

**MAUI INVASIVE SPECIES COMMITTEE
MEETING NOTES
Friday, December 3, 2010**

ATTENDANCE: Bob Hobdy, Steve Anderson, Stuart Funke-d'Egnuff, Fern Duvall, Forest Starr, Kim Starr, Pat Bily, Kuhea Paracuelles, Lloyd Loope, Elizabeth Speith, James Leary, Glenn Shishido, Scott Heintzman, Darrell Aquino, Aja Early, Dennis Green, Brooke Mahnken, Mike Ade, Wendy Swee, Lissa Fox, Elizabeth Anderson, Teya Penniman, Adam Radford, Adam Barker

ATTENDING VIA WEB-COM: Christy Martin, Joshua Fisher

- The meeting was called to order by Pat Bily (TNC/MISC Chair) at 9:10am.
- Introductions were made around the table.
- Minutes from the September 10, 2010 meeting were approved. They will be posted on the website.

ANNOUNCEMENTS

- James: this week Wilbur, Ellis & Nelson Paint Company observed and participated in HBT trials on miconia. We also had a meeting with the HDOA pesticide branch. We are working on the HBT label for miconia and strawberry guava and hope to have it in 6-8 months. It should be fairly straightforward to add other species in the future. We are looking at 16% as the effective dose. Wilbur Ellis will serve as the registrant. Pat: that should help us take care of some challenging cliff sites. Teya: it might be interesting to have James come do a presentation sometime. James: we also have half of our inventory of the fireweed prescription program available for ranchers and landowners. It is a combination of Cimarron, 2-4-D, and Milestone. Please pass the word.
- Teya: the election has come and gone and we don't know who the new County Environmental Coordinator will be. I would like to take this opportunity to acknowledge and thank Kuhea for all she has done. We hope she is able to stay involved in MISC. She has been an amazing advocate. Pat: there have been so many programs stimulated through Kuhea's efforts.
- Kuhea: community workday adopted a planting policy this week. They will use indigenous and endemic plants whenever possible. If they use nonnative plants, they will check with HDOA and consult with MISC.

BRIEF UPDATES

Staffing

- Teya: we had a summer crew of six temporary hires working on coqui frogs this year. The last of the crew has just recently been laid off. We were able to pick up one of the staff from the temporary crew as a regular hire, Aja Early. She is from Keanae and lives in Kahikinui. Aja is a hard worker and we are happy to have her on the coqui team.

Funding

- Elizabeth A.: our funding is pretty tight at the moment as we wait for various FY11 funds to come online. We have a number of accounts closing at the end of the year.
- Steve: we are entering the fifth and final year of our helicopter contract. The contract has been extended until January of 2012, but there will not be a lot of funding in the contract. We will only have ~\$200,000 for the next year and we are already using that funding now. In a typical miconia week we run thru \$50,000. We need to stretch the existing funding out. I don't have much confidence in being able to get more federal money. The federal budget is doom and gloom these days. Elizabeth: in addition to a significant reduction in miconia heliops this year, this also will have a big impact on pampas grass heliops.

- Teya: we have a grant proposal out to OHA to support MoMISC work and hopefully to add a position on Molokai. We are running the proposal through Tri-Isle. We received \$5,000 from A&B for the LFA video.

Public Relations

- Lissa: this Saturday is the MALP Lawn and Garden Fair, which wraps up the fall fair season. The Malama i ka Aina award will be presented to Mach Fukada at the fair. This year's award is a glass happy face spider mounted on a Maui plaque. Our newsletter, focused on Molokai, will be out soon. We have five teachers who will be submitting portfolios as part of this year's Hoike teacher development workshop.
- Stuart: Tri-Isle will be hosting the Pac-Rim conference here on Maui, October 4-6, 2011. There will be ~100 people attending. We are looking for ideas for bus tours/field trips.

VERTEBRATES: GOALS, STATUS, & PLANS

Coqui Frogs

- Adam R.: the focus of MISC's vertebrate crew is a story of partnerships. The crew is undertaking a really difficult task and doing an incredible job. Thanks to them all for their hard work – Darrell, Abe, Dennis, Adam Barker, and Aja.
- Adam R.: we now have 30 certified nurseries in our coqui-free certification program and we are still working with five additional nurseries to get them there. This has proved to be a really valuable program and is giving us access to nurseries. We found a coqui at one when we were checking their status and another nursery called recently when they heard a frog. Follow-up interviews with participating businesses along with consumer responses clearly indicated that the program has value and MISC's designation as a coqui-free business is meaningful. Ninety-four percent (94%) of business owner / managers responded that the program was worthwhile, with many independently adding the adjective "absolutely." Our next steps include soliciting broader industry recognition and professional endorsements. We hope to continue the program indefinitely. We would like to breathe new energy into the program. Adam Barker will be coordinating the program and become the point person so the nurseries have one point of contact.
- Elizabeth S.: do you contemplate expanding beyond coqui to include LFA or other pests? Adam R.: it has come up, but just managing this one component is very time consuming. Teya: it does fit within the concept that until we get interisland quarantine, we will continue to get new introductions. The same is even more true with LFA. Christy: we are looking at best management practices on a statewide level. The problem is that each island has a different level of infestation. Fern: have you noticed if the certified nurseries have reduced their imports from the Big Island? Adam B.: those that I have spoken with recently mentioned that they have been avoiding purchasing from certain vendors on the Big Island that have coqui. Some mentioned that they had completely cut off business from some nurseries. Dennis: should we add landscapers to this program? Fern: it would be nice to have a simple map of the islands with known really bad pest species by island. Lloyd: in New Zealand there is a law that requires individuals to report certain species – it works. Adam R.: initially we thought about including the landscape industry. We do have some landscapers that are in the program. I would be open to that. Dennis: it seems like a lot of landscapers get their material directly from the Big Island without going through a nursery.
- Elizabeth S.: there is more voluntary certification going on than I would have thought. Adam R.: the vision was to have the program grow to be statewide. One of our next steps needs to be improving consumer awareness. Pat: that would definitely be something to emphasize. Adam R.: scores for pre- and post-program consumer surveys ($N = 303$) suggest no significant change in consumer behavior as a result of the program. The lack of variation is possibly because consumers on Maui showed such a high degree of interest in purchasing from coqui-free providers even before program implementation. Respondents' strong feelings that coqui frogs are an issue in Hawaii (68%), that the issue is important to them (56%), and that they would seek out a coqui-free certification program if available (79%), indicate that with appropriate outreach the program may be very successful at influencing consumer behavior.

- Adam R.: there are no coqui populations on Lanai or Molokai. We ran into some hurdles this summer as we tried to capture spatial data. None of the GPS units will work in Maliko Gulch because it is so steep. Two of our interested coqui-free participants are infested because they bring in plants from Big Island. We go to these sites every four weeks. There are two sites in Makena / Wailea that have taken a long time to deal with. They have been resistant to citric acid. It takes a long time when you have to hand capture. We rely on reports from the public and audio night time surveys for detection. There are 11 populations, out of 17, that have been effectively controlled. We have a couple of revolving door sites. We have been working with a couple of researchers on logging sound pressure levels. We are looking at that as a way to both detect and monitor. It can serve as an efficacy gauge. We receive one coqui related call per day on the average. A substantial amount of our effort goes into follow-up. We go all over Maui following up on reports. Stuart: make sure you put MISC on everything you send out.
- Adam R.: Maliko Gulch was the real focus of our efforts over the summer. Now that we know the gulch better, we know there is really only one section of the gulch that is totally inaccessible. That section is very steep-walled and narrow and probably not that densely infested. We have divided the gulch up into management units - large zones based on treatment types and buffered. We have found that we need to do three drench applications in an area in a timely fashion to achieve a reduction. This summer we worked on repeat applications for the upper and lower thirds of the gulch. The densest areas have been treated 2-3 times. We wanted to take a stab at reducing the overall density. James: have you looked at fogging? Dennis: it comes down to cost. You would need huge equipment in order to fog the gulch. It would be prohibitive and impractical given the size of the area. Adam R.: we bought a fogger to try out. The frogs just moved – it wasn't effective. Dennis: we are laying a pipeline in the bottom of the gulch and we have 1,000 to 4,000 gallon tanks at the top to feed the pipeline via gravity. We have two miles of pipe in the bottom of the gulch. If we mix a minimum of 1,000 gallons, it lasts about an hour. James: can you use a fertilizer injector? Adam R.: we should talk more about that. We have looked into it. Darrell: it takes us four hours to prep for a night of spraying. It takes one hour per trip to get water. Adam R.: we still entertain the idea of getting a water truck. Lance from DOFAW has come out and helped us fill tanks.
- Adam R.: we have had mixed results with helicopter trials. The results are very pilot dependent. Darrell: the pilot gets really tired. They make 40-50 trips in a half-day. Adam R.: application in the day is not ideal. Darrell: we start around 2pm and finish around 5pm with heliops. Our normal on-the-ground spraying is done at night. Adam R.: boom spraying is too fine. I think the helicopter will work in the long term. We just need to work with the pilots. Don wants to hike into the area with us.
- Adam R.: I wanted to conclude this section with crew perspectives. Dennis: I think we are getting it. We need to continue to expand. It takes repetition. The first couple of sprays you really notice the difference. Darrell: it is working. The prep and clean-up takes a lot of time. We have a small crew.

Mitred Conures

- Adam: our partners who were doing the control work have been unable to participate. There has been no work done since last spring so we basically lost a season. There were 19 birds left when we stopped. Current reports indicate there are ~30 now. There have been ~150 birds removed from the population to date. MISC has developed a firearms SOP and we have the OK from UH to acquire firearms. It is interesting that the birds activity level really hasn't changed much. One of the sites is a pasture that has not been fenced historically. They are getting ready to fence it and may put cattle in it. This could be a limitation in the future.

Veiled Chameleons

- Adam: we have buffered the core area by 400 yards for searches and we've done substantial outreach in the entire community. The length of time it takes to survey each property varies depending on vegetation, etc. We factor this in when we are planning our searches. In the past, we removed some vegetation and then the residents took over vegetation removal. Most of the vegetation from the gulch, primarily Christmas berry, has been removed. It was chipped. There has been an obvious reduction in catch per unit effort. The last two animals were recovered in 2008. One was reported and one was found during a search. Before these two it had been a year since we had any finds. One sixth of the animals recovered have been turned in or reported. Search finds and public reports have both declined. Certainly the population is reduced. When we search we look for Jackson's as well in order to stay engaged. We do find Jackson's which means our searchers can find them and are paying attention. Most of our current staff have never seen a live veiled chameleon.
- Adam: based on what we are seeing, I recommend an annual revisit, increased PR, and continuing to respond to any new reports. The next MISC Maui News article will be on chameleons. Fern: in the article it would be really important to ask people from every part of the island to report if they think they have seen one. The very first report was from West Maui in an overgrown coffee forest. The area was basically unsearchable. Adam: the last time we did a search, I did all the permissions and tried to talk to all the residents. Many are still the same and were sure they hadn't seen any. I think it is important that we maintain a presence in the neighborhood. Fern: they are so hard to find. We couldn't even find the one with the radio tag. That was a real lesson to me. Fred Kraus says there is no record anywhere in the world of an eradication of a reptile in the wild. Lloyd: we need to be very careful about claiming an eradication. Pat: this area is an epicenter, but it wasn't the only report. Fred and I have been in touch with Kimo at the coffee farm and he thinks if there were any there, they would have been harvested. The area is very neat and clean now. If there are any in the pet trade, it is totally black market. Kuhea: I will be continuing my radio program since I did most of that on my own time anyhow and could touch on this. I will be sending out my personal email address.
- Adam: we do want to get our message out to the professional community. We are pursuing telling our story. We want to be able to say we are confident to this level. Fern: it is a functional eradication. Teya: we reduced the population to below a detectable level. Forest: it would be good to show the potential range. Fern: they could range from Kihei to 9,000 feet. They are less susceptible to desiccation than Jackson's. For scheduling your annual search, you should look at the records for when the most were found seasonally. I think it was April. That may be the best time to do the searches.

Other Vertebrates

- Adam: we continue to follow-up on random things. Teya: we had a call regarding the goats on Piihola Rd. There are now 11-12 feral goats along the road. They are creating a public safety hazard. Adam: Adam Barker has spoken with the Ranch regarding control, but it is difficult because of the zipline. The goats do not belong to the Ranch. The Ranch is trying to remove the billies and keep the females. The goats have become an item on the zipline tours. Teya: should MISC take this on? Pat: has anyone contacted Wildlife Services? Adam: if we took it on it would be as a neighbor. Fern: I don't think you should get involved. Teya: I will have a conversation with the Ranch.
- Fern: I had a call regarding ferrets for sale on the Big Island. It ended up being chinchillas. They are allowed and are not known to naturalize anywhere. They are very domesticated. Adam: we had a researcher here working on greenhouse frogs looking at diet, etc. He got good distribution data. They are pretty much everywhere. Kipahulu (in the park) found their first greenhouse frog last week, which is of concern. Fern: golden pheasants are being found from Waikamoi to Kipahulu and from 6,000 feet to tree line. They are a deep forest dwelling species and are eating native fruits. Steve: are they in Polipoli in banana poka territory? Fern: I don't know. That would be a bad one to interface with banana poka.

BANANA BUNCHY TOP VIRUS: GOALS, STATUS & PLANS

- Adam: the demand for survey and suppression is exceeding available resources and I am very concerned about the situation on Molokai. Lori and Kama do what they can, but the only comprehensive effort is once a year when we go over. There is still no BBTB on Lanai. We are finding more in Haiku, which raises the question of what we can do. There has been no BBTB found in Hana. Dennis: we need more help to cover the areas that need to be covered. Adam: we are operating on less than \$50,000 per year for BBTB. We are still finding BBTB in central Molokai. There is none anywhere else on the island. We are fairly confident in the point source properties and it is being spread via plant material. There is work being done on a biocontrol for the aphid that spreads BBTB. Lloyd: we should find out who is working on the biocontrol and really support it. We don't have any native aphids.
- Teya: MCA is working on the recalcitrant landowner issue. Kuhea: Baisa has agreed to sponsor legislation if MCA will draft it. I did talk to Corporation Council and it will be a long road. Adam: the treatment for BBTB is to inject Roundup and treat for the aphids. You need to kill the entire mat. The Big Island has a bad infestation. The Kona side is quarantined and they have recalcitrant problems. On Maui we currently have very few BBTB recalcitrants. Teya: there isn't a high awareness from landowners that they shouldn't be giving away keiki. That should be a PR emphasis. Adam: it is bad on Kauai and Oahu and there has been no real suppression effort except by local growers. Lloyd: it would be great if we could hold the line. Adam: we are holding the line in most places. Pat: on Maui it is more of a homeowner issue than an industry issue. That is somewhat of an impediment.
- Adam: Makawao and Pukalani are where we spend most of our time. The area infested on Maui is growing. We are finding more infected plants out of the core. A point of concern is the spike in Kihei. Every time we expand our survey in Kihei we find more. The aphid thrives in warm dry areas and hence the issue in Kihei. We expand the survey area based on a disease distribution model of 30 meters per quarter. Sanitation helps with prevention. The tall apple banana seems to be fairly resistant, but nothing is completely resistant. We are looking for LFA when we do BBTB surveys. Cas believes that if we found LFA somewhere, it would be on a banana because it is such an ideal habitat.
- Kuhea: you may see spikes in areas due to the push in sustainability projects, reaching out to communities across the counties, and encouraging community gardens. You need to educate people. Teya: we need to encourage people to get plants from the same neighborhood. Darrell: we do BBTB surveys in the daytime and a lot of time people aren't home. We miss a lot as a result. Forest: the data suggest you aren't completely delimited yet. Adam: we will provide a free banana plant from Maui Tropical Plantation to anyone who requests it. CTAHR has a clean stock replacement program for the serious growers.

LITTLE FIRE ANT: GOALS, STATUS & PLANS

- Teya: LFA was discovered on Maui in October 2009. The approach taken has been three-fold: control by HDOA, survey and detection, and outreach. The Waihee site has apparently been eradicated. LFA hasn't been detected at the site in more than six months based on monthly checks. Survey and detection work is being done both by MISC and Forest and Kim using vials with peanut butter. The vials are left for ~45 minutes and then picked up. Forest and Kim do the painstaking job of looking at the ants and identifying them. They have found some island records. Fern: you should drop vials at Olowalu while you are there next week. Teya: all staff and Committee members should conduct a survey at their houses. Since October 2009, we have covered a lot of area. We need to do more in Hana. We have focused on the Waihee area, places that are known to receive shipments from the Big Island, certified nurseries, etc. Cas developed the priority list for us. Of the priority #1 areas, we have surveyed 20 out of 33 and 11 out of 22 certified nurseries. Fern: campgrounds where people move around with tents from place to place would be a priority. Teya: there was also a suggestion about doing the County Fair. Forest: we also look at TMKs and lands that have been subdivided recently.

- Teya: Cas is still suspicious that LFA came from Maui somewhere. Adam: we surveyed Lanai opportunistically while doing banana surveys. We basically took a sample anywhere we found an ant. Teya: originally Cas said we should aim for at least 10,000 vials. We are almost at 8,000 vials and 230 sites so far. Most of the vials have gone out at nurseries. We have sampled a lot of rural areas, nurseries and residential areas. There have been 13 ant-related Hoike classroom visits with close to 1,000 participants and 121 vials collected. Forest: the HDOA microscope has been a great help with identification. Paul K. helps us with questionable species, and we have learned a lot.
- Lloyd: there is a new ant (odorous house ant) that has invaded towns and cities all around the country. It has shown up on Maui in Waipoli within a 17 hectare area. There has been a large area surveyed. This species could be as bad as the Argentine ant. It would be a huge undertaking to control it. We would need funding if we were to take it on. Forest: it can spread to high elevations and, unlike the Argentine ant, the queens may fly. The dispersal potential is high. It doesn't sting people, but it is a major pest ant. Lloyd: the ecological impacts aren't known, but it could be bad. Forest: they smell like turpentine when you smash them.
- Pat: the best thing going for LFA is the outreach. Using media to saturate people is the best thing that can be done. Forest: most new detections in the world are from the public. Teya: we need to look at how much time it will take to get through the high priority sites. Lissa and I went to Tahiti to work on an LFA video project. We had been to the Big Island and we just weren't finding people who were that concerned about it. We wanted to go somewhere where the story had more impact. We worked with the LFA person in Tahiti who is with the Ministry of Environment. She set up a full week of interviews for us. LFA was first identified in Tahiti in 2004, but had probably been there since 1994. We met with the Minister of the Environment for all of Tahiti. I think our visit raised the level of awareness within Tahiti. The most compelling people we met with were some of the farmers. One individual is spending \$600/month to keep his land functional. Fruit production is down, the fruits are smaller, etc. We have a lot of good footage to work with. Right now our focus is to get some PSAs out and provide some footage to Tahiti. We made good connections and contacts for working on common problems. I still see the value in expanding the video project to include New Caledonia. We are still missing the impact on the natural resources that we could get in New Caledonia. Lissa: the Tahitians are so dependent on the land. It is really evident with the subsistence farmers. Cas estimated it would take \$1 million a year to control LFA on Tahiti.

NEXT MEETING: February 25, 2011

PROPOSED DATES FOR 2011:

April 15

June 3

August 12

October 14

December 9