

MAUI INVASIVE SPECIES COMMITTEE
DRAFT MEETING MINUTES
OCTOBER 12, 2007

ATTENDANCE: Pat Bily, Stuart Funke-d'Egnuff., Nathan Varns, Philip Thomas, Jason Hanley , Mindy Wilkinson, Chuck Chimera, Fern Duvall, Forest Starr, Kim Starr, Sky Harrison, Chris Buddenhagen, Adam Radford, Teya Penniman, Brooke Mahnken, Elizabeth Anderson

- The meeting was called to order at 9:10am by Pat Bily (TNCH)
- Introductions were made around the table.
- Minutes from the August 10, 2007 meeting were approved. They will be posted on the website.

ANNOUNCEMENTS

- Elizabeth: we had the Sig Zane miconia t-shirts from a few years back reprinted. They are available in purple and green for \$10/each. See Elizabeth if you would like to purchase any.
- Pat: Chris B. and I went to the Pacific Invasives Network meeting last month. There was a field trip to Tahiti and we were able to see some of the big miconia infestations. Biocontrol is apparently having some impact. It is creating light gaps in the canopy and reducing miconia recruitment. There is mixed recruitment in the bare areas with some native plants and some non-native plants coming in. There are even a few rare species here and there. Chris: with the bullet-hole-sized gaps in the leaves six times more light is getting through. Pat: some individual trees are really hammered. It might be good for MISC to try the biocontrol fungus again, especially in some outlying areas. Tahiti is doing nothing in the way of physical or chemical control for miconia so there is a tremendous amount of biomass for the fungus. When we released the fungus here in Hawaii, it was during a drought and there are obvious differences in climate between Hawaii and Tahiti. If we can't stay ahead of seed production, there is no point to what we are doing. Mindy: what about using the fungus as a micro-herbicide, especially in the winter, to reduce the long-term timeline. Teya: the limiting factor is the ability to get to the sites. Delivery is an issue. Mindy: in areas where you have taken out the seeding trees and there are a lot of seedlings. You might be able to reduce the seedling numbers. Forest: what was the release pattern in Tahiti? Pat: I think they released it in two spots. Chris: it was very virulent there. They went to one site to release it and it was already there. Forest: I've never seen the disease here on Maui. Pat: I wonder how long it will persist if there is a limited amount of biomass. I like Mindy's idea of focusing it strategically in a specific area. Teya: dense hau thickets in Nahiku might be an option. Mindy: the seedling mats in treated areas were significantly reduced. I don't think it had much impact on adult trees, but there was definitely an impact on the seedlings. Pat: just the light gap might be helpful for getting competition established. Tahiti is wet even on the leeward side.
- Lissa: we've been asked to provide science fair projects for some high school students. One project idea that was suggested was germination trials with some of our target species. I need some input on what might work. Forest: Mach has grown some of that stuff. *Selloana* would be good. Pat: I guess there would need to be a driving question re: what we are trying to accomplish. Brooke: Scott tried to do trials with ivy gourd and no irrigation and none have sprouted. Forest: petri dish germination might be interesting. Lissa: they have four months to complete a project. The science fair is in January. Elizabeth: side by side *jubata* and *selloana* comparison trials might be interesting.

ACTION ITEM:

- Contact HDOA regarding possible release of biocontrol for miconia in areas with high seedling density. (Teya)

BRIEF UPDATES

Staffing

- Teya: Dennis Green, a temporary worker on the vertebrate crew this summer, will be staying on with us in a regular position. Carl Martin will be off work for awhile for medical reasons. We may recruit a temporary position to backfill behind Carl. Joy had a baby boy – Poli-James, 7lb 12oz. She is on maternity leave until the first of January. Imi is back to work on light duty after a motor scooter accident.

Funding

- Teya: we recently found out that Alex from EMWP put in for funding for miconia aerial operations before he left. We will have an additional \$35,000 from NAPS for miconia heliops. We are still waiting for Congressional appropriation for NPS Centennial Challenge. Steve's proposal received high ratings at the national level.
- Teya: we put in two proposals to HISC. One proposal for outreach for \$6,200 to print 500 copies of the early detection field guide. The guide is ready to go. We are just asking for funding to publish it. The guides will be used in conjunction with workshops for targeted groups. Eighteen Maui target species are listed in the guide. We will do Lanai and Molokai later. Mindy: it would be nice to do one for volunteers to use on Kahoolawe too. Teya: it will take awhile to develop the material for the other islands. Right now we need to focus on Maui. Elizabeth: Lori is already doing early detection workshops on Molokai. Teya: we also submitted a coqui proposal to HISC to move forward with the concept of a fixed spray system in Maliko gulch. The system would involve fixed stations with big sprinklers attached. Adam: we would have large volume mixing stations. The system would be located just above the most concentrated population. We would work from the bottom up. Teya: we asked for \$75,000 from HISC with the rest from county funding

ACTION ITEM:

- *Develop early detection guides for Molokai, Lanai, & Kahoolawe. (MISC PR Specialist & Beth)*

Public Relations

- Teya: we had 1,902 people stop by our booth at the County Fair. Our booth was outside with HDOA on one side and USDA on the other side. Directly across from us Christy Martin had a booth highlighting the MALP codes of conduct. Chuck helped staff the MALP booth. Thanks to MISC staff and Fern for manning the MISC booth. We received applications for the Malama award this year. The presentation will be on November 3 at the Arbor Day celebration at Maui Nui Botanical Garden.
- Mindy: we are reviewing applications for the HISC outreach grants. We are looking for someone on Maui to help review proposals. Pat: I would like to help. Mindy: with Joy on maternity leave we can help support her work at the statewide level. How can we best help out? Elizabeth: between Teya, Lissa, and I we pretty much have it covered with the exception of early detection workshops.

EARLY DETECTION

Weed Risk Assessment project (C. Chimera)

- Chuck: I was hired in early September as the Weed Risk Assessment (WRA) specialist for Hawaii. I am replacing Shahin Ansari. My first task was to go to the 9th International Conference on the Ecology and Management of Alien Plant Invasions in Perth. Prior to the conference there was a two day workshop on WRA. The Australians have taken the lead in the process. The WRA system was developed in Australia in 1994. There was a grant to test the system in Hawaii and adapt it to Hawaii's conditions and environment. The assessment includes 49 questions regarding the biology, ecology, and status of plants in other parts of the world. The objective is to predict if a plant is likely to become invasive if brought into a particular environment (in this case Hawaii). My job is to go through the questionnaire for a list of species. For each question the plant receives a score and the overall score should allow you to evaluate whether or not a species is likely to become a problem. A score of 6+ indicates the plant is predicted to become a weed, if the score is less than 1 it is not likely, and a score from 1-6 requires further evaluation. The system was calibrated by comparing the scoring results of 25 local weed experts. Known weeds were also looked at for calibration. The system is 95% accurate in predicting a weed and 85% accurate in predicting non-weeds. It is important to have a system that doesn't incorrectly rate things as bad order to gain the support of the nursery industry.

- Chuck: there is no law in Hawaii that requires this system to be used. Australia has more teeth to its laws. Right now the system will be voluntary in Hawaii. Christy and others have been working with nursery industry to get them to voluntarily adopt the WRA. Mindy: there are a number of entities that have adopted the voluntary codes of conduct and have agreed to discontinue or phase out plants that are likely to become a problem. It is a start and it is creating awareness. There are 25 species on the codes of conduct list. Some that are already widespread are on the list. We want to get the industry used to the idea that this is a valid system and it is not perfect. The results are based on documented information. If there is a plant that not much is known about, it is hard to rate. A lot of what we know comes from the horticultural industry.
- Chuck: the priority for screening are species that the industry would like to have assessed. I just got a computer and database with all the information on previously screened species and the ones that are on the list to be screened. There will be a second WRA position hired in the next few months. In the future, we hope to secure funding to make the screening system more user friendly with a database that can be accessed by the public through the Internet. The process needs to be transparent and repeatable and should be adaptable as more information becomes available.
- Kim: is the goal to make this legally binding? Chuck: that would be the ultimate goal, but that is years and years away. Mindy: HDOA had an invasive plant strategy meeting for the first time recently. We talked about WRA and there was a consensus that it would be a useful tool to incorporate into plant policy. It was a big step forward. There were some concerns raised. The botanical gardens had concerns in terms of collections. We can look at what is being requested for import. So far we have mostly screened things that are here already to help us make decisions for early detection and rapid response. Once it is here and it is a weed, how do you make a decision about what to do? We want to keep the WRA position research oriented and try to keep it from being too ISC associated. This is not just a resource for the invasive species community, but for the conservation community as a whole.
- Pat: are the questions and criteria a done deal or are you still revising them? There should be a question regarding whether the habitat is widespread. Chuck: there needs to be a second step. This is just a predictive tool. Julie Denslow's Hawaii Exotic Plant Evaluation Protocol (HEPEP) contains an entire suite of questions specific to Hawaii's environment including how widespread a species already is and how much impact it has already caused. Sky: the individual islands are coming up with weed rankings for their islands. Chuck: a plant could be scored as highly invasive, but there is nothing that says you have to stop it. The WRA is just a predictive tool. We also need to look at economic cost/benefit of stopping certain weeds. Chuck: there is new interest in crops for bio-fuels. People want to research different bio-fuel plants. Some of the plants they are promoting are weedy. With bio-fuels we are looking at large numbers and dense plantings. We need to consider what happens if it doesn't work. Will they just abandon the field? Pat: this is a baby step forward. I appreciate the work.
- Teya: how many requests come from the industry? Philip: the Maui County Planting Plan has adopted the WRA. They have eliminated all the plants that failed the WRA from the plan. This will be a legal precedent. The items listed in the plan can not be planted on County properties or in new developments. If it passes, there will be some legal teeth. You (Chuck) should contact Ernie. There are a number of plants in there that don't have scores yet and I know he is concerned. He is the liaison to the horticultural industry. He has a list of species that he is concerned about. Chuck: no evidence doesn't mean "no." It just means no evidence. It is hard to prove a negative. I need to work on how to standardize. Kim: do you always get a score even if you don't answer all the questions? Chuck: there is a minimum number you need, but it is a very small number. Philip: the key point is whether it is a weed elsewhere. If you can definitely answer that question, it puts you out of the benign category and into the evaluate category. Fern: how often are there plant species that there is not enough information on? Mindy: botanical gardens have a lot of information. Forest: obscurity does not mean not invasive.

Invasive Species Specialist Group (ISSG)/IUCN - Early Detection & Hawaii Case Study (M. Wilkinson)

- Mindy: the ISSG group is composed of 146 invasive species specialists representing 41 countries. There were two workshops on early detection at the Perth conference. We are developing our own vocabulary and resources. There were discussions regarding the concepts of active vs. passive surveillance and area-based vs. species-based focus. There is a working group tasked with determining what seems to be working as an early detection system. The plan is to use several case studies. Australia, West Australia, New Zealand, and Hawaii were selected as the case studies. There are not a lot of shining examples out there. How do we integrate passive systems? How do we train people for data collection? They are interested in seeing our models and how they can be translated into a continental scale. After attending the early detection talks at the conference, I would like to see us involve the counties and private systems more. Could you exercise local authority and local ownership to deal with priorities in your specific area?
- There are good examples in Victoria of how prioritization was done and how local people were brought into the process. There must be a clear chain of custody. I typically have a dim view of passive surveillance. They created a team of people and provided fun activities and training for them. It was encouraging to see you could really make a passive system work. Chris: the response was not done by the passive detectors. Response was done by the paid agency staff. They had a list of over 100 species. Fern: was it clear how the government interaction was set up? Mindy: they talked about how important it was to the grazing industry to stay involved. Most of new grazing weeds were from the horticultural trade. There was an acknowledgment that there needed to be an assessment of all types of weeds (agricultural, natural areas, etc.). There is a weed spotter engagement plan available from Kate Blood (kate.blood@dpi.bc.gov.au). We need to look at the idea that maybe we don't need to stick with the ISC model forever. At some point government should step in. The soft funded model may not work forever. There are weedy waste areas around Perth that they have turned into a native bush land. They put up some interpretive signs to explain why they are restoring the area. The project really gives people a way to see the benefits of doing conservation in their backyards.
- Teya: the weed spotter program has some great concepts that we could incorporate in our early detection program for example, the idea of having people that are well trained and giving them specific items. We can encourage ownership of specific area. Adam: we find interest in the community, but there is a need for a more structured program. We don't have a consolidated way to respond. Stuart: what about an "adopt a weed" program? People could adopt a neighborhood or a species. Adam: it would be nice to remove ourselves from communities eventually. We get a lot of "you again" responses after awhile. Philip: all the presentations from the workshop will be posted at www.hear.org.iwarw/2007.

ACTION ITEM:

- *Explore development of "adopt a weed" or "adopt an area" program. (MISC PR Specialist)*

Maui Early Detection Reporting Tool (S. Harrison)

- Sky: the intent of the Maui County early detection reporting tool is basically to build community capacity to supplement early detection efforts in Maui County through targeted outreach. We also hope to give community members easy methods of reporting what they find. There is an online reporting system at www.reportapest.org. The initial funding for the project came from a HISC grant. This project is Lloyd's brainchild. We have funding for Beth Speith to come back for another year. She will be working with MISC to do more workshops and targeted outreach. We should be able to really ramp up the program.

- The system contains links to information on the species identified for early detection and tools to help the public confirm identification. We have more plans for the technology in the future. We hope to integrate a Google map feature. The system is 3-tiered: a report comes in, there is a review process and the report is validated, and then emails are shot off to appropriate rapid responders. If we can't validate the report, we will pass it on to an expert for validation. A database stores the report and all actions taken. Feedback is emailed to the initial reporter. There are also call-in and walk-in features and specimen collection details for the public. Forest: how does this integrate with 211? Sky: right now it doesn't, but it should in the future. We also want to experiment with text messages for urgent things like snakes. Forest: there was talk of an early reporting system for documenting new discoveries. I don't know how that would work, but once something is confirmed it is important to get the information out quickly.

Nursery Surveys (F. & K. Starr)

- Forest: we have done a little bit of groundwork and we are looking for input and ideas. Teya: as part of our strategic plan we agreed to devote more resources to early detection work on Maui. We decided to fund nursery surveys and Forest and Kim have agreed to do the work. We still need to pound out the details. Should they document every species in a nursery or have a target list? Should they just survey key nurseries or all nurseries? What do we want the overall focus of the surveys to be? Forest: we went to the nursery at Kula Hardware and wrote down and photographed all of the plant species they are growing. It took us one day on the ground and ten days to go through and put names on everything. There were ~500 species. We compared our list to the Global Compendium and sorted the list by the number of times each species was considered to be an environmental weed elsewhere. We also look at the Weed Risk Assessment score. The survey gives us an indication of what is being sold and what is known to be a weed. We hope to dovetail the nursery surveys with roadside surveys next year. We would like to do the same with Kula Enchanting Floral Garden. Are there specific nurseries we should look at? How much vouchering should we do?
- Pat: you should definitely survey Pukalani Plant Company. Forest: there are a lot of differences in labeling from different growers. We didn't voucher for this round. We want to get the names of what is here and then we can run it through and cross check. Pat: the technical aspects are overwhelming. The information will be very valuable. You can also get a lot of information by talking story with the owner. You get a historical understanding of the patterns. Teya: Kula is selling a ton of species and there aren't that many that kick out as bad guys. That is a positive. We wouldn't be asking them for that much. Mindy: we can add value for them by providing them with information on what they have. The nurseries don't always know what they have. Pat: should we be looking at botanical gardens as well as nurseries? Kim: maybe we should survey a representative sample of retail stores, box stores, botanical gardens, etc. to get a spattering of what is out there. Fern: it is good to know what comes in and what novel species they are importing. It would be interesting to look at high volume novel items. Kim: better labeling is a real issue. Stuart: do they maintain an inventory database? That could be very helpful. Forest: in Australia there are guys that have databases and they cross check everything. We asked the question the last time we surveyed and none of them had databases.
- Chuck: Lloyd's son is an inspector, but their job is to inspect for insects and diseases. In theory they should be looking for noxious weeds, but they are not trained as botanists. Teya: we need a regulation requiring an inventory of everything they have in stock. It might be good to survey some places very thoroughly and others on a more cursory level. Kim: we want to survey very well at a representative sample of locations and identify everything. Elizabeth: maybe Forest and Kim can draft a proposal and then we can put it out to the Committee for review. Fern: it is especially important that we hit nurseries that import things vs. those that buy locally. There are certain industries that import weird things (for example orchid growers). Teya: anecdotally it would be good to note what comes in with stuff as weeds in containers of other plants. Forest: all the pictures we take are going on the website. Sky: you should coordinate with the other islands. If someone else is looking stuff up, you don't need to look it up too. Chris: you should collect new records for the island. Kim: a plant is not published as an island record until it is naturalized, but it still can be listed. Teya: our monthly Maui News article can be used to publish related information.

ACTION ITEM:

- *Send nursery survey proposal out for Committee review. (Forest and Kim)*

MISC Staff Capacity Development

- Teya: another thing that is part of our strategic plan for early detection is increasing our staff capacity. Mike, Lori and I went to a botany workshop at the Bishop Museum. I want to take that information and share it with our staff and other people working in the field. I would like to put together a training course for our staff and draw upon suggestions and expertise from our Committee and partners. One of the limitations is that we don't have herbarium specimens on Maui and that is an important part of learning. Fern: there are herbarium specimens on the web from Kalaupapa. Stuart: there are funding sources for capacity building that might be an option. Pat: we have ~1,500 herbarium samples at the TNC office. Teya: we did a survey with our staff and there was a high level of interest in training. We need to reschedule our vertebrate training. Chuck: I would like to make a plug for Ann Emmsley's weed science class at MCC. I learned a lot from that class. It is usually offered as an evening class. She focuses on common weeds for farming and gardening. The class is geared towards non-professional people. It is a great introduction and has really helped me over the course of my career. Teya: that is a good idea. We have agreed to pay for one class per year for staff.

Gaps in Early Detection

- Mindy: at the priority setting meeting was there any discussion of what taxa we are taking on? For vertebrates our goal is straight forward. Terrestrial vertebrates are doable. The list is small. Fern: if we had people with better eyes for reptiles, we would probably find more. What should we be taking on from an insect and disease standpoint? Teya: I know Lloyd would be in favor of doing more fire ant work.

ACTION ITEMS:

- *Develop and schedule botany workshop and schedule vertebrate training for MISC staff.*

UPDATES

Plants

- Teya: Chris Candito has been spearheading work on *Pittosporum undulatum*. We knocked out a bunch of it and then we found tons in a gulch where we thought we were done. We have had good landowner cooperation.

Vertebrates and Invertebrates

- Teya: MISC staff from Hana have been assisting USDA Wildlife Services and DOFAW with efforts to determine the status of rats on Alau Island.
- Adam: we just found out we have frogs at a nursery that had been eradicated. This is a reintroduction. We recently received two containers of citric acid (88,000 lbs). We have been putting a lot of effort into the Maliko infrastructure. We are using a remote staging area at Howard's old nursery. There are 116 fewer conures in the wild on Maui. We think there are ~40 left between the two different sites. Fern: there is clidemia, strawberry guava, and a lot of ficus growing out of the stomach content samples.
- Teya: we are continuing to collect dead birds for both West Nile virus and avian flu testing. We are assisting HDOA with surveys for nettle caterpillar. They are attempting to delimit the population. There are 33 one mile grids. MISC is monitoring 16 of the grids in the Haiku area. We check the pheromone traps once a week. The study will go on for four months. We aren't sure at this point what HDOA's long term control plans are. It takes our full vertebrate crew a half day per week to check the traps. Kim: it might be useful to place traps in other areas to get a better feel for the overall dispersal. Teya: we are not designing the study. We have loaned the coqui sprayer to some landowners who are attempting control work. Mach thinks they have been here over a year.

NEXT MISC MEETING: December 7, 2007 from 9am to noon. Topic = miconia.