMPAS GRASS

Our backcountry pampas grass operations are in full swing for the summer. A highlight this spring was a joint trip to Hana'ula with two staff from the West Maui Mountains Watershed Partnership. We were able to fly into a high elevation LZ and working with the crew from West Maui we covered an area that has been virtually impossible to reach in the past. In addition to the normal finds, we controlled a small population of epiphytic pampas grass plants and a few very large mature plants.



We also have ramped up our backcountry efforts on the east side and thanks to the re-discovery of the Waikamoi flume boardwalk we were able to control 144 plants. A small outlier population near the Waikamoi preserve fenceline was discovered during an aerial survey and subsequently controlled. We surveyed 9,095 acres and controlled 107 plants by air this quarter. Residential work continues with 271 plants controlled at 28 sites.



## **FOUNTAIN GRASS**

All known populations of fountain grass continue to be systematically surveyed and controlled by field crew. No mature fountain grass plants were found at any Maui locations this quarter. Fountain grass at Kahakuloa continues to germinate. Ten immature plants were controlled this quarter.

Heavy earth moving equipment was observed by MISC Staff at the Mākena Wastewater Treatment Facility fountain grass site. We are attempting to find out when this site will be excavated. The site has been monitored since it was originally reported by Bob Hobdy in December 2006. Immature plants have been found periodically at this site. The last plant found at the site was controlled in February 2008.

Fountain grass survey and control efforts on Lānaʻi were augmented this past quarter with assistance from the Lānaʻihale Watershed crew. The infamous “Gary’s Island” site continues to be a challenge due to germination of the remaining cryptic mature plants. Kōʻele Golf Course personnel may assist us with lantana removal in the future to facilitate our searches. The Kanepuʻu fountain grass area was surveyed and five mature plants were controlled. The total number of plants controlled continues to decline (especially mature plants) at all known fountain grass sites.

## **RUBBER VINE**

No new plants were found during surveys of known rubber vine sites. Permission issues continue to be a problem at sites in the central Maui area.

## **MICONIA**

Ground crew operations focused in outlier areas of Nāhiku, Wailua iki, Wailua and Keʻanae. Approximately 950 acres were swept during the period from April through June. Ground sweeps were also performed in West Wailua iki, Kaliae, and in the greater Keʻanae areas of Kūlani, Piʻinaau Rd., Wailua Lookout, Paʻuwela Point and the “Watercross” area. The Kūlani area was typified by difficult terrain and numerous treated plants. Most other areas in the Keʻanae vicinity did not result in large numbers of treated plants and few mature plants were found.

Aerial reconnaissance identified several plants mauka of Hāna Highway in the vicinity of Nāhiku, prompting significant ground crew work from the Kūhiwa area through the area known as Wolfgang’s. Numerous mature and immature plants were treated. Additional aerial treatment above Hāna Highway in adjoining areas was performed to supplement ground work, resulting in less than 10 additional mature plants.



Aerial operations focused on both reconnaissance and spot-spray areas, depending on weather conditions and heli-base staffing. A total of ten days with two aircraft were flown during this quarter (twenty flight days). Several previously outstanding untreated areas were visited in management units mauka of Hāna Highway in the vicinity of Nāhiku.

**IVY GOURD**

A mature plant was reported by Randy Bartlett at the “Doctors on Call” office in Kapalua and was subsequently controlled. Mature plants were found and controlled at two locations in Kihei this past quarter. A mature female plant was found growing along a brush pile at Puanani Nursery in Kihei and two mature plants were controlled at a site in Maui Meadows. The number of plants found, from seedling to mature, continues to steadily decline across Maui

During two visits to Lāna‘i for ivy gourd this quarter little to no fruiting was found. Several known “hot spots” had some fruiting plants. There was minimal seedling germination probably due to decreased rainfall. Immature plants were numerous but control efforts were hastened because of die back of other plant cover.

**PLANT DATA APRIL 1 TO JUNE 30, 2008**

**Maui**

Priority Target Species	Plants Controlled			Acres
	Mature	Immature	Total	Inventoried
<i>Miconia calvescens</i>	111	12,038	12,149	7,364.66
<i>Cortaderia spp.</i>	97	547	644	9,991.21
<i>Pennisetum setaceum</i>	1	10	11	13.14
<i>Coccinia grandis</i>	247	151	398	330.65
<i>Pittosporum viridiflorum</i>	0	0	0	2.07

**Lāna‘i**

**Grand Totals: 456 12746 13202 17,101.72**

Priority Target Species	Plants Controlled			Acres
	Mature	Immature	Total	Inventoried
<i>Pennisetum setaceum</i>	30	360	390	260.43
<i>Coccinia grandis</i>	125	354	479	275.88
<b>Grand Totals:</b>	<b>155</b>	<b>714</b>	<b>869</b>	<b>536.31</b>

**BANANA BUNCHY TOP VIRUS**

This quarter Hāna and Pi‘iholo-based crewmembers joined forces to finish surveying from Hāna town to Kipahulu for banana bunchy top virus (BBTV). Fortunately no BBTV was found! In Maui County, bunchy top continues to be managed in Pukalani, Makawao, Kula, South Kihei, Kahului, Lahaina, and on Moloka‘i. No BBTV has been found on Lāna‘i.

- This quarter 371 crew hours were spent visiting 624 properties on Maui.
- A total of 61 sites were found to have bunchy top this quarter. Forty-nine of these sites have been treated to date.

# Vertebrate Status

## COQUI FROGS

Of the 14 known coqui population centers on Maui, six are considered eradicated, meaning no coqui calls have been heard for a year. Mop-up continues at seven coqui population centers. These seven locations have few to no coqui and we are optimistic



that they will be on our eradication list soon. However, reintroduction continues to be a major hurdle at two of these sites.

Work on the daunting Māliko Gulch infestation is progressing and we remain hopeful that eradication is feasible. The residential area, on the rim of Māliko gulch, is nearly free of frogs. Control in the residential area was ramped up in 2006.

We have begun moving control efforts further downstream and have now treated all residential areas at least once. Unfortunately, a trickle-down of frogs has been confirmed in the gulch this spring. Pockets of varying densities exist along the streambed reaching almost to the ocean. Many of these pockets can be reached by foot and control in these areas is scheduled for next quarter. We want to control these small populations before they merge or expand.

Roads, trails, water lines, and sprinkler stands have been installed along the rim of the most inaccessible areas of the gulch. We are finalizing the installation and design details for a chemical pump and hook-ups. If all goes well, trials of the sprinkler system will begin in late summer or fall. A coqui-barrier was also installed along Kaluanui Road to prevent coqui from moving further uphill into uninfested areas. The physical barrier consists of roughly three vertical feet of fine insect mesh which is buried in the ground, incorporates a 90-degree angle at the top of the mesh that forces the coqui to climb upside down, and utilizes an additional two feet of mesh horizontal to the ground to ensure their containment.



The coqui-free nursery certification project and related research initiatives kicked off this quarter. After receiving approval from the University of Hawai'i Committee on Human Studies, MISC began collecting data. More than 117 plant industry businesses were contacted. Of those contacted, 31 have expressed interest in adopting specific practices to prevent the spread of coqui frogs on Maui. We will finish collecting preliminary data from these businesses and try to gain an understanding of the public's view on invasive species prior to initiating a coqui-free public relations campaign. The coqui-free certification program will be officially launched next quarter.

- This quarter MISC received 19 new frog-related reports and all have had appropriate follow-up.
- Crews made 84 separate visits to 41 frog-infested areas and/or suspect locations this quarter.
- MISC crews spent 549 hours at a variety of locations working on frog control.
- 7,425 lbs. of citric acid were used this quarter.

## **CHAMELEON WORK**

This quarter MISC crews finished surveying likely areas for veiled chameleons and followed up on all new and historic reports. Our efforts included an expanded public outreach and education effort that encompassed more than 370 properties in Makawao. Each of these properties was visited by MISC staff and tailored handouts and information were presented to the residents. No new chameleon hotspots were found. We will continue to focus our chameleon efforts in Makawao and we are working to maintain a cooperative relationship with area residents. Of the 206 veiled chameleons recovered to date, 31 (15%) have been turned in by the public, highlighting the need for continued outreach.

Brooke presented the results of our search efforts and research findings at the Brown Treesnake Technical Working Group meeting on O‘ahu in April. The final report for the veiled chameleon detection and control enhancement project was submitted to HISC.

- This quarter 25 properties were searched over the course of four evenings.
- No veiled chameleons were found during the 33 hours of effort.
- No veileds were turned in this quarter.

## **MITRED CONURES AND PARROT LIKE BIRDS**

Approximately 13 birds remain at the Huelo Point location and an estimated 24 conures are believed to remain in a separate location to the west. To date, 130 birds have been removed from the population.

## **OTHER VERTEBRATES**

The vertebrate crew recovered a western fence lizard from Kula in June. Both the Kula location and the central Maui location, where another western fence lizard was recently found, were revisited and no additional lizards were recovered. Two feral rabbits were seen off Kokomo Road in Ha‘ikū this quarter and a trap was deployed. The trap is being monitored cooperatively with an area resident. The animals have not yet been recovered.

# **MoMISC Activities**

## **FIELD WORK**

This quarter MoMISC spent time monitoring or treating the following target species: Australian tree fern, Barbados gooseberry, rubber vine, tree daisy, *Albizia*, cat’s calw, long-thorn kiawe, arundo, and palm grass. MoMISC assisted partner organizations with ungulate and weed surveys and with checking of nettle caterpillar traps. Invasive limu was removed from Keawenui fishpond and aerial surveys were completed in north-central Moloka‘i. The kiosk at the airport was redone to focus on brown tree snakes.