

MAUI INVASIVE SPECIES COMMITTEE

Meeting Minutes

Friday, February 26, 2010

ATTENDANCE: Wendy Swee, Floyd Helekahi, Teya Penniman, Pat Bily, Imi Nelson, Chad Smith, Stuart Funke-d'Egnuff, Darryl Tau'a, Elroy Krause, Carl Polk, Forest Starr, Kim Starr, Jeremy Gooding, Elisse Deleissegues, Bob Hobdy, Steve Anderson, Lissa Fox, Chuck Chimera, Mike Ade, Elizabeth Anderson, Kuhea Paracuelles, Tricia Rodriguez, Lloyd Loope. Via phone & WebEx (courtesy of USFWS): Elizabeth Speith, Joshua Fisher, Pat Chee, Mindy Wilkinson.

- The meeting was called to order by Pat Bily at 9:05 a.m.
- Introductions were made around the room.

ANNOUNCEMENTS / APPROVE MEETING MINUTES

- Minutes from the last MISC meeting were approved.
- Teya: Tonight is the annual meeting of the Native Hawaiian Plant Society. Dan Palmer will be speaking about ferns at 7:00 p.m. in the poolside room at the Pukalani Community Center.
- Josh: I went to a community biosecurity meeting, and Maui agriculture had a lot of positive impressions of MISC.
- Teya: Syd Singer filed suit against federal and state agencies and BIISC over mangrove control.
- Teya: James Leary wanted to know if MISC was interested in working on Australian tree fern using Herbal Ballistic Technology. General opinion was to hold off.

BRIEF UPDATES:

Funding

- Teya: State level—The year before last we got \$430K, last year \$200K, this year we may get even less; the NAR fund is definitely being hit again. At the county level, the County is under a tight budget, and we have lost 10% (about \$24K) from the Dept. of Water Supply for the current fiscal year.
- Kuhea: Money was still unspent in the MISC account from past years, so the County is trying to fix the fiscal situation. It's just a matter of accounting and when the money is released. The County strongly supports watersheds and MISC. I encourage proposals early on in the fiscal year, as close to July 1st as possible.
- Steve: Federal level—The Bush Administration's Centennial Challenge has been renamed Treasured Landscapes by the Obama Administration and seems essentially the same, but so far they haven't made any requests for proposals. We renegotiated helicopter operations through Jan. 2011 and have enough money to sustain those efforts. Funding is looking thin from the Park Service from 2011 on. Stimulus funding helped to replace park fences but no funds were freed up for invasive species work.
- Teya: From the Forest Service, we have federal stimulus money.
- Elizabeth: We're expecting a second installment soon, to go through Sept. 2011.
- Teya: Many thanks to Elizabeth tracking for ARRA (stimulus) funds for all the ISCs. It has been a lot of work.
- Elizabeth: All our FY2010 money is in accounts and spendable now. HISC, Forest Service, and all three Office of Economic Development accounts. We are solvent.
- Kuhea: There's only a 5% cut in the proposed County budget so far for environmental protection projects.
- Stuart: The President is proposing to cut RC&Ds around the country, even though the program has been very successful. We are hoping to get a lot more testimony in support of the RC&Ds in as soon as possible. Tri-Isle is the largest RC&D in region. We need to

- show how we're leveraging funds, currently at rate of 7 to 1. With respect to funding in general, the good news is that little pockets of funding are still out there and available
- Mindy: We've gotten special Lands Development funds transferred by negotiating them out of the Forestry budget. This will not likely be transferred in future years. We'd anticipated a drop in the NAR fund. We will have less than a 15% cut to the ISCs, to keep field work going. The remaining HISC funds will go to match U.S. Forest Service funding. We will be casting around for small pots of money.
 - Teya: We are hoping to receive funding for work on coqui frogs in Maliko Gulch from two funds. We have requested money from the U.S. Fish and Wildlife Service and the State. The funds may be used to hire a temp crew during the summer. We're about to submit a proposal to the Pikake Fund for \$20K for a Little Fire Ant video project, which would also rely on matching funds from the County.

Staffing

- Teya: We have stayed mostly status quo, except that we're happy Chad is back with us. Chris Candito has been with us over the winter. He is leaving in early April. Adam Radford is doing biosecurity training this week. Mike and Darrell are getting firearm-certified.
- Mindy: We're not allowed to take overtime to do conure control. The night differential complicates it, too. We have conditional approval to continue.

Public Relations

- Lissa: We are beginning layout on our newest newsletter with updates from the miconia conference. Seabury Winterim recently took place and the Hana miconia trip is one of the most popular Seabury trips.

Little Fire Ant

- Teya: The Hawaii Department of Agriculture is very positive about progress on controlling the Maui infestation. Forest and Kim have started doing surveys for little fire ant.
- Forest: We'll be going down to 60% time, will concentrate more on identification of specimens. MISC crew (two people) will be surveying one day a week. We are creating distribution maps.
- Teya: We had two recent training opportunities—Cas Vanderwoude did training for the Vertebrate crew and a few members of the plant crew. The Vertebrate crew also went over to the Big Island to get firsthand experience with where on the banana plants little fire ants are likely to be, so they will know where to look for ants while checking for BBTV.
- Kuhea: Bus posters should be up, as of last week. We will try to keep them up as long and often as possible. A press release will go out today.
- Lissa: The website is up—www.fireantfreemaui.com.
- Forest: Cas's website is littlefireants.com.
- Lissa: We participated in the Whale Day parade. We also participated in the new "Keiki Eco-Conference" at Kalama Park the day before the parade.
- Wendy: As a result of our participation, I was asked to present the "Rain Forest in a Box" exercise to a group at the Maui Ocean Center last night. The students were from West Hawaii and about 80% reported they had been stung by little fire ants. One said, "My friend got stung all over."
- Teya: We are rolling out Hoike classroom visits on little fire ants, as well.

Eradications Conference

- Teya: I went to a conference on Islands and Eradication, in New Zealand, and presented a paper co-authored by Lloyd Loope and Lori Buchanan. I was happy to be able to share success stories with people who were not afraid of the “E-word.” The middle day was field trips, but there were three and a half days of presentations, with only five presentations about plants. It was a privilege to work with Lloyd, to benefit from his knowledge and expertise. We looked at the difference between the size of the islands, culture and demographics for Maui Island. The data, makeup and ownership affects things. For example, Lanai is almost completely privately owned. Maui has 17% native Hawaiian population, compared to Molokai with 41 %. Differences in the level of interisland commerce, also gaps in regulation and enforcement all play a role.
- Kim: Did you see any of our targets in the landscape?
- Teya: I saw plenty of pampas grass on New Zealand. It’s also a heavily altered landscape, with plenty of pastureland.
- Mindy: Whose role should it be to carry out eradication? Were you involved in any of those discussions?
- Teya: There is a lot more private business carrying that out in New Zealand. This can lead to innovation, but there’s still a large role for government agencies.
- Pat B: Did people think it’s important to use aerial-drop rodenticide?
- Teya: Definitely, especially for small islands.

MICONIA

Status of Control Work and Highlights

- Teya: Using existing ground and aerial management units, we conduct surveys for miconia over 63,000 acres. We have treated 58 acres. The latter figure is based on the standardized US Forest Service calculation for each plant treated and doesn’t include land between the points. There is overlap between aerial and ground units, when we’re not sure we can cover an area thoroughly by one method.
- Brooke presented maps with an overview for each year, and half of FY10.

Aerial

- Jeremy: Priority for covering the area near Kipahulu has increased because we discovered two seeding plants within the park recently.
- Brooke ran a Google Earth program to show locations of miconia discovered recently in or near the Kipahulu valley, as well as the Hana core and the conference sweep area. He also showed the Nahiku population, and the location of the mitered conures with the nearest miconia population to them.
- Jeremy: The Halehaku miconia was found about three years ago, with one seeding individual. Since that time, many small plants have been treated. So far, there have been no additional seeding trees. We are still in a strong position fiscally. We can afford to fly slower in a tighter pattern with a higher confidence that the area is covered. The highest elevation units were added a year ago, with the intention to cover them if adjacent units justify the effort to seek miconia higher than our current coverage area. The top boundary of our units is 3500 feet. Each unit covers 500 feet in elevation.

Ground (MISC staff)

- Brooke showed a map with the ground units covered, focusing on different geographical areas. We started peripheral work in the Haiku-Huelo area in 2006.
- Jeremy: We are due to cover the area *makai* of Hana Highway again this summer. It’s been two years.

- Brooke overlaid the flight lines grid to show that the peripheral area was well-covered, between ground and aerial sweeps.
- Mike: We often find peripheral plants in gulches. We'll be checking those; it will be easier to find with the rose-apple die-out. Sometimes EMI roads are the source of seeds, so we'll be checking those, too.
- Teya: Our quarterly miconia operations meeting takes place next week. We'll talk about our strategy in relation to "peripherals."
- Jeremy: We have had difficulty getting access to properties in Nahiku. Recently we've received much broader access and have been able to treat never-before treated populations. Some were old-growth miconia. We will see a spike in seedlings in the next few years.
- Teya: This coverage represents many hours on the part of field crew.
- In the core area, the crew has continued to work in the conference sweep areas and has completed those well-defined units, which can be used to track change in relation to other areas in the core.
- Imi: A recent trip with the Seabury kids showed a big improvement in the amount of miconia plants. But now we're seeing a lot of lantana, clidemia, and African tulip tree.
- Darryl: Turkey berry is also growing there, and it's very hard to go through.
- Jeremy: I strongly suspect we're tipping the competitive balance toward lantana and clidemia. We have been looking at trying to find something that has a more systemic approach. We want a shorter time on target and an herbicide with a quicker "window" in case of rain. It seems expensive initially, but it's twice as cheap at a per-acre rate. We are working with James Leary on miconia and some other species of interest to the Park. For mature plants treated by air, the numbers have jumped up because of the new areas getting treatment in Nahiku.
- Elisse: We had high numbers on the ground in 2008 because we were treating buffer areas.
- Brooke: It all depends on where we're working.
- Jeremy: We'll see an increase in acres in 2010 because we're flying more often, approximately 60 hours a month, since we had a break of three months.
- Teya: We looked at cost calculations, in response to a project at the University of Hawaii that is looking at the economics of biocontrol for miconia. We would still have field crew if biocontrol were in place. We analyzed our current effort and cost. It involves the people in the field plus PR and data and budget. We have the equivalent of 11 full-time field staff working on miconia. An estimated 83% of our personnel time is on the ground. Our biggest cost for all of MISC's operations is miconia control. Cost per plant varies based on mature vs. immature plants.
- Jeremy: These are good baseline indicators with some caveats. Spotters in the air only count the plants they can see, even if they know there is a *keiki* carpet below a mature plant.
- Teya: For biocontrol areas, we chose the densest populations.
- Brooke: Density was calculated based on plant points or total plants controlled on the ground, even if we didn't have GPS points.
- Elisse: When could we expect biocontrol implementation?
- Lloyd: It's hard to predict timing of implementation because PR efforts are needed—the Big Island passed a resolution *against* biocontrol—and HDOA has lost their capacity to work on biocontrol. Sometimes even paperwork holds up the process.
- Elisse: What if we have reduced the core density to the point that biocontrol is ineffective?
- Teya: We don't know what the minimum density is for biocontrol to take hold.

- Lloyd: I think we don't need to worry about that, since miconia is found in much lower density in its native range.
- Teya: It takes both ground and aerial operations to control the infestation. Potential costs avoided in the proposed biocontrol areas were estimated to be \$135,000 - \$164,500 per year in Hana and \$105,000 in Nahiku. There are a lot of factors in considering costs. This was done as an exercise for economic analysis.
- Pat B: Remember that you wouldn't have 100% mortality even with biocontrol.

Miconia Conference

- Teya: We did talk about the lessons from the conference in detail at another meeting. The conference proceedings are moving along. Our goal is to have them posted on the website within a year.
- Lloyd: We're hoping to have the proceedings done by the beginning of May. The conference was incredibly successful, but it's always hard to get proceedings.
- Teya: We are considering some of the research presented in our management decisions. For example, Cameron Fletcher talked about the efficacy of using smaller teams.
- Mike: Small teams are top-notch at surveillance.

Future Priorities

- Teya: Overall, our future priorities are to continue doing what we're doing, increasing our efficiency. Brooke did a major push to go through old data before the conference, so historical data is as good as it's ever been.
- Forest: It's an amazing data set.
- Lloyd: It'd be wonderful to get it published.
- Teya: We recently had questions from a researcher in Tahiti about the ecology of miconia, using such factors as elevation, slope and rainfall. Brooke was able to provide much of the requested information.
- Forest: Paul Kruschelnycky extrapolated and made a GIS rainfall map, so that information is available, too.

Resource Needs and Funding

- Teya: Aerially, we're covering what we need to cover in the time frame.
- Jeremy: Some of the areas that look like they need coverage on the ground are currently under discussion. We may need to switch units that cannot be feasibly done by ground crew to aerial units. The ground crew is more effective in tall-canopy plantation forests.
- Brooke: Some units belong to recalcitrant or impossible-to-contact landowners.
- Teya: Should our goal be a 3-year or 4-year interval?
- 'Imi: We're shooting for 3-year intervals, but even in the plantation forests, hau can grow up and make it difficult to sweep.
- Jeremy: A number of the areas that look unswept have had work done historically. I still don't have any results for the remote sensing that was completed recently.
- Steve: We would like to see the results from that data and imagery. Then we would be willing to consider contracting for more of that work.
- Elisse: We'll have to ground-truth the imagery anyway.
- Jeremy: It would be much cheaper for finding outlier populations.
- Pat B: You'd be able to find out just how accurate the technology is.
- Mike: It would save searching time for places where we know there will be seed recruitment and we have to keep checking.
- Elisse: Sometimes we find plants where we don't expect to, and other times we expect to find plants and don't. We shouldn't throw out whole management units.

- Teya: I'd like to make sure the ground crew gives us feedback on overall strategy.
- Darryl: This would be useful for us not to have to go look for plants that aren't there.
- Pat B: I don't think you'll get 100% detection anyway, as Elisse said.
- Jeremy: State budget cuts, county budget cuts, no new Federal soft money... For heliops, we are in our best situation financially, thanks to Steve's efforts. It's up to all of us in the money game to do our best.
- Mindy: We can try to include your numbers in our testimony.
- Pat Chee: I would like a copy of the Google Earth file.

Concluding remarks

- Teya: We are finally getting access to populations we haven't hit in a long time. It's scary that there are populations in Kipahulu but reassuring that we found them. Until we can knock back the core, we have a population of seeding trees that are being dispersed by birds or hunters.
- Jeremy: The tree atop Waimoku Falls was not in an area accessible by ground. It must have been dispersed by birds. That one was old. The others on the wall of the valley hadn't been seeding very long. I have some idea why we missed it before—high tour traffic, poor visibility and tough topography.
- Teya: Next year we will have good data on change over time from areas we can analyze.
- Tricia: Is miconia considered eradicable on Maui?
- Jeremy: We have demonstrated that we can control miconia, so it's theoretically eradicable, but it's got a 16 – 18 year seed-bank life. How much money will we have over that time?
- Forest: I would say we were on a containment and control basis. Most plant eradications are less than an acre.
- Teya: Never say never. New technology could make it cheaper.
- Elizabeth: We've already come further than we ever thought possible.
- Teya: That is thanks to the hard work of the crew, on the ground and in the air and to the support from our funders.
- Lloyd: The long seed survival came out of left field. It's important to look for fungi biocontrol because the seeds aren't as viable in their native range.
- Jeremy: I see two keys for long-term success: One, do we have a long-range stable funding source? Second, the plants that we don't detect, the outlier populations, are the ones that put us behind the game. I have yet to see an effective remote sensing tool.
- Pat B: Even if you think you got the last plant, you have to start over at 10 years or more if you find one. The best we can hope for is a shrinking population rather than an exploding one!
- Forest: There's room for MISC to be the buffer-management organization keeping miconia out of the upper elevations.

Teya: The next meeting is on April 16. We are tentatively thinking about having the topic be Early Detection.

Pat Bily adjourned the meeting at 11:50 a.m.

PAU