Coordinating Group on Alien Pest Species (CGAPS)
Meeting Notes
Hawai'i Department of Agriculture Plant Quarantine Conference Room
1849 Auiki St., Honolulu, HI
9:00 am – 12:00 pm Wednesday, June 15, 2016

Note: *These meeting notes are unofficial—they have not been corrected or verified by meeting participants.*

9:00 – 9:10 Welcome & Introductions: *Domingo Cravalho, USFWS & 2016 CGAPS Chair*

9:10 – 9:45 Rapid 'Ōhi'a Death update: *Gordon Bennett, UH CTAHR PEPS*

- I will be reporting mostly on the entomology-related issues for ROD. I am a new researcher at UH Mānoa in PEPS, focusing on insect-pathogen interactions. I have a post-doc, Curtis Ewing, on BI working on entomology questions related to ROD.
- In Hawaii, there are at least two strains of Ceratocystis, A and B, A is the most lethal. Other strains present that have been described on sweet potato, etc.
- There are questions about how insects may be vectoring the disease.
- Lisa Keith of ARS on the Big Island continues to map and do work on strains A and B. Strain A is far more common,
- Over the last 3 weeks we have been having research meetings to determine the priority research questions. The one thing we really need to address is, "How is it moving through the environment and how can this be mitigated?"
- This is where my lab comes in. We are investigating insect and beetle activity, particularly the ambrosia and bark beetles which burrow into the diseased or dead wood. There are 21 endemic species (all Xyleborus), 24 introduced species in 8 genera (incl coffee berryborer, black twig borer, etc.). Also looking at other beetles and insects associated with the trees.
- Conducting bolt (sectioned logs) rearing of beetles. *Syleborinus saxesenii* is the most abundant, it is coming out everywhere and the frass is very tiny and fine, perfect for wind-dispersal. There are other Xyleborus species. Also getting ambrosia beetles, but the frass is a bit larger.
- Aerial trapping: what's in the environment vs. what's in the trees? Testing a number of traps. Sorting is quite a task.
- Working on a key to introduced Scolytinae of Hawaii. There is no real updated taxonomic description for this group in Hawaii. Will be online, specific to Hawaii
- Questions are: what is the diversity of beetle species in forests, what species specifically attack dead and dying ohia, and how do communities change in infected ohia stands. 2. Are beetles primary vectors of Ceratocystis spores, is beetle frass an important vector?
- Using molecular screening (PCR and gene sequencing) of beetles for the disease pathogen, also looking at if they are carrying and how they are carrying.
- Looking at beetle frass. Looking at contribution of beetles to the landscape spread. Frass that came out of the bolts have tested positive. We have set up frass sampling stations in areas impacted by ROD. Poles with petri dishes and filter paper, adopted from other Ceratocystis disease work in Europe. Petri dishes are fairly impractical, they dry out quite a bit.

- Designed and testing new wind-dispersed sampling units. Carter Atkinson is collaborating and we are working on a way to actively sample the frass in the wind. There are slides with grease. Rotorods are quite expensive , about $1,000 for quantitative measure.
- Large tree-felling effort in upper Wailuku to see if we can reduce airborne inoculums and answer other questions.
- Trying to bring Dr. Tom Harrington back out this summer to work with us on these questions. Phil Cannon is lokely to come at the same time. Philipp LaHaela-Walter (DLNR) is starting aerial surveys on Kauai, will do Molokai and Lanai over the coming weeks, already conducted BI, Maui.

Jules: Are you testing to see if the spores in the insects or frass is viable?

Gordon: We can and will, but haven't started yet. There are genetic ways to do that via detection of RNA.

Earl: When you were meeting on research directions and needs, is what you presented a subsection or a total needs?

Gordon: This is a subset. Flint is focused on the ecology and has key questions, Lisa has other key questions, I've presented the key priorities as they intersect with my work. The other priorities are presented and briefings conducted at the monthly meeting.

Lori: What am I going to do?

Gordon: Good question. We are looking at how we might conduct rapid response in some of our tree felling work. We are testing inoculum reduction, but also how do we reduce inoculum when conducting an eradication.

Lori: On Molokai if we lose ohia, we lose our forest. I have to come up with a plan. Right now, what I'm getting from our researchers is questions. So right now, if I find an infected tree, I'm going to cut it down, spray it and cover it. Then I'm going to call you.

Gordon: That's what we are doing and what we are recommending. Moving it is not a good idea. Spores can also last in the soil, so we need to have protocols for that.

Bob: What about fungicide testing?

Gordon: Lisa and Wade Heller is testing for individual potted trees with some success for the soil, but not necessarily 100% in trees via injection.

Jonathan: Based on research, is it still believed that the edges of forests are most impacted?

Gordon: It appears that it is mostly on edges, but there are areas where insular forests are also impacted completely.

Earl: There are questions that if the diseases moves up the Hamakua coast that it can spread to Maui? What are your thoughts on feasibility or likelihood?

Gordon: So far the disease appears to be in the southern area of the island. Once you get to a certain point north, the winds swirl around and can move to Maui. There isn't much distance between points on Big Island and Maui, and we are seeing points further apart on the Big Island, so I think it is a real threat.

Dorothy: If somebody fells a tree and wants to treat the area with a fungicide, is that a good strategy or does it change the soil biology too much?

Gordon: I agree, Lisa is looking at these questions, so that's why we are recommending covering.

Bryan: What's coming in in the areas after the disease moves through ?

Gordon: Flint Hughes has 60 plots he is monitoring. It is too early to tell in most locations. So far, we have really been more focused on finding resistance and seed banking.

Earl: There are also questions about the possibility of monotypical forest of strawberry guava moving in.

Gordon: That's Flint's area.

9:45 – 10:15 Invasive Species Committees of Hawai‘i:
Bill Lucey KISC: *no update available*

Rachel Neville OISC: Report March 1-May 31

- Did early detection surveys over most of the Koolau for Rapid Ohia Death. Still need to look through the photos. One thing the crew noticed was that there is a lot more ohia in both the Koolau and Waianae Ranges than what the USGS distribution map has. This was also mentioned by OISC partners when I sent them the original map.
- Did some operations at Camp Smith for devilweed (*Chromolaena odorata*).
- 10 coqui frogs caught in Waimanalo, will conduct spray ops soon
- Five mature and 852 immature miconia trees removed over 4,799 acres surveyed (most surveyed aerially)
- Fireweed (*Senecio madagascariensis*) is not detectable at the known site in Haleiwa. OISC is reducing visits to twice a year instead of once a month.
- We were only able to get up to Poamoho once between March and May, for *Tibouchina herbacea*. They only found 3 matures. The crew was also able to do an aerial survey in June and the crew did not see anything that looked like Tibouchina, so hopefully there aren’t any surprises out there for us.
- Between LFA presentations and general invasive species events and presentations, a total of 2,762 people were reached. Events included the Hawaii Pet Expo geared towards LFA outreach, CTAHR Environmental Awareness Day, lots of Earth Day events and career day at Makaha Elementary.
- The education specialist has been working with the UH curriculum development department and together they presented a curriculum that includes testing for LFA to a conference about afterschool activities. The Hawaii Afterschool Alliance will post it on their website. It will also be presented at the Hawaii Environmental Education Alliance.
- Also, mark your calendars, OISC will be 15 in November! We are planning a BBQ , tentatively at Bellows in Waimanalo. We’ll send out save the dates soon.

Josh A: For digital sketch mapping, what is the possibility of multiple species?
Rachel: It is quite high and fast, but the crew did look for miconia with an extremely low level of confidence. The crew didn't feel it was a good idea.

Teya Penniman MISC: Shared by Lori
Two target species continue to be dominate our work: little fire ants and coqui frogs.

- **Little fire ants**: even though the efforts of the Hawaii Ant Lab have been extremely helpful, we have only just begun to tackle the most mauka property with the largest infestation in Nahiku because we only recently secured permission to work there. The task is enormous, given the terrain and the density of the infestation. Meanwhile, LFA were discovered again at the site in Waihee which was previously believed to be "eradicated.” Unfortunately, the infestation covers about twice as much area as before, underscoring the need to keep visiting a known site for more than three years. And at one property at the Huelo infestation, the Hawaii Ant Lab, MISC and theproperty owner are under threat of suit by the tenant who objects to chemical control.

- **Coqui frogs:** The Maliko gulch infestation is a huge challenge. Information gained during our ramp-up efforts will help clarify the true resource need for effective control. We are working to hire additional workers as quickly as possible.
- **Outreach:** The new little fire ant film is out and being shown on local TV. It will air again August 14th and 28th at 4:30pm on KHON2 and on September 14th on KHNL. MISC will also be hosting a showing in September on Maui at the Hui Noeau in Makawao. The event will coincide with the East Maui Watershed Partnership's Malama Wao Akua art show (not the opening).

Josh A: I'm surprised to hear that this year will determine if coqui are eradicable from Maui. We should meet with Rep Decoite and others on a coqui funding bill.

Lori Buchanan MoMISC:

- We have 18 priority species. Conducted 4000 acres aerial survey for miconia Molokaʻi is still free of that weed, and fountain grass, pampas grass, LFA, and others.
- Partnered with Kalaupapa NP to survey their lands.
- Working with TNC on internal steps to limit access to forests or meet protocols for dedicated gear and decontamination for multi-island crews.
- BMPs for ROD in process.

Springer Kaye BIISC: No update available

10:15 – 10:30 Vessel Incidental Discharge Act (as in HR 4909**):** *Andrew Porter, CGAPS*

- Currently CG rules requires treatment or other mitigation, with a maximum number of species threshold for compliance. Exemptions include oil tankers, DoD vessels, recreational vessels, and vessels that take on and discharge ballast water exclusively in one Captain of the Port Zone (COPT)—this is important for Hawaiʻi, as the Honolulu COTP Zone includes the main Hawaiian Islands, Papapahanaumokuakea, Am. Samoa, Palmyra, Wake, Johnston, and more.
- Hawaiʻi has state ballast rules that reference the old CG rules so it requires management actions, not a threshold. Intent is for the state to update. However, the state rules allow DAR to require ballast water management for vessels entering from outside of the main Hawaiian Islands.
- Hawaiʻi DAR also has the statutory authority to set in place rules to better address biofouling which is the major vector (although again a number of vessels would be exempt). The EPA through the Clean Water Act and NPDES also has rules for discharges into waters, and HDOH has the authority to manage and monitor some of the discharges via the Vessel General Permit and water quality testing in harbors and other waters.
- All of these layers of protection and our ability to customize protection for Hawaiʻi could be preempted by a bill that has tremendous support in Congress. The bill has been around for several years in various forms called the Vessel Incidental Discharge act, or VIDA, and it was recently inserted into HR 4909, the National Defense Authorization Act as a rider. Passed the House, awaiting Senate review. Senate version does not have VIDA. VIDA is ostensibly to streamline ballast and incidental discharge authorities from multiple agencies (EPA, USCG, and states), entirely under the USCG for a single national standard. It expressly preempts states or others from regulating ballast or incidental discharges, including biofouling.

- We don't have a major problem with more standardize ballast rules (with a few caveats, such as the Honolulu COPT and the exclusion of vessels under 79' regardless of whether or not they carry ballast), but VIDA also proposes to also standardize current and future rules for biofouling and 31 additional "incidental discharges". In VIDA, the incidental discharge labeled "underwater hull husbandry effluent" is biofouling, and is listed as high risk for invasive species introduction by EPA under the Clean Water Act.
- We have briefed Chair Case, Deputy Kaluhiwa, and DAR Administrator Anderson, and they have agreed to request a letter opposing VIDA, and AG review of VIDA related to Hawai'i's concerns.

Earl: We did follow up with the CG and they were caught off-guard. DoD was also caught off guard. It wasn't something they asked for.

10:30 – 10:40 Break

10:40 – 10:50 HDOA PQ & PPC updates: *TBA*
HDOA PPC: *Kailee Tam*

- Budget the same. LFA Waimanalo still remain in the big tree, treatments continue, surveys negative for remaining ants. Mililani Mauka no detection at last survey in June, will resurvey in 1 year.
- Biocontrol: Fireweed we are looking at local controls. EGW thanks to Rob Hauff for completing EA for the next biocontrol species; Maile pilau needs to go through permitting. Active testing on 20 targets. FL is supporting and conducting the Christmas berry project, we are piggybacking on this work for Hawaii (HISC funded the testing of Hawaii species a few years ago. USDA ARS in Ft. Lauderdale is doing the permitting. They will raise and send to us for release).
- Hala scale now present on Oahu, Molokai and Maui.
- Lobate lac scale is now confirmed on Maui (found in commerce on Big Island, traces found no traces in wild).

Lori: There is a marine debris pickup on N Shore Molokai and there is a lot of hala mixed in. They will pick up and sling load to Kalaupapa. Should we be concerned about transporting?
Darcy: Let's talk, I need to know more about the project.
Josh A: Where is African tulip tree on the priority list?
Darcy: That's a partnership project. It is a priority for most of the Pacific. Biosecurity Queensland and NZ and other areas are doing exploration and beginning testing. We will supply funds and support for Hawaii-related testing and compliance (maybe in 4-5 years we will do testing locally).

- **CRB**: Since January we are seeing just a few per month at the core and Navy Marine. New hotspot is Iroquois Point. Started tree pesticide treatments, via injection. Treatment on 100 trees, 20 control, testing in process. Quiet in Nanakuli, None found for 3 months. Waipio peninsula. City & County Bill 80: 25% reduction in tipping fees for greenwaste to HPower (saving 125K) for JBPHH.

HDOA Apiary update: Lauren Rusert

- Introduced Apiary Interim Entomologist: Noelani Waters

- Biosecurity swarm traps around ports checked regularly, hundreds statewide. Oahu, Big Island have varroa mite, not in other locations.
- 24 honeybee surveys every year for a variety of diseases, test for varroa, various mites, nozema, viruses, etc, sponsored by USDA (throughout the country, we started as a pilot project and it is now nationwide).
- We partner with other agencies to check hives for locations like Molokai.
- We also check queen breeders, 10 million/year industry. They ship 25% of mainland's queens (in support of 1.2 billion? Dollar almond production industry) and 75% of Canada's queens. It is a big commodity. $212 million dollar service for local pollination.

Rachel: colony collapse syndrome in Hawaii?
Lauren: No sign of that in Hawaii. Still don't know the single cause, but in Hawaii we don't have a lot of the factors that are believed to be contributers to the syndrome.
Gordon: Nozema in Hawaii?
Lauren: Yes, it has been documented for a long time in Hawaii. A lot of colonies have it, but not all. In the national survey we do

HDOA PQ: *Jonathan Ho*

- We are finishing permanent rules for ROD to move to public hearing. Trying to get Gov approval to go out to hearing, which will be on every island statewide. After that we will try to get the Myrtaceae rule done, but ROD must move quickly.
- This past legislative session we lost a lot of permanent positions due to our inability to fill. For PQ it was 20 positions statewide. 3 line supervisors in HNL were eliminated (currently only have 2 supervisors for all the staff, maritime and air). BI, Maui did not lose any positions Going to try to reinsert in the 2017 budget, but not highly likely that it will be funded. We also need a lot of things, incl vehicles, etc.

Josh A: Are you folks going to wrap that into the Biosecurity larger ask, we need the 3 positions back and these other things identified in the plan?
Jonathan: I think so, but we need to talk to Chair. For example the certified nursery program on the Big Island, there are only 6 guys and they spend all of their time to certify all the nurseries on the Big Island to meet CA requirements under our agreement (now requires 1000x more sampling and it may be extremely difficult to achieve).
-Just closed internal recruitment for detector dog position. Still working with NDDTC to get a firm date for training the teams.
Domingo: Having the 3 positions eliminated, the 4 dog positions still in recruitment. Are there other issues?
Jonathan: There is still no permanent supervisor for maritime section. Permitting has 5 people, only 2 permanent and others are “acting”. I’m doing three positions. Trying to work with personnel to streamline, but it seems that the entire department reshuffles the list of priority recruitments very month, making it difficult to make progress.
Lori: How can we help?
Jonathan: I don’t know. We are trying to look internally to see how we can manage, but it isn’t the best way to be doing things. Risk based inspections are good, but we will miss the inspection of other items that are lower risk (but still risks). The soil portion of ROD is going to be very difficult and taxing.
Christy: Plant Industry Administrator?

Jonathan: They are in recruitment, it is open.

10:50 – 11:00 DHS Customs & Border Protection: *Jim Kosciuk*
No update available

11:00 – 11:10 USDA Animal and Plant Health Inspection Service: *Dorothy Alontaga*

- Shared example of a report of commodities coming through for reportable foreign interceptions (CBP, PPQ and other countries under agreements to regulate in mail, baggage, maritime, air, etc)
- We have the authority to inspect anything that has agricultural risk (we may not be able to always do, but it is important to have the authority to look). There are certain shippers and commodities that are flagged or show trends and we prioritize looking at those. It takes a good system to put in the information to help work smarter (Emergency Action Notifications are generated that can flag shippers, etc.).
- For a species like *Tridax procumbens*, a Fed Nox Weed List, importers spend a lot of time and money cleaning these seeds from their materials and the weed is growing in the cracks right outside the port and all around the state. I don't have any suggestions, but does anyone have any feelings about what should happen? There is no mechanism for deregulating federal nox weeds.

Earl: If there is time spent taking things off the list, I would rather spend the time putting things on the list instead.

Dorothy: I agree, and I know that CGAPS is in the process of identifying and proposing for the NAPPRA list as weeds, and on the NAPPRA list as plants that must be risk assessed before import into the US. If they are not in trade yet, put them on the NAPPRA list.

11:10 – 11:20 DLNR Division of Aquatic Resources & Division of Forestry & Wildlife: *Brian Neilson, DAR; Josh Atwood, DOFAW*

DLNR DAR: *Brian Neilson*

- El Nino crashed the algae pop in Kāneʻohe, surveying Lānaʻi and Molokaʻi for invasive algae.
- Working with researchers to do genetic testing to detect a variety of species in water samples. We are also conducting harbor sampling to add to our genetic database.
- Also, a major invasion this Saturday of coral reef scientists in Honolulu through next week.

DLNR DOFAW and HISC: *Josh Atwood*

- DOFAW: Still working on Lehua Rodent Eradication project, Island Conservation changing staff, but still targeting late summer 2017. Also, working with partners on addressing toxoplasmosis in wildlife.

11:20 – 11:30 Hawaiʻi Invasive Species Council update: *Josh Atwood*

- HISC: There is extra funding available again. The legislature restricted 10% and released it, so if you are a PCSU project, we have a per-project guidance for distributing to projects.
- Biosecurity Plan: 5 days of workshops, HT Harvey is following up with individual agencies and will send out a draft this week. They are targeting public meetings in July.
- July 1 deadline for applying for 2017 HISC funds.
- HISC is adopting the Report a Pest project and will roll out this year.

- Pacific Invasive Partnership Meeting in NZ was productive, a lot of biosecurity plans and regional plans in the works. There are 3 forum events that Hawai‘i is involved in related to invasive species, we will send out information on the Biosecurity Journey (track) for the conference in the next couple of weeks.
- Airports interagency pest monitoring program offered coordinator position to Dr. Leyla Kaufman.

11:30 – 11:40 USFWS Ecological Services: *Earl Campbell*

- Programatic Draft EIS with DLNR received 7,500 comments. Alley Cat Allies found it in the last few days and about 6,000 comments were auto-generated.
- Next week there will be a meeting with political folks from territories, HI and USVI to work on capacity building
- Test of automated bait delivery for BTS control. Acetaminophen mice worked well in a test plot, but it was not automated. This trial will start in the next 2-3 months. Dr. Shane Siers is overseeing it.
- Avian malaria control needs and technologies meeting recently, good participation and look at a number of existing and emerging technologies. In light of climate and habitat projections, there is a limited window available to improve the chances of survival for a number of native birds.

11:40 – 11:55 CGAPS and Partner Agency/NGO Updates

- Lots going on, but I just wanted to share one thing. Before the VIDA issue this year, CGAPS and the UH William S. Richardson School of law worked together to craft and introduce a motion to urge the IMO to transitioning the international BMPs for biofouling into a binding framework, similar to the IMO Ballast Water Convention. The Biofouling Motion is one of 9
- Danielle introduced the new SWCA SNIPP new project coordinator, Wayne Haight
- At IUCN in the exhibit hall there will be a large block of federal agencies and for CGAPS participants it is noteworthy that they would have topics for each date. **On Sept. 4 we will be doing invasive species and biosecurity**—each agency/booth will highlight their work on the topic.

11:55 – 12:00 New Business & Announcements

- Sept. 2-10 2016: IUCN World Conservation Congress (Sept. 2-5 Forum; Sept. 6-10 Members Assembly; pre-and post-excursions, events)

Pau. Mahalo!

(CGAPS Steering Committee to follow, 1:00-3:00 p.m.)