MAUI INVASIVE SPECIES COMMITTEE
Meeting Minutes
Friday, December 8, 2017

Attendance: Hanna Mounce, Forest Starr, Kim Starr, Bill O'Neill Chuck Chimera. Allison Borell, Fern Duvall, Elizabeth Speith. Jeremy Gooding, Chris Radford, Dan Eisenberg, Kerri Fay, Woody Mallinson James Leary, Adam Radford, Adam Knox, Steph Miller, Lissa Strohecker, Christian Visoria, Allison Smith, Ross Kamimoto, Mike Ade, Abe Vandenberg, Elizabeth Anderson

Remote Attendance: Bryan Berkowitz, Brooke Mahnken, Michelle Montgomery

- The meeting was called to order at 9:20am by Fern Duval, Chair
- Introductions were made around the table
- Minutes from the September 8th meeting were reviewed and conditionally approved. Teya has a few minor edits that she will make and then they will be posted on the website

ANNOUNCEMENTS

- Adam R: we are looking at some changes in terms of facility and property use here. CTAHR has brought in an ungulate specialist who works with sheep and cattle. He is looking at using the property as his lab and fencing off a substantial portion of the property. Hopefully, we will still have use of the LZ, but we may need to move the containers. There is an ongoing conversation. There may be some vegetation removal involved including some of the invasive acacias. Kim: the fencing would be good in terms of deterring deer. Dan: the fencing would be a pig deterrent as well. Adam: all of our partner vehicles and equipment will need to be off the property by the end of the year. Hopefully the LZ will remain open and we won't need to move livestock for heliops. Dan, James and I have been talking with the new administrator and establishing a relationship. Dan: my understanding is that the vegetation clearing will be in fence corridors. This is a big footprint project and encompasses most of the property that does not currently have buildings. Fern: what about compliance? Teya: the state can be exempt under certain situations. That has to be evaluated and determined. Mike: the total property is 37 acres. Adam R: they are looking at using 13 acres.

BACKGROUND

- Adam R: over the years we have gone through the process of prioritizing a number of times and used various processes to analyze our targets. We are not going to go through all the details on all of our targets today, but rather take a closer look at our current challenges. We need to look at the landscape on Maui in terms of our community and how MISC messages have evolved or changed over time. There is a small minority of people on Maui who are very opposed to what we do and how. Our message was "we will deal with it for you." We are now resource limited and some of the projects we are tackling are huge. We have evolved to asking the community to help us. We have dropped very little over the years and have continued to take on more. We have two new little fire ant (LFA) sites. Our Hana crew has been faced with helping with LFA and that has taken them away from miconia work. I plan to revisit our mission statement in the future and I want to focus on revising our Strategic Plan at a future meeting.

- *MISC's Mission, Vision and Values*

Our mission:

- Protect Maui Nui's native ecosystems, sustainable livelihoods, and quality of life.
- Eradicate incipient invasive species and contain high impact invaders.
- Educate and involve the public to help stop the spread of invasive species.

Our vision:

- MISC serves as a local, national, and international model for a successful and collaborative response to biological invasions.

Our values:

- Po'okela / excellence
  - Passionate about excellence and passionate about our mission.
- Pono / correctness
  - Doing the right thing: appropriate targets, proper procedures, meaningful messages.
- Mahalo / respect
  - Honoring the dignity and contributions of our community, our staff; and our partners.
- Lōkahi
  - Working cooperatively; sharing our mana'o and resources with our partners.
- Kuleana / accountable
  - Expenditures of human and financial resources are justified and transparent.
- Mālama / stewardship
  - Protecting Maui Nui; minimizing unintended impacts.

- Fern: the mission hasn't really changed. The second bullet has changed from no new vertebrates to no new establishments. That has changed because we are more set in how we define incipient, which we define as something we could potentially eradicate. It is clear that LFA has a high impact. Forest: human health is also a current outcry, especially with rat lung worm. Adam R: human health is a big concern and we need to look at how that factors in. Forest: that is a squeaky wheel, but are we the best situated to address things like that rather than DOH or DLNR? Fern: are we looking at just MISC resources or should we be doing more partnering with other agencies? Given available resources, maybe there should be more work on the part of the committee to make sure we have the right partner resources.

PREVIOUS PLANNING EFFORTS / PROCESSES USED

- Adam R: we have gone through a number of exercises on assessing targets and prioritizing. Forest: the best metric we ever had was the Loope gape index – how far Lloyd's jaw would drop. Kim: we have always looked at the level of threat and feasibility of control, and there has been a lot of gut feeling included. Forest: it is important to consider the highest threats and lowest distribution. We have used roadside surveys, interviews, The Global Compendium of Weeds, etc. to guide us. We have also looked at how much manpower it would take to eliminate a species. Some of the existing targets don't quite fit the model. Until something becomes a problem no one cares and once it is a problem it may be too late to do anything. Fern: animals have a different level of urgency. There are different time frames.

- Elizabeth S: plants are by far the minority of what we get reports for on the hotline. Reports are primarily vertebrates and invertebrates. Based on my observations, for invertebrate sightings, most of the time at the point they are observed and reported, they are out of the box already. Fern: this brings up the need for rapid response in general as well as the biosecurity plan. Rapid response is a MISC function. Forest: there is a small subset of high priority species that will initiate a response. We found 150 new island records for insects when we surveyed for the runway expansion. Many of them had been there for a long time. The infrastructure behind us isn't there at a statewide level anymore (e.g. Bishop Museum, etc.). Elizabeth S: some of those gaps can be filled in. There needs to be a discussion – what is MISC's role in new insect discoveries? Is that all HDOA? There is a precedence of MISC filling in.

- Teya: it seem like we are talking about early detection and this naturally comes up. We work on incipient species and it sounds like statewide we need more capacity than what we currently have. In the past we had ISC workshops on early detection and rapid response. Adam R: I feel like we should reconvene an all ISC meeting to talk about biosecurity and prioritization. Teya: we could look at the ISC perspective on early detection and selection. Adam: for some people, collective expertise is just not enough of an answer for target selection. Chuck: when something goes beyond our capacity that is better than trying to use the exact criteria. Elizabeth S: it may be time for a more formal look at how vertebrates and invertebrates are selected and which ones are responded to. Fern: it behooves us to look at who we need to have here in the room. In the past we had broader representation.

- Elizabeth A: we used to have a vertebrate and invertebrate subcommittee. We may want to consider that again. It is a different subset of people. Adam R: I think that has some value. Those folks don't need to be here for general meetings. Adam K: we really need to evaluate who is best suited for different things. We could do better at leveraging and we should be looking at the incident command system. Fern: it may be appropriate to have that incident command role for rat lung worm. For target selection, it may be time to see if an incident command system can help clarify our role in different things. Are we responsible for public relations? Are we operations? For how long? The other agencies we work with are likely incident trained. We should try looking at things from an incident command perspective. Teya: it might be good to pick a couple of species and give it a try. We could formalize the process using a couple of specific species. Chuck: that would be very valuable for ROD right now. There are a lot of participants with a lot of different roles. Forest: maybe Lissa could do a Maui News article highlighting our partners and what they do. Adam R: Maui is lucky that we work well with our partners. That isn't always the case.

LITTLE FIRE ANTS

- Mike: Imi responded to a report from residents. The crew checked it out. We are in the fourth day of delimiting surveys and we still haven't found the edge. The area is ~4 acres. We haven't delimited mauka. The Kahului side continues along the highway. Adam R: the area is about a mile from the Hana baseyard. A discussion of the survey technique and process followed. Mike: there is significant vegetation in the area and there is ant rain. Michelle: have the property owners/tenants been engaged and are they receptive? Mike: the resident is cooperative. Where they found ants yesterday is on a different property and they are on board. We are surveying today.

- Michelle: do you want me to come over for a community meeting? I am open and available. I can do that before the end of the year to start establishing a relationship and getting things rolling for 2018. Teya: from a public relations and outreach perspective there is a bigger question. In Nahiku, we know we haven't been able to address the core infestation and it has been three years. We need to be very clear as to where we are and why that is taking so long. Where we are as far as getting Altosid approved? We all understand it is a regulatory process.

- Michelle: DOA is short handed in the permitting department. The guy who does this is retiring and they don't have anyone in line to replace him. It is unfortunate. Teya: we put out the message that this is an emergency and we still aren't there. Is there anything we can do to expedite things? Or would pressure just make things worse. Michelle: Cas is concerned about that. Once it goes through, we are hopeful, but it is a containment issue for now. Teya: maybe the public could help with putting pressure on. Fern: what is the current timeline? Michelle: I would hope that six months from now they can finalize and that one year from now we could be in full swing. Teya: once there is the special local needs label (SLN), is that the last step? Has it been through the Fish and Wildlife Service (FWS)? Michelle: SLN is just for local use, so it did not go through EPA, just through FWS and HDOA. Additional questions have continued to come up and I am not 100% sure on where it stands. I hope they see that the amount of product it is so small that it would not have any effect. Bill: it is going through an informal route which should take 30 days after the letter comes. The damsel fly and a turtle are the main issues at the moment. Teya: how is the local area defined? Michelle: it is only for the Nahiku area. Teya: should we add the new Hana area while we are at it? Michelle: the SLN is not for aerial. It is for a mix with Altosid in a gel bait. It is already labeled for water. This is a reformulation. Any future applications would need to apply for a new SLN. Teya: is it better to amend to add Hana now given where we are in the process? Michelle: I will ask. We don't want to slow down the process, but if it won't slow anything down, it would be good to go ahead and add it. Fern: why couldn't they just do an emergency use? This route seems slower. Emergency use is allowed for public health and other concerns. Michelle: we would be using it off label. Fern: is the SLN tied to a map of the Nahiku infestation? Michelle: yes, it is tied to a treatment polygon of 300 acres. We could apply for experimental use for the Hana infestation and set it up as an experiment with monitoring plots and a report at the end. Adam R: how can we help? Michelle: I am not sure. I need to talk with Cas. Teya: I will work on a list of questions that MISC has. Fern/Jeremy: there are emergency exceptions in Section 18 of FIFRA that may help.

- Adam R: the population in Kihei was an HDOA find and they have been the lead on it. Kihana Nursery was suspected to have received a shipment from the same nursery that went to Kauai and had LFA. A preliminary survey found LFA in four locations. The nursery is voluntarily closed pending treatment. Marshall is following up on the trace forward today. HDOA requested that the nursery be treated right away, but we wanted to know the full extent of the infestation so we are doing follow-up surveys. There has been a Siesta application so the survey work is complicated now. Michelle: Talstar Select sounds more like a broadcast application rather than a drench. Are we talking about a broadcast spray across the nursery? I would have concerns. A drench is less concerning because it is targeted and directed. The drench should be to media saturation and is directed to minimize drip. The rest of the area could be sprayed, but not the entire nursery. That

would be a good first step and then you could delimit out from there. We need to keep in mind the nurseries needs. There is no official quarantine so they could start selling anytime. Brooke: why is there no quarantine? I am worried about that. Michelle: a formal quarantine requires a court order. If every pot gets treated and the surrounding area is treated, we could be fairly confident that they could start selling. Adam R: they were planning to survey a week later. Michelle: rebound takes 3-4 weeks. That is when you would start to find ants again. With Talstar there is a residual. You would be more confident after a residual application than a baiting application. Adam K: one complication with this site is there are residences on the property. One is within the 20 meter buffer. Fern this could become far more complex. We should look at a press release. Adam R: Lissa has reached out to Janelle regarding a press release. Abe: how does Talstar on the soil impact the ants in the vegetation? Michelle: you actually do a foliar as well. The alternative is to repot all the plants with Talstar and granules incorporated into the media. This approach is labor intensive, but very effective. If you used the granules, you would need to treat the foliage with another product. The only thing that stands in the way is having an appropriate applicator. They need to be commercial. My license is experimental.

- Adam R: Godfrey has concerns, but he hasn't said he is out. I am not sure we can mitigate his concerns. Michelle: this was found because of the Kauai detection. There was a trace back to the Big Island and it was traced forward to Maui. Adam R: they were on areca palms. Brooke: it was obvious that there have been multiple infested shipments and that they have been here for a while. Adam R: what are the options for delimiting at this juncture? Brooke: after Talstar, how long before they can sell? Michelle: they can handle the plants fairly soon. That is why it is labeled for use in nurseries. They should be fairly confident that they are clean after treatment with Talstar Select. It is not 100% effective, but probably 99% works and it is residual for ~2 months. Anything that comes from the Big Island should be treated as suspect and have a quarantine in place. They should not get stock from the Big Island if they want to be safe. Chris: this nursery has had coqui reintroductions in the past, over and over, and that didn't change their buying patterns.

- Abe: what can we talk about in terms of the big picture scenario? Other nurseries that have had coqui are going to get LFA eventually. We need a bigger picture solution. This is going to continue. Forest: we could make it a priority to revisit these nurseries. Brooke: we have. This nursery has been surveyed repeatedly. Fern: this needs to be addressed at several levels. Quarantine needs to happen. There continue to be interisland biosecurity issues. Forest: at what point does it make sense to have a Hawaii Ant Lab (HAL) person on Maui? Michelle: we haven't talked about that yet.

- Lissa: the Plant Pono program on the Big Island and Kauai promotes nurseries and businesses that follow certain protocols. There is a consumer community focus. Michelle: it is a scary thought, but the more awareness people have, the more infestations you are going to come across. I am very glad you are setting up an invasive ant team and being responsive. Having quarantine become automatic when there is a detection would be an excellent idea to try and pursue. It didn't happen on Oahu, but maybe Maui could step in and try to make it happen. Teya: it would require a legislative fix. The county has authority to enter and treat, but it would take legislative authority to apply a quarantine.

PLANTS

- Adam R: for most of our plant work, we have been quite successful and it only takes a small amount of time. Mike: things are basically the same as they have been. We are in search and destroy mode. There are some species that are in a detection only stage. For fountain grass, there are no active plants. We are monitoring the seedbank. If we miss a germination, it can go to flower and set seed very quickly. We take all reports seriously. We do *Silybum* once a quarter and have found no new sprouts. We look for things opportunistically.

- Mike: we have had some setbacks with pampas grass. We just got EMI access this week. We did pampas heliops from August through November and flew ~11,000 acres in West Maui. We ramped up pampas air time on West Maui this year. We have seen a reduction in mature pants on the east side. The west has a lot of mature plants and a big seed bank. East Maui is looking pretty good. The Koolau wall still needs to be addressed. Most of east we can cover on the ground. We need to meet with West Maui partners. Pampas was recently found on the switchbacks in the crater again. We don't want that to happen. Our goal is no seeding plants. You have to start over as soon as you have seed. If there was a plant there at one time, the chance of reintroduction is high. The dispersal pattern stays the same due to the wind patterns and as a result you learn where to look. In Polipoli, the roads get closed and we can't go or if the weather is bad or windy. We still need to survey by air on the east side this year and there are still recalcitrants in Kula. The Olinda recalcitrant and the one on the boarder of Makawao Forest Reserve have been taken care of. Christian: we did a lot more survey work this year because we couldn't go to the flume. That is why we found the ones in Polipoli. In East Maui, we are doing good and eliminating an infestation that could have been huge. On West Maui, where we have ground access, there are no plants. We hit more of West Maui by air this year than we usually do. It needs to be repeated next year. Adam R: we got a NFWF grant to help with West Maui heliops and explore new techniques.

- Mike: there is a new population of ivy gourd in Wailuku and a new site at Monsanto. Adam R: they are supposedly controlling a ¾ mile infestation along the fence. They will do the initial suppression. The plants are fruiting. Mike: so, there is new seedbank, but we are doing OK on the old populations. Reintroduction by people continues to be an issue. Ivy gourd is still planted as a cultural food.

- Mike: we are doing well on peripheral miconia work. There are a couple of places in Huelo that need rappelling and we didn't check the EMI locations this year. For all other sites, there were no mature plants found from mile marker 11 on Hana Hwy. James: Hana miconia is a whole different story. The highest elevation is pushing 3000', but that is rare. Our 2016/17 HBT operations averaged 70-80 hours of operational time. In 2014, we peaked at over 120 hours and then hours were reduced from 2014 on. 2014 was wet and we saw a biological response. We are focusing on 11 known incipient populations and trying to maintain a rotation schedule. We also started to work a little higher above the known populations and started finding plants. Now we are starting at 1,500 feet and going down to 1,000. This is the inverse of what we did before which was from 100 feet up to 1,200 feet. With that approach at ~900 feet we start to encounter high target densities. It would be best if we could fly

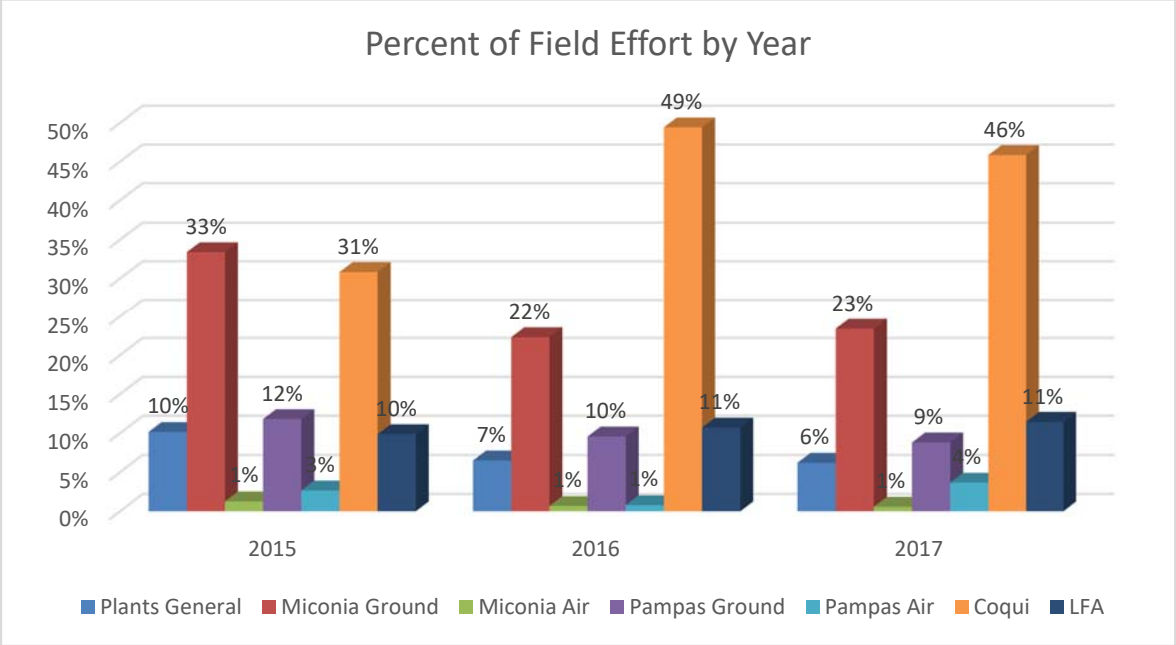
twice what we are flying in order to effectively manage each of the incipient populations. We see higher recruitment rates with reduced effort which is resulting in static or higher numbers. We are not seeing a higher number of mature plants. Less than 1% of the targets treated are mature. Jeremy: an estimate of 200 hours to stay on top of things is consistent with the old days when we flew 400 hours and half the time was dedicated to outlier populations.

COQUI FROGS

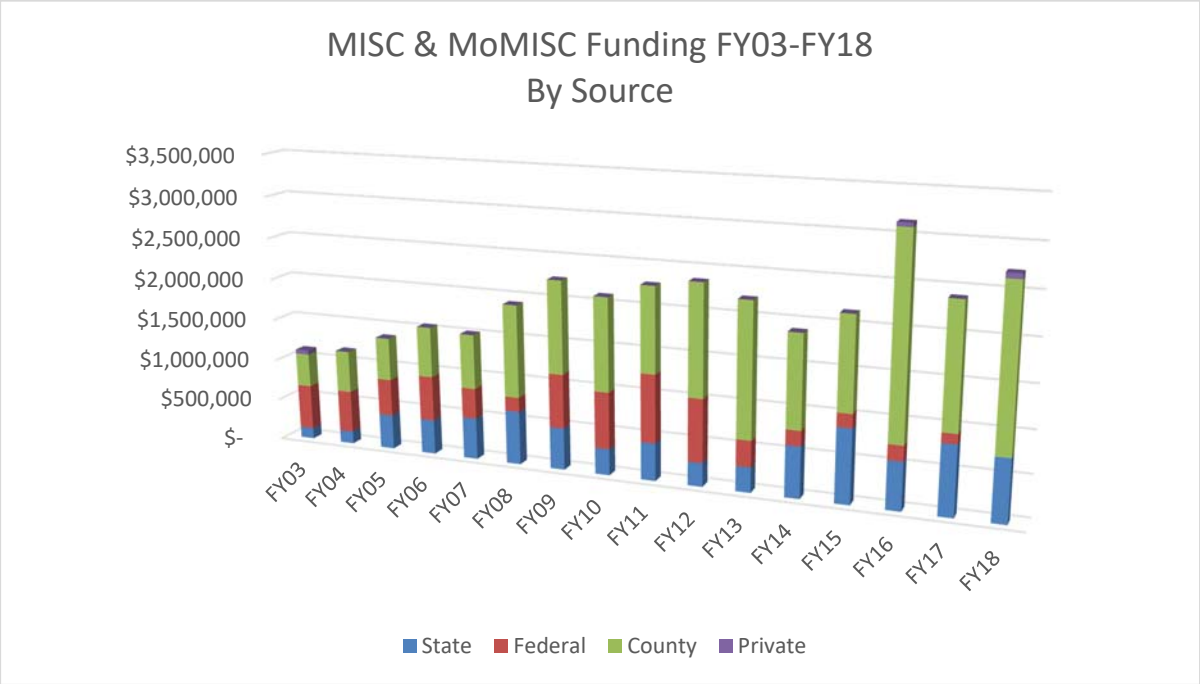
- Abe: we don't have enough people to do what is needed. We have a cache of citric acid and tanks that we loan out to the public. There are infrastructure challenges. James: how many participants do you have in the program? Abe: it is a significant part of the program. Adam R: we are looking at putting someone in a new position to manage the community empowerment program. Fern: DOFAW wants to send a crew to spend a week a month to help with coqui. Scott is offering that. Also, if burning will help, working with Lance from Forestry to train and help with burning operations is an option. You could start on state land. MISC needs to schedule a meeting with Scott. Elizabeth: the Maui Nui Seabird project is planning to help in the field also. Teya: we are trying to get Legislators out in the field to see operations and give them a better idea of how things are going.

BIG PICTURE

- Adam R: we went through a process to find and agree upon a search area based on biology for different species. We are not going to reexamine every species today.



- Elizabeth: there are a couple of factors that are skewing the numbers. For Hana, all of their time is recorded as miconia (or LFA or coqui, etc.), but for the plant crew, hours are split into operational support when they are working on baseyard tasks. Also, HAL time is not taken into account for fire ants. Adam R: a key consideration for ground miconia effort is keeping it from places where things will be moved around. James: the other push in miconia work is unmanned aerial for recon, which can help dictate where our effort is focused. Knox has his FAA license and we have drones ordered.



- Adam R: FY 16 was our highest funding year at $3.2 Million. For FY18, we asked for what we thought we needed ($4.5 million) and we got $2.7 million. That leaves us short $1.5 million. This dictates hard decisions. Where do we shift if we need to take resources from something? MISC has never laid anyone off for lack of funds. We have diversified this year with grants from the National Fish & Wildlife Foundation (NFWF) and the Hawaii Tourism Authority (HTA). The HTA grant is for fire ant surveys and community based social marketing. The NFWF grant is for heliops. James: how likely is it that the county funding will be sustained? Teya: we will be taking county and state folks on coqui tours. Abe: when folks call and thank us or make complaints, I tell them to tell the same thing to their representatives. Christian: as soon as we leave the baseyard in our truck we are on PR. Teya: having Rob come to our meetings again would be good. Adam: we want to be back where we were in FY16.

- Adam R: we have been decelerating on Hana ground miconia. Is that what the committee wants us to do? If there are more LFA, where does that time come from? James: there is no scenario where your resources match your demand. You want the best return with the least amount of trade-offs. We ran out of time today and didn't get to the discussion about what we are doing vs. what we want to be doing. That will need to happen at the next meeting.

OTHER BUSINESS

- Adam R: HDOA has asked us to work on poison vine, *Derris elliptica*. Forest: we mapped it in 1999, but it never made the list. It is not spreading sexually. Fern: we should find out what they know about it and then we should put it through the usual process for new species. Adam R: we should put it through the process and provide that information to HDOA. Forest & Kim can pull the information together. Kim: Bob Hobdy would be a good person to consult on this one.

- Adam R: I see MISC's role in rat lung worm (RLW) as education and maybe helping with photo identification. The question comes up often. We can't take it on as control target. Teya: we need a clear answer as to how we reached the decision to take the role we are taking.

- Lloyd Loope Memorial Fund: Teya: after Lloyd passed away, the family asked that contributions be made to MISC. We are putting the donations into a UH Foundation account. So far we have had $6,750 donated. One thought is to use the funds to support a young professional doing research on invasive species. With UH Foundation you need $35,000 to set up an endowment. That amount would generate income of $1,400 per year. We will see where we are in six months and reevaluate. Fern: we might be able to get Hawaii Conservation Alliance to do a check off on registrations for donations.