Hello, My name is Craig Kaneshige and I am from the Dept. of Agriculture. I am going to give you a quick overview of our program.

In our program we control invasive plants, invertebrates vertebrate targets. We use Mechanical, Chemical and Bio control methods. I will cover our seed program later.

Our first plant is miconia.
Colletotrichum gloeosporioides was released to control the invasion of clidemia in our forests. DLNR used a mist blower to apply the same solution in larger quantities.

Before and after results of fungus application

The Colletotrichum fungus is visible by the image of a yellow "halo", or a chlorotic spot on the leaves. This is a symptom that we look for in identifying that the fungus is working.
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**Fire Weed**

- No flowering or seeding plants
- 10 acre infestation area
- Partner: KISC
- One remaining infestation area at Half-way Bridge
- Control method: hand pulling

Presently there are no flowering or seeding plants.

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**Arundo**

- 90% of all known plants island-wide have been treated and/or controlled
- Scattered populations
- Partner: KISC
- Control method: Cutting and herbicide application on new growth

Slide 9

**Ivy Gourd**

- Scattered island-wide populations
- 25 acre total infestation area: all treated/controlled
- Partner: KISC
- Control Methods:
  - Notch, scrape, or slit and treat with herbicide
  - Bio-control

Shipwreck at Mahaulepu, Omao and Anahola, Moloa, Kilauea
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**Melittia oedipus**

A beetle lays its eggs in the stem and the larvae feed inside the plant's stem controlling its growth.

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**Fountain Grass**

- Three remaining populations, all on steep and rocky terrain
- 2,833 acre infestation area
- Partner: KISC, DOFAW
- Control Methods:
  - Drizzle spray and seed-head removal
  - Possible target for aerial spraying (partner: TNC)

Estimated area on Kauai is 2,833 acres

TNC is planning to use a spray ball from a helicopter to treat Australian tree fern.

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[Images of landscape and trees]
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**Cattail**

- Scattered <1 acre populations island-wide, one 4+ acre population in Makaweli Valley
- 98% of all known populations have been treated and/or controlled (with the exception of Makaweli Valley)
- Partner: KISC
- Control Methods:
  - Drizzle spray with herbicide

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**Long Thorn Kiawe**

- All known populations are in the monitoring stage except for 65 acres at Pacific Missile Range Facility and 10 acres on land adjoining it.
- Partner: KISC
- Control Method:
  - Cut with chainsaw
  - Treat stump with herbicide

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**Operation “Thorn Buster”**

- PMRF approached KISC in August 2005 for help and expertise on a joint eradication project at PMRF.
- PMRF contributed $24,000 toward contracted machinery with operators.
- HDOA and KISC provided all labor and herbicide for manual follow-up.
- Length of project: 7 days
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The old method is cutting and removing branches reaching the stump so it can be treated with herbicide.

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The new method of a hydra-axe grinding trees down to a stump.

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More efficient use of labor

- Area controlled: 8.7 acres
- Mechanical Method + Manual Follow-up: 44 person hours/acre
- Manual Method Alone: 242 person hours/acre

Mechanical method + manual method adds up to 44 person hours/acre whereas the Manual Method alone adds up to a
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Giant Salvinia

- Scattered populations including Kalihiwai stream
- Partner: KISC, DLNR-DAR
- Control Method:
  - Herbicide application with 5% AquaMaster using a foliar spray

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Little Fire Ant

- One known population
- 3 acre total infestation area: continuing monitoring and treatment
- Island-wide survey nearing completion: no LFA confirmed
- Partner: KISC
- Control Method:
  - Amdro application

During the island-wide survey a new island record for solonopsis spp. was discovered.

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Survey map of Kalihiwai infestation
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Sago Palm Scale

- Wide spread island-wide
- Control Method:
  - Release of bio-control lady beetle
    (Rhyzobius lophanthae)

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Sago palm leaf with a whitewashed appearance caused by A. yasumatsui

Sago palm scale, mature female (left), immature male (right)

Scale-infested sago palm with leaves removed

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Coqui Frogs

- One known population in Lawai
- 25 acre infestation area (15 acre core)
- Partners: County of Kauai, KISC, DOFAW, Kukui‘ula Development, CTAHR, Private landowners, USDA-WS
- Control Methods:
  - Habitat Modification
  - Hydrated Lime
  - Citric Acid
  - Refugia Traps

Reports of coqui are still coming in island-wide, with occasional confirmation. These are responded to and destroyed immediately
Slide 25
Habitat Modification

Before

After

Slide 26
Lime Application

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Seed Program

- The State helps USDA-APHIS enforce the Federal Seed Act, which prohibits the movement of Federal noxious weed seeds.
- The State’s Noxious Weed List is enforced by the Hawaii Seed Law.
- The Hawaii Seed Law also protects consumers from mislabeled seed products.
Future Concerns

- Papaya Mealy Bug
- Coconut White Fly
- Asian Citrus Psyllid
- Erythrina Gall Wasp

By our short lesson today, you can see that it is important to have your plants inspected before bringing it to another island. We must protect Kauai, our ʻāina, and not bring in any thing that will wipe out our native forest and disrupt Hawaii’s ecosystem.

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