

MAUI INVASIVE SPECIES COMMITTEE
Meeting Minutes
Friday, October 9, 2009

ATTENDANCE: Fern Duvall, Jennifer Higashino, Marnie Meuser, Pat Bily, Lloyd Loope, Stuart Funked'Egnuff, Ranae Ganske, Forest Starr, Kim Starr, Abe Vandenberg, Dennis Green, Lissa Fox, Brooke Mahnken, Mike Ade, Chuck Chimera, Adam Barker, Wendy Swee, Teya Penniman, Adam Radford, Ashley Aquino, Darrell Aquino, Elizabeth Anderson. Via phone: Josh Fisher, Karl Buermeyer, Page Else, Mindy Wilkinson

- The meeting was called to order by Fern Duvall (DLNR) at 9:05am
- Minutes from the August 28, 2009 MISC meeting were approved. They will be posted on the web-site.
- Introductions were made around the room.

ANNOUNCEMENTS

- Forest: we participated in a silversword count in the park this week. This is a very low year for flowering. The previous two years have been high. There continues to be a high death rate in the plots. The plots have been monitored since 1982. Only a quarter of the plants remain from 1982.
- Teya: little fire ant (LFA) has been detected on Maui in the Waihee area. HDOA is conducting surveys to determine the extent. So far, they do not appear to be widespread. The two staff members from HDOA that would do response in a situation like this are in positions that are being eliminated. We have offered our support and will do whatever we can to help. HDOA is the lead agency. This will be a top priority for MISC based on HDOA needs. Fern: how was the detection made? Teya: the landowner reported it. They don't know where the ants came from. HDOA is doing trace-forward and trace-back to determine the origin.

BRIEF UPDATES:

Staffing

- Teya: we are we have added two part-time positions - Ashley Aquino on the vertebrate crew and Poha Kanakaole with Hana crew. Both were interns with MISC during the summer and are strong workers. Ashley and Poha are both attending MCC part-time this semester. Adam Barker has joined our staff for a year through the RYCC internship program. He will be working mostly with vertebrate crew, but also across our program to get a wide variety of experience. We are continuing with our policy of not filling vacated positions due to the current funding situation.

Funding

- Teya: a 50% cut in state funding has been proposed. This is still subject to some discussion. Some ISCs were hit harder than we were and we want to have viable ISCs across the state. The public outreach program took a large cut. \$600,000 from the HISC budget went to HDOA to help them retain positions. There is not enough funding to go around and tough choices are being made.
- Teya: for outreach funding Chris Dacus has a new process. The ISC managers and agency representatives will meet to set priorities and then allocate the limited funds available. I created draft priorities for MISC outreach and will be seeking your input. In summary, little fire ant and coqui frogs will be a high priority in addition to our existing messages.

Public Relations

- Lissa: we participated in the Maui County Fair and Fair Parade at the beginning of the month. We had our Wheel of MISC-fortune again this year as well as a biocontrol exhibit. We talked to 1,100 people over the course of the fair. Thanks to everyone who helped out. This is a big event and takes a lot of work. We participated in a small community event in Ulupalakua in September where we talked to ~100 people. In August, we conducted a teacher training session using the Hoike curriculum. Nine teachers attended. We also hosted a workshop for outreach staff from other islands. We have a new newsletter available – the focus is on Lanai.

VERTEBRATES: GOALS, STATUS, & PLANS

- Adam: before I start, I wanted to highlight how much overlap there is between the MISC crews. Our combined staff covers a huge area. We are all over the place. Today we will be highlighting the efforts of the vertebrate crew (all of whom are here today). The work they do is amazing and their creativity is impressive.

Mitred Conures

- Adam: our efforts are focused in the Huelo area. We estimate that there are 20 birds remaining in the population. There were estimated to be over 200 birds in 2002. Control started in August 2006. There have been ~134 birds removed from the population. As the numbers have decreased, it takes proportionally longer to get the additional birds. We are in a holding pattern right now and we are working on getting in-house shooters. Teya: there is an issue with DLNR shooters due to lack of funding for overtime. Fern: we need to get information to the MCA that now is not the time to quit and see if they can help push things forward. Kim: is there any technique that would be better now that the number is so low? Adam: we have tried other methods and they have not been successful. We've rappelled to look for nests and had no luck. There was an idea early on that shooting would displace the birds, but we have not found that to be an issue. The work is all being done on private property. It is better for the residents if there is a consistent presence.
- Teya: we have been very successful. We just need to finish up. Stuart: is there any value to the landowners to get rid of the birds themselves? On Lanai, we have a work to hunt program that has been quite successful. Could there be some sort of a transfer of incentive to the landowners to assist with control? Adam: that community is pretty divided. Even the residents in the area where we are doing control have mixed opinions. Some of the residents have already been out there shooting. There have been at least five hits by residents.

Coqui-free Certification Program

- Adam: we initiated the coqui-free certification program in response to community and industry interest. We received a grant from HISC to get the program off the ground. We set out to contact all Maui plant industry businesses. We contacted 76 individual businesses. Thirty-five businesses expressed interest in the program (five after the program launch). To date, 29 businesses have met the coqui-free certification standards. The certification revolves around the presence or absence of coqui frogs and whether the business is being proactive in their purchasing, staging areas, etc. We give them our endorsement and free advertising including stickers, banners, etc. They are on our web-site as coqui-free. We plan to continue the program indefinitely and we hope to get broader industry recognition and professional endorsements. We confirmed two coqui locations as a result of the program. 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. When surveyed, ninety-four percent of business owners/managers responded that the program was worthwhile, with many independently adding the adverb "absolutely."

- Adam: as part of the research component for the HISC grant, we also looked at the impact of the coqui-free certification program from a consumer perspective. We did pre- and post-implementation surveys. In general, people were unaware of the program, but expressed a high degree of interest and concern about the issue. Scores for pre- and post-program consumer surveys ($N = 303$) suggest no significant change in consumer behavior as a result of the program. This 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. We need to improve consumer awareness.
- Kim: it seems like this could be a good model for other species. Adam: our lofty vision was that this would be adopted statewide so there would be a network of certified nursery operations. Fern: if they have frogs, do you collect data about whether they brought material in from elsewhere? It would be interesting to see where they are coming from especially with the potential for a decrease in HDOA inspections. Adam: that is something that should be captured. With the initial certification, we went in once a month to survey. We also trained staff and we expect them to be aware. We are doing quarterly revisits for the 29 certified nurseries now. Five more nurseries are pending certification. We will take businesses off the advertising temporarily if they aren't meeting the standards. We did do a poster for the Conservation Conference on our results. Fern: did you get a sense that the uninterested nurseries had coqui? Abe: a number of businesses didn't participate because they were wholesale and they don't have public interaction. Most of the businesses didn't report that the program had a positive impact on their business, but they all said it was worthwhile.

Coqui Frogs

- Adam: a population is defined as an area with five or more vocalizing frogs. We are up to 17 defined populations on Maui. There are 11 sites that are done and 6 that we are working on. The junkyard is pau. We are very effective at working smaller sites. Teya: the junkyard is a huge accomplishment. It was completely grown over and heavily infested. Stuart: success stories like this will help in the next funding cycle. You need to put these stories together. Adam: When a site is pau, we visit with all the residents and let them know we are done. Darrell: there were a lot of frogs at Honopou too, but the access was easy. The junkyard infestation was unreal.
- Adam: there are a couple of low-acreage new sites. We also have several revolving-door sites - sites which are seemingly done for months and then we go back and there is a container and there are more frogs. We are not sure what to do about these sites. They really set us back. Fern: was there any HDOA inspection on the containers where you are finding reinfestation? Adam: I have spoken with HDOA and they have said they will attempt to do a trace-forward and trace-back when it happens, but it is not always clear-cut. Darrell: one of the managers has said that refrigeration is not killing the frogs. Adam: we spend a lot of time following up on calls. We receive roughly one coqui-related call every two to three days. We have had single occurrences in Hana. They are pau. Darrell: we got a good report of a frog in Makawao at the fair and we were able to follow-up and catch it. Teya: outreach at public events does yield valid reports.
- Adam: our major focus right now is the Maliko Gulch population. We began to see a trickle down the gulch in 2008 and in 2009 we are seeing frogs all the way down the gulch. We now have two high-density areas and we are seeing spill over out of the gulch. The frogs are continuous all the way down the gulch. The small populations have grown and merged. The situation demands immediate attention. We started working in the Maliko residential area in 2005. Today the residential area is at a low level with just a couple of pockets left. We wanted to get them off the road and out of yards first.

- Adam: in the high-density area, we set up a sprinkler system with coverage of a 500-foot diameter area. We use a 4000-gallon tank. It takes 40 minutes roundtrip per water run. We set up control and treatment plots. We saw a steady decline in the treatment plots. We need to consider slope and vegetation with the sprinkler. The overlap area is not as effective as you would think from the maps. Chuck: is the gulch divided up by landowners? Adam: it is largely State and A&B owned in the gulch. There are private properties on the rim. Pat: are you surveying mauka of the infestation? Adam: the gulch flattens into a pasture mauka and we are working up in that area. Darrell: we have only gotten one frog up above the orchid farm. Adam: we think we have a border defined. Teya: there is a Legislative mandate that frogs be controlled on State property adjacent to private property and we are doing that. Adam: in the lower gulch, we have two fixed PVC lines running into the gulch and we have run the sprinklers down there too. We have catchments set up throughout the gulch.

- Adam: we are evaluating several possible options for continued work in Maliko:
 - Helicopter
 - Cost per acre: \$2,500
 - Best use: on areas that cannot be treated in any other way and/or for initial suppression
 - Major drawback: must treat during the day, expensive delivery
 - Fixed Line System
 - Cost per acre: \$1,900
 - Best use: on areas that are accessible by foot, but are a long walk
 - Major drawback: expose employees to greater level of risk, cannot get everywhere
 - Sprinkler
 - Cost per acre: \$1,800
 - Best use: on steep-sided walls, narrow parts of the gulch, or where access is feasible
 - Major drawback: lots of preparation time, not mobile

- Adam: the costs listed above are the raw, one-time costs. Citric acid and equipment costs are included in the estimates, but not labor. The labor cost will be substantial with all of the options. There is a lot of prep time involved and we need better water sources. Area residents have been very helpful - one graded a road for us and one has a big water tank where we are able to fill up. After it is up and running, the fixed line would involve the least labor. The line would run through the entire gulch. The helicopter technique was effective at the Manuka site on the Big Island. Page: it did not live up to expectations. Mindy: the substrate may have been part of the problem at Manuka. The frogs could get out of the way in the lava. Adam: Maliko is an intermittent stream. It rages sometimes. The sprinkler can be really effective. After it is pau, you can hear the rain coming down into the canopy for 10 minutes. Kim: what about a boom sprayer on helicopter? Adam: Windward didn't think it would work. It would take too many passes. Chuck: what about doing habitat reduction in the gulch by mixing herbicide in with your sprinkler? Adam: we haven't considered that. Fern: it is a stream so there would be limitations. Adam: we did use fire in Honopou to reduce habitat. Fern: you assume when you are spraying that the frogs are everywhere. Is there any way to stratify? Adam: we do pretreatment surveys and try to get the sprinkler stand as close to the infestation as possible. The vegetation is not that thick. Teya: the original model was that we would do outliers and then focus on Maliko. With continued/increased reintroduction from the Big Island, we have added populations. We are getting more and more single frog calls and it is diverting resources. The Big Island has stopped controlling and there has been a huge expansion.

- Ranae: there may be some funding available through CREP, which is a Farm Service Agency program. You should get in touch with James Robello. Stuart: are we tracking in-kind contributions? Adam: some, but not all. Stuart: things like the road grader are worth a lot of money. We should start tracking all of the in-kind contributions that we have. You are having successes. Do you have a figure that would indicate the total amount you would need to get it done? Teya: we have done that in the past and we could calculate a figure again. We didn't get what we said we needed before so now we probably need even more. Fern: we are in a drought and the decreased water may have kept them in the gulch. If we

start getting more rain, they could spill over even more. Stuart: I recommend that we come up with a total cost figure. There are little pots of stimulus money here and there and the turn around time is usually short. If we have a figure available, we can jump on opportunities when they arise. Darrell: it will cost way more now than what we originally thought.

Veiled Chameleons

- Adam: the last veiled chameleon recovered was in the first quarter of 2008. We were doing surveys every 4-6 weeks. We have scaled back to once every six months. We need to consider the question of when we stop looking. Fern: I think there were difficulties with the last search. It would be nice to have a large push with HDOA, etc. there one more time. Teya: we weren't finding any veileds, so we wanted to get the folks that were really good at finding them in the early days together for another search. We have staff now that have never seen a veiled. We wanted to bring back the heavy hitters and get their input. Fern: I think we should try to get that set up again. Adam: 31 of the 206 animals recovered were turned in by residents. We have a good ongoing relationship with the area residents. We think they would let us know if they were seeing animals. We prioritize properties based on habitat density and how long it takes to search a property. Darrell: we did some vegetation removal in the area and we definitely saw a decrease after that.

Other Vertebrates

- Adam: we receive calls on a variety of different animals including uncommon lizards, rabbits, snakes, big cats, turtles, birds and other random vertebrates. We obviously follow up on all snake reports and reports of rabbits in the wild. We also occasionally follow up on residential rabbits. We don't do cats or red-eared sliders. Should we be following up on tortoises and other uncommon turtles in the wild? Fern: it depends on what it is. There are some species that HDOA allows in to pet stores. The ones that are allowed in aren't supposed to be released in the wild. Anything unusual should be followed up on. There have been more reports of saffron finches from Ulupalakua. They visit feeders and may be coming across from the Big Island or expanding out from the Kula Elementary School population. Chuck: what is the concern with saffron finches? Fern: there is no real big problem with them except there is a type of mite that is on amakihi in Kona and I have found that mite on a dead saffron finch. They could spread mites to native birds. I am guessing that they are island hopping. The Big Island population is huge. Teya: MISC is not controlling them. Fern: it is important for MISC to be the eyes and ears for birds. It would be nice to know when shama arrive. They won't have much of an impact, as they are a leaf litter forager.

BANANA BUNCHY TOP VIRUS: GOALS, STATUS & PLANS

- Adam: we have been actively doing BBTV work in Maui County since 2004. There are BBTV sites in Lahaina, Kahului, Kihei, Pukalani, Kula and one site each in Haiku and Huelo. We have canvassed 1,000s of properties door-to-door over the years. There were 11 BBTV properties in Lahaina and this year we have not found any BBTV in Lahaina. However, HDOA has been monitoring the banana farm in Lahaina and we don't know the status there. There has been no BBTV found in the Kula Agricultural Park this year. We believe that the park was the point source for Kula. There was a heavy infestation and we removed the entire infestation. They plan to start growing bananas again after the New Year. Rapid response to the Huelo and Haiku infestations seems to have been effective. No further plants have been found. The infested plant in Huelo had just been brought in from Kihei. We census Lanai every year and to date there has been no BBTV found. We are seeing expansion in Kahului, Kihei, and Kula. In dry areas, the aphid vector thrives and the spread increases. The density in these areas is down, but we are finding new sites that appear to be expansion related. Pukalani is holding. BBTV on Molokai is currently found only in the central area. We are concerned about minimizing expansion on Molokai. We need a more aggressive effort there. We turn recalcitrants over to HDOA. We are trying to be science-based in our search efforts. We have used GIS tools to do random samples based on the assumption that BBTV would expand 30 meters in a month. We buffer areas based on how long it has been there. Teya: we get dedicated funding from the County for this work.

- Adam: our future efforts will be to 1) Continue systematic survey and control efforts in impacted communities unless suppression becomes ineffective. 2) Expand search efforts and random sampling in apparently uninfested areas. 3) Expand, intensify and modify public outreach efforts. 4) Make the best use of available funding to maximize survey, control and outreach efforts. 5) Work more closely with the agricultural community and Hawaii Banana Industry Association to ensure the longevity of Maui's banana industry and cultural heritage.

DISCUSSION RE: COQUI FROG STRATEGY

- Teya: since we have some time left I would like to continue the discussion regarding two primary coqui frog issues: 1) Continued reintroduction from the Big Island. Given the current situation, it will get worse rather than better. It may be worth pursuing legislation that requires treatment before shipping or treatment on arrival. The legislation may have to be county-based. 2) How to best address the Maliko Gulch challenges.
- Page: there is an existing law that prohibits the intentional transport of coqui frogs based on the premise that shippers should know what is in their shipments. You might not be able to win, but it might serve as a deterrent. Teya: who would be the party to bring suit? Page: it would have to be against the originator - the plant shipper knowingly shipped. It is an existing law. Teya: I don't think there is a penalty in the existing legislation. Josh: what about just sending the shipment back at the shipper's expense or destroying the shipment? That would be a deterrent. Teya: I like the idea of a direct consequence like that. Lloyd: I would suggest that Maui County impose an emergency interim rule for coqui frogs and little fire ants. The rule could become a basis for legislation. It is hard to change a rule, but it is relatively easy to get an interim rule. This would be a constructive way to initiate action. It would have to be an HDOA rule and it would take a lot of thought. We did it for the rust for 12 months. Page: it is currently illegal to import, export or sell coqui frogs. Josh: it is like the container fee, but there is no enforcement or penalty. Teya: we need to look into an enforcement measure. We need a law with teeth. I am thinking that this is a paramount issue. I suggest we form a working group to meet and address this. I will set up a meeting. Josh: Oahu and Kauai have the same situation. We are talking about interisland commerce. Forest: this isn't just about nursery products. As the frogs get more entrenched on the Big Island, it will become a broader issue. Lloyd: this is an emergency because of the current strategy on Big Island. Pat: you should have Kuhea talk to Corporate Counsel before you proceed to see about feasibility. Teya: we could regulate businesses here on Maui, but not on other islands. We need to have some concrete proposal before we go to Corp. Counsel. We will send out an email of invitation.
- Teya: does anyone have additional input re: Maliko control strategies? Darrell: we need a water tanker to fill up our tanks. It takes all afternoon to haul the water we need. Teya: what about borrowing a DLNR tanker? Adam: the frequency with which we might need it would be problematic. We need to check with the County. They have tankers that sit in the base-yard most of the time. Darrell: we did call private companies, but the rent was high. Pat: what about a donation? I will check with Steve Goodfellow. Darrell: we need to define our overarching goal. Lloyd: we would need to know the economics to figure that out. Kim: are coqui in Maliko eradicable? Adam: the control methods work, but it a matter of resources. We would need an entire additional crew. Teya: new tools do come along. Citric is a big expense, but there may be new agents in the future. Adam: there is movement on that front. Fern: we need a tiered system of containment, eradication and continued rapid respond to prevent new introductions. Teya: if we lose the gulch, we lose Maui. There is no way we will keep it out of the rest of Maui. We are at a clear decision point. Dennis: I think containment would cost as much as eradication. Adam: I don't see containment as an option. Lloyd: biocontrol has been pretty much ruled out. Abe: at some of the other sites that we have worked on, we wondered in the middle if we could do it, but we did. We need to not get overwhelmed. We just need to be stick to our guns and be persistent. Elizabeth: we are looking into SCA or AmeriCorps crews for the summer. Housing will be an issue.

OUTREACH PRIORITIES

- Teya: the other item for further discussion is the priorities for public outreach. We need to submit our priorities. Funding will be allocated based on need, effectiveness of outreach staff, whether the ISC has other resources for support, etc. We are in the process of determining criteria. I don't think the allocation should be based on maintenance of bodies. The priorities I am suggesting are based on our existing strategic plan. Priority # 3 in the plan incorporated early detection, general outreach activities, general public awareness, and education programs. This is the heart of our current outreach program. I see two immediate needs in addition to our basics = fire ants and coqui frogs. Our coqui message needs to be more focused and we need to take the message out to funders and get the word out.
- Teya: as far as little fire ant goes, we could wait and see or make it a priority now. We need an island-wide network involving the public. Fern: there should be some flexibility built in. Teya: other than snakes, I think LFA is the biggest threat we have. Lloyd: definitely for the public and wetland areas. Pat: I would put LFA as a high priority. If there was one report, how many more haven't been reported. Teya: I am not willing to have Maui become the Big Island. I assume that if we get a big infestation, we shift to this. Do I have the committee's approval? Fern: we need to find out who is going to be the incident commander. Is it going to be a joint command? Teya: it has probably been there for 6 months to a year. Lloyd: for now, we should leave the Waihee population to HDOA. There are probably other populations on Maui. We need to get a handle on the uncertified nurseries. HDOA doesn't have the authority to go on a property to survey unless they know LFA is there. Forest and Kim should definitely start the work at the uncertified nurseries. LFA queens don't fly, so the expansion is relatively slow.
- Teya: we do have funding from FWS to do more fire ant surveys. The proposal was to do more of the Hoike activity and to get the public out there looking. Lloyd: the school students get tired of surveying for LFA when they don't find any. Fern: it is important to let HDOA know MISC is poised to respond if needed. Lloyd: Arnold Hara would be a good person for advice on scientific matters. Teya: it would be good to have all of our staff be up to speed on identification. Mindy: making people aware will bring in reports. We should get more eyes out sooner. That step doesn't need to wait until they finish the delimitation process. Pat: I would drop everything to deal with this issue. Teya: I will use this to try to retain the two HDOA positions (Mach Fukada & Bob Yonahara). We are here to work together.

Next Meeting: December 4, 2009