

**MAUI INVASIVE SPECIES COMMITTEE
MEETING MINUTES
Thursday, December 6, 2018**

ATTENDING: Woody Mallinson, John Frostad, Kari Bogner, Bob Hobdy, Randy Bartlett, Fern Duvall, Jenni Learned, Kai'ena Bishaw, Jon Sprague, Marshall Loope, James (Aut) Fleming, Jeremy Gooding, Kamalani Pali, Lori Buchanan, Scott Winter, Aja Akuna, Lissa Strohecker, Kalani Brown, Ross Kamimoto, Elizabeth Speith, Christopher Jester, Syrus Smith, Mike Ade, Brooke Mahnken, Adam Radford, Elizabeth Anderson

ATTENDING REMOTELY: James Leary

- The meeting was called to order at 9:05am by Fern Duvall (Chair)
- Introductions were made around the table.
- Minutes from the Sept 13, 2018 meeting were approved for posting on the MISC website.

ANNOUNCEMENTS

- Adam: this meeting is focused on neighbor island work. We want to emphasize to our partners and funders that MISC is all throughout Maui Nui.
- Fern: there has been a first time detection in the US of a noctuid moth that feeds on ericaceous plants. It is a very large (three inches long) caterpillar from Asia. The caterpillar is black with red and yellow spots. It was found in Olowalu and we are not sure how it would have gotten here. A sample was sent to USDA on the mainland. The caterpillar denuded one large mamaki plant. There are a lot of rare ericaceous plants on the island.
- Aut: last week we found a new weed on Maui that is spreading in Olowalu and on the Big Island. It is an Asteraceae called *Porophyllum ruderale*. It is culinary herb and was planted by a nursery owner from Mexico. It has the potential to spread up to 6,000' and is an agricultural pest.
- Mike: we recently took a ROD sample on Haleakala Ranch. The plant had been dead for many years and had no existing cambium layer. There are a lot of trees up on the ranch that appear to have issues. There are 1,000 or more trees that we could voucher. It would require a lot of effort. We have a good relationship with Haleakala Ranch so we will be monitoring the situation. Forest: it needs to be a priority to get the ROD lab up and running in a suitcase to increase capacity.
- Jenni: we are right in the middle of wedge tailed shearwater fallout. There have been about 10 birds a day. Call 573-bird, if you notice a seabird in distress.
- Randy: we have our second annual Hawaii Invasive Species Awareness Month (HISAM) coming up in Feb. We are requesting nominations for the awards: best business, best island, and MVP. See your outreach people for nomination guidelines. The ceremony will be in the Governor's chamber on Feb 22.
- Adam: James Leary is leaving in January. He will be working on aquatic weeds in Gainesville, Florida

- Adam: we added action items to the last round of meeting minutes and we need to decide how and when we want to cover them. Fern: maybe you could go through the minutes and send the action items out right after the meeting. Randy: you could put all of your agendas on Google Documents so they are shared and anyone can comment. You could have the action items embedded in the next agenda or pull them out in a table below. Action items could be put at the top of the agenda for the next meeting. We need to make sure to assign to someone to each item.

NEIGHBOR ISLAND UPDATES

Lanai

- Kari: I started as the botanist with Pulama Lanai in January. I have been focusing steps to take in addressing incipient invasive plants on the island. We have provided the golf courses with fact sheets and made a pamphlet for hunters with information on rare plants and fountain grass. We have been working on species prioritization, comprehensive and consistent surveying, data collection, monitoring and outreach.
- Kari: a few months ago MISC employees who were hunting on Lanai told us about fountain grass sightings. There is fountain grass in multiple locations on #5 Road on the west side. We are focused on surveying MISC historical points. So far, no plants have been found near town. Last week we did our first big sweep in Kanepuu with MISC help. We are hoping to conduct quarterly surveys in the area. Ivy gourd, which is also a MISC target, is only found on Manele golf course. With the help of MISC historical data and Mike Ade, we have been able to hone in on the bad hotspots. A lot of the ivy gourd is on private property and we have been building rapport with landowners to gain access to the properties. Ivy gourd gravitates toward naupaka hedges on the golf course. We are conducting 1.5 days of monthly control at Manele. The MISC crew came over and helped control the last remaining hotspots on Nov 27.
- Kari: another species of concern is *Parthenium*, a weedy aster, which was discovered by Hank north of town by the Koele stables. It is a noxious weed, is toxic to livestock and causes dermatitis and allergies in humans. The best control method is to hand pull with a digger. We have gone from bimonthly to weekly surveys and we started tracking counts in March 2018. There have been no plants with seed set since March. The seed bank life is at least six years. We hope we are exhausting the seedbank. Jeremy: Aminopyralid is a pre-emergent herbicide that should be good for this. It has no ground water warnings and has been used for fireweed. Forest: the plant is widespread on Maui.
- Kari: we are also working on chain link cholla. Fern: you need to relook at the scientific name. Kari: we learned about it in February and treated one mature plant. We have surveyed the partial extent of the infestation. We are looking at mechanical and chemical control and are monitoring treatment effectiveness. It is spreading by fragmentation. Fern: I have seen deer covered with it. The *Cactoblastis* moth could help but I never found that they would feed on this particular *Opuntia*.
- Kari: turkey berry is a new introduction to Lanai. Mike found four plants on the Koele golf course and there is one plant on the Manele golf course. We are collecting the fruit. Forest: it is a fruit fly host and is used in Thai cooking. It has a very persistent seed and is on the federal noxious weed list. Kari: it is used to graft to eggplant because the root stock is disease resistant. We want to keep it in low numbers.
- Kari: other species we are looking at include cat's claw. We want to determine its presence on the island. There are three known locations of glycine. We need to determine the population boundaries and begin control. There is albizia in Kapano gulch that we would like to target. We are also planning on targeting Himalayan ginger in the more pristine habitats on the Hale. Forest: it is a good idea to highlight high value areas for control work. Kari: we want to extend a Mahalo to MISC for the collaboration.

- John: Kari has done an awesome job of refocusing our efforts. We are looking forward to engaging and tapping into the experience in this room. We are concerned about coqui. We have been getting a lot of plant shipments from the Big Island for the Koele project. We have 20 song meters on the landscape and a couple at the quarantine facility. We have been talking with Conservation Metrics regarding coming up with a specific algorithm. We have intercepted four shipments with coqui so far. We had two that made it to Manele that we picked up and one at the Koele site that was in a random tree at the edge of the vegetation. The song meters are effective at picking them up. Fern: what about agricultural inspection? LFA should be a concern. John: we do peanut butter for each shipment that Pulama brings in. It is more difficult from non-Pulama shipments. What we don't see is stuff coming over on the ferry. I feel like our protocol for coqui is strong, but not as strong for LFA and other things.

Molokai

- Lori: the MoMISC mission statement is to prevent and control introduced invasive pests from becoming established or widespread on Molokai. What we supposed to do:
 - Respond rapidly to pest reports
 - Work to eradicate target species
 - Survey for new pests
 - Invasive species education
 - Community outreach
 - Conduct workshops
- Priority Species
 - Albizia
 - Bo tree
 - Gooseberry
 - Long thorn kiawe
 - New Zealand flax
 - Quailbush
 - Rubber vine
 - Tree daisy
 - Coqui
- Lori: albizia survey and control work was conducted from 2008-2016. We are seeing the regular rubbish coming up plus several native species. After initial suppression, we went in with low volume spray and treated every seedling. The area is historically significant and we did appropriate protocols and prayed. The MISC crew came over and helped with the project. We seeded the area with native seeds. Adam: it was an awesome holistic project and included partners from start to finish. The project is a huge success story.
- Lori: we worked on bo tree from 2008-2018. Kama: we go back regularly. Fern: when you go back are you looking arboreally too? They like to start in the trees. It makes it tricky. Lori: I tell them to look up. Gooseberry is found only in one location in Halawa. Kama found two plants yesterday. Kama: for long thorn Kiawe we walked the coast in sections. Lori: we have been finding a lot of flax lately. Kauai is using it for horticultural landscaping. Fern: it is still sold in regular trade. Lori: quailbush is an early detection species and is spread by heavy equipment. There are some new populations of rubber vine past the shrimp ponds behind locked gates. Tree daisy has not been found for a couple of years. Greenhouse frogs are widespread and we caught two coqui in 2018 as the result of public reports. We also test for ants with peanut butter sticks and have had no LFA detections so far.

- Species of concern:
 - Australian tree fern
 - Banana bunchy top
 - Fireweed
 - Mules foot fern
 - Tumbleweed

- Lori: we are still trying to do surveys for Australian tree fern. Forest: once it is in the wild there is no chance. BBTV is newly confirmed in Mauna Loa and is also in Kawela. We were holding the line on Central Molokai. This is our number one time consumer in terms of effort. Our partners didn't want us to give up. There is no HDOA person on Molokai. All we have is CTAHR. We don't have a lot of support. Forest: is there a banana industry. Lori yes, they think we work for them. The price is high right now and Molokai is bumping up its banana crop. For fireweed we have mostly seen really small infestations. DOFAW comes over four time a year to help us survey for mules foot fern. DOFAW also helps us with tumbleweed survey and control efforts. Tumbleweed gets moved around with construction equipment and disturbance.

- So what now?

<ul style="list-style-type: none"> ○ Education/Outreach ○ Prevention ○ Early detection ○ ROD ○ LFA ○ CRB ○ Bees ○ Mosquitos ○ Miconia ○ Rabbits 	<ul style="list-style-type: none"> ○ Red vented bulbul ○ Ag person ○ Partners ○ Interns ○ Training ○ Legislative ○ Money ○ Aerial surveys ○ BMP's not biosecurity ○ Plant list
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- Lori: we are working with Anders Lyons on ROD. HDOA comes over to do LFA at the airport and harbors. CRB and mosquitos are under the Malama Poepoe project. We need to do more aerial surveys for miconia. Adam: we have funds for that. Lori: we occasionally get rabbit reports, but by the time we follow-up, they are gone. We are keeping our eyes open for red vented bulbul and haven't seen any. Shama are widespread and we haven't seen any negative impacts. Adam: they have been found on West Maui. Fern: they are insectivores and feed in the leaf litter. They are not feeding on fruit and there is no direct competition. Lori: we really need an HDOA person on Molokai with some authority. MoMISC serves as a hub with our partners. They are looking to us for leadership capacity in field response. We are always open to training when it is available. Crew just completed Wilderness First Aid at MISC. Adam: I would like to see one of the MoMISC staff go to Guam for brown tree snake training. Lori: we have six new members on the council this year. We need to do a lot of education and outreach with them. We are also trying to respond to a lot of big projects that are moving onto Molokai. A lot of stuff comes in with those project. We are encouraging best management practices.

Molokini

- Jenni: we went to Molokini four time in 2018, primarily for the uau kane colony on the island. We redid an ant survey from 2016. In 2016, 54% of the vials had *Solenopsis geminata*. We put out 200 vials this year and 51% had ants. There were four single occurrences of new ant species. Molokini has a high incidence of avian pox and we are wondering if the ants are vectoring it or if the lesions are from the ants not pox. There were 170 chicks this year, which is a lower reproduction rate than previous year.s We found three *Portulaca molokiniensis* spreading and growing. There are no restoration plans at this point. Grass is becoming more and more of a problem.

Kaho'olawe

- Mike: Paul and Jamie were not able to attend. We go over periodically to help with fountain grass

GENERAL MISC UPDATES

- Adam: there is a constant flow of fund raising and getting grants online. We had a good opportunity to visit with Senator Mike Gabbard. He spent a day with us and our partners. We did a flight around Haleakala with Pete as the pilot. We came away from the meeting with tangible outcomes and action items for follow-up. I continue to be impressed by his commitment to helping us. He wants salient talking points so he can advocate for us. We will be reaching out to the new incoming folks on the County Council in the new year.
- Brooke: we are having an LFA community meeting in Hana next week. We are hoping to start aerial control work in Nahiku soon and plan to build a spray rig similar to what we use for pampas, but with a larger pump to push the gel bait through. Our bait is very viscous and doesn't flow through the pump well. We need to finish building the rig and meet with the Hana community to let them know our plans. There have been multiple surveys in Waihee with no LFA found for over a year. Haiku is also LFA free after three surveys. Kapalua is ongoing with spot treatments. The ants have been moving around a bit, but we have had very few positive identifications. The Huelo infestation is also at a spot treatment point. There was one property to the south that took a while to get on board. There have been no detections in Huelo recently, but we don't believe they are gone. There is a lot of vegetation and tall trees.
- Brooke: we have had a lot of cooperation from HDOA with the Kihana Nursery infestation. There have been no LFA found during recent surveys. The nursery is very cooperative, but they aren't implementing any changes in practices. They continue to get material from the Big Island. Kaleku is not complete yet. We are about to shift from the Tango growth regulator to a toxic phase. We need another full survey. There have been no ants at Andez or Maui Gardens for a long time. We are hoping to begin aerial application in Nahiku soon. Joe Brower is our new LFA point person in Hana. He is following up with equipment operators and reports. We really needed an east side point person.
- James: what role does viscosity play in your proposed aerial operations? Brooke: it needs to be viscous to stick to the trees and the viscosity may play a role in keeping the bait together. That is a question for HAL. I believe a lower viscosity gel bait would still be effective. The gel bait was developed by HAL so the manufacturer may not know about the gel bait.
- Mike: interagency cooperation is high right now for plant work. We have been working with Pulama, HDOA, MoMISC, DOFAW/DLNR, East and West Maui Watershed Partnerships, and Maui Nui Seabirds. We have been getting a lot of pampas reports from DOFAW in places we just don't get to. It is great to have everyone working together. There has been a lot of rain this year. Species we thought were gone are coming back. We are seeing a resurgence of fruiting ivy gourd. We thought we had fountain grass licked and then Bryan Stevens found plants outside of the enclosure at Puu Kali. Our fourth visit to the site is coming up next week. There are a huge number of flowering plants and the deer are transporting it. We are in seedbank control now. There should be no more flowering.
- Mike: we have a number of eradication species we are continuing to work on. There has been no *Silybum* found. We have two location for acacias and we are still looking for permission on one. The gooseberry site was taken out during the flood in Iao Valley. We have not found any Osage orange or rubber vine recently. There is still one rubber vine recalcitrant in Wailuku. We have been controlling *Verbascum* since 2012 and we are continuing to find plants. The seed bank can last 60 years.

- Mike: pampas grass has also become a year round project. The seed reservoir is an issue. The overall infestation foot print hasn't changed, but the amount of plants that are there has increased. We still have a couple of residential recalcitrants for pampas. We have had good funding for aerial work and we have been fortunate with the weather the past couple of years. We have been doing peripheral miconia surveys and not finding mature plants. Property access became an issue when HCS went out of business. There is a lot of miconia seed bank in Hana. The fungus took out a lot of rose apple and eucalyptus and miconia comes back in to those areas.
- Aja: this is my first week back to full-time. We have a really good crew of temporary hires right now. We are seeing new sites regularly. The weather has been challenging with a lot of rain and wind. We are still spraying and hanging in there. Iban: the community is doing a lot more work which is great. We are providing them with citric and sprayers. They are realizing that the frog crew can't take of everything. Folks are working to remove frogs in their own yards so we can focus on bigger areas. Bob: I am one of the guys going after stuff in our neighborhood. It is working for me! Aja: outreach has been a big help in terms of letting the community know that less habitat helps. They are mowing and neighbors are helping neighbors.
- Lissa: Allison from plant crew is now working as our Coqui Community Outreach Liaison. Our goal is to increase and facilitate community ownership based on social marketing concepts. We have participated in a number of community outreach events including the County Fair, Arbor Day and two Maui Mauka trainings with MFBRP and Leeward partners. There was a ROD film screening event in coordination with Kamehameha schools. Attendance was low as it proved to be a bad weekend for an event.

GENERAL PARTNER UPDATES

- Woody (NPS): thankfully Brooke controlled the miconia that was surveyed back in February above Waimoku. We are gearing up for the next season of pine spraying. The technique is working and we are looking at ways to push back the boundary.
- Marshall: HDOA is intercepting cars from the Big Island and Kauai with soil in the wheel wells, etc. We are also intercepting LFA at baggage claim, on bananas, in luggage, etc.
- John (HDOA): on January 8 there will be a workshop for farmers in Huelo regarding the semi slug. People on the Hana side still getting sick. We did our first enforcement visit at Kihei Gardens. There are frogs at Walgreens from the nursery. This was a big complaint at the County Fair. We told them that we need to see improvement.
- Aut (HDOA): we have surveyed all nurseries and cemeteries for LFA with no finds.
- Adam: there is a meeting with Victorino on December 13 at 5:30p at Giggle Hill. The meeting is driven by Haiku residents wanting to meet with Victorino on coqui before he gets into office.
- Dan: EMMWP will be visiting Smith and State camp areas above the back side of Kipahulu. We will have eyes out for pampas. The areas are not too far from past sites. We are still working on the strawberry guava biocontrol release. The challenge is getting them to jump onto the plants.
- Fern: if you see a snail shell please collect it. This helps to target areas for rearing and putting the rosy wolf snail back out. Populations of natives from four years ago are not detectable any longer.

Next Meeting Date: postponed until March 14, 2019. We will send out dates for the remainder of the year later.

ACTION ITEMS CARRIED OVER

From Sept 13, 2018 Meeting

- *Talk with DOFAW re: expanding the footprint of MFBRP housing on Olinda Rd*
- *Set up a subcommittee to work on Interagency training*
- *Train field staff & someone from MOMISC to identify ROD*
- *Meet with Scott at DOFAW regarding coqui work (Adam & Abe)*