

OISC Committee Meeting March 5, 2014

Ho'omaluhia Botanical Gardens
45-680 Luluku Road
Kaneohe, HI 96744

Attendance:

Julia Parish (OISC), Darcy Oishi (HDOA), Erin Bishop (OISC), Zoe Eisenpress (OISC), Lisa Ferentinos (DOFAW), Aaron Works (OISC), Taylor Marsh (OISC), Nalani Mailheu (Hui O Koolaupoko), Julia Lee (OANRP), Joby Rohrer (OANRP), Charlotte Yamane (Elite Volunteer), Laurent Pool (Waimea Valley), Alex Lau (OED), Lance Bookless (MCBH), Mary Ikagawa (KMWP), Kristine Barker (HIARNG), Angela Kieran-Vast (HIARNG), Norma Acob (CFI), Gregory Koob (NRCS), Naomi Hoffman (HBG), Kaimana Wong (BWS), Richard Pender (KMWP), Mandy Hardman (DOFAW), Danielle Frohlich (OED), Derek Arakaki (HDOA), Rene Bautista (HDOA), Rob Hauff (DOFAW), Dave Smith (DOFAW), Alisa Kimura (OISC)

Welcome and Introductions:

Julia opened the meeting at 9:16am with a brief welcome and housekeeping items. All attendees introduced themselves.

Partner Updates:

DOFAW (Rob Hauff) – Josh Atwood, Invasive Species Coordinator, not able to attend today, but Rob spoke with him earlier and Josh did not have anything major to bring up, just on going items that most of group is already aware of. On the Forest Health side, Rob mentioned that they are hoping to get their grant secured for next year for invasive plants and Rob felt that the funding level should remain the same; have not received notification of final award amount, but Rob anticipates the same amount for statewide projects.

HDOA Biological Control (Rene Bautista) – **Nelson (??) Ramadan**, Exploratory Entomologist, just returned from Southeast Asia and Australia and he collected some potential bio-control agents for pandanus & macadamia. Currently have some bio-control agents in quarantine and also a second bio-control agent that they hope to release against the gall wasp. They have a bio-control agent for maile pilau which is a moth and are still doing non-target testing in quarantine. HDOA representatives are currently in South Africa attending an international conference. Lots of things are happening with regard to bio-control of fireweed. They have released a moth in February of last year and evaluation and sustained releases are still ongoing. They are done with the bio-control of the stinging nettle caterpillar and it has been quite a successful undertaking. HDOA has been getting good feedback from the community as well as farmers. Derek asked Rene to provide an update on the effectiveness on the current bio-control for the fireweed. Rene reported that the leaf larvae eating moth collected from Madagascar. They have found that in the lab it is a voracious eater; however, when they release the agent in the field they are speculating that the fireweed may have a different taste. Since the fireweed that they are propagating in the lab is pampered and healthy so may taste differently than those in field. In the field, they have observed that the agent tends to feed on the foliates, but only nibbling. They tend to spread and disperse simply because we are dealing with thousands and thousands of acres of fireweed. They

are planning to give the agent time to successfully establish and spread. Hoping that in 3 years they will be able to see the impact of the agent on the target. Rene advised the group to be patient. He also cautioned that it's not a magic bullet and although it's a really good bio-control agent based on tests in the lab; we do not know what will happen in the field. Keep your fingers crossed that it goes its job a few years from now. Rene shared some good news that they have another potential bio-control agent that they are currently studying in quarantine. It is an insect that feeds on the flowers which he feels is a better agent than one that feeds only on the leaves. Rene summarized by saying that if we have several bio-control agents feeding or infesting the various parts of the fireweed, we have a better chance to impact the population. HDOA is still continuing on with the non-target testing in quarantine and will then need to seek the approval of the state and federal regulatory agencies. Derek raised the question because they just found fireweed on the Haleiwa side.

HDOA Plant Pest Control (Derek Arakaki) – They have been really busy with LFA and some chemical trials on CRB. Some target weed pests are long-thorn kiawe, false kava, tetrastigma, tumbleweed (have been finding it out in Kapolei). They also do the seed inspection for the state and label laws. Rob Hauff asked Derek if he knew what the current status of hala scale on Oahu is. Derek sighed and reported that it is now up in Haleiwa close to where the fireweed was found. Joby asked for clarification of whether it is just at one site; Derek said that it is, as far as they know. Rob ask for number of infested plants. Derek reported that it is a large stand, but only three plants had hala scale. The grower suspects that it prefers a certain varieties; since the site has a number of varieties there.

Discussion: Rob asked for confirmation whether it is being grown for the leaves for weavers. Derek furthered that they originally found the hala scale on one plant at her house in Wahiawa; she has several hala plants there, but it was only on one small plant. Rob asked Derek what mitigation measures are being taken. Derek recommended chemical treatment. They suggested initially using some kind of oil to take care of the scale; then systemic for longer term. The plants that had the infestation were disposed of by cutting, bagging, and burning. Derek replied that they will need to go back out to check on the site. LFA has been taking priority over that, but they will be revisiting soon. Rob requested to be included in the group that will be revisiting (the site).

Oahu Early Detection (Danielle Frohlich) – They are finishing up their surveys of Waimea Valley and found a few good things that they will recommend for removal. They have a grant from the Navy to do Lualualei surveys up in the valley. They have been doing a lot of IDs; have been receiving a lot more from Fish & Wildlife. They have also been helping out with CRB surveys and other stuff. It has been fun playing amateur entomologist.

DOFAW (Mandy Hardman) – Mandy reported that they are currently working on strawberry guava bio-control release with HDOA and various other partners to get it out on Oahu. Will be doing a presentation on *Angiopteris evecta* control in Poamoho using the ball sprayer in the next month or two.

BWS (Kaimana Wong) – They are continuing to work with other agencies and the Invasive Species Committee on ongoing projects.

CFI Hawaii (Norma Acob) – Attending as an observer to keep aware of invasive species issues (as a transportation company).

HIARNG (Angela Kieran-Vast) – Oahu will be doing their annual fountain grass surveys with MCBH, Air Force and OISC. Completed a bio-control release for strawberry guava on the Big Island, which is largest property. Have now released on three different locations; about 400 acres of forest with Dept of Ag out there. Rob asked for clarification of the site location. Angela - Keokaha Military Reservation on the Big Island, near the airport. Angela was asked about any releases on Oahu; Angela - no land on Oahu with strawberry guava.

KMWP (Mary Ikagawa) – Currently updating their management plans which involves meeting with land owners to get a sense of their current priorities and hopefully will result in more connections between land owners, funders and volunteers and so hopefully more projects throughout the Koolau Range. Staffing is exciting; brought on Richard Pender, Natural Resource Manager, excellent scientist and will help KMWP do a better job managing data which is a high priority for us. He is also a superb Botanist which everyone should have on staff. Seana Walsh part time Outreach Specialist, set up booth at Capitol for kick off of Invasive Species Awareness Week. Mashuri Waite is intermittent hire working on putting together native planting locations at Pali Lookout so people can see diverse watershed plants at the lookout instead of just ironwood trees. Chelsea Arnott is new Field Crew Supervisor and doing a great job; currently on Big Island at conference learning how to kill rats and pigs faster, smarter, better.

MCBH (Lance Bookless) - Planning to do fountain grass survey, hopefully with OISC, this month before it's out of flowering stage. OISC came onto base last month to do a survey for CRB; looked at mulch piles and golf course; no suspect trees found. Found lots of oriental flower beetle, but no CRB. Have a big issue and will need to start doing a lot more control of wild pigs; dangerous for marines that are training; USDA does most of trapping. Have been down one staff so having difficulty getting out to take care of things they want to do. there.

Waimea Valley (Laurent Pool) – Laurent will update the group with his presentation later in the agenda

Volunteer (Charlotte Yamane) – expressed her thanks for the award presented to her at HISAW recognizing her 19 years of service; the group applauded Charlotte's many years of dedication and effort

OANRP (Julia Lee) – Spent 1st quarter doing a lot of surveys of Army LZs throughout the Koolaus and training ranges and roads. Found more chromalaena on a road survey and found it on Schofield West Range as well. Cultural Resources called to report what they thought was chromalaena, and it was. So it is expanding and as soon as Jane returns from vacation, she will take care of all of it.

Hui o Koolaupoko (Nalani Mailheau) – focus is mainly on small scale forest restoration with partners and private land owners. Here today to keep updated on all invasive species and know what everyone is targeting on the island and can be another set of eyes in the field. Have been

doing large scale restoration with Kualoa Ranch and Kamehameha Schools properties and trying to expand different areas, lots of city parks and roadsides. DF-offered plant ID services to Nalani

DOFAW – Watersheds (Lisa Ferentinos) – provided a brief update on some legislative issues; today the budget bill will be heard requesting \$5million in CIP funding for watershed protection fencing and a little bit of restoration. Also requesting \$3.5million in general funds which would be same level that we got last year for the watershed initiative. HB1902 regarding no net acre loss of hunting lands that some groups are still trying to push through. It is concerning because it proposes for every acre fenced for watershed protection, an additional acre must be provided for hunting land. Lisa wanted to emphasize how important it is to provide testimony because the legislature counts all of the testimony for and against bills especially regarding hunting bills. We are looking to increase by \$750,000 this year, our efforts to access and acquisition of hunting lands. A lot of the problem with DOFAW hunting lands is that they are inaccessible as there are private lands blocking them. Although a big effort is being made to increase the access to those places. So what we're trying to say is that we are working on these issues and we are trying to increase opportunities for hunting in the areas that are appropriate for hunting because there's no possible way to restore to native forest (at least not in my lifetime). Please participate in the legislative process and make your voice heard because that what makes this work actually happen.

Lance asked for clarification of what Lisa's (and DOFAW's) position is on the bill; is it a good or bad bill? Lisa stated that DOFAW's position is that the amount of land that is being taken out of hunting for watershed protection is very small compared to the full amount of acres available. There are currently over 800,000 acres statewide available for hunting. And we're seeking to take out 90,000 acres for watershed protection. Main responsibility of Forestry and Wildlife is to protect our watersheds because water is the most important product of our forest in Hawaii, not lumber. We do need to take seriously that that's our job and are now making up for lost time. And I think there's plenty of ground to share. There's going to be plenty of opportunities for hunting we're not going to really have a major impact on that. I think Hawaii is in a different situation than in a lot of areas because the mammals that are being hunted are not native and are disruptive to our native forest. Lance asked for confirmation that DOFAW is against the one-for-one. Lisa - Yes, and we're saying that instead of making it one-for-one, give us money that we can improve the access and acquire other lands because that would be a more effective way; the one-to-one doesn't make much sense and puts an undue burden on the whole process. Lisa reminded the group that the bill number is HB1902. Mary added that most people don't understand the difference between a hunting area and game management area. Most of the land DOFAW manages is hunting area by default; there's no reason not to allow hunting there; it's wide open, but the actual use for hunting in these remote mountain areas is really small. But it would makes sense if they were saying for game management areas, which is primarily for game management, then maybe a one to one exchange would make sense. But land that's for conservation zoning, protective conservation and hunting has been allowed because there has been no reason not to and trying to exchange that for hunting area just doesn't make any sense. Julia furthered that it is useful to quantify what 800,000 acres is, because you can say that but no one has a visual concept (of it) and it turns out that it's more land area than the entire county of Maui; for the state, it's a lot of land. Lisa: It's basically a quarter of the state and that's just

public land, there's also a lot of hunting that happens on private land. Rob asked whether that is also includes stuff that's inaccessible. Lisa: Yes it does; if you could figure out a way to get there, you could hunt there. Mary: Even if it's natural area reserve; if you look at it, hunting areas even includes natural area reserves.

HDOA Plant Quarantine (Darcy Oishi) – Darcy is now the Acting Manager Plant Quarantine Branch; change position title from last meeting. Most of the items that Darcy will be speaking on are items later on in the agenda. Right now, most of the controversial bills at the legislature are related to plant quarantine issues because invasive species is a hot topic this year. HDOA has spent a lot of time responding to these bills because of the many concerns they have; most are linked to HDOA's ability to regulate inter island movement. While this is a part of HDOA's mandate; one of the weaknesses of our ability to regulate inter island movement does relate to non propagated material. One of the reasons that this has become a hot topic is the hapuu which is non propagated material which was moved inter island infested with LFA. A lot of the measures we have been working with the legislature to change is so we can actually perform the function that they are asking (for). Now, though, most of these bills are so restrictive in terms of requirements and operational needs that are being asked of PQ that in order to effectively perform the mandate that the legislature is putting onto us; HDOA would have to cut domestic inspection to some degree and some of the original language would re-appropriate almost all staff from domestic imports to inter island. So although the measures are well intended; some of the language Darcy really loves; however, how it will be implemented is not based on any sort of reality and it's actually a greater danger that they will cut positions rather than make new positions. So if you do the math, it's not sustainable for PQ. In the meantime, since Darcy came on board, they have done a comprehensive review of PQ as part of long term strategic planning, of all of our statutes and of administrative goals like identify gaps and pukas that they need to fix and resolve. They have been making behind the scenes changes that will become real changes throughout the year. Those real changes are to our animal import; inter island movement; nursery import; and plant import rules and regulations. They are also reviewing policies relevant to the inter-island movement of pests and improving consistencies in those policies. They are trying to establish a more cohesive and consistent system; the process is currently ongoing.

To report on a broader basis, and this includes a large portion of PQ; the department has a lot of vacancies currently in the system that is raising some concern with certain members of the House. So for perspective, they have 255 filled positions within the DOA; last year they had 120 vacancies and last year filled 25 positions and lost 20 to retirement; so only had a gain of 4. So a huge issue part of these hiring issues actually revolved around the sequestration; actually cut ability to fill positions across the board. PQ managed to get some exemptions, but have been hindered and, for certain positions, it's almost impossible to fill right now. There are no qualified people and the qualified people get snatched up way too quickly. In PQ, they have a lot of vacancies that weren't being addressed and they're finally getting to them. Such as, Darcy's old position that he left in 2008, finally anticipate open recruitment for that beginning later this month. But what that does, since it's an internal vacancy, is simply rearranging the deck chairs. So PQ will have a full staff likely this year; and hopefully no one retires. Darcy described it as kind of a critical mode right now. What they are learning through the CRB project is really a collaboration with APHIS and what is needed to launch a significant, meaningful response. That requires a lot of commitment and that the department does not have the resources across the

board. Darcy will share more when we get to the agenda topic of CRB. But of the resources deployed so far is what would have needed when LFA was first detected on the Big Island or any weed pest and the Department does not have the ability nor have they had the legislative or support from the governor that they have now to get the resources. So this is going to be an ongoing process until they have sufficient staff within the DOA or solid partnerships through the HISC to fully staff responses when they come up; whether it's inter island response.

DLNR (Dave Smith) – helping out with the CRB response.

Waimea Valley Update (Laurent Pool):

So I've kinda created a picture show with some words to talk about what we're doing and any advice on other things we can try or any direction for expertise on some of the projects. We're doing a wide variety of things.

Mauka Restoration Site

In September we were able to fence in about 15 acres almost pushing into the wet forest area; it's a fairly diverse area. A couple of weeds that we're really dealing with over there are *Chrysophyllum oliviforme* (satin leaf) & strawberry guava. *Chrysophyllum* we haven't really figured out exactly how to control that one yet and it popping up like crazy. I was talking to Joby about their seed longevity trials and all these things to really figure out like how best to control that weed because it is widespread and pretty nasty.

Referring to slide, Laurent pointed of the top line of the fence which borders with Kamehameha Schools (on the left of photo); south side and northern side is Waimea property. There's a lot of lama, koa, a lot of uluhe, kopiko, lehua; it's a pretty cool site. There's some *Eugenia* there; we don't see any natural regeneration of *Eugenia* so we're keeping an eye on that; possibly doing some cuttings or something like that; have about 4 different populations of *Eugenia* on the property but they all seem to be surrounded by strawberry guava. We chose this area as the best, diverse native forest.

We've done some IPA trials inside the fence; mostly with *Chrysophyllum*. We have a hard time distinguishing the trees in there (referring to slide). Julia (Lee) was with us yesterday and we've done trials with the trees and when you're looking up it's so difficult to figure out which tree you're shaking to see what's working; I don't even remember what was working, it's not Garlon.

Weed control

It (the slide) says "Insert your picture here" because we're doing similar stuff to what everyone is working on. We're trying to do more effective weed control with the IPA trials and really just targeting those two species we're dealing with there – strawberry guava and *chrysophyllum*.

We've done some outplantings in there; these are like four-five month old koas (referring to slide). There's guinea grass and things like that popping up in there and we feel pretty confident that we can control that. In talking with Julia, we want to do more ground cover and getting that established before other weeds are able to pop up in there. We considered doing na alii in site, but we don't find it naturally in this area, it's on the next ridge over. It's a little bit too wet for it, but the ones that we did plant in there just grew really big and fast. Don't know if anyone has an

opinion on introducing species that aren't really found in there and what that can change because we're trying not to change too much. But if we can get something to establish that's native; it would be a lot better than having other stuff popping up.

We got this new ATV this year so this is how we get up into the forest; we got a skid sprayer for it. We can hold six people in that so that's basically how we get up to our site. We make sure we clean it every day when we come down so we're not spreading seeds and also usually before we go out too because there's a big ficus tree above it so make sure we're not taking seeds from the baseyard and dropping them all up along the road.

Referring to slide – we probably need to clean our boot scraper . . . because can see a plant growing right in the middle of it.

We really rely on our volunteers to get the work done; we only 4 volunteers up at a time because of the limit with the vehicle and also it's a steep site so just a little bit more delicate. With the Mauka site we do more weed control and planting.

Kalahe'e Ridge Site

Kalah'e is a super highly degraded site; so really, we're working on best and worst sites of the property -- best site is Mauka; worst site seems to be Kalahe'e. It seems to be completely filled with invasive plants but there are areas where there's really nothing. We've had success planting but there's grasslands where you can just go in and do a little bit of weeding and not even have to use any herbicide because things come in after you treat with herbicide.

We've been able to plant about 15,000 trees in Kalahe'e over the last 3 or 4 years. It's slowly been ramping up -- last year was 6,000; the year before was about 4,000 and a few before that because it was just me at that time experimenting with growing plants, which I'm not that good at, but the guy we brought in, Ryan is very good at it. So he'll grow things and I'll kill things.

IPA trials are planned for ironwoods and yesterday I found out that there are two species of ironwoods so we'll find out if we actually need to do any trials on the ironwoods and the java plum; it might already be done. There's one spot that we're trying to leave an ironwood canopy and do a bunch of koa plantings underneath it an see how that works. We know clearing ironwoods and doing a bunch of plantings doesn't work because weeds just come up.

We have two rain catchment systems set up in Kalahe'e and one in the Mauka site and two others ready to be set up. So we just have these 300 gallon totes from BWS and Eagle Scouts have helped us out a lot. They use it as an Eagle Scout project to set up these catchment tanks in our mountains so it's been kinda cool and with whatever time is left over they plant trees. So this is what it looks like up there (referring to the slide); there's ironwoods, there's a bunch of mixes like pili grass and broom sedge. We have a lot of erosion (referring to slide), this area flows right into the area above the waterfall. This is one of our first plantings we did about two years ago; this is all plumbago ilie'e planted all in here. But it just didn't survive; we weren't really sure why, but it seemed like some sort of mineral deficiency. The leaves all turned red and they're still alive even two years later, but they're just tiny. You can see the amount of erosion that going on in a site like this. And we just started trying different plants in these areas.

Planting of Common Natives

Referring to slide – this is another area that was just completely red; there was nothing growing here. We've been planting a'alii (Dodonea) by the thousands up there; so you can see the little white thing up there is rain catchment tank so there's mixed in a'alii, koa, ko'okoolau (Bidens),

All the seeds are from that ridge; we just go up and we have a seed flowering schedule that we follow and update every year. They're site specific; we have different ridges that flower at different times so that's kind of our priority so when something's seeding and ready to harvest we focus our energy on that. We take volunteers up and gather as much seeds as possible. We didn't do that one year with koa and only gathered a little bit; had a really junk koa year the next year; we had very little plants to plant.

We also received a grant from the C&C this year to plant 3,000 trees here and educate about 300 people about environmental issues and getting out there helping with it. They hike up with us and talk story about the completely exotic forest that we're walking through and then get up there and plant some trees.

This is some of the trials we did just last week or the week before. We did about 70 koa in a really small area and we'll see how they do. We've done other areas where we planted koa in ironwoods, and they're alive, but they just don't grow very fast. So we'll see how this goes; we tend to do a bunch of different trials in different areas just to see if it will work. We don't want to put too much energy into something just because it's worked somewhere else or hasn't worked.

Rain Catchment Systems

Pretty simple; the only hard part was actually getting that tank up there. So that's what the Eagle Scouts actually had to carry. It's about a half hour hike; just hiking; and they had to bring that up. It took about an hour and a half so they were crying by the end. They got to use all of their lashing skills and had to use ironwood and whatever was up there to assemble it. That's one of our Kupu interns (referring to slide) looks like he took a nap after lunch under the system. So you can see what the catchment system looks like; it's super simple. When we water our plants, we just water them once. After that, if they don't make it, they don't make it; tough love.

Next slide shows working with the Coast Guard group, about a month ago. This is the same area that we had the ilie'e (plumbago) planted, in most of them didn't make it. So I just walk around with an auger, poke holes in the ground and these guys pull up behind me and plant. We have over 90% success rate with the plants making it past 6 months, so after that we just stop counting and keeping track; hardly any of them are dying.

This whole area we planted koa; the first ones planted out about 4 years ago and are now 6 or 8 feet high. So not super-fast growth rate, but they're definitely standing out amongst everything else now that all the grasses are out. It's neat to see them start popping up everywhere.

Wetlands and Waterbirds

So the other thing we manage are wetlands & waterbirds. We do a lot of predator control along with weed control. Bullfrogs have shown to be the worst predators for moorhen chicks. From a study they did at James Campbell, out of the 11 chicks that they tagged with those radio transmitters, 9 of them came back from inside bull frogs. We didn't think that was the case. We thought it was mongoose and cats. So since we've started going in and gigging bullfrogs in the evenings, we've seen an increase (in chick survival). We used to only get about 1 chick out of 15 every year, now we're getting more like 5 or ratios in the 30s.

We band most of our birds so they're kinda used to people. So we know it's a little bit of an artificial population. We have another population down at the estuary of 4 or 5 birds and that's where the coot tend to show up. We've been doing some restoration out there; just some planting of cypress jubab, polystachys, bull rush and those seem to be pretty successful; locking in soil, planting ai'ai there. Referring to the slide – so maybe a month after we planted this area, two coot started showing up. One was, for sure, from James Campbell; the other we've never been able to see its band.

Our mongoose catch rate have gone way, way down; to maybe catching one or two a month. We keep rotating baits and try all different kinds of things. If we catch a bird in there, we shoot it and leave it in there; that seems to work really well. If we have a dead rat, they really go after that too.

Just received the EPA approval to use the Good Nature traps from New Zealand; and Laurent confirmed that the Army (Joby) has been using them to some success; has been effective on rats. Laurent asked Joby if Army sets them up exactly as shown in the slide photo (directly onto trees); Joby clarified that up in the Koolaus they put them on pegs because not enough trees around. Laurent mentioned that they are determining whether they do need to take more precautions because they have moorhen or like kids walking around and don't want them to stick their fingers in; so they may need to make some sort of housing for them. Planning on ordering some of these to see if they'll catch anything, like some of the mongoose and rats that are getting educated by our methods. Laurent provided a brief synopsis of how the trap works; when the animal puts its head into the unit for the bait, it triggers the CO2 cartridge to fire a hollow bolt through the head, then retracts and the animal falls to the ground. Because of the way that the traps works, it's not a trap that needs to be checked often because it resets itself; and will have a pile of dead animals below. It has a counter that will count the number of times that the bolt is fired and then can assume most of those are kills since whatever falls underneath (the trap) is probably going to be grabbed up by something else. Planning on using some of these traps in the Mauka site if we have a lot of rats up there and if seed predation is going on; they tend to like lama seeds. Julia P asked how much each unit costs; Laurent thought that it was \$170; Joby clarified that the one for rats is \$130 each. Laurent added that the shipping cost is expensive and considered calling Julia P while she was on vacation in New Zealand to see if she would bring some back. Lance asked how many shots are able to be dispensed on each CO2 cartridge; Laurent said 24 fires. Lance also asked if there may be any issues with water or condensation rusting it for malfunctions. Joby expressed that the units are really well built; completely sealed; for washing (the unit) can be immersed in water. Lance asked Joby if he thinks it would stand up to salt air; Joby affirmed that it would since it's all stainless & brass. Laurent advised Lance that the EPA will require completion of forms (and approval) prior to purchasing. He believes that it

will greatly reduce the amount of time they currently spend each day simply checking traps. Since there are only two of them on staff, they are required to work 7 days a week to check current types of traps. Lance asked if used the DOC 250s before? Laurent – No, just using the walk in traps, but because of moorhen habitat; the moorhen will go inside the traps. So we looked at the DOC250s, but decided to skip up and go with these. We'll keep the live traps; some of the bigger live traps are used for cats and even small pigs.

Ungulate Control

Or otherwise known as ungulate education program. We're killing a fair amount of pigs every year, between two and three hundred, but it doesn't seem sufficient. As far as dropping population counts, it seems that we're educating a lot of pigs at this point to our methods. We use leg rope snares with about a 35 to 40% success rate; as far as number of times they are sprung to number of pig captures. Not that great, but not horrible; have about 30 or 40 of these out every single day. Corral traps are walk-in traps set up by USDA with a trigger in back; have caught several pigs in this, but it's a bit small. Have a nighttime permit from DLNR, but because we have a botanical garden we can't run dogs through and dogs seem to be more effective at pushing pigs out of there.

Just got the Jager Pro M.I.N.E. trap – it's directed at catching the whole group of pigs, no education. Have not set one up yet; just got the unit and tested it. I think for landowners who don't have a whole lot of time, this might be a good idea to go with. Sandwich Isle Pest Solutions is the on-island dealer for this product. You can get the camera to send a picture to your smart phone whenever things are moving in front of it so as you're watching the camera you can know that there are 10 pigs (the whole family) in there and you can hit a code on your phone to drop the gate. Some Special Ops guys designed this to be able to catch the whole group, no education, because we know that a lot of pigs will see our snares and they'll just go right around it; dig right next to it. We have game cams out and monitor the group sizes so will be using this to actually try to catch those. It also has a remote control trigger that can be used from 250 feet away. We don't have cell reception in Waimea so will have to use the "hide up in a tree" and push the button method. Joby asked what the cost is. Laurent thought that the total price was \$2500; it has a battery built in with a solar panel that re-charges the battery. There is also have an option for an electronic trip wire at the back if you're not going to deploy it yourself. Lisa mentioned that the folks at Kauai Watershed Alliance have built their own using a garage door opener if you don't have \$2,500.

Invasive Plants

Doing a lot of work with invasive plants because of the Botanical Garden because that's where it all starts, right? OISC and OED have been doing Miconia & Pipadu. OED has been doing botanical surveys; now waiting to get the report from OED on what to target for removal. We have a couple vines that are issues Cissus and Stephania. We have collections and de-accession policies and we probably need to be a little stricter on our collections policy on things that we think need to be weed risk assessed. It doesn't always happen, but seem to be getting much better at it.

IPA Trials

Trials are on cordia alliodora; first slide is with imazypyr. Next slide shows what canopy looks like with imazypyr after 150 days; no leaves, the tree is dying and we hacked into the bark and it's got some black wood in there. The following slide shows with Aminopyralid. The slide shows a little bit of re-growth; so maybe too low a dosage. It de-foliated but now starting to grow back. Julia P asked for clarification of the trial intervals; Laurent confirmed that it was 150 days. Next slide, this is a bad shot, but was treated with Garlon; it has full canopy so ol', trusty Garlon doesn't seem to work too well.

We try to collaborate with as many people as possible to get our projects done so we can use your expertise and work it into our management plans. The importance of the community is huge and use of volunteers is a big part of what we do. We try to involve as many keiki and families into what we do and they start to take ownership, like "that's my ridge or my valley".

Julia P asked (for the IPA trials) what's the revisit times for monitoring. Julia L replied 100, 200 and 300 days; with 22 trials, it has been hard to get back every 100 days so this one ended up being 150 days. Not sure how we'll reschedule it for the next visit. Julia L expressed that, personally, not really sure how important it is to do the 100 one because for most of these, it is a slow process, so maybe will look at 6 months then a year and in some cases 2 years before you see death. Julia P asked if have been a lot of surprises with this control method. Julia L – Personally, it's interesting that Garlon, the herbicide that we use for everything, was the least effective. In this application, you would need to use tons more to be effective, it does not translocate at all on the cordia which is 60 feet tall; then there are always concerns about going over your label rate; and the amount of imazypyr that was used on the dead tree was 3mL. Laurent added that he thought that it had been dead a couple months prior. Lance asked for clarification of what was used; Julia L – imazypyr, such as Polaris or Habitat. Lance agreed that Habitat kills a lot of stuff.

Rob H asked, in the Mauka site, which Eugenia species is it. Laurent replied that it is koolauensis. Some are really obviously koolauensis, with super hairy leaves; there's probably reinwardtiana (since) there's reinwardtiana on other places on the property; that overlap on the two species is, for me, a little confusing. Rob asked if they are getting hit hard by the puccinia rust. Laurent - some places yes; in other places, not so bad. When Kapua was there and took a look around, she thought Kahuku was worse with rust than our site. Inside the Mauka site, maybe six to ten Eugenias; and in a couple places outside, there's close to 100. It was all strawberry guava inside and chose Eugenia because it's not a very robust plant.

Lisa commented regarding not using na alii in the enclosure because it wasn't there (originally), but it was in the next ridge. Not going to weigh in on whether, ethically, that's okay or not, but just to say that at Ulupalakua where they use a lot of na alii as nurse plants, it's been really amazing in creating a nice duff layer and they have a lot of regeneration of natives that they haven't even planted through that duff layer just because it keeps out all that other stuff; so it does seem like a really good nurse plant in areas like that where you're trying to get regeneration. Laurent - and seeing it at that other site was what made me kind of think about maybe using it at the Kalahe'e site and start massively outplanting it over there. It's controlling erosion and our staff did have that debate wondering whether we should introduce another species.

The group recessed for a break 10:22 am and reconvened at 10:35 am.

OISC Update (Julia):

Julia started by saying that she will be providing a quick OISC update focusing on miconia and last year's work and recent work on the devil weed. But for the Devil weed and on I'd like to have an open discussion. The main goal of this meeting today is to discuss OISC's 2014 action plan (copies were provided). The plan was created prior to LFA, CRB and fireweed coming onto the scene. I would like everyone to take a look at what we already have planned to do (on the sheet) and, just for our plant priority target species, we have already scheduled over 300 days with our current staffing capacity. Then (when we add) low priority plant species, we're at 310 days. We also have Aaron Works' work on pest species at 204 days.

I have also included some information on the proposed target species additions. So today we are looking into the idea of going back and working with fire weed. It was never removed from our target species list, but it was listed as eradicated; now it's going to be put back on the target list. We are also going to consider re-adding tibouchina, which Richard Pender will be giving us an update on KMWP's current work. Also Darcy Oishi has put in a request for OISC to take on CRB as an official pest target species.

Staff & Volunteer Update:

Welcome Erin Bishop as our Outreach Specialist. Since our last meeting was in August, we have a new addition to our OISC Ohana – Derek Ford is our AmeriCorps Kupu Intern and also an awesome giant LFA. The new OISC mascot, on loan from MISC; they created the costume and Taylor and Derek have taken on the persona.

For our volunteers, Erin is doing the Lyon Arboretum monthly volunteer trips. Taylor did coordinate the Elite Volunteer trips on monthly miconia surveys which Charlotte is a part of and unfortunately, they have decided to retire. Taylor announced that Charlotte may be back. On the February Elite trip, Charlotte, Perry & Thomas Yoza were able to control 54 immature miconia and cover a little over 13 acres for 24 hours of work.

Julia reminded the group of the 9 high priority plant species targeted for eradication, 6 species that are in the monitoring stage for eradication or would be considered rapid response and 3 target pest species that we work with in collaboration with HDOA and DOFAW – coqui frog, LFA and do early detection for Myoporium thrips. Our top target species related to work effort are miconia, devil weed and LFA. Although for this past month CRB has replaced LFA for work effort dedication.

Miconia:

In 2013, we were unable to survey the required ground survey acreage so our work efforts were focused on surveying in the ground buffer within a 450m area of a historic mature plant location. I talked about this a little bit in the last August meeting, but for a quick update for new attendees; the reason we did this was because 99% of miconia trees are found within 400m of a mature plant that had been controlled. Our average monthly acreage surveyed is around our goal of around 200 acres and that's with a crew of 5 to 7 people. So this year our goal is to survey 2,400

acres on the ground. So here (on the table in the presented slide) are acres completed, which is acres that the crew has actually surveyed and our target goal which is our survey goal with available staffing levels. The acres remaining is the survey acres that will roll over from last year into this year, so into 2014; that's from the acres that we need to survey not from our target goal.

In 2013, we had 637 ground survey acres roll over from 2012, and we only completed 360 of those acres. So we still have roll over for ground surveys that we haven't surveyed since 2012. So we're coming up on areas that, for 5 years, have not been looked at for miconia. So there's potential for a plant to mature in that time period and we still have close to 400 acres of those left to do.

With the aerial initial survey buffer, we have 2,886 acres left to survey, but currently have no hope of completing any of these acres this year. But with our ground re-survey buffer, we have to survey some areas within the ground buffer aerially because either they are too steep or just impossible to hike through. So within these, we have over 500 acres rolled over from 2012 to survey by air, and last year we completed 319 of those acres; this left us with a remainder of 238 acres to survey for this year. So we have 238 acres of roll over acres from 2012 to survey this year.

For our roads and bino surveys, the roads are rainy day projects so we don't have target goals for them. On days when we can't go out in the field to do ground surveys or aerial surveys, we can do road surveys for miconia and binocular surveys are conducted for areas that are too steep to survey.

Referring to map on slide - you can see the areas that we have been able to cover and the inset is aerial acreage that we were able to survey in Wahiawa. We didn't conduct ground surveys there but we were able to get some aerial surveys done, and especially in a burn site. If you've ever flown in Wahiawa, there's some really interesting camps and individuals there.

For 2014, the crew has been decimating our ground survey goals for January and February. Our goal for each month is still the 200 acres, focusing on the 450m buffer area. In January, the field crew smashed that goal conducting 413 acres on the ground. And for February, we conducted 227 acres; this number is a little bit loose because we haven't gotten all of our data field forms inputted for February so it will only probably increase and so our total for the year so far is 640 acres surveyed.

Our acres remaining for ground survey is the acres OISC has completed this year subtracted from both our goal acreage and the acres we need to survey. We have a little over 1,700 acres left to survey by ground to reach our goal but we have over 3,000 acres on the ground to actually catch up with our work that's rolling over from 2012. There's a couple of reasons why we're this far behind in our miconia work. There was reduced capacity due to reduced funding and also we had a lot of staff transition and new crews coming on, so getting them trained and conditioned to do miconia work.

And I talked about this in the last meeting – this past year, 2013, a lot of the area that’s rolling over and keeps on rolling over is in the really steep, nasty wet areas that are really difficult to get to. And so they just keep on rolling over because it’s hard to get access, the weather is too bad and crew is exhausted.

So you’ll notice the big goose egg under aerial acres completed. We haven’t been able to do any aerial surveys for miconia this year due to pilot unavailability with Airborne Aviation. Taylor & I met with Ron Nagata of PCSU on the 18th to discuss this issue and there is possible movement to either find a replacement pilot for Alan, who’s our main pilot to do miconia surveys and also the possibility to use another helicopter company, before Howard returns in June or July. One of the reasons is because Alan is on sick leave and he’s the best pilot for the type of work that we do. Steve’s a great pilot from point-to-point and doing sling loads, but not necessarily the best to conduct the low, slow surveys that we need to do to have effective miconia surveys. It’s this niche pilot that we need to complete our work; so it’s not even worth it to go up in the air if we’re not going to get a good survey. The aerial acres needed to survey, include 2012 and 2013 rollover acreage, but not any of the close to 3,000 acres of initial surveys we need to complete for our aerial miconia buffers.

We haven’t found a mature this year so far; but the crew has controlled 130 immature.

Rob - How many acres do you do in one day for an aerial operation? Julia P: It depends; it can be anywhere from 100 to 250; it just depends on the terrain and weather and how dense the canopy is. Taylor added if it’s an open, like, Windward cliff area, then can do more. Julia P - We can do a lot aerial acres in one day; especially compared to ground surveys. Joby offered that he’s happy to help with that. Julia P: Thanked Joby for coming out last year to help us catch up with our aerial surveys.

What all this means, is that, once we do get a pilot to come over from Kauai or by using a new helicopter company, we’ll have to sacrifice a lot of our ground survey days to catch up with our miconia aerial days as well as deliverables for the watershed partnership grant funding that we have. We’ve already had to change over our 2013 deliverables for that grant and shift them into 2014 because of this issue of lack of pilot.

I wanted to give you this picture first, so that please keep in mind this information of how far behind we are in miconia when we’re discussing adding on new target species; and the work that needs to be done for LFA and fire weed.

Mary: Over the last couple of years were you folks able to get over Kalihi for aerial as much as you wanted to? Taylor: We did do an aerial survey of Kalihi after finding a mature and so we surveyed almost the entire Kalihi part of the buffer aerially and didn’t find anything. Julia P: (Referring to the map) underneath the purple is all yellow, so we were able to survey by ground and aerially last year.

Funding:

OISC has a record funding year in the entire history of the program. I’m really excited about this for a multitude of reasons. It started with a lot of the efforts that Rachel and Mary handed off to me in the transition. We would not have been able to raise this kind of funding if it wasn’t for

the work that's been demonstrated in the past by the field crew and Rachel and all of our outreach specialists that we've had throughout the years. I had the target goal of raising \$850,000 for the year, that's similar to the budget we had for last year, and have been able to surpass it which is wonderful but to actually meet our current deliverables that we have right now, without these new species; we need about \$1,000,000 to complete the work we need to get done. This does not necessarily include the facility expansion that we would need at our baseyard to add on staff. We're already packed to the gills; storing stuff underneath our containers out in the exposed area because we just don't have any space for our gear. However, we were awarded funding to buy a new hutch.

Referring to the slide – this is what I have envisioned for our program, of what our current staffing level is and what desired staffing levels that we would need to complete our current objectives. I've broken them down to different field crews; and it's necessary to have a dedicated aerial team, to tackle all of the acreage that we need to. One thing that I'd like to note is that this aerial crew wouldn't necessarily be a permanent fixture to our program, we would need a team to come on for two years to knock out all of our aerial buffer surveys, especially the over 3,000 acres of our initial surveys that we haven't ever done; that's a need that we all see. Then having a 7 person miconia crew, which would be full time permanent positions; they would be switched off with other species so they wouldn't get burned out; but they would be the miconia experts. Then we'd have a 4 person team for other species. I also see the need this year for a 3 person pest response team to tackle LFA, CRB and Naio thrips and whatever else HDOA needs us to assist with.

Because of Oahu's population density, we definitely need more than one outreach person and it would be nice to have 2 full time outreach staff and then a part timer. So what Taylor, Erin and I have discussed, and have started the process for hiring a Tech 3 position who will be part time field and part time outreach. That's at RCUH right now, so hopefully we'll have that person come on line and help Erin out with some outreach because she's booked.

Mary commented that Julia thanked everybody but herself on the fundraising thing, but I just wanted to point out that every time I talk to you, you're busy writing grants so the record funding has a lot to do with you.

Devil Weed Update & Discussion:

Since our last meeting Army has discovered new locations of devil weed at the Schofield Barracks West Range and extended populations within KTA. Referring to the slide, Julia pointed out high risk sites that could be surveyed to try to delimit the island population. If this species has already spread, we don't even know. These points are located adjacent to or within the highly utilized motocross areas.

The infestation area in KTA covers around 1,200 acres including over 3,000 immature and mature plants. The outlier populations are at Schofield Barracks, Pupukea and Kahana Valley. The Kahana Valley location is about 12 miles from the nearest known infestation site in Kahuku. Army is controlling the ones at Schofield and we did receive additional funding to control the Kahana Valley population from the watershed partnerships.

The Devil Weed Working Group (COWG) was formed in August of last year and will be meeting really soon again once Jane gets back from Africa. For our work in Kahana Valley last year, we did 18 acres of ground surveys and the crew controlled 25 immature plants for 48 work hours. For this year, our action plan is to survey 60 acres in or adjacent to priority watershed areas in the valley and so we're going to do a 200m scour around the known mature plant location and then bump out into the 800m buffer and survey at least 20 acres within that 800m buffer area, in good habitat and areas that are closer to high priority watershed areas. So if anyone wants to come along, let us know.

Julia presented a map of our work from last year from 2012 to 2013. We were able to survey over 1,100 acres and found over 1,100 mature plants and over 1,700 immature plants. For this year, our action plan as noted on the handout, we're focusing on trying to delimit the distribution of the species and treating all the hot spots and making sure that we survey all of the subunits. Then trying to attempt to survey trails that go within the 800m buffer because the trails are going to be the major pathways for this species to spread.

Julia then presented a map of the work that we've done from October of last year to the end of January. The field crew did go out in February but I did not include that work effort. They did find 27 mature plants and over 200 immature plants and spent over 500 work hours on this species from October to January.

We need assistance from Army to treat the hot spots aerially and Lanky from DOFAW Forestry has offered his services to treat hot spots on the ground using his ATV. Also, Danielle and Alex met with PTA biologists to talk to them about devil weed and identifying and they're going to incorporate looking for it to try to make sure this plant doesn't spread to the other islands.

Our crews found two mature plants outside of the KTA area in neighborhoods. It seems like the road side surveys for this species isn't necessarily as effective as it is for other target plant species. We either need to rethink our methodology for roadside surveying for this plant or maybe it's just growing too quickly. We're not sure.

Julia presented two maps before opening up the floor for discussion, feedback and additional input from Army. The first map showed some of the roads and trails in a portion of KTA; just to show you different areas of pathways for this plant to spread from the main core infestation outward. And the distribution of this species within KTA and some of the outlier points. Julia L was able to confirm that a plant was found in Delta Training Area in January; so plants have been found along roadsides out here.

Our management practices don't seem to be adequate or effective to eradicate or even control this species. We're basically resurveying areas on an annual basis. Jane and Army crew found a new site on the West Range in a site that had burned in October and they found a mature plant in January. So this plant is maturing within 3 months here in Hawaii. If you look at its life cycle in Australia, devil weed acts very differently; it has a longer dormant period and die back stage and has a very clear seeding and flowering stage in the summer months which is their winter months. So this plant seems to be acting differently here than it is in Australia, where a lot of the leading research that's been going on and so may not be applicable to our situation here.

When the crews go out to KTA, they are finding larger more dense hotspots in areas that were surveyed and treated last year. It seems like we don't have adequate tools or technology to treat this current infestation. OISC definitely doesn't; we don't have our own sprayers or boom sprayers or ATVs which is really what you need to treat all of these hot spots. We also don't even know the current distribution of this plant within KTA, and it seems like the feedback that Taylor and Zoe have is that, we need, at least OISC needs, a dedicated devil weed crew just going out there every week.

Discussion:

Joby – We really appreciate OISC for their work on this species. We greatly appreciate all your efforts there. The plan is obviously changing; this target, I think, is different than a lot of these other things. Army is on the hook for control of this species. We've been discussing with Fish & Wildlife and we're not walking away from it. There's the impression that we will continue to put resources into controlling it. We need to come up with the management plan on controlling it and we'll get that done. So it is not something that we're going to back away from. It shouldn't compete in any way with any of your other targets because Army will pay for control of it and shouldn't take away from anything else that you should be doing.

Julia P solicited the group for any input on bio-control or current research that's happening out there.

Darcy – Have we done any genetics on the current population? Julia P – the short answer is “No.” Darcy – For bio-control I think that (genetics testing) would be an important next step. We need to look at the genetics of the population and then we can examine what is out there in the field currently being used throughout the Pacific because there are different agents that are effective. Guam has an agent in the field that actually is (effective); but their ability to do any testing for bio-control is limited because they can't import plants. So they have a containment facility that isn't allowed to hold foreign plants so close range testing for us would be very limited. I won't speak on the capacity of PPC because that's not my kuleana anymore, but while in Fiji, I spoke with a colleague who actually did work on chromolaena, it's one of his projects in Queensland and they do have the capability of tackling this for us. They actually do have an agent and Queensland has a really bad population of chromoleana. They were able to get it under decent control, not eradicated, but decent control over a span of 30 years. They have a couple of gall formers that are effective. So bio control is out there and Cliff Smith has approached Darcy, who forwarded to Rob Curtis, that he has money that could be used to begin exploring bio control. Joby – He told me he was in contact with the group in Guam as well, so we are looking into it. This year we were trying to determine whether it would be effective and looks like it will be; and can find funding to do bio control. Darcy – It's going to be a long process no matter what, so may as well (start) and worthwhile pursuing that angle on control. Rene – Momentarily our quarantine is loaded with lots of bio control agents and, as you know, we need resources, in terms of space and people, to work on at least propagating the insects and going ahead with non target testing. But it's an option that we need to think about and see whether we can go ahead and start some studies on that. And of course we would need some money to send our expert entomologist to do survey and collection. Darcy – Along the bio control angle I think we could be doing more at looking at what is naturally occurring on the

plants, if there is anything. And the reason why I bring up genetics, if this came from Guam, maybe we brought one of the control agents with it.

Rob – Does anybody know if anyone has looked at the genetics internationally of this species?

Danielle – So there's a working group on bio control of this species and it's an international working group that's based in Africa. They should probably be contacted because they already are doing a lot of genetic testing on populations throughout the world so they might be willing to check out our population too. Darcy – They're probably at the international conference right now. At last week's Pacific Island Partnership Meeting in American Samoa, one of the discussions is to create a Pacific Regional Bio Control program and that would be to coordinate the efforts between the land care research and various bio control programs in Australia. To help develop products that are needed within Hawaii, New Zealand, Australia and the US territories, affiliates, Guam and all the other Pacific countries that partner with Australia and New Zealand. The goal is to reduce costs and make things a lot more efficient by partnering. So that (idea) is gaining a lot of steam and apparently is going to be taken up in Palau later this year. Rob – They meet annually? Darcy – No, this is just talk story and sharing information. So this is gaining a lot more momentum. He has already reached out to me to publish a book. So chromoleana is a target we can toss out to this group to be looked at by the collective.

Charlotte - In Kahana, where is the site exactly? Taylor – I don't know the name of the ridge; there's a couple main ridges there. Charlotte – Is it the one that you cross the stream three times? So is it before or after the turn off? Taylor – It's before. There's an old burn site; the plants are actually at the burn site. We haven't surveyed all around, but that's where the core is. Joby – How many plants? Julia P - 26. Taylor – Mashuri had taken the mature; we just found the immatures.

Julia P – What I'd like to see happen for right now is, we do our work to get more information about our re-surveys because we have only completed one full year of consistent work and management of this species in this area. Once Jane returns we can initiate another COWG meeting. I'll send a schedule out to see when would work for everyone. And we'll try to have Cas Vanderwoude come over from HAL because he is not only an expert in LFA but also an expert in devil weed. So we'll have another COWG meeting and strategize then.

Julia L – But maybe before then we should have an internal one (meeting) and maybe Jane and OISC can meet to discuss specific strategies on the ground. What it really will take (to be effective); have to up the re-survey (frequency) based on all the information you guys have gained in the last year and figure out how much it will cost.

Taylor – From what we've seen in the field, I think it's a real time sensitive issue. What we just found out in January, which was our year cycle, so our first time revisiting after a year and surveying. There's matures everywhere and new hot spots everywhere. They're maturing at this high (gestures a span of space with his hands). I think it's a priority to throw as many resources into it instead of waiting a year and hitting hot spots so it's not just going everywhere.

Julia L – We just got a contract to do aerial spray. We need to figure out what we think it will take and how much it will cost.

Darcy – We submitted a joint Farm Bill proposal and USDA, at the national level is slow on budgeting; the joint Farm Bill is for over half a million. The Director of PDQ and the Secretary of Agriculture have not decided on their 2014 budget, although they have come out with a proposed 2015 budget. So we were supposed to find out last week which proposals got funded, but it has been pushed back to the end of March. If funded, then likely the money will come in April. I do have fears that the size of the chrodo ask for the Dept of Ag for attached projects, which generally are strongly supported by USDA, will be torpedo-ed or undermined to an extent, by the ask that we put in for CRB. I'm hoping that this grows the total amount of monies that we get from the Farm Bill, but I had concerns as I was writing last minute proposals that we would be jeopardizing proposals that were already submitted. But we are seeking monies for chromolaena.

Julia L – An update on the wash rack situation, because we always have wash rack issues with the Army. We now have a signed memo from the biggest big wig there that all vehicles absolutely must be washed after they leave Kahuku and West Range (when they train in the McCarthy flats area). So we still have to figure out how to staff up the wash racks and enforce and all that. But (the memo also states) definitely between training ranges and definitely between islands.

Danielle – So my roommate does search & rescue training with dogs at Kahuku. I don't know if that was something that was very well known but they do training at that site and I think it would be good to inform groups that are a little less official in the memo. Julia L – So not just training vehicles but all vehicles and animals, but how are they going to enforce it. Danielle – The thought of dogs running through there is frightening. So I've told her and there's been some unofficial dialogue of where to avoid with the dogs and stuff like that, but it might be good to make it a little more official and make sure all groups are being reached out to. Joby – The area that's closed, should be closed to all groups. Danielle – Also is there a hose there so they can wash their dogs on site; or they can just power wash their dogs? Julia P – Asked if there's (non-power) hoses there for gear? Taylor – Confirmed that they use the high pressure hoses to blast their boots and gear.

Julia P – For the sake of time, if anyone has any other discussion points, please send them to Julia directly.

Fireweed Update & Discussion:

Julia P – So Danielle's roommate, again, brought an issue to our attention. Thank goodness rent is so expensive so we all have to live with people. So Danielle's roommate notified her that there's fire weed at the Kawailoa Wind Farm which is right up above Waimea Valley (directed to Laurent) so that's also the hala scale right above you too. Danielle & Alex, when they were doing a Waimea survey, went out to check if this really was a fire weed location and they determined it to be so. OISC contacted HDOA and Derek to let him know that we got fire weed on the island again. Unfortunately, HDOA is swamped with something called LFA and CRB, so our crews were able to go out and survey the areas around the wind farm; specifically towers 18, 19 & 20. Referring to the map, the green dots are not only plant point but are the locations of the wind turbines. The crew found 6 mature plants and 101 immature around tower 20, but did

not find any plants around the other turbines and the one plant in the upper part of the screen is a mature plant in the parking lot. Danielle corrected to say that it is the location of the original known plant that the wind farm people found and when they found it, it was huge. The great news is that we didn't see plants in the other areas. The staff at the wind farm said that it was Hawaiian Cement that brought in gravel and Goodfellow Brothers brought in equipment that was used in Kona to this area which may be the likely pathway for introduction. Julia L - They also treat lots of fire weed at the wind farm on Maui. Danielle – Yes, there's all kinds of potential pathways for this plant.

Julia L – What level of communication have you had with First Wind? Will they survey and treat? Taylor – Their crews are controlling just the immediate area where the found but not surveying. Danielle – They have one person on staff who has had experience with ranching on Maui and he knew about the plant and what it does to cattle. Also Kamehameha Schools is planning to bring in cattle to this location; so he's been really concerned and taking care of it basically himself for about six months.

Darcy – The funny thing is, I was in a meeting with Senator Ishihara when First Wind came in and one of their projects is to tie in ag into the system. In order for it to be considered agricultural they need to have some sort of industry going and a few of the topics were cattle, bees, goats or sheep. At that time, I did bring up the issue of weeds.

Danielle – I feel like it was a fluke that I found out about it anyway. I was just talking over dinner with my roommate and really (feel like) they have been keeping this under wraps and I think they were concerned about ramifications.

Derek – So, the property owner is Kamehameha Schools? Danielle affirmed.

Taylor mentioned the possibility of surveying through the whole farm. We did recommend the use of pre emergent on, what they call the “beauty ring” at the base of the towers. They said that they do have it, we just need to stay on them and can go to Kahuku in case. Danielle – I agree that it's time sensitive and it's needed now. Julia P – James Leary is not able to attend the meeting today, but he and I have been in discussion about effective herbicide for this species. He's done a lot of work with Milestone with this species in particular and had a really good success rate with controlling it, especially if First Wind did want to keep grass around the area or vegetation around the beauty rings. So we could go and get some Milestone and use it. There's tons of information about controlling this plant especially here in Hawaii. Taylor – Perhaps look into a Milestone-Oust cocktail or something. Julia P – He (James Leary) does not recommend using Oust. Joby – First Wind should pay for this; you guys shouldn't be paying for this. Julia P – Interestingly, we were awarded \$8,000 from First Wind for this year. We didn't even know we would be encountering this when we wrote the proposal. Part of their contract for having the turbines out there is for them to fund conservation efforts. Darcy – I will contact Senator Ishihara to touch base on this issue since it is his district.

Taylor – The crew there at First Wind, until we visited, was surveying only in the beauty ring gravel (area) and not where the grass line hits, which is where we were finding little matures. We informed their staff since they're looking for it anyways. Danielle – The nice thing is that it

wasn't found very far outside of that beauty ring; if you go 10 feet outside of that area and there they are.

Derek asked how many acres are we talking about. Danielle – We surveyed the places that we had already seen it and we went to those three windmills because that's the ones we knew about, we didn't go anywhere else.

Rene asked for confirmation that it is still in eradication mode; any investigation into a bio control agent? Danielle – Not at this time; hopefully don't need to get to that point.

Gregory – Is there currently a ranching operation in that area? Darcy – It's proposed as part of the contract.

Rob – It seems like you would be able to approach First Wind to have OISC do surveys to delineate it and give them the information they need since it's in a managed area where they're going to be doing it anyway indefinitely. If they incorporate the control in their regular protocols it could be knocked out over time; provided it hasn't already spread all over the place.

Julia P – OISC definitely has the capacity to bump a few things off to take care of this immediately, but one of the things we all are concerned about is that we don't know how it got here. If it was Goodfellow Brothers or Hawaiian Cement and that was the pathway, and it came in on their equipment where else is fire weed? Because their equipment is stored at their baseyard. Derek has already contacted some individuals but needs assistance contacting the contractors and talking to them about proper decontamination especially if they are using the equipment between islands and also surveying their baseyards to see if there's more. Rob – It seems like that's something First Wind can help out with too if they contracted them to do the work; if they incorporate that into their contracts. Joby – May also want to approach Kamehameha Schools as the land owners. Julia P – Have not yet (contacted Kamehameha Schools). Darcy – Kamehameha Schools is not without its powers too. When they were installing Ulupalakua wind farms they actually required all contractors to decon at Kahului Harbor then they were driven to a staging area at which point they were checked again and then another decon before any entrance into Ulupalakua property. They actually found stuff like crazy in the initial decon at Kahului Harbor. That was their (Kamehameha Schools) practice. Ulupalakua also required re-planting of any trees that were moved throughout the whole project and roads would need to be adjusted if it impacted any trees.

Julia P – Let's take this off line because we are horribly behind and have a lot of other species to talk about. If anyone has more feedback or input on how to continue contacting the parties responsible and actually taking action in contacting those contractors as well, please email me.

Tibouchina Herbacea Update & Discussion (Richard Pender):

Last week our (KMWP) field crew and two from OISC went to up to Poamoho to look for tibouchina. Referring to the slide pointed out historic site on Windward side where plants were found in 2009. More recently plants were found on the Leeward side particularly in this area here which is near where the fence line has been cleared.

In the last trip in December they found seedlings down the drainage; Makai of this population here (pointing to slide image). Our plan was to go and do a buffer zone around these plants. This had been previously surveyed, no plants were found here in December and we wanted to survey down here to make sure no more seeds got further down the drainage beyond a waterfall.

Pointed out the Windward side where the old population was; we found one immature plant down there (on Windward side). This is the site where the fence is going to go through; the line that's been cut; you can see that it has been cleared of vegetation last year. The new population has been found here.

We did surveys along streams to try to find any plants. We did find some immature plants, so we hand pulled the small ones. We found 5 mature plants, three of them were seeding, which is not good news, and we contained them as best we could the ones that were seeding. That was right beside where fence line was cut.

We found a bunch of immature plants down this drainage where we previously found them. We found no plants further down the drainage. At this point, we've done all this drainage and found no other plants in this area and have used binoculars and manually walking through these areas through here. Because we didn't find them, doesn't necessarily mean that they won't come up. These seeds might have gone down this drainage and they might germinate so we need to go back in the next few months; it will be vital to see if they have germinated.

Basically at this point, we know where the plants are and it's a containable area and I remain hopeful that we can control it as long as we don't get any more plants getting to maturity and keeping on top of them preventing them from reproducing will be key.

I've got a few numbers on the plants we actually controlled - one immature plant at the historic site, 5 mature and 74 immature in the fence line site and 28 immature in the (previously detected) drainage site and in the new (drainage) area that we surveyed we found none. As I said, it doesn't necessarily mean that it's not there.

Julia P asked for confirmation of where the new area is. Richard - It's further down; a good way down the drainage.

Some points which will need to be discussed, such as; continued detection and control will be important for this species, determining where the fence line will be, seed back longevity and more information on phenology would be really useful and, of course, funding to control. To further clarify the distance between the historic Windward site and the new population along the fence line as about 145 to 150m. We surveyed through here and found no new plants but it is near where the 5 mature plants were found and I have no hesitation to predict that there are probably more plants in there. There's probably juvenile plants in there that we didn't detect because it very difficult to see the immature plants amongst the complex vegetation. There has been talk of putting an alternative fence line and maybe moving this but that will be something that needs to be discussed by all the partners.

Julia P – OISC has been asked to take this species back on. Currently we have a rough mock up of our entire year on Google calendar already scheduled of our current operations and we have about two blank days for the next year that we can add something. Julia asked the group to begin the discussion with what might be needed to eradicate this target in this location and what OISC's role can be and should be, and if we want to add this, what are we willing to take off our current schedule?

Mandy – The best, most important role that OISC can provide would be the data housing. We've all decided that it can be a big partnership effort of control, protocols. All (partners) will contribute towards actual on-the-ground support. But nobody has the capacity that OISC has for data, so if that's all OISC can do, then we can figure it out. Ultimately it would be ideal for OISC to do the target and ask for assistance, but if that's not possible, then being the people that house all the data and make sure that it is being checked on regular intervals and can have partners that do work up there; so that's where we ended up at the meeting that you couldn't attend.

Mary – Question to Danielle, regarding the messages from Maui and their alarm and their difficulty in managing this species -- Does Danielle have a sense of whether this is a higher priority target than any of the things that are currently on the list? Danielle - So I have been emailing with Pat Billy and Chris Brosius about what they have been doing and what historically has been done on Maui, because they are now at the point of keeping (it) out of sensitive sites and not really thinking of it as eradication at all. I'm not sure I conveyed to them exactly what we're dealing with, because when I say "large population" they think of Maui kind of size. But the word from them is, we need to be really careful about those outliers and make sure that we aren't missing some mature plant out in the bush because this plant can establish in fully formed uluhe stands. Mainly they were saying, make sure that you aerially survey the area because they're fairly easy to detect from the air and that way you don't have a surprise again. Taylor confirmed that Danielle was talking about matures; that they are fairly easy to see when they are mature. Danielle – Because of the silvery leaves, he was mentioning the silvery leaves that are fuzzy (and easy to see). It actually might be a good idea to bring him or somebody over who has a lot of experience (with aerial survey of this plant). Taylor pointed out his previous experience with West Maui Mountains, but has not done aerial surveys for it. Danielle - He was talking about seed bank and how nobody really knows about the seed bank, but that his impression was that the seed bank was probably long-lived. My impression from him was that if we have an established mature plant and it manages to spread itself, we could be dealing with a long term target. So I would say that it's a high priority. I can't speak to where it falls on that list because everything (on the list) sucks. Taylor – It sucks because it's in the native forest already. Danielle – Yes, it's in its favored spot and its favored spot is our favored spot; and for that reason, I think it's a really high priority.

Taylor - The new fence is going to help. In my experience, with West Maui, every pig trail is for Tibber. They really like those damaged areas. Also confirmed with Richard that they aren't sweeping, right? Danielle – His emphasis was, too, don't walk through an established stand and a disturbed site on the same day. Basically, either survey in your known area or survey in that outlying area so you're careful not to spread it. Mandy – He discussed better quarantine initiatives. One thing on the map, too, the last point that the tibouchina was found, I believe,

there's a big pool of water there (RP confirmed there's a waterfall there). It kind of seemed like it stopped there. You can continue to monitor further downstream, but seems to stop at that pool. It seems that everytime we go down that drainage they keep popping up but seems to stop at that pool; so that could be a saving (grace).

Joby - If anyone has seen it in Maui, (they know) it would be a terrible thing if it gets established into the Koolaus. If it gets more established than this, there may not be any stopping it. I would be a strong proponent of getting OISC involved, at least in a really good delineation (effort). Six months to 1 year to work really hard. If it is just in the areas Richard presented, then that's great, but if not, it's such a scary thing. We should make sure that its only there. Army can help with seed stuff; happy to help with that; just give it to Julia L. But you probably don't have any, right? Ricard – Yes, it's probably all burned at H Power.

Julia P – I know that the field crew is really passionate about this species and really gung ho about working on it, but my hesitation with taking on this species and doing the delimiting surveys is how far behind we are in miconia. We have the chance to eradicate miconia and I want us to catch up.

Taylor – It also seems like we need help on chrodo a lot, with another crew or something. Would that alleviate things, if get help with chrodo, can we do tibher and miconia?

Julia P – We have more funding than we have had before, so we're able to expand a little bit. We're already adding another person, a new tech 3, which is a position we've never had before. Where we're hitting a wall is the inability to grow in our baseyard and to have a place to house these people because we don't currently have the space to expand the acreage or the building. We may have a little bit more funding, but that funding may need to go into facility capacity first which takes time.

Mary – A potential model that might work, or something to think about, is if OISC is able to take lead and send 1 to 2 people each time and the rest of us can fill in crew members so you don't have to pull all your crew and they can do other species. Julia P – I think that, except for chrodo, (that's) what we are doing right now. We are able to have two sets of teams, although we have had a lot of injuries this past month; so yes, it is definitely an option. But we still need to add at least 4 field crew to get the work done that we have right now, which they would (then) be able to help with tibouchina and fire weed.

Richard – I think to do the sort of work that we did last week would be 4 days per quarter, just to maintain at a minimum. We will probably need 8 days a quarter and more intense during the flowering season to prevent them from seeding again.

Dave – What about KMWP taking it on? Basically you're going to have to bring in resources one way or another. Mary – We have some of the same issues (as OISC); we don't have the funding, place for people. Dave – It just seems that we need to bring more resources to the table. You don't want to water down miconia. We've got serious issues with fire ants, rhinoceros beetles, (and then) to take on something else.

Lisa asked if there was a way you can delay some of the other deliverables; then, under the watershed funding, you could address it. Mary – I'm not opposed to doing it, I just feel like because of the nature of this particular threat, it's a super high priority OISC target. I feel like having OISC as the lead and for the rest of us to support them as best we can. Because that's the model for OISC; to take these super high priority incipient species and this is right in the middle of that. Lisa – So it makes sense. Mary – In terms of prioritizing how we'll be able to bird dog and cover, if OISC can be the lead, and we can bring resources to support. Because it totally fits in the mission of OISC.

Julia – I definitely see us easily being able to do the data portion of it, right now to start. And then looking into (more). After discussing CRB and LFA, (we'll be able to see) what OISC's picture will look like for this year. We have to keep that in mind as we keep on expanding species and strategies, not only do we need the people on the ground, but we need to have support staff for Taylor and I to manage this information and the scheduling and all of the stuff that happens when you add crews for species.

Mary – Is there potential for some of the other species to be covered by other organizations?

Julia P – Like piper in Waimea with Laurent's staff of two? Taylor – And fire weed with First Wind?

Mandy – As far as facilities go, you guys have quite a bit of space compared to what KMWP has. But maybe it could be something that facilities can wait a year or two. and just kind of make it work. It's just kind of one of those things, where we just need people on the ground right now. And hopefully we'll have facilities because the watershed partnerships are both finding new places. That can kind of can wait a little bit of time; it's not something that needs to be done right away.

Julia P – So we have been waiting to increase our facility and have been keeping all of our herbicide gear underneath the hutches outside; not secure and we've already been robbed. That has been the way we have been operating because we had to increase our gear supply for chrodo work.

Lisa – What about contracting so you don't have to have space for somebody; like the Kauai Watershed Alliance. They contract out all of their weed control work; then you don't have to have support for long term staff, you just have people when you need them do a short term job.

Joby – The delairea is an interesting one too. Julia P – We just met with them last week and they're not doing a spot on job right now. So for cape ivy, in the Palehua region of the Waianaes, we met with Anu last week. (We met) to discuss how some of the private property or home leasees in the area have said they would control plants on their land, but are really not; and they are in the middle of the core infestation. So there are some struggles there, and that one is another can of worms that I don't really want to talk about today. They're not really having as much success as there should be controlling a species with as much research as there is about control of this species. That's another one that's super doable; it's only 14 acres once we get everything lined up

Please send any other comments or feedback about tibouchina to Julia P directly.

Julia reminded the group to feel free to take leave since we are already over our time allotment.

Little Fire Ant Update and Discussion:

A quick update on OISC's work this year, Aaron has been conducting early detection surveys for LFA on Oahu for the past two years. Last year he surveyed community gardens, farmers markets, gardens, golf courses, green waste sites, newly landscaped areas, hiking trails and county parks. He was able to survey 106 sites, 3 were community gardens and 68 were county parks. Seven sites have been surveyed by OISC in 2014 because we've put our survey strategy on hold until the incident command is set up and there's an overall county strategy to attack this species. Aaron & Danielle are attending an LFA ID training on Friday with Derek and Becky at HDOA and HAL is flying over for that.

A group of us are going over to HAL on Tuesday March 11th for LFA ID and survey training. So after the survey training and we all are up on our LFA ID skills, OISC will re-initiate conducting surveys in cooperation with HDOA. We're planning on having a survey meeting with HDOA OISC and a few other key partners on the week of March 31st. There currently are bi-weekly planning meetings with all partners involved.

We will be increasing our efforts for this species obviously, but we're not quite sure how much at this time. It will be mainly Aaron's kuleana, with hopefully swapping in a field crew member to assist in surveys and will also be assisting Derek.

Derek asked for OISC take over a lot of the surveys at the garden shops. We stopped distribution of infested hapuu at the garden shops; a lot of it was from Home Depot, Walmart and then spread out to three nurseries. So right now everything is kind of controlled but the garden shops need to be monitored; at least every two months or monthly preferably. I want to look into working with some of the nurseries more closely that have had the LFA; (want) to go out and resurvey their nursery; get them to and educate them a little more. We've already talked to them about treatment and survey but we have to follow up to make sure they're doing their job and track down more areas that they might have gone to. We've been really busy with garden shops right now; so we want to turn that over. Right now we also get the residents' submissions of ants. For every ant that's turned in, we have to respond with an ID and give them some kind of feedback on what they turned in and that takes a little bit of time. We have not had any positives from residents who have turned in ants; a lot of it is the common ant. We have not had that much response, about 25 calls, and out of that, actual ant samples that got turned in was 10. It's hard to get them to follow up; and not that many people who bought hapuu are calling in. A lot of them are saying, "I have ants in my kitchen", but we still treat those as important; it just takes a lot of time.

Lance – Is there any tell-tale sign, like tropical fire ant, around your sidewalks and stuff you've got the mound; is there anything that will quickly tell you that you have LFA? Derek – Probably not at the early stage, they're not an aggressive ant. They can be in your backyard and be in the grass, and you can even lie down in the grass. Then when the population gets big, they'll start to go up into the trees and start falling into your shirt. If the ant is not threatened or gets trapped

between your clothes then they don't attack like a tropical fire ant who will attack if you step where they are. So, for a lot of people, it's not important because it's not affecting them directly and they don't know because the populations may be small. By the time it gets big and then eradication becomes a big problem. By that time, they've probably moved more material around. So the strategy is treat it in place, come back in two weeks to treat it again and depending on the facility or depending on the area we recommend a drench and monitor thereafter. So I think homeowners might be afraid that we're going to get rid of their hapuu or dig up their yard; I don't know what they're thinking.

Angela – So the hapuu that came here and was infested, were you guys able to track that down?

Derek – The hapuu came from the Big Island, then went through a distributor on Oahu and then

it was spread out through Oahu and then Maui. Angela – So have you been able to track it all down? Derek – No, once it goes out to the residence we don't know where it went because the stores don't have a record (of who purchased it). But the ones that was in the store, it was treated and burned at H Power. Almost 4.5 tons of hapuu was sent to H Power; 13 pallets. Angela -

You mean the stores can't tell you exactly how much was sold? Derek – We kind of know how

many; an estimate of how many was sold. We're probably talking a couple hundred, but not every single hapuu has a queen or a colony that's spreading. So in a pallet you may have a

queen and the workers that go out; and (this species) they have multiple queens.

Darcy – The (incident with the) hapuu has allowed us to make the first detections on Oahu of an established population, but hapuu is not the only mechanism by which LFA is moving inter

island. And a lot of it is happening on material that PQ does not have the direct ability to regulate. Just the other day, for some bizarre reason, someone sent sour sapp and guava leaves

inter island from Big Island and it was infested with LFA. Derek asked if there was a queen in there; whether it was noticed. Darcy – We didn't bother; we just threw it in the freezer and

destroyed it. But it was a heavy infestation so it likely did have a queen. I don't want the

conversation to get bogged by one specific commodity or pathway because we can probably all come up with 10 unique pathways; that's just how it moves. The issue is what we need to do to

jump ahead of the ball game. I can tell you after having worked in Kona, that we had people that knew about LFA from Hilo, and they didn't know what was going on until 3 months later (from

their first bite) before the department was notified or the HAL was notified. In every case,

HAL came in and found that it wasn't just their house that was infested it was the whole

neighborhood and it wasn't just a light infestation. This is in Kona where it's not ideal habitat

for LFA, because it's drier than LFA likes, but infestation was present at levels they don't see in Hilo and that's how bad it would get before we would find out. And this is a somewhat informed

populace; here on Oahu, we do not have an informed populace and that's the issue.

Julia P – It seems like the main strategy that's come out of the incident command response is

initiating a large outreach initiative. That will be the primary driver and response for this

species. There is a significant amount of challenges to outreaching to our island and community;

that's partly why we wanted to bring a Tech 3 that's part time field and part time outreach. We

need someone to assist Erin in those efforts.

Derek – (Directed at Aaron) when you go out to do surveys you really need at least two people; one person is not enough; it just takes too long. Julia P – So that (Tech 3) person can assist both Aaron and Erin.

Mary asked Julia to talk a little bit more about the outreach effort, since that seems like it would be a high priority to get something out quickly to people so they can start doing surveys everywhere. Julia P – Janelle S., Christy Martin and Ken Foot are the Information Officers. Darcy – We set up this incident command system a little differently. Public outreach is usually directly under the Incident Commander and part of managerial staff. But we set it up as a specific operation within the command structure because the primary needs – surveys, treatment is important but public engagement to drive the surveys is what’s really critical. So we set it up that way with Ken and Christy. Julia P – The first thing that they’ve been doing is outreaching to the orchid societies and garden clubs because those people would be the main purchaser of hapuu logs since that’s what you can grow orchids on. So that’s the major effort at the moment. We’re doing a lot of outreaching to our legislators (as well) because there are a lot of separate funding bills to survey for LFA and different LFA initiatives. For example, at the moment, the dog detector bill is going to make it to the cross over and MISC or OISC could potentially house detector dogs for LFA.

Rob - What are the messages that people in this room can give out to spread the word about LFA; what are we asking the public to do? Are there succinct messages that we can all spread? Darcy – The best one is the sampling protocol. Rob – So peanut butter and chopsticks if you brought anything onto your property within the last few months? Julia P – It should be a year. Lisa – The Little Fire Ant website has a really good little sheet that can be printed out that tells the technique for doing surveys; www.littlefireants.com Julia P – So www.littlefireants.com is what we’re going to be using for all outreach materials. So we’re telling homeowners that if they have purchased a plant from a garden center on Oahu within the past year test it for LFA using the chopstick method you can find on littlefireants.com and send it in to HDOA for identification, then HDOA follows up. But we haven’t gotten the message out as quickly or as effectively as we could have because of staff changes at HDOA, and staffing limitations on identifying the ant samples because they didn’t want to flood of ants coming in and not be able to respond. Mary – So is that one of the concerns of having it on the 6 o clock news? Julia P – Yes, Cheryl the main ant ID-er has moved positions; she’s now an inspector. Derek - Even though there has been information going out in news, when you go to talk to the different groups -- pest operators, orchid growers; a lot of them are not aware that Oahu has LFA, they all say “Big Island”. We’re not getting the word out (that Oahu should be concerned about this species). Lisa – I think there’s an effort to do a PSA on TBN radio, but there have been issues with the phone number and, the ID thing (should be worked out first) before it can go forward to the public; the message needs to be packaged. Julia P – The Pest Hotline is a little broken and that’s part of our messaging. Darcy – We actually got a cell phone for it and we need to re-direct it through our city connections with Hawaiian Tel. The problem is, nobody knows how to transfer the line to the cell phone; we’ve spent three days working on this now and still not over.

Julia P – OISC does intend to increase our survey efforts for LFA once we have the partnership meetings and strategies (in place) and will take it from there. I think we need to be more proactive than we currently are in outreach and in actual surveys.

Joby - We will be adding it to Army's surveys. Julia P – Army has been awesome responding to LFA and CRB. Angela – We've been doing outreach with LFA and have been incorporating the Guard in.

Julia P – Is everyone linked in to the Incident Command? We're trying to keep consistent messaging. Angela – We were contacted by a guardsmen who thought they had LFA on their personal property and wanted to know who to call. Julia P – They may call the Pest Hotline; it is possible to dial the number.

Coconut Rhinoceros Beetle Update & Discussion:

OISC stopped doing LFA and thrips surveys to join on to the CRB response. Survey efforts include 305 work hours contributed to response. Aaron has been the main lead for OISC's response and the field crew and OED team has been assisting him in doing road side surveys and setting up traps. We've been able to survey over 9,800 acres on Oahu. Referring to the slide, the map has a grid system that the incident command center has set up for the response; the ones that are darkened are the ones that OISC has completed. Jean also spent a week with the CRB ICS team to assist in setting up their data protocols and information collection system. Aaron has set up several traps around the Windward side around high risk areas or suspected CRB damaged trees. It should be noted that none of the suspected trees have been confirmed with CRB.

Aaron's basically spending every day doing CRB stuff, so moving forward, after March he will need to start incorporating some LFA work in there so we will have reduced capacity to respond to this situation. Julia P will turn the discussion over to HDOA or Rob (as incident command lead) for updates or what you envision as OISC's role in the future, especially since USDA will be pulling out soon.

Darcy – As Incident Commander, I'll address this. So (this is) what we have done (so far) with HDOA as the lead agency. Back in January, once USDA confirmed the identification of CRB on Oahu, we requested an incident management team be deployed to assist us in launching a broad scale response. Based on the information available, the situation warranted that we could have a population on our hands. Two teams have been deployed and USDA has committed over \$250,000 of funding. We have set up joint operations with myself as unified commander to run the show and, basically because of staffing shortages, we have staff on unified command that consist of HDOA, USDA and DLNR people. And field crews that include HDOA, DLNR, FWS, OISC, KMWP; so it's a multi-agency response. The USDA will be pulling out a good portion of their presence beginning tomorrow; so control of the whole incident command falls to us. We are also pushing, through our congressionals, for funding. If OISC takes this on as a target, depending on funding made available, I do intend to give funding to OISC to facilitate their assistance. After talking to Scott, we have begun applying pressure to our congressionals to apply pressure the Director of PPQ to initiate a response. I also put in an ask for other state agencies to assist us in a committed fashion.

Over the weekend we had two additional detections outside of JBPHH, this marks the 3rd detection that is not on military land and the 4th detection that was not on Joint Base. It has not expanded our 2 mile buffer zone around the infested area very much, but it indicates that something is happening although we have mitigated the primary breeding site. So I expanded

my ask which was originally 20 people to 30 people. 20 people for operational field crews and 10 for command and general control. That ask was approved of by the Governor along with emergency funding for HDOA and this ties into long term funding that we have asked for from the legislature for LFA and CRB plus some facilities; it's a million dollar ask. We are still determining who will be providing this assistance, but it seems like General Wong is taking this on as a project. So I look forward to seeing the National Guard in the command post.

Because we also need additional facilities, if I bring on 30 people, USDA is then obligated to bring on additional people too; so we're looking at having a staff of about 90 people working on CRB for the near foreseeable future. I also put in a request for space facilities from HDOT Harbors and that has been granted. We're getting a warehouse adjacent to PI office so that will be our new CRB headquarters on Sand Island. Say if the committee approves and the funding goes to OISC, OISC can have some space within the command post for a staff and whatever equipment and supplies. Julia P – So this is the one species I am willing to take on because there's money behind it.

Darcy – I will throw in the caveat that I have not had the direct conversation, because this is all cabinet level. General Wong is not clear yet as to how the project will be funded, but he has agreed that this should be a project for the National Guard to take on; but the Department may have to reimburse those funding's. I may be committing some of the allocations that come from the leg, farm bill or from some of my special funds, but combined I should have enough that I can allocate money to OISC.

Derek - Will the military be able to commit any manpower. Darcy – The Navy? The Navy since sequestration has severely reduced capacity. They are primarily using contracting mechanisms to assist us. They've probably committed as much or more money than USDA and HDOA combined.

Julia P – Thanks so much for sitting through this very long meeting. I guess we'll wait to see about funding and then I would like to have a sit down with incident command to discuss OISC's role; once we figure out our role with LFA. For the Steering Committee, if you can think about maybe ranking the priority of response for the species that we've talked about today and what you envision as OISC's role and providing that feedback to me. It's definitely a unique situation with having all of these species come at one time. My goal as a manager in trying to prioritize which species to respond to and how much resources we should allocate to each of them and seek your input so we can make this decision together.

Charlotte – Why are they grinding the coconut stumps and everything instead of just burning it all one time? Darcy – We needed to line up all of the contracts necessary and it (the mulch) needed to be reduced in size to incinerate it. There are limitations on open burn, or even open curtain incinerators. We've looked at just about every treatment option that we can. I do not want to use H Power because it will consume, at just one site at the base, ½ a million dollars. But the department is committed to getting rid of this problem; we are committing that ½ a million dollars. Because of the high cost, the state's commitment has been questioned by the US government. We have identified other potential methodologies that we can use. There are a lot of unknowns here that we are encountering. It seems we have been engaging in hitting out heads

against walls encountering obstacle after obstacle as to treatment. The extreme difficulty in identifying a viable chemical treatment. A chemical treatment will be very expensive because the chemicals we can use, right now, we don't know how frequently we would need to re-apply. We don't have many good solutions (right now). There's a ½ a million dollars for the known infestation in one mulch pile; there's also a mulch pile five times greater in size on the base that is close enough that we will need to treat it as infested so we have to take care of that too.

Derek – This beetle is huge. So when you use insecticides, the first response we thought was effective. The beetle goes down and days after, they come back to life; one week later they're walking around. So initially they look dead, but they come back; like a zombie beetle. We've tried a whole bunch of chemicals even with **Synergist**. We will need to request an EP because it's not labeled for that purpose. It would be easy if we could apply it, but there are restrictions with the Dept of Health and be careful how we apply it. That area is kind of a flat area close to the water; it's not that simple, so there are lots of obstacles that come up that make the job 10 times harder.

Joby – We did have some success, because we determined through our landscape guy and tracked the contractors that we share. I'm sure you guys are doing that across the island since the DOD shares the same contractors. Julia P – Yes, that's why we wanted to focus on the Marine Corps base (golf course) because they share landscaping contractors too.

Dave – Darcy, why does it cost \$500,000 to incinerate? Darcy- It costs \$340 dollars per ton to incinerate, not counting the handling and transportation costs to get to H Power. So that totals \$450 to \$500 per ton and the conservative estimate was 2,000 cubic yards but it turned out to be closer to 3,000 cubic yards. Dave – Seems like the county could waive at least the H Power fees. Darcy – Cannot because H Power is a 3rd party contractor; and there is a contracted treatment price for regulated commodities, which this is. We are looking at a system called in vessel composting that will be tested next week that will hopefully reduce the cost by about a third to a fourth per ton.

The meeting was adjourned at 12:39 a.m.