1. PARTICIPANTS
- Coordinator: Arnold Hara
- Facilitator: Francis Benevides, Jr.
- Recorder: Ruth Niino-DuPonte
- Attendance: see attachment

2. INTRODUCTIONS

3. PRESENTATION (Status on Coqui Frog Control in State Parks) [Glenn Taguchi]
   - Up to now, nothing has been done – in part because the parks are used during the day; neighboring residents have called in complaints about coqui frog noise at night [specifically, Lava Tree State Park (LTSP)].
   - Jurisdiction for handling vertebrate pests falls under DNLR, but HI DOA has been involved with coqui frogs, snakes and chameleons (K. Onuma). The working relationship between agencies and deciding who is the lead agency will need to be resolved, perhaps via Gov. Lingle.
   - A coordinated project involving HI DOA, State Parks, County of HI, UH, USDA, and DNLR (see discussion under Operations) will focus on testing several coqui frog control strategies at LTSP.

4. OLD ACTION ITEMS:
   - Invite a state parks representative to discuss what they plan to do to control coquis on their lands [F. Benevides]: G. Taguchi reported at this meeting. Status: CLOSED
   - Plans for Lava Tree State Park (LTSP). Status: CLOSED
   - Work on a plan to present to legislators. Status: DEFERRED

5. COMMITTEE REPORTS

1) Public Education [W. Kenoi, County of HI and B. Mautz, UHH]
   - R. Rosenthal: Public education/information programs will air on Dec 19 (Thursday, 8:00 pm) and Dec 20 (Friday, 10:00 pm) on Channel 55 island-wide. The 1½ hour segments consist of PowerPoint presentations by B. Mautz, L. Nakahara, and A. Hara. The programs will be aired on other dates as well. Unedited copies of the video were circulated among CFWG members for viewing.
   - W. Kenoi (and K. Tavares): a coqui frog handbook is being finalized for publication by the County of Hawai‘i shortly (pending citric acid data, etc.) and will be available to the CFWG for input by the next meeting.

2) Research [A. Hara, UHM and R. Sugihara, USDA]
   - S. Chun: Coqui frog eggs treated with 16% citric acid turn white and will not hatch. If an egg in a clutch already has some fungus growing on it, application of 16% citric acid will accelerate fungal growth on the other eggs and none will hatch. Application was done in the lab with an aerosol (direct misting). The fungus is being identified by Eloise Killgore (HI DOA). The next step is to test lower concentrations of citric acid. In the field, eggs may be hidden and may not be accessible for direct contact. Infected eggs were passed around for viewing.
L. Ogata/F. Benevides: A black rat was observed feeding on a coqui frog in LTSP on heliconia (7:30 pm, 11/24/02). High incidences of frogs were also observed in dried hala (pandanus) leaves. These may possibly be more attractive than the bamboo refugia.

A list of the “Top 10” plants that harbor frogs would be helpful, along with a recommendation to strip old leaves off of those plants to discourage frogs. M. Enriques added that frogs have been found in the old leaf sheaths of palm plants, causing quarantine rejections.

B. Sugihara: DNLR is still pursuing EPA approval for restricted use of caffeine only on nurseries. Other chemicals to be tested are cinnamaldehyde (cinnamon oil derivative; Cinnamite is 30% cinnamaldehyde and is currently used to control mites and aphids) and malic acid – both are EPA-exempt substances.

- L. Wong is working with others on a label for citric acid as well as instructions for use. State will be writing label, not the distributor. Cost of citric acid is approximately $40 per 50 lb (makes about 36 gal @ 16%; so about $1/gallon) (M. Crowell).
- Will also work with T. Ohashi in conducting a field trial on Kaua‘i to examine the effects of citric acid on non-target organisms – probably beginning in Jan 2003.
- Certain plants are more sensitive and will experience phytotoxicity (e.g., maidenhair fern); recommend to treat plants most likely to be infested with frogs rather than all.
- K. Onuma: Need to test a range of citric acid concentrations.

F. Benevides/L. Ogata: Spot treated with 25% citric acid in Puainako and Lava Tree State Park plots. Three weeks after spot treatment at Puainako with citric acid, vocalizing frog count in these plots still remain very low (less than 5). There was no vocal coqui activity at Manuka State Park when checked recently (12/08/02, night) (dry, cold).

B. Mautz: Will work on treating frog eggs with pyrethrins.

3) **Nurseries** [J. Runnells, Big Island Association of Nurserymen] D. Fell

- J. Runnells: Still waiting for research recommendations and also the cost of vapor heat per treatment. Neighbors have called for help on what to use; lots of reports in Puna, possibly deliberate introductions of coqui frogs. Citrus leaf miner is now a more urgent concern to nurseries.

4) **Quarantine** [M. Enriques, HI DOA, Plant Quarantine] V. Kashiwamura, D. Cravalho

- M. Enriques: pyrenone is sprayed on inspected plants; it agitates frogs if they are present so they jump out of the plant and can be more easily detected.

5) **Legislative** [G. Santos, BIISC]: No report

6) **Tracking Funding & Resources** [T. Ohashi, USDA]

- R. Rosenthal: possible funding sources would be from those who are impacted by the frog (realtors, homeowners, community associations, tourism industry, nursery growers)
- K. Onuma: L. Nakahara located a small amount of Homeland Security funds. It was used to purchase four (100 gal) sprayers that will be loaned to Big Island community associations who will supply the labor and share the cost of the citric acid to treat their respective residential areas.
- T. Ohashi: as of October 2002, S. Veriato is 100% funded by UH CTAHR. A full-time worker on Kauai was also hired, so more extension work can be done.

7) **Public Relations**: No report (see New Agenda Items)

8) **Operations** [S. Veriato, USDA; G. Santos, BIISC, M. Craig MISC]
• S. Veriato: On Dec. 11-13, 2002, a coordinated test project will be conducted at LTSP. All agencies involved will provide equipment and/or manpower (HI DOA, State Parks, County of HI, UH, USDA, DNLR). Results from this project will be reported at next month’s CFWG meeting.

- Park maintenance and enhancement
- Native forest restoration
- Removal of coqui frog habitat (cut and clear non-native plants only)
- Study effects of understory removal on frog populations
- Test effects of citric acid treatment on cleared area
- Follow-up after 1 week with herbicide spraying to keep non-native plants in check and apply wood chip mulch (J. Runnells: monitor wood chip pile - known to attract/harbor toads, and possibly frogs)
- Leverage multi-agency resources
- Ten low-security HCCC prisoners will provide labor for three days.

• F. Benevides: At this time of the year (dry, cold), coqui frog activity is low – would have liked to see this project undertaken when they were more active (sound levels are 50-54 dB). Also, is citric acid treatment or understory removal more effective? Since they are both being applied, can the effects of each be separately quantified?

• B. Kenoi: This project will also indicate whether habitat modification on this scale is effective and feasible (time, labor).

6. NEW AGENDA ITEMS
- Need to rework the eradication plan originally circulated in August 2001 for resubmission. Need to get support from Gov. Lingle, possibly with the assistance of Eric Weinert [T. Ohashi]
- Need to have someone on the Big Island as a CFWG spokesperson/PR person so that s/he can attend the meetings regularly

7. NEXT MEETING
- Monday, January 13, 2003; 2:00 P.M. to 4:00 P.M.; UH Manoa CES, Komohana Agricultural Complex, 875 Komohana Street, Conference Room A (upstairs), Hilo, HI

HAVE A JOYFUL HOLIDAY and a HAPPY NEW YEAR!
## COQUI FROG WORKING GROUP
### ATTENDANCE - DEC. 9, 2002
22 attended

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