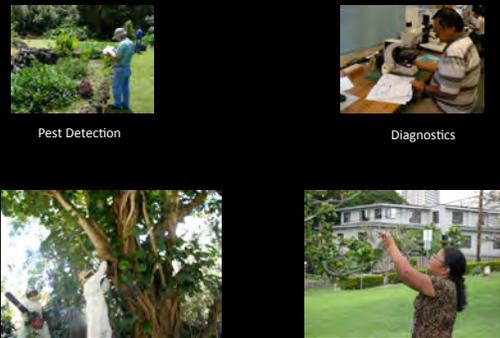


Plant Pest Control Branch  
Legislative Briefing on Invasive  
Species

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### PPC Mission

Limit plant pest populations that  
have the potential to cause  
significant economic damage



Pest Detection

Diagnostics

Rapid Response

Biological Control

### Special Program



Apiary

Hawai'i Ant Lab



1 person

14 staff

1 person

1 person

3 staff

### Island Duties

- Kaua'i: Pest detection, response and control
- Maui: Pest detection, diagnostics, biocontrol
- Kona: Pest detection, diagnostics, biocontrol
- Hilo: Pest detection, response and control, diagnostics, biocontrol
- O'ahu:
  - 3 Diagnostics
  - 2 Pest detection
  - 2 Response and control
  - 7 Biocontrol (research)

## Pest Detection

Pest detection is critical to control, mitigation, or eradication of a pest.

Unlike Plant Quarantine, whose focus is incoming shipments of goods and services, our presence is:

- at the ports of entry (grounds and surrounding areas)
- at high risk areas
- and through general pest detection activities statewide

PPC is limited in program staff coverage and capabilities are enhanced through outreach to first detectors

- Landscape industries
- Nurseries
- Arborists
- Pest Control Operators
- and other public and private industries

## Ongoing Pest Detection Programs

- General Pest Detection
- Coqui: Kaua'i and O'ahu
- Ants:
  - LFA: Kaua'i, Maui, O'ahu, Molokai, Lanai, West Hawai'i
  - IFA: Statewide
- Turf grass pests: Statewide
- Laurel Wilt: Statewide
- Citrus greening: Statewide

## Coqui Frog on O'ahu for FY 2012



- Total number of man hours: 565
- Total number of site visits: 91
- Number of coqui caught: 78
- Number of sites treated with Citric acid: 11

Work is done by 2 HDOA staff and one person from OISC

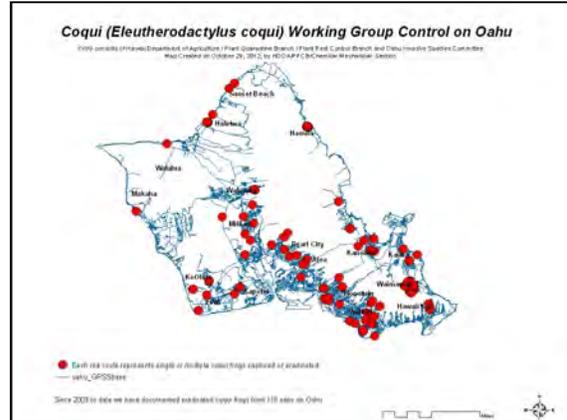
## Since 2003

- Number of sites frogs were captured/eradicated 115
- Sites with persistent problems until today: 2

Much of the work needs to be done at night!

## Coqui eradication

- Heavy infestations take a minimum of 2 years
- Can be done:
  - Ha'ula
  - East Range in Wahiawa
  - Waimanalo
  - Haleiwa
  - Hawai'i Kai
  - Makakilo



A key component in developing risk assessments and response and control actions is the ability to quickly and accurately identify potential pests.

Our diagnostics ability includes insects, plant diseases and weeds



## Insect Identifications\* for 2012:

- 407 samples submitted by PPC staff, the public and private industry
- 116 samples submitted by Plant Quarantine for commodities held in quarantine pending taxonomic identification
- 5 samples for Animal Industry Veterinary Lab associated with livestock under quarantine by the department
- 444 pest calls were processed.
- 161 specimens added to the Zoological Reference Collection, which now contains approximately 167,419 specimens.

## Disease Identifications for 2012

- 65 samples submitted by PPC staff, the public and private industry
- 116 samples submitted by Plant Quarantine for commodities held in quarantine pending taxonomic identification

Pest Detection and Diagnostic programs routinely detect and identify new national, state, island and host records every year

## New Records

- National:
  - 2 diseases
  - 1 wasp new to science
- State: 4
- Island: 6
- Hosts: 2



Responding to invasive species is our business

## What happens

- Mobilize staff to determine the extent of infestation
- Determine best available control options
- Obtain necessary regulatory or quarantine approvals if needed
- Launch response
- Staff from other agencies will be requested as needed

Rapid Response is launched when any serious new pest is detected



Lobate lac scale, a potentially serious pest of a wide range of plants. It is likely biocontrol is the only viable option for control of this insect.

## Recent Rapid Response Programs

- Kona Coffee LFA infestation
- Maui LFA infestation
- Coqui frog detection on O'ahu
- Hilo varroa mite eradication program

### When an invasive weed or insect becomes:

- widely distributed
- has a high density
- difficult, too costly or impossible to control



Biological control becomes an option



Biological control seeks to create a new harmony with an invasive species and the environment by reuniting it with an insect or disease found in its homeland which keeps it from becoming a pest.

### A natural enemy is released only after :

- extensive observation in it's homeland indicate it has potential
- Testing to ensure it does not attack other species
- Environmental assessments are published
- All Federal and State requirements are met to obtain necessary permits.

### Current Biocontrol Projects: What's Out There

- Strawberry guava:
  - collaborating with US Forest Service
  - Scale insect currently released at 2 sites on Hawai'i
- Erythrina gall wasp
  - Host specific predatory wasp released state wide
  - Highly effective
- Stinging Nettle Caterpillar
  - Host specific predatory wasp released state wide
  - Highly effect: SNC populations have been controlled!

### What is in the kitchen

- Fireweed
- Skunk vine (maile pilau)
- Banana Aphid (spreads banana bunchy top)
- Christmas berry
- Looking for:
  - Protea mealybug
  - Hala scale
  - Coffee berry borer
  - Small hive beetle

### Fireweed

- Approval for release recently granted
- Program is a partnership between the state, UH, Maui County and landowners
- Releases will be on Maui and Hawai'i
- The goal: release 1 million moths a year



Bees are not just about honey. Bees are about pollination.



Pollination services provided by bees have a web of impacts that extend beyond food and Hawai'i is critical to North America's bee health



### Apiary Program

- Currently funded by pass through money and the Farm Bill
- Positions created by Act 200, Session Laws 2012
- HDOA is seeking funding from the barrel tax to create a permanent Apiary Program

### Apiary Program Mission

- Survey for honeybee pests
- Educate beekeepers on managing honeybee pests
- Develop pest management methods
- Certify queen exports to domestic and international sources



Ants represent a complex problem that can have broad environmental and agricultural impacts, be a nuisance pest, a medical or veterinary issue, and affect lifestyle/ quality of life



### A multi-pronged approach is needed



Research & Development Incubator (HAL)



Routine Surveys for Imported Fire Ant (Cooperative Agriculture Pest Survey)



Monitoring at high risk sites and responding to pest calls



Control and eradication programs (HAL, HDOA, ISCs and county government)

Pest detection for invasive ants is the most extensive and comprehensive program within PPC

- HAL
  - Hawai'i Island
    - Walk-ins or mail-ins: 101
    - Beach Park Surveys: 232
    - Kona De-limiting surveys: 94
    - Research related surveys : 1,939
  - Mau'i Eradication Program: 1,200
  - Kaua'i Eradication Program: 892
- PPC
  - Kaua'i 774
  - O'ahu 4054
  - Maui 245
  - Hawai'i 406

The largest potentially controllable LFA infestation is on Kaua'i with 13 acres infested

Control was not possible until recently because

- no effective chemical-bait options were available
- methods to apply bait treatments were not available

### Bait-chemical solutions

- Only a few are available
  - Amdro/pro-bait
  - Tango
- both have limitations on where and how to use and Tango is expensive

Kaua'i has proven to be an effective test of research and technology development, interagency collaboration, and what can really be done to control LFA.

