

August 23, 2005

Aloha kakou:

I wanted to follow up on the discussion of *Erythrina* gall wasp (EGW) that we had at the MISC meeting on August 12<sup>th</sup>, update you on recent findings, and request your assistance in moving forward to address EGW on Maui.

## 1. EGW Discussion – August 12<sup>th</sup>

The following is a *very* brief summary of points made during the discussion held during the MISC Meeting. The points listed are not necessarily reflective of any consensus. It is likely that this summary fails to capture the nuances of the discussion and also likely that it may omit important points that were made. If you feel that something has been omitted or misrepresented, please let me know. I do want to honor the dedication and commitment of all those who participated, most of whom stayed throughout the afternoon in an effort to come to a workable solution.

- It is not feasible to control EGW island-wide.
  - Probability of reinvasion is high.
  - The ability to detect individual wasps at low densities is low.
  - The ability to detect infestations at low densities is moderate.
  - The ability to target all individuals is low, but may be higher in limited geographical regions
- The overall chances of being able to protect native *Erythrina* are less than 50%.
- Doing nothing is not an option.
- There are not enough native *Erythrina* resources on West Maui to justify any direct action.
- There was not agreement about the feasibility of creating a five-mile buffer zone around the East Maui wiliwili forest. Perspectives included:
  - A buffer zone is not defensible and would be a waste of resources.
  - A buffer zone should be part of a strategy to help “buy time” until biocontrol can be developed.
  - The feasibility of creating a buffer zone depends in large part on the number of *Erythrina* in the buffer zone and ability to obtain landowner cooperation.
  - Any decision about treatment options needs to be based on cost estimates.
- Funding for preventative treatment by private landowners should be considered as part of the strategy.
- Any large-scale treatment of trees that does occur should be done by professionals, not MISC crew.
- Use of systemic insecticide to protect native *Erythrina* should be pursued.
- Immediate efforts should commence to find, test and release an effective biocontrol agent(s). The feasibility of expediting the process should be explored.
- Funding for biocontrol research should come from the State, as opposed to County funds.

- A public education & outreach campaign is needed.
- Extensive collection and banking of *Erythrina sandwicensis* should occur.
- Control on Molokai should be a high priority because EGW is believed to be limited to the USDA plant facility.
- The following areas were considered as possible roles for MISC in further activities related to EGW:
  - Data management
  - Public education & outreach
  - Survey work

## 2. Additional Survey Results

In the end, it seemed like we still needed more information. As a result of that decision, MISC conducted additional survey work to determine the distribution and abundance of *Erythrina* spp. within the proposed 5-mile buffer zone. Last week, MISC crew concentrated on surveying *Erythrina* within the South Kihei / Wailea area. The primary purpose of the surveys was to determine distribution, not to note whether EGW infestations were present. If it was easy to determine presence of EGW, it was noted. Thus, any effort to interpret “none found” based on last week’s surveys would probably be inaccurate.

The only area where we conducted a systematic survey of all *Erythrina* was in the South Maui area. Thus, the numbers noted above should be viewed as a very low minimum. The following is a minimum count of *Erythrina* spp. based on surveys conducted by MISC and Mach Fukada (HDOA) during the last two weeks:

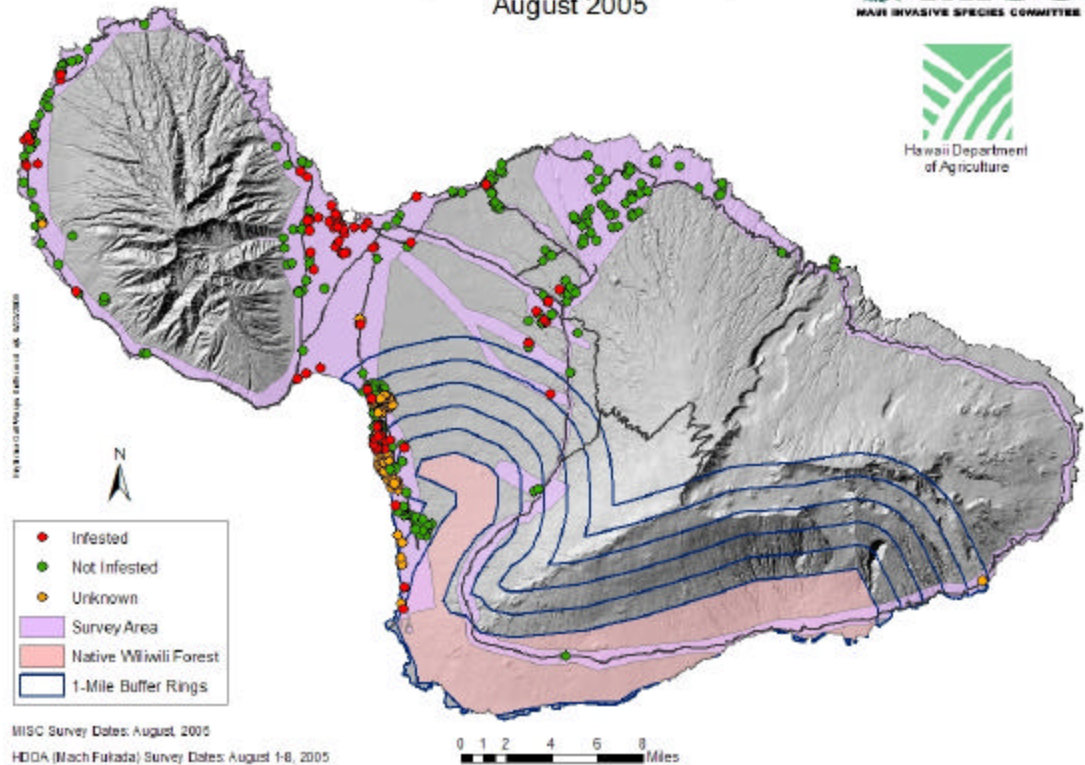
South Maui	18,533
Central Maui	1,986
Upcountry	1,436
East Maui	4
West Maui	3,067
Grand Total	25,026

Mach’s survey recorded numbers in the following classes: <20, 20-50, and >50. We translated those numbers as follows:

< 20	= 1
20-50	= 20
>50	= 50

The map bellows shows the distribution of individual *Erythrina* in South Maui and the known distribution of EGW on Maui. There is a report of a possible infected plant at Kipahulu. This is being researched / confirmed.

## Erythrina Gall Wasp Survey August 2005



An additional piece of essential information that is being generated is the cost of systemic insecticides. Steve Anderson has been in touch with chemicals representative and will be providing an update on costs for treatment as soon as that becomes available.

### 3. Recommendations for Action

Based on the above information, I am making the following recommendations for addressing EGW on Maui:

- Existing contractual obligations should be paid out of County funds for control work conducted to date.
- Large landowners, such as Monsanto, should be encouraged to control EGW using approved insecticides or by removing infected trees.
- The vast majority of available resources should be dedicated to use of systemic insecticide to protect Maui's *Erythrina sandwicensis*.
  - Treated plants should represent a broad distribution on Maui.
  - Clear protocols are needed for selection, treatment and monitoring of individual *Erythrina*.
- Control of individual infected *Erythrina* should be limited to infestations in close proximity to natural areas (less than ½ mile) in South Maui and East Maui.

- Control on Molokai should be a high priority because the infestation appears to be limited to the USDA plant facility.
- The attached map should be distributed to local news media as part of a press release urging Maui citizens to help combat EGW.
- The public should be encouraged to:
  - Learn how to identify EGW
  - Remove infected plants, using one of the following approved methods:
    - ✓ Cutting and chipping all plant parts
    - ✓ Cutting and burying all plant parts
    - ✓ Cutting and using herbicide on all plant parts
  - Protect existing trees using an approved systemic insecticide
- MISC Roles:
  - Call center
  - Data management
  - Public education / outreach
  - Landowner permission
  - Assistance with treatment of native trees (not primary role)
  - Assistance with seed collection (not primary role)
  - Volunteer coordination, as needed

MISC involvement in any of these activities should be carefully monitored and evaluated against effectiveness of effort.

- A Maui EGW committee should be formed immediately to continue to address EGW. Specific topics that need to be addressed include the following:
  - Which, if any, of these recommendations should be implemented.
  - Advice for private landowners, e.g., tipping, removal, defoliation, systemic insecticide, etc.
  - The role and management of volunteers
  - Relationship of MISC to the proposal funded by the County
  - Communications with the Mayor
  - Seed collection strategy, identification protocols, storage, and property rights
  - Identification of specific thresholds that trigger a change in action

As should be obvious, I am not recommending creation of a buffer zone. I do not think it meets certain basic requirements. First, the sheer biomass and distribution of *Erythrina*, even within a reduced 2-mile buffer zone, is overwhelming. Much of the *Erythrina* occurs on private property, which would require a tremendous amount of landowner cooperation. While the public has been responsive, MISC's experience suggests that it will not be possible to obtain full cooperation. Dealing with the associated biomass is problematic because many landowners are not willing to leave the residue on their property. One of the most difficult issues is the lack of a defensible

“border.” Continued reinfestation is not only likely, but practically guaranteed, given the demonstrated ability of EGW to spread very rapidly.

Control of all *Erythrina* trees at the Molokai USDA plant facility has happened. All 976 trees were cut and buried. This will be paid for out of County funds (approx. \$10,000).

I hope this summary has been helpful. I would appreciate receiving the most recent thoughts of the Committee regarding next steps.

Teya