

**MAUI INVASIVE SPECIES COMMITTEE  
MEETING NOTES  
Friday, August 12, 2011**

ATTENDANCE: Jeremy Gooding, Bob Hobdy, Elizabeth Speith, Fern Duvall, Forest Starr, Kim Starr, Josh Atwood, Lloyd Loope, James Leary, Stuart Funke-d'Egnuff, Imi Nelson, Adam Radford, Carl Polk, Lissa Fox, Teya Penniman, Mike Ade, Brooke Mahnken, Katrin Koch, Chuck Chimera, Elizabeth Anderson

- The meeting was called to order by Fern Duvall (DLNR/MISC Co-Chair) at 9:10am
- Introductions were made around the table.
- Minutes from the February 25, 2011 meeting were approved. They will be posted on the website.

ANNOUNCEMENTS

- Teya: next month there will be an international biocontrol conference on the Big Island. One day will be focused on Hawaii issues.
- Josh: there will be a HISC meeting on August 18th to approve the budget. The ISCs will be giving updates to the HISC at that meeting.
- Fern: I've been on Lanai recently and we have a couple of graduate students proving that you can find Hawaiian petrel burrows under two meters of vegetation. In two weeks they have found more than 50 active burrows by being attentive to the bird's behavior. The birds on Lanai are hatching now. They are later than on Haleakala.
- James: there has been a recent cancellation of an herbicide product called Imprelis. It is labeled for turf and ornamental use. There have been lawsuits resulting from the killing of residential trees. In my trials I have found it to be a superior chemical for noxious weed management. It is highly active, has a low profile, and controls a broad spectrum of species. The EPA has cancelled it. It killed some non-target trees because of the dosage and the lack of good calibration. If used according to label, there are no issues. In the hands of end users, the calibration wasn't as good. There was soil residual which resulted in problems with sensitive trees. There needs to be a systematic approach to calibration.
- Teya: the Office of Coastal and Conservation Land (OCCL) is going through a process to update their administrative rules. There is a hearing today. In the last iteration they added in that anyone doing invasive species control on over an acre of land would have to do a site plan for approval and possibly an EA/EIS. We don't know exactly how the rule will be interpreted - does the one acre have to be continuous, over what time frame, how do you define a site, etc. We did a quick calculation for the conservation lands where we do our work and came up with over 400 landowners. Josh: Paul is requesting a change to the rule that will exempt spot treatments and that should take care of most of the work the ISCs do. Teya: the Department is also looking at revising its exemption list for EAs. Josh: the original intent was to make conservation work easier. We would likely fall under an exemption depending on how it is interpreted.
- Lloyd: HDOA Chair Kokobun was asked at the Hawaii Conservation Conference if the strawberry guava biocontrol would be released. He said it would be released before the end of the year but only in a couple of spots near Volcano.
- Stuart: we will be advertising two positions soon. One is leadership/working position with Na Ala Hele. The second position is a public access position to interface with landowners, farmers, hunters, etc. to get easier access. The second position is attached to DLNR and will be housed on Maui, but with a statewide focus. Fern: this position will really help us to start addressing where we are going to have hunting. It is very relevant to the deer issue.

## PROJECT UPDATES:

### **Plants**

#### Miconia: SCA Crew

- Imi: we have a group of mainland college kids helping us in Hana. They are a big help in getting through units fast. They are young and motivated and have a lot of energy. Jeremy: the crew was hired through the non-profit Student Conservation Association (SCA). The funding came out of a Washington Office source separate from EPMT. Ideally we would like to bring on local kids, but it is national program. The crew is living in the Hana yurts. We brought back Chris Radford to lead the crew and help Imi out. Adam: one thing to think about is whether this is something we would want to find money for in the future. We set some really clear benchmarks for the crew so we can show concrete results. Is this something that would be worthwhile again in the future? Teya: this is kind of a pulse for miconia. As an overall management strategy we could look at pulses for some of our other work as well. Elizabeth: we may want to look at the possibility of a similar situation with AmeriCorps in the future. With them we could hire locally and save money on the transportation costs from the mainland. Fern: it would be worth reviewing what programs are out there and the pros and cons of each. Potentially there could be a way to get in on the DLNR contract with Kupu. We might be able to reserve some of the ISC money for Kupu assistance.

#### Miconia: Scale-back Analysis

- Teya: we don't want to go into too much depth on miconia today. The analysis we are going to discuss came about because the NPS funding that we have been getting is going to significantly decrease or cease in the future. In the past there have been a number of programs that we were able to tap into through Steve. Those programs are pau and no new ones have come down the pipe to replace them. There are major budget issues at the national level. We will spend down what remains of the NPS funding in the next year. The other NPS funds have been from EPMT through Jeremy. We need to look at how best to proceed if we don't have as much funding for miconia as we have had in the past. Brooke did a series of analyses to evaluate what it would look like if we scaled back in a variety of different ways – for example, if we only protected high value natural areas or only went to areas where we know there is miconia.
- Brooke: the miconia footprint was derived by buffering every mature miconia plant by 500m and immature plants by 125m. This yields a miconia footprint of 21,015 acres. The miconia potential footprint is 119,565 acres. We looked at a number of scale back options. The “border patrol” option looks at high value natural areas that are under active management. We looked at where those areas intersect with potential habitat and applied 500m and 1000m buffers to show how much area you would need to protect. With the 500m buffer this analysis yielded 23,482 acres and with the 1000m buffer the result was 32,778 acres. Another scale back option we looked at was “habitat supremacy” using the State Wide Assessment Resource Strategy (SWARS). In this scenario, we buffered the most high quality native areas to 500m and 1000m. This analysis yielded an overlap of 49,586 acres. With the 500m buffer the result was 82,90 acres and with the 1000m buffer it was 89,926 acres.
- Teya: this overview is just to let you know what we've been looking at. For now, we have scaled back aerial operations to going only to places where we know there are plants. Jeremy: we won't be detecting new populations with this strategy and we know they do exist. Lloyd: this is obviously not going to be very effective for very long. There needs to be a statewide initiative for biocontrol. We need it fast. Tracy only has one technician to move ahead the biocontrol program. We need to continue the ground work while the biocontrol agent gets released and spreads. This is so important. MISC formed initially dedicated to biocontrol. Twenty years later nothing has happened and that has got to change. There is no guarantee it will work, but we need to try. Fern: it is not acceptable to jeopardize the work we've done for 20 years. Teya: biocontrol is relatively cheap. Lloyd: the state needs to look at how to accelerate the approval process. Teya: Neil asked for HISC funding and was awarded \$40,000. I'd like to know what the priorities are. Lloyd: it wouldn't take that much to get the insects that Tracy has out the door. Josh: we talked about biocontrol at the last CGAPS meeting. They are having problems rearing out the nematode. Lloyd: they need to focus on the insects. The nematode may work in the future, but now we need to get the insects out. Teya: maybe for the next MISC meeting we will focus on biocontrol and invite Tracy, Darcy, and Neil.

### Pampas Grass: 2010 Progress & 2011 Operations

- Brooke showed an overview of 2010/2011 pampas operations in Goggle Earth. Brooke: our ground control in Hononmau has been so comprehensive that we have rerouted our aerial work elsewhere. To get ahead of the game, you really need to get in on the ground. Honomanu is hard to do by air because of the cloud cover and thick vegetation. So far, for 2011, in Honomanu we have seen a dramatic decrease in the number of mature plants. The ground work there has been very effective. Teya: on East Maui we are making progress. On West Maui we keep finding new sites. James: if you were put into a situation similar to miconia, is there a difference in value from West Maui to East Maui? Teya: they have very similar value.

### Common Mullein

- Teya: mullein was recently found near the summit of Haleakala. Fern: I don't know how much of a relationship there is between the Big Island and Haleakala Observatories, but that could be an issue. Mike: I think it must have been a piece of a flower. There have been seven plants found so far right in the same spot. It had to be more than a single seed - most likely a flower with multiple seeds. Forest: this is the third time mullein has been found in the park.

### Fountain Grass

- Brooke: there was a major new site detected by Dennis Green in Pukalani during BBTV surveys. The owner is from the Big Island and planted the grass. We have also been doing water tank surveys for fountain grass. The Leeward Watershed Partnership staff found fountain grass at Auwahi. It was near the gate. It was a small plant, but it had flowers.

### Rhodomyrtus

- Teya: it is believed that *Rhodomyrtus* has been gone from Maui since 2004. It is widespread on Kauai and the Big Island. On Kauai, it has been reduced by the ohia rust. It has been reported from Lanai in the past, but we didn't know exactly where it was supposed to be. We did an all staff trip to Lanai in May. Brooke: during fountain grass surveys we found *Rhodomyrtus* (Dennis Green again!). Bob pointed out another historical *Rhodomyrtus* location on a ridge that we should check out on a future trip. On the same trip we sent a crew, including Chuck Chimera, to survey Kaponu Gulch more thoroughly. There is cat's claw and arundo in the gulch. Chuck: a lot of the cat's claw was dead and had been cut. Fern: Mos found cat's claw up on the restoration site. Teya: we should go back and finish surveying the gulch next spring.

## **Vertebrates**

### Coqui Frog: Maliko Work / HCC Presentation

- Adam: Maliko Gulch is bigger than anywhere else we've worked. This summer we started our most concentrated effort in the gulch. To put things in perspective, the effort we are putting into the gulch is 4 to 5 times more than all the other sites we've worked on put together. There is a lot of time and a lot of citric acid involved. We are still challenged by the terrain and topography. The coqui are still largely in the bottom of the gulch, but there are places where they are on the wall. The wall itself is 500 feet tall and there are locations where there are frogs 200-300 feet up the wall. I believe that success will be a matter of resources – time, people and citric acid are the bottom line. If we have enough resources, we can do it. Bicarbonate is another possibility for a control agent. It would be less expensive than citric, but you still need a delivery system. The area where the frogs are is 147 acres. We have had many successes and we know control works. It takes a full summer to go through the entire gulch.
- We are really trying to figure out a balance between the appropriate volume and the application method. We are successful in the gulch where we can go. The sprinkler will get where we can't go, but it isn't very portable. We need to figure out how to make it more mobile. Jeremy: could we mount the sprinkler on a trailer? Adam: my latest thought is a boom with the sprinkler on the end. Fern: is there an area where you could use fire? Adam: we did use fire in Honopou and that was the tipping point for that population, which is now eradicated. We might be able to burn the western side of the gulch. It is all non-residential.

- We need to look at how to get to that next really aggressive level. Maybe adding a foaming agent would help. Will Pitt will be sending us data on surfactant trials they have been doing. James: what about a fogger? Adam: we tried that. It displaced them, but it wasn't enough to kill them. It might be helpful for moving them up the wall. In the gulch, the population is not contiguous. There are pockets with no frogs. The method of control changes in some areas. Lloyd: is there any public opposition? Adam: there are 100's of residents in the area and we only have three recalcitrants and only one who is totally unwilling to cooperate. The residents are overwhelmingly supportive. We get a lot of water and equipment from residents of the area. This summer we are working with a monitoring project out of Utah State University. The researchers feel that control is still accomplishable. The crew is still totally optimistic that it can be done and they are the ones that are in there. Outside of Maliko, there are two revolving door sites remaining and three sites with minimal frogs that are on the way to eradication.
- Teya: one of the reasons we have been able to ramp up these last two summers is due to extra funding from the state (\$200,000 last year) and the Fish and Wildlife Service (\$400,000 this year). We also consistently get ~\$235,000 from Maui County. Fern: we need to address the biosecurity issue. We need to stop the importation from the Big Island either by controlling them at the source or giving Maui control. Right now there is no way for Maui to be safe from import.

### Veiled Chameleon: HCC Presentation

- Brooke: the native range of the veiled chameleon is from Asir Province, Saudi Arabia to Aden in Yemen. It is a habitat generalist and lives in dry or wet forests, wooded valleys, and cornfields. Veileds can inhabit elevations up to 9,000'. Their large size makes them a threat to native fauna- insects and birds. They could survive in most areas of Maui. They are very prolific and reach maturity in four months laying 12-85 eggs (30-40 avg.) several times annually. "Veiled chameleons are of concern because of their reproductive capacity, their ability to prey upon native Hawaiian birds and insects, and their adaptability (they are able to tolerate living in areas that vary from dry sea level elevation, to very wet montane areas, up to 12,000 feet elevation). Ecologically, they can function like brown tree snakes." (from hawaiiinvasivespecies.org)
- In 2002, a dead veiled chameleon was found in a West Maui coffee plantation. A press release was issued and the Makawao population was discovered two days later. MISC began regular, careful and systematic searches of vegetation after nightfall. Our searches are reliant on property owner permission. We use bright head-lamps and dive-lamps and long poles for removing the chameleons. We typically search on three consecutive nights, for three hours each night. Every capture has been mapped and vouchered. To date, 206 chameleons have been found (31 of these were turned in and 175 were found during searches).
- A research project was funded in 2005 and conducted in 2006-2007. The project had two goals: 1) Better understanding of temporal and spatial movement patterns, and 2) Develop alternate methods of detection and capture. Completion of the research proved problematic given that the population level was quite low by the time the research was initiated. Our last chameleon find was in 2008 and our last search was in 2010. Adam: we are planning to do another search in October 2011. We want to get good, experienced searchers to join us. Brooke: the lack of finds in recent years leads us to ask two questions: 1) Are we searching in the right place?, and 2) Are the searchers competent? Many of our current staff have never actually seen a veiled chameleon. Analysis of our data including crew tenure, detection rates, ability to detect Jackson's in the search area, etc. leads us to the conclusion that the control efforts of MISC and its partners has reduced the population of *Chamaeleo calyptratus* to below detectable levels. MISC should continue to maintain a presence in the community.

## **Invertebrates**

### Little Fire Ant: Status

- Adam: little fire ants (LFA) were found in Waihee in 2009. Lissa: LFA were first reported by a landowner on an organic farm. The farm also serves as a learning center for disabled children. The owner kept noticing that she was getting stung when she was out hanging up laundry. Her aide had seen a presentation on LFA by Shannon and brought in a flyer. A couple of weeks later the owner was picking bananas and dropped her glasses. She got badly stung and reported the incident to HDOA. Cas Vanderwoude has supervised the control efforts on Maui. It has been over a year now since any ants have been found at the site.
- Adam: MISC's role has consisted of three primary objectives: collect 10,000 sample vials from priority locations on Maui, follow-up on new reports, and conduct an education and outreach program. It is unlikely that there is only one site on Maui. Cas compiled a list of places that regularly receive shipments from the Big Island and developed priority lists for sampling. To date MISC and Forest/Kim Starr have collected 9,675. Sampling involves putting a dab of peanut butter in a small vial. The vials are numbered and a GPS point is taken. The vials are left out for ~1 hour and then frozen. Forest and Kim have been going through the vials and identifying the ants.
- Samples by type of property: Nursery/Garden = 4,647, Property/Roadside = 4,554, Hotel = 306, Earthmoving = 102, Conservation Land = 52, Importer = 94. Vials by collector: Forest & Kim Starr = 4,013, MISC Staff = 5,563, Hoike = 182, and Public = 7. A total of 312 sites have been surveyed. There are only three sites left on the priority list. We are basically done with the priority list. Although the number of vials collected by Hoike students was small, we got very widespread coverage via Hoike collections because the students take the vials home. Fern: we should sample Olowalu. Lloyd: we know that LFA are coming over to Maui all the time. It must be here and we just haven't found it yet. The Big Island ants were discovered in 1999 and are pretty continuous on the Hilo side of the island now. On Kauai, it has been there for 10 years and they haven't controlled it yet. It is helpful that we now have a technique for dealing with trees. Teya: Cas's spackler technique is only under an experimental permit right now. We need to learn from him what needs to be done so we have the capacity to use the tool if we ever have another population. Adam: we need to decide how much time we are going to put into this and where. We should look for gaps and get an updated list from HDOA. Elizabeth S.: it would be good to have a definitive answer as to what their elevational range is.

## **Public Relations**

### Little Fire Ant

- Lissa: Maui County provided a lot of support for our LFA outreach program. We have posters on the Maui buses. We have ramped up our classroom visits focused on LFA. We also put together a website and started doing more targeted workshops for the public. Masako and Chris are working on several LFA videos/PSAs. We traveled to the Big Island and Tahiti to get footage. There will be a 20 minute long video for Hawaii and a shorter version for Tahiti. LFA is pretty widespread in Tahiti – it covers an area about the size of the Big Island. Teya: we have a variety of funding sources for LFA survey and outreach including Maui County, the Fish and Wildlife Service, and private foundations. This is a long term project. We need to keep it out in the public eye or we are going to end up with fire ants on Maui. We should investigate what it would take to get LFA identified as a Federal pest species. Lissa showed the group a couple of draft LFA PSAs and the new LFA website ([www.lfa-hawaii.org](http://www.lfa-hawaii.org)). The site has links to Cas's site where applicable. His site has a lot of good information. This new site is aimed at getting people to report.

### Other PR

- Lissa also showed a draft PSA on miconia, which Kuhea is involved in producing. Lissa: MISC now has a blog ([mauiinvasive.org](http://mauiinvasive.org)). It is outreach oriented and will feature articles from our newsletter and our Maui News column. MISC is partnering with the Hui on a project by Patrick Dougherty who makes sculptures out of plants. We are partnering for the outreach and the project itself. We are looking for volunteers to help collect strawberry guava. MISC will be helping with the guava collection and Lissa and Abe will be working with the Hui on their school programs. On Sept. 25 there will be a talk by the artist and a panel discussion.

**Next Meeting:** October 28, 2011