

**MAUI INVASIVE SPECIES COMMITTEE  
MEETING  
FRIDAY, FEBRUARY 22, 2002  
9:00 AM - 12:00 NOON**

ATTENDANCE: Randy Bartlett, Kim Martz, Forest Starr, Steve Anderson, Fern Duvall, Mach Fukada, Nathan Varns, Ben Skellington, Erik Barnard, Christy Martin, Kyle Moyer, Jack Peterson, Elizabeth Anderson, Mike Walker, Ron Nagata, Lloyd Loope, Jeremy Gooding, Jordan Jokiel, Pat Bily, Melissa Dumaran

- The meeting was called to order by Randy Bartlett; MPC/Chair at 9:15am
- Minutes from the January 11, 2002 meeting were approved. They will be posted on the web-site.

**NEW BUSINESS**

EMERGENCY ENVIRONMENTAL WORKFORCE UPDATE (Jack Peterson)

- Things are cruising right along. Erik Barnard prepared an excellent report on the progress of our EEWf crew (copies were distributed at the meeting). The report included details and explanations on what our EEWf crew is doing and some great pictures. Tom Ishii has agreed that we can cut back to submitting EEWf reports every other week instead of weekly.
- Our EEWf crew is expected to continue until April 12 and then there may be a break until July 1. One of the EEWf bills was passed by the Senate yesterday. We are very optimistic that the program will be reauthorized for at least 6 months and possibly another full year. The gap from April 12 to July 1 is unfortunate. This program has essentially given us the equivalent of two additional ground crews. One bill before the Legislature is for \$3 million for 6 months. It doesn't look like there were adequate funds for logistics included again. The bill that was introduced to cover the three month break in the program has been deferred. The governor could step in to close the gap. Christy added that the other option may be to approach the County to step in and fill the gaps for Maui. Mayor Apana is very supportive.
- Our EEWf crew is fully trained and will be branching out of the core into the periphery. On Monday they will be going to Keanae with Pat.
- Steve A. asked if anyone had a feel regarding whether this program might be attracting Federal matching funds. There was some talk of that in the past. Nobody had really heard anything new on this subject. Ron commented that he attended the Kula Community Association last night and had talked to Kika Bukoski after the meeting. Kika had been skeptical of the EEWf at first but is now very supportive based on what he is seeing. There is strong support in the Legislature for continuation. Fern added that if all these bills pass there is still a question regarding what the governor will do with them. That is a real wild card.
- Randy asked if some of the EEWf workers should be considered for regular hire positions. If MISC had more funds available, this might be an option.
- Forest noted that their EEWf crew has cleared 20 acres and are maintaining another 15 acres. The crew numbers have dwindled a bit, but the remaining crew is good. They would like to have a better interview process if the program is extended. We want to make sure the EEWf funds are above and beyond and are not cutting into existing operating budgets.
- The Haleakala EEWf crew is finished with the pines on Puu Niania. The trees are all dying standing so it will be dramatic. The crew is now working down in Makawao pulling fireweed from the veterinarian's horse pasture. They have gone through two cases of trash bags already. The bags will go to the dump and then we will watch them cover them up (this would be the best way to dispose of pampas grass too). Next week they will be going with Pat and the MISC crew to do miconia in Keanae. They have a good strong crew and have only lost one person. Fern added that he is finding fireweed down at sea level so we need to really watch the

seed dispersal.

## BUDGET/FUNDING STATUS REPORTS

### **MISC Budget Status** (Elizabeth Anderson)

- State Funds/FS Pass through funds: We were cut \$60,000 earlier this year to support the Hana crew leaving us with \$100,000 (\$40,000 in Federal funds and \$60,000 in State funds). A couple of weeks ago we were informed that the State can't make good on \$36,780 of the \$100K. This is money that was already spent/obligated and has left us in serious straights since the County money is not on line yet. We currently have NO money for supplies, travel, helicopter, etc. and the \$36K will need to be made up from elsewhere. At the moment, PCSU is bailing us out for essential expenses with their Unit Support account.
- The County proposal between RCUH and Tri-Isle has been signed and returned to the University. Hopefully those funds will be available to us in another couple of weeks. The total MISC will receive from the County is \$320,000 (\$59K Salaries/Benefits, \$63K Supplies/Travel/Support, \$130K Helicopter Operations, \$25K Truck Purchase, \$28K Bio-control Support, \$15K PCSU Overhead). The County funds are earmarked for miconia.
- The NFWF account is finally up and running for this year. We were able to back charge some payroll to it and will be able to spend it out before the March 30 deadline. With the NFWF money and County money as currently allocated we have payroll covered only until the end of May. We will likely need to re-budget some of the County helicopter funds for payroll.
- There is \$40,000 going through the system to support Christy's position. The current balance on the existing FWS account is down to \$10,000.
- The new Hawaii Community Foundation accounts are just about up and running. One account for \$37,995 is for the MISC data specialist and one for \$9,624 is for MoMISC to hire a part-time field person. Elizabeth is working with Tina on the hiring details for Molokai.
- Our TNC account from last year is just about spent out (the balance is ~\$300). This account has been keeping us afloat for small purchases, travel, etc.
- We've spent roughly \$25,000 to date directly in support of the EEWf crew (supplies, travel, etc.) from a variety of sources. This doesn't include our staff time.
- The State is going to be helping us out with our helicopter situation. They set-up a \$10,000 purchase order with Pacific Helicopters for our use. There is still a question as to whether we will need to pay these funds back. We will resume heliops on their PO starting next week. It is not effective to spend this money on Heliops in the core. Fern asked about the agreed upon goals for the periphery.
- Jeremy suggested we should consider floating MISC heliops on EPMT accounts rather than canceling them.

### **Budget/Funding Subcommittee Meeting**

- We would like to establish a subcommittee on budget/funding with representatives from all major partners. We've talked to PCSU and they are interested in participating. It was agreed that we should schedule the first meeting of this subcommittee in the next couple of weeks.
- One topic we may want to discuss is the possibility of forming our own 501C3, non-profit. The WMMWP has done this for flexibility. We would need to have non-federal/state officers. We should discuss this and maybe have Mark Collins come talk to us. Melissa suggested we should look at an ISC non-profit statewide. We could just deal with one organization instead of each island independently.

### **2002 Action Plan Status**

- The MISC 2002 Action Plan is complete. The second printing was distributed to the Legislature. It includes the MoMISC Plan and a budget that the first version didn't have. Eventually the plan will be posted online

and easily accessed.

### **Hana Crew Budget & Transfer to RCUH (Nathan Varns; Tri-Isle RC&D)**

- The transfer of the Hana crew to RCUH was effective February 1<sup>st</sup>. A few of the crew had accumulated annual leave that they needed to use before the transfer. Tri-Isle is covering their health insurance through February until the RCUH insurance kicks in. We still need to clarify who the crew is reporting to now under RCUH.
- We hired a new crew member, Elroy Krause. This puts the crew up to five. Darryl has some health problems and has been off work for a couple of weeks.
- At some point MISC may propose taking over the Hana Crew. There would be some logistical considerations. The State could still provide a truck, the base-yard, etc. as in-kind contributions. We don't want to force the issue, but we would like to see things consolidated for efficiency.

### **Legislative Bills**

- There is a DLNR line item (402) for \$500,000 that should be coming up really quickly in the next week or so --- \$200,000 of this would be for MISC. This is above and beyond what was approved last year for the ISCs. Jack noted that we would like to get letters of support in.
- Fern mentioned that there are eight DOFAW positions in the state with nobody in them. The vehicles have been purchased, but the invasive specialists haven't been hired. The only one that made it through was in Honolulu. There is a temporary emergency hire in Fred's old position. Her name is Mindy Wilkinson and she has only been on board two months. This is a very tenuous temporary position at the moment. We should officially contact her and encourage her to come to the MISC meetings. She would be a prime contact for funding, etc. She did her dissertation on Fountain Grass and just defended. She has also chaired our fountain grass working group on Oahu.

### **Federal Funding Update/Haleakala N.P (Ron Nagata, Steve Anderson & Jeremy Gooding, HALE)**

- The Natural Resource Preservation Program (NRPP) proposal for miconia is progressing through the system. The proposal is for \$300,000 per year for FY 2003, 2004, & 2005.
- The Superintendent is well on the way to getting ~\$325,000 for miconia this year (this is money being diverted from an existing fencing project). The park is leaning toward using a lot of that money for helicopter contracts. The Office of Aircraft Services (OAS) will be visiting Maui in two weeks and we want to take the out to see miconia and talk about multi-helicopter operation contracts. This could relieve MISC from having to ante up for helicopter time. The helicopter operations would still be multi-agency.
- The park will also be dedicating ~\$400,000 a year from the Resources Management base to miconia. A percentage of Steve, Ron, Patti, and Bill's time will be put towards miconia. This can probably continue for ten years if necessary.
- Don is still working on getting the Fee Demonstration Program legislation amended to allow use of fee money outside of park boundaries. Hopefully this will provide funding for the long term.
- Steve and Jeremy have been tasked with evaluating infrastructure needs and pulling together key people for the expanded miconia program. We will probably need two landing zones - Hana and Keanae. Security and safety are real issues with the helicopter operation. Security will be needed for the fuel truck, we will need crash kits (cost = \$15,000 each), and we will need a repeater to cover the north side of the mountain. We will also need large storage facilities for gear because we don't want the gear to leave the site. We are looking at these infrastructure needs this year so these things will be in place when we are ready to hire crews. There are a lot of questions to answer and explore. We will be having meetings soon to begin discussing the details.
- Steve added that we want to stay flexible on the hiring to best meet multiple needs with all the budget

questions that are out there.

- Ron continued that with part of the \$400,000 Don is still looking at the fire crew option and this would be a huge infrastructure issue. We would need to work with Camp Keanae, Wainapanapa, etc.
- The bottom-line is approximately \$700,000 per year for the next four years assuming the NRPP project is funded. The NRPP proposal has gone through the Regional hoop and is on its way to the Washington office now.
- We will need to address the park's radio system, which is questionable at times. Fern mentioned that Glenn has set up a Keanae repeater for the State that might be helpful.
- Steve reminded the group that one of the things we are doing is using the momentum that MISC has gotten already and the fact that MISC has funding. Even if we aren't passing these federal funds directly through MISC we need to make sure they show up as matches on MISC proposals. We also need to deal with quantifying State in-kind contributions. We need a list of funds that aren't matched yet. This is a topic for the budget sub-committee. Randy added that we also need to know what needs to be matched and Lloyd continued that we need to make it clear where our funding comes from.

### **Federal Funding Update/USFWS**

- Mike Richardson was planning on coming to today's meeting but is still chained to his desk working on critical habitat. He did slip in another DRMO run for us and got 200 pairs of trousers. We owe him another huge Thanks. Earl is on a trip. They both plan to attend the next meeting.

### **PR/EDUCATION STATUS REPORT** (Christy Martin; MISC)

- Christy has mostly been working with EEWf stuff and following legislation. One of our regular crew members, Russell Suzuki, has been active with Akaku and has been filming some public meetings. He decided to start filming our EEWf crew and we ended up making a seven-minute video that we took to the Legislature. They asked us to do a state-wide video on the EEWf program. We have filmed all the Maui projects and just got back from the Big Island. We will be going to Kauai and Oahu for more filming next week (see the attached activity schedule for a summary). Christy showed the group the seven-minute video. It hasn't run locally yet, but it will be on Akaku and we did give a copy to the Mayor.

### **MOMISC UPDATE** (Tina Lau; TNCH-Moloka'i)

- Tina wasn't able to come over for today's meeting. MoMISC is getting ready to hire a field technician for 3-4 months with Hawaii Community Foundation funds. They are really thrilled to have the extra support.

### **HEAR PROJECT UPDATE** (Philip Thomas; HEAR)

- Philip is in Australia until the end of March.

### **ONGOING BUSINESS**

**See the attached Activity Summary for an overview of the MISC crew's schedule since the last meeting.**

### **VERTEBRATE UPDATES**

#### **Caribbean Frogs** (Fern Duvall, DLNR/DOFAW)

- We need to establish a subcommittee on frogs. It is unclear what the Department of Agriculture is doing. Earl is extremely busy. Fern is getting increasingly upset calls from the public. There is a great deal of concern about plants being moved around. There has been new information publicized that other agents could be used (i.e. lime), but these other agents can't be used legally as a pesticide on plants. There have been news reports saying that the caffeine is just sitting around.
- There needs to be a major effort at coordination. A frog "Think-Tank" needs to happen sooner rather than later. There is no coordination and it is becoming more and more difficult to deal with public concerns.

- Melissa mentioned that for Oahu, in conjunction with OISC, Earl is requesting a full-time position through FWS for frog data and field work. Domingo is aware of the issues with caffeine and he should be included in any frog meetings.
- Jack added that he talked to Earl last week. Earl said that Lyle Wong is working on getting the labeling changed. The governor has signed a letter to the Secretary of Agriculture in Washington requesting some help. If the situation can be listed as an emergency, it may help us out. Earl will be meeting with people and reviewing the label. Earl is also trying to secure some APHIS emergency funds. He feels they will iron out the labeling problem. EPA wasn't the problem. The person with the State that wrote up the labeling is the one that added the extra restrictions.
- Jordan asked if we have a site we could use for a field study on Maui? Fern answered that there are but that they would be in the nursery/hotel situation. The wildland situation is the more serious problem that we need to deal with. There are no physical barriers from where the frogs are currently found in Huelo and they could go all the way to Hana and around the island from there. Jordan asked who is the responsible party on Maui? There is an unclear line between the Department of Agriculture's role and Fern's role. Jordan concluded that it might pay to make a call to the FWS because the Oahu position could help us out. Oahu can still nail the frog problem before they spread. Having a person on Oahu doesn't address the fact that the big problem is here on Maui.
- Fern noted that there are people in private industry who are preparing to sue the State over this, but they don't know who to direct the suit to.
- There are two EEWf folks working on frogs part-time. They have moved from Howard's Nursery to Hula Girl in Kihei. They have captured 40 frogs by hand.
- Fern stressed that the ISCs really need to get on top of this. We need to get organized and a major push needs to happen. There are multi-level discussions that should happen before it is too late.
- Forest added that we need to deal with this as part of the nursery certification process. This is the best way address the issue.
- Mach continued that part of the problem is that the Department Agriculture isn't used to dealing with vertebrates. They are also investigating a bio-control fungus that infects the frogs. The fungus may already be here and that may be why we aren't seeing as many Bufo as we used to. We are investigating this connection. Fern commented that he is getting a lot of toad calls with all the rain. The change in toads may have more to do with the drought this past year.
- Steve secured \$87,000 for frog work through the National Park Service. We are waiting for the tool before we hire anyone. Resolving the caffeine issue is a key. Earl thinks letters to Lyle Wong are in order. We should get one from Don Reeser. Randy will send a letter from MISC. Maybe instead of Lyle it should go to higher ups.
- Steve asked if there are any locations or reports where hand picking makes sense? This is an important point as to when we decide to have the funds kick in. Fern responded that there are. Steve continued that we need to consider whether to wait to start spending this funding until the caffeine is ready to go or move ahead without it. What does the committee think? Fern suggested that assessment would be something helpful these people could do. They could look at places like Maliko Gulch. They need to start looking at the planning and design and consider how to do places like Maliko.
- Randy suggested that it might be time to redo our frog alert flyer with information on the different types of frogs. Christy noted that the flyers came out of Earl's old office in Hilo. Steve agreed that a public relations blitz would be helpful at this point. Mach added that he thinks the nursery certification idea may be in the works.

- Jack continued that the RCUH issue has been resolved and Earl thinks we should go ahead and post the jobs. It will take time to get people hired and then the first couple of months they could do data collection and public relations, etc. Hopefully by then we will have the caffeine ready to go.
- Forest noted that we need to focus on inter-island transport.
- Pat asked about the techniques used for frog control in the nurseries. Are they waiting till they hear a frog or are they looking in all the pots. Christy responded that the EEWF folks are really good and are actually going from pot to pot and are catching sub-adults.
- Jordon suggested that we should have a statewide meeting to discuss this. We need to coordinate and identify what our resources and needs are. Randy suggested we ask Duane to schedule a frog meeting after the next CGAPS meeting. We need to include Lyle Wong, DOA, APHIS, Earl, and the National Park folks.

### **Parrot-Type Birds (F.Duvall, Renate Gassmann-Duvall)**

- Jack and Fern have met regarding several issues. Mike Pitzler of Wildlife Services has been contacted and we've introduced him to the history and issues related to parrots on Maui. The plan is for Wildlife Services to develop a proposal including where we would like to go in terms of public relations. Their agency is concerned about the potentially volatile situation that could develop. Trevor, Mike, Fern, and Christy are trying to find a way to visit the cliff site.
- The latest report from MARS seems to say that there has been no work done. Huelo residents report that they have not seen much going on. MARS has already indicated that they want to extend their permit. Fern commented that there is nothing saying that we can't conduct lethal control at the same time that MARS is attempting the capture operation. Fern is wondering if the birds may be dispersing due to a full nesting site in the cliff. Something new is happening with the population. Randy asked if the flock has already begun dispersing, does it really matter if we disperse them further through control efforts?
- Fern added that we need to be putting our money towards control rather than more research right now. The other thing we need to keep in mind is that we have now proven they will eat miconia and cast viable seeds. All the seeds germinated in Art's experiment. We certainly don't want them to end up in miconia territory. If Jeremy's observation at Koki Beach is valid, they had to fly across miconia to get there.
- There is one report of a group of green parrots near Kahakaloa.
- Oahu has parrots as one of their targets too.
- Renate wasn't able to attend today's meeting, but she submitted the following written report:
 

Mitred Conure Observations: Since the beginning of the rainy season, which started around the end of October 2001, the mitred conures are not flying as frequently between their foraging and roosting areas and the total number of birds observed at Huelo Fruit Stand is less. During heavy rains and wind, the flocks are smaller and birds are seen in unusual places. Jeff Parker reported that in the last months he saw a group of five conures only two times (Dec.11 and Dec.12, 2001) and only after a heavy rain and storm. On the other hand Ernest Schupp (Door of Faith Church) and Jonathan Ross (Huelo Fruit Stand) reported that they saw flocks of 50 to 100 birds mostly in the early morning hours. Some citizens of Huelo and MARS staff have expressed their concern that mitred conures might have been shot at after the "Huelo Parrot Meeting" and that this may have caused the dispersal of the birds. To date there is no proof for this suspicion. More and more Huelo citizens are showing interest in counting mitred conures and offering help for an actual parrot retrieval program. I will hand out "Parrot Observation Sheets" next week to Huelo residents to help us narrow down the total number of mitred conures.

MARS Progress: I have received very little information on the progress of the mitred conure capture program. During my mitred conure counts (Sept. 2001 to February 2002), which were mostly done in

the vicinity of Pali Uli, I never heard or saw the lure bird “Frankie” or heard any other parrot vocalizations coming from Pali Uli. Jonathan Ross reported that he had once seen a car with a caged parrot inside driving close to Pali Uli before Christmas. I have talked to several Huelo residents and none of them have seen any feeding station or capturing operation so far. I think it is definitely time to get a progress report from MARS and reconsider our “Memorandum of Understanding (MOU)” from June 29, 2001.

MISC Final Parrot Report: I am in the process of writing the final parrot report for MISC and hope that I can deliver the finished product by March 25, 2002. After discussion with Jack Peterson and Christy Martin the report will focus on parrot retrieval methods.

Other Parrots: I tried to revisit the Moluccan cockatoo roosting site at Waikapu on February 10, 2002 but got stuck in mud. I will go there again as soon as the roads are dry.

### **Saffron Finches (F. Duvall)**

- The saffron finches may have dematerialized. Fern has not been able to find them since the rains. Forest and Kim noted that they haven’t seen any of the birds either. There is a recent report from National Park employee Jeff Bagshaw that there are some in Hosmer Grove. The report is most likely a house finch as they are a similar size and coloration.

### PLANT UPDATES

#### **Miconia Program Subcommittee Meeting.** (Jack Peterson)

- We had a miconia strategy meeting on February 20 with Steve and Jeremy. We want to call a Miconia Subcommittee meeting soon. We need to look at politics, strategy, funding, etc. with all the key players together. We will set a date in the next couple of weeks.

#### **Miconia Strategy Planning Meetings** (J. Peterson & Mike Walker)

- Prior to the February 20 meeting we had a miconia planning week here at MISC. Jack passed around a “Miconia Strategy Planning Meeting Summary” (A COPY OF THE SUMMARY IS ATTACHED TO THE END OF THESE MINUTES) and some maps including a map outlining the work we’ve been doing in the Hana core. Jack reviewed the attached meeting summary with the group.
- We were trying to prioritize areas for work especially for ground crews. We have revised the suspect infected areas. The management zones established for aerial work will be subdivided for ground zones. We also prioritized aerial work. We will start with unexplained outliers. We are trying to find ladder trees and outliers that are being spread by birds or along streams.
- We are revising our search buffer zone approach and we’ve added a new “work to be done” data category. We’ve also added a data category of “plants observed or seen but not GPS’d.” We hope to develop a new series of helipads to help get into more remote locations and we may plan airdrops in Waihole Valley. We are asking EMI for access to the ditch roads and we’ve discussed doing Spike exclosures on Hana Ranch. We hope to increase assistance to Pat Bily on the western peripheral population.
- We are also looking at new aerial application techniques using a boom or wand to reach plants we can’t normally get to. We are continuing to look at existing data from Tahiti, the Big Island, etc. and hope to start some long term monitoring. We have to be smart about where we put our efforts. There are pockets below the canopy that we may not know about. The periphery is more important and this is our bottom-line guidance.
- Jack gave a brief slide presentation summarizing some of MISC’s current miconia maps and data.
- First we wanted to do an analysis of where the cores are (i.e. where are the areas we want to stay away from). We did a density analysis using the distance from each plant to the ten nearest plants. This gives us an idea of where our cores are and corresponds with the 500m buffer around reproducing trees. The 500m buffer gives

us a zone of priority. We found five previously unknown plants (two are seeding trees). We had gotten out to a zone that was pretty clear and then we found these five plants. They are getting pretty close to the park. This is a real wake-up call. We want to go back and resurvey to make sure that nothing was missed.

- Forest asked if the Wailuku miconia ever came back? Pat replied that it hadn't and we probably got it in time.

### **Miconia Bio-Control**

- If nobody gets back to Eloise soon regarding future plans for bio-control she is going to get rid of the culture. MISC has \$28,000 in our County grant for bio-control, but this is earmarked at present for continued support of Dr. Paul Hansen's research in Costa Rica. Randy continued that we don't want her to give up and that we may want to start including the culture in our regular spray operations. Randy suggested that if we can get approval for aerial spray of the fungus this could really help us out. It would give us a two in one punch. Mach offered to get the word back to Eloise that we don't want to lose the culture. Randy will call her to discuss options for continuation. Mach added that if the sterilizers work here at MISC, it would be easy for us to keep it going here.
- Christy noted that on the Big Island all of the plants are infected so it is difficult to do studies. They are still trying to determine the efficacy, but they lost their control group to the fungus.
- Lloyd talked to Cliff Smith recently and there are some other promising agents - a leaf hopper and a moth. Lloyd will be pursuing additional information on these. Jordon added that OISC has a budget of \$20,000 for bio-control support.
- Pat questioned whether we should be focusing bio-control research on a specific agent for miconia vs. a generalist melastome agent. We might have additional funding options if we went with a generalist.

### **Miconia/NPS EPMT (Steve Anderson/Jeremy Gooding; HALE-NP)**

- Activities were covered above. EPMT will be ramping up miconia work in the next few months

### **Fountain Grass Surveys (Melissa Dumaran, & Jordan Jokiel, HI-ARNG)**

- They are trying to schedule fountain grass surveys on April 1, 2, & 3 in Kanaio NAR. They would like to go back and do large ground sweeps in the area where the plant was found before. They also hope to do an aerial mission that week and survey ranch land, roads, and other high priority. We could maybe even survey further east if we can get land owner permission.
- Jordon commented that fountain grass on Maui is still manageable. It is a good time to look right now because it is in full flower. Mach noted that there is a state-wide program for fountain grass and by the end of the year they will begin testing bio-control agents

### **Ivy Gourd**

- There were 101 crew hours spent on ivy gourd since last meeting. Christy, Mike W., and Sam worked with the Jeremy's EEWf crew in Kihei to revisit all sites. There were 667 plants treated in neighborhoods and they went door to door.
- Mach recommended we start bio-control on ivy gourd in the Kapalua area. He has made this recommendation to his supervisor. He will need to coordinate with the MISC crew. He would prefer to use beetles because they are leaf miners and they don't need the thick stems that the borer needs.

### **Pampas Grass**

- The MISC crew spent a half-day on pampas since the last meeting.

### **ACTION ITEMS**

- We will schedule and hold miconia, budget, and frog subcommittee meetings before the next regular MISC meeting.

- Randy will call Eloise to check on the status of bio-control fungus.

Next Meeting Date/Time: Friday, 4/19/02, 9am-12noon

MISC ACTIVITY SCHEDULE  
January 14 to February 22, 2002

- 1/14: MISC crew travels to Hana  
Miconia: w/ EEWF crew in Hana Core  
Ivy Gourd: Kapalua; Erik & Russ  
Meet with Maui High student re: Pacific Intercongress project on Miconia, Christy
- 1/15: Miconia: w/ EEWF crew in Hana Core
- 1/16: Miconia: w/ EEWF crew in Hana Core
- 1/17: Miconia: w/ EEWF crew in Hana Core  
Ivy Gourd: Kahului/Makawao; Erik, Sam, & Mike W.  
West Maui Mountains Watershed Partnership crew first aid & CPR, Christy
- 1/18: Miconia: w/ EEWF crew in Hana Core  
Ivy Gourd: Lahaina/Kihei; EPMT/EEWF Crew, Sam, Christy, & Mike W.  
MISC crew returns from Hana
- 1/21: Martin Luther King Holiday  
Part of MISC crew travels to Hana  
Miconia: w/ EEWF crew in Hana Core (Mike A. & Sam work the Holiday)
- 1/22: Miconia: w/ EEWF crew in Hana Core  
EEWF video editing, Christy & Russ
- 1/23: Miconia: w/ EEWF crew in Hana Core  
Helicopter Spray Operation: Miconia, Hana
- 1/24: Miconia: w/ EEWF crew in Hana Core  
EEWF filming in Hana, Miconia crew, Christy & Russ
- 1/25: Miconia: w/ EEWF crew in Hana Core  
Tom Ishii from RCUH visits Hana Core & EEWF crew  
MISC crew returns from Hana
- 1/26: EEWF video editing, Christy & Russ
- 1/28: MISC crew travels to Hana  
Miconia: w/ EEWF crew in Hana Core  
Helicopter Spray Operation: canceled due to weather
- 1/29: Miconia: w/ EEWF crew in Hana Core  
EEWF video editing, Christy & Russ
- 1/30: Miconia: w/ EEWF crew in Hana Core  
Helicopter Spray Operation: canceled due to weather  
Christy & Randy meet w/ Legislators at State Capital, Honolulu
- 1/31: Miconia: w/ EEWF crew in Hana Core  
Christy & Randy to CGAPS Meeting
- 2/1: Miconia: w/ EEWF crew in Hana Core  
MISC crew returns from Hana  
Mike Buck radio show on KGU, Christy
- 2/4: MISC crew travels to Hana  
Miconia: w/ EEWF crew in Hana Core  
Matt Snow's first day of work
- 2/5: Miconia: w/ EEWF crew in upper Kawaipapa  
Helicopter Spray Operation: canceled due to lack of funding
- 2/6: Miconia w/ EEWF crew in upper Kawaipapa

Helicopter Spray Operation: canceled due to lack of funding  
Ivy Gourd: Lahaina; Matt, Russ, & Erik

## MISC ACTIVITY SCHEDULE con't

- 2/7: Miconia: w/ EEWf crew in upper Kawaipapa  
Ivy Gourd: Kihei/Kahului; Matt & Russ  
EEWF filming at Haleakala National Park, Russ  
MISC Miconia strategy planning  
Legislature for EEWf & other hearings, Christy
- 2/8: Miconia: w/ EEWf crew in upper Kawaipapa  
MISC crew returns from Hana  
MISC Miconia strategy planning  
EEWF filming with The Nature Conservancy, Russ  
Legislature for EEWf & other hearings, Christy
- 2/11: MISC crew travels to Hana  
Miconia: w/ EEWf crew in upper Kawaipapa  
EEWF filming in Hana, dengue crew, Christy & Russ
- 2/12: Miconia: w/ EEWf crew in Helani Gardens  
EEWF filming with Forest & Kim/Community Workday at Kanaha Beach & Kealia Ponds National  
Wildlife Refuge, Christy & Russ  
Jack to Board of Water Supply Meeting.
- 2/13: EEWf crew rained out  
EEWF filming in Kihei, coqui work, Christy & Russ
- 2/14: Miconia: w/ EEWf crew in Helani Gardens  
EEWF filming of Community Workday bulky item pickup, Christy & Russ  
Pampas Grass: Makawao; Russ
- 2/15: Miconia: w/ EEWf crew in upper Kawaipapa  
Ivy Gourd: Kapalua; Russ  
Fireweed inspection and plan, Christy & Jeremy  
MISC crew returns from Hana
- 2/18: President's Day Holiday  
Part of MISC crew travels to Hana  
Miconia: w/ EEWf crew in upper Kawaipapa (Sam works the Holiday)
- 2/19: Miconia: w/ EEWf crew in upper Kawaipapa  
Christy & Russ to Kona for EEWf filming, film Kaloko-Honokowai & Puu Waa Waa projects
- 2/20: Miconia: w/ EEWf crew in upper Kawaipapa  
Helicopter Spray Operation: canceled due to lack of funding  
Miconia Strategy Meeting at MISC w/ Steve A. and Jeremy G.  
EEWF filming in Hilo of Miconia & fire ants, Christy & Russ
- 2/21: Miconia: w/ EEWf crew in upper Kawaipapa  
EEWF filming of Miconia work in Hilo, Christy & Russ
- 2/22: Miconia: w/ EEWf crew in upper Kawaipapa  
MISC crew returns from Hana  
MISC Meeting

MICONIA STRATEGY PLANNING MEETING 2/20/02

**In attendance:** (Steve Anderson, Jeremy Gooding, HALE NPS/EPMT;  
J.Peterson, Mike Walker, Erik Barnard, Mike Ade MISC)

Summary of results and notes (both strategy & tactics):

- ? Prioritized locations for Ground work: prioritized shopping list.
- ? Reviewed data to get everything back on the radar.
- ? Revised “suspect infected area “ re.: New Data.
- ? Development of Management zones/ 3 layers: 1). ground 2). air 3). spray
- ? Prioritized locations for Aerial work.
  - Resurvey re. unexplained outliers: ie. Search for missing “ladder” trees
  - Resurvey re. most peripheral areas (Waiho’i trees)
- ? Revised “Search Buffer Zones” in critical locations re.: New Data (0.5, 1, & 2 km).
- ? Start new data category: “Work remaining to be done in an area”.
- ? Construct new ARCview theme: Plants observed or controlled but not GPS’ed (spock’ums)
- ? Develop a new series of helipads to facilitate access to higher elevation areas / reduce hike time. Air drops into locations of Waiho’i trees.
- ? Approach EMI (east Maui Irrigation Co.) for “Ditch Road” access with vehicles or ATV’s etc.(to reduce hike time).
- ? Spike trial plots on Hana Ranch ; request HALE NPS fence materials for exclosure. (with funding assistance from the U.S. Fish and Wildlife Service private lands program and NRCS; clearing upper pastures of guava and *Miconia*. investigate the efficacy of spike on *Miconia* germination.)
- ? Increase assistance to Pat Bily (TNC) with western periphery populations.
- ? R&D/ Develop new aerial application techniques: boom, wand, other (paint-ball gun?)
- ? “Research” *Miconia* 1) growth rate, 2) age to maturity, 3) age/height/diameter correlation, & 4) distribution/population age correlations. (possibly buffer search areas by population history). Research existing data: Tahiti, Art M., Big Isle etc., and start long-term monitoring of plants on Maui.
- ? Continue support of Bio-control.

For **MISC“Objectives & Methods”** as delineated in 2002 Action Plan, see next page .

## Objectives & Methods: *Miconia calvescens*

*Miconia* is MISC's primary target species.

Maui *Miconia* control strategy meetings.

realistic cost estimates for *Miconia* control on Maui derived using all available data.

revised multi-faceted strategy for MISC's 3<sup>rd</sup> year plan

### Biology:

*Miconia* can produce fruit within 4-5 years, each tree generating as many as 10 to 20 million seeds per year.

Seeds spread by fruit-eating birds, other animals, contaminated soil adhering to hiking shoes, equipment, and vehicles.

Seeds remain viable in the soil seed bank for up to eight years before germinating

Some trees, even fruiting trees, missed by ground crews and aerial surveys during the first pass, necessitating revisits.

### Objective:

**To control *Miconia* on Maui by focusing on the sustained long-term, island-wide goal of "Zero Fruiting Trees".**

MISC's multi-faceted strategy for 2002 includes the following major elements:

- 1) **Increase helicopter operations**, both reconnaissance and spot spraying;
- 2) **Continue and expand ground operations** with the addition of more field crews;
- 3) **Continue to evaluate strategy and cost estimates** - accurately reflect all current data and biological realities;
- 4) **Continue to work with Haleakala National Park to pursue the additional Federal funds** necessary to expand operations in agreement with current cost estimates.

### Methods:

?? **Management Units** throughout the core and at the periphery.

?

?? **Mapping, treatment, re-survey, and re-treatment**

?

?? **Periphery towards the cores:** Concentration on killing flowering trees around population perimeters, working from the periphery towards the cores as in fighting a fire.

?

?? **Triple current helicopter reconnaissance:** complete exploration of suspect areas for previously undetected mature trees, with repeat at least annually.

?

?? **Sub-canopy *Miconia*:** ground crew survey and control work, priority to areas which may harbor sub-canopy *Miconia* (seeding trees under the canopy undetectable from the air), particularly in areas around trees spotted by air.

?

?? **Increase aerial spray operations** flowering trees as the first priority. essential in inaccessible sites.

?

?? **"Spray -reconnaissance":** "spray-con" used in target rich management zones.

?

?? **GPS tracking and integrated GIS database generated maps**

?

?? **Continue to contain Hana core:** Hana (DLNR) crew will assist with working on areas of highest strategic priority as needed but will continue to work primarily in the core area, with emphasis on removal of all trees prior to fruiting on a sustained basis. Low volume basal spray techniques will be used whenever feasible.

?

?? **Development of new access routes to allow on-the-ground control:** 4-wheel-drive road expanded mauka into Kawaipapa River area. subdividing the primary infestation site into management units, allowing efficient access.

?

?? **Develop a new series of helipads** (inland of existing and proposed jeep road systems) to facilitate access to higher elevation areas not conducive to bulldozer roads.

?

?? **Support and assist Hana Ranch** to stem the *Miconia* invasion on their lands. with funding assistance from the U.S. Fish and Wildlife Service private lands program and NRCS; clear upper Hana pastures of guava and *Miconia*. investigate the feasibility of extending the pastures up slope.

?

?? **Release, monitor, and conduct research on biocontrol fungus:** Bio-control a necessary adjunct to mechanical/chemical efforts. *Colletotrichum gloeosporoides* f. sp. *miconiae*, released by HDOA. MISC will continue funding and logistical support including research on potential additional biocontrol agents (already in progress).

?

?? **Continuing public information and surveillance for new locations:** Continue TNC's program using public outreach/education within the East Maui communities of Keanae, Nahiku, and Huelo to monitor known populations and find *Miconia* in areas not yet surveyed. Solicitation of information from pig hunters, hikers, water supply ditch and electric line workers, road workers, and residents will be continued.

?

?? **Measures to prevent seed dispersal by *Miconia* workers.**

strict protocol of decontamination safeguards.

conspicuously marked "dedicated" gear. bulldozers and other vehicles used in *Miconia* areas are *always* pressure washed immediately afterwards.