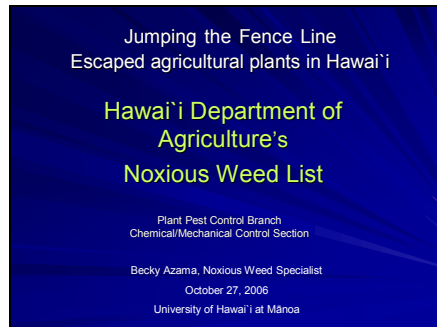


## "Hawaii Department of Agriculture's Noxious Weed List"

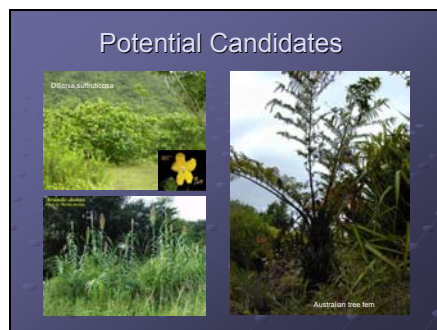
Becky Azama, Noxious Weed Specialist, O'ahu

October 27, 2006

### Slide 1

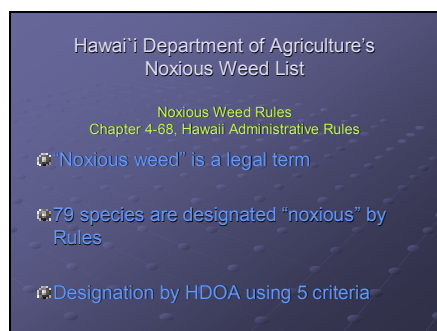


### Slide 2



Most everyone who knows of the HDOA's noxious weed list has an opinion about which plant should be on that list. But, what does it take to put a species on the list?

### Slide 3



The noxious weed list is contained in Chapter 4-68, the Noxious Weed Rules. Lots of people call plants "noxious weeds" but noxious weed is a legal term that refers to 79 designated species. The designated species have met the 5 criteria required to put them on the list.

## Slide 4

Purpose of the Noxious Weed List

Designation of species gives HDOA authority to:

- Engage in eradication or control projects against listed species
- Gain entry onto private property for eradication or control
- Automatically includes designated species with Plant Quarantine's Restricted Plant List

Provides legal authority to work on eradication or control projects of designated species  
Provides right-of-entry for eradication or control of designated species  
Designated species are included with PQ's Restricted Plant list  
Restricted plants can enter only by permit under specific conditions

## Slide 5

Each species must meet at least one requirement in all 5 criteria

Based on:

1. Reproduction
2. Growth characteristics
3. Detrimental effects
4. Control
5. Distribution and spread

The species must meet only one requirement in each criterion to qualify to be added to the list.

## Slide 6

Plant Reproduction

- Seeds capable of being dispersed over wide areas: or
- Seeds capable of remaining dormant for 2 years or more: or
- Tubers, creeping roots, stolons, rhizomes, or other natural vegetative means




### Reproduction:

Does the plant have seeds that can be easily dispersed over wide areas OR  
Does it have seeds that can remain viable for long periods of time OR  
Does it spread by tubers, creeping roots, stolons, rhizomes?

## Slide 7

### Growth

- ☛ Competes with cultivated crops for nutrients, water, or sunlight; or
- ☛ Establishes and forms dense stands in pasture lands, forests, lawns, landscape gardens, and recreational areas and conservation districts and is capable of shading and crowding out forage plants, native plants, and other desirable plants



Growth characteristic:

Can the plant compete with crops for water, nutrients, sunlight OR

Can it form dense stands, shade or crowd out forage, native, & other desirable plants?

## Slide 8

### Detrimental Effects

- ☛ Can cause severe production losses or increased control costs to the agricultural, horticultural, aquacultural, or livestock industries; or
- ☛ Potential of endangering native flora and fauna by encroachment in forest and conservation areas; or

Detrimental effects:

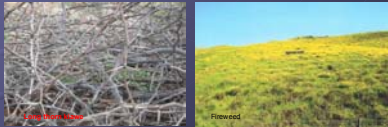
Can the plant cause severe production costs or increased control costs OR

Does it have the potential of endangering native flora & fauna by crowding out or taking over forest & conservation areas?

## Slide 9

### Detrimental Effects

- ☛ Potential of hampering the full utilization and enjoyment of recreational areas including forest and conservation areas; or
- ☛ Poisonous, injurious, or otherwise harmful to humans or animals



Does the plant have the potential to limit the full use and enjoyment of recreational areas including forest & conservation areas? OR

Is it poisonous, injurious or harmful to humans or animals?

## Slide 10

### Control

- ❖ Not effectively controlled by present day technology or by available herbicides currently registered for use pursuant to Chapter 4-149A, Hawaii Revised Statutes; or
- ❖ Is effectively controlled only by extraordinary efforts such as repeated herbicidal applications at high dosage rates; or

### Control:

Is the plant not effectively controlled with herbicides registered in Hawaii? OR  
Can it only be controlled by huge amounts of herbicides &/or repeated efforts? OR

## Slide 11

### Control

- ❖ Effectively controlled only by additional effort over and beyond the normal weed maintenance effort required for the production or management of certain crops, and pasture lands, recreational areas, forest lands, or conservation areas




Gorse      Long Horn Kuea

All in all, is the plant difficult to control?

## Slide 12

### Distribution and Spread

- ❖ Not known to occur in one or more islands of the State; or
- ❖ Known to occur only in incipient stages on less than five acres on one or more islands of the State; or
- ❖ Known to occur on more than five acres but only in isolated or limited areas on one or more islands of the State




Victorian box      Spiny blue cholla

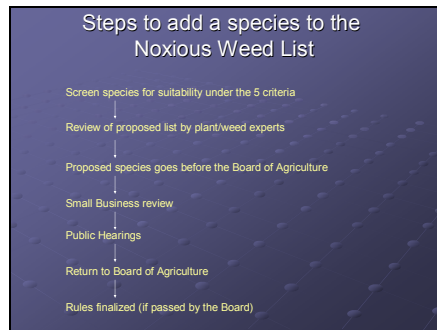
Where is the plant known to occur?

Is it not known to occur on one or more islands? OR

Does it occur only in incipient populations in the State and less than 5 acres on one or more islands? OR

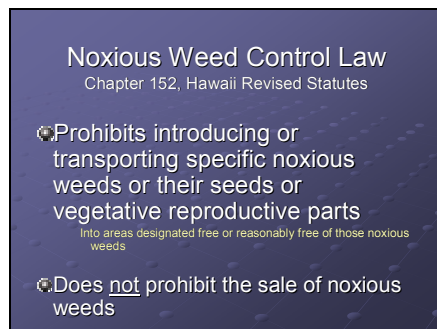
Is it known to occur on more than 5 acres but only in isolated or limited areas on one or more islands?

## Slide 13



After examining the 5 criteria, evaluate the species.  
Does the species meet at least one requirement in all 5 criteria? If yes, then Committee of experts will review it. It then goes to Board of Agriculture for approval and submitted for Small business review. If approved, it goes through Public hearings, then back to Board of Agriculture for approval. Species added to list if passed by the Board

## Slide 14



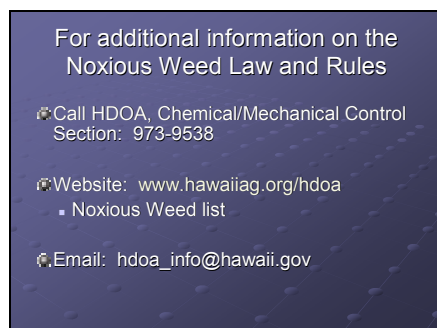
The Noxious Weed Control Law is the authority behind the Noxious Weed Rules.

It prohibits introducing or transporting noxious weeds and their parts into areas designated free or reasonably free of those noxious weeds (as indicated on the noxious weed list for individual species)

The Noxious Weed Law does not prohibit the sale of noxious weeds

If the species is planted in an area that is designated "relatively free" on the noxious weed list, we determine the planting to be introducing the species and therefore a prohibited act.

## Slide 15



This is what is provided for in the HDOA's Noxious Weed Law and Rules.  
And these are the steps necessary to place species on the Noxious Weed List.

## Slide 16

### Recommended Practices

- 🔍 Research species and discuss with others who have concern for the environment
- 🔍 Use tools:
  - Weed Risk Assessment
  - A Global Compendium of Weeds
- 🔍 Encourage clients to use native plants



The Noxious Weed List together with the facts that agricultural plants Jump the Fence Line, prompt recommendations from the HDOA's perspective:

Research the species; ask others' opinions

Use tools like the WRA or A Global Compendium of Weeds to determine weediness

Encourage the use of natives when appropriate

## Slide 17

### Recommended Practices

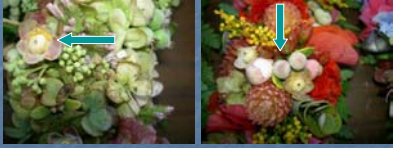
- 🔍 Avoid using plants that are known to be weedy despite the attractiveness or usefulness
- 🔍 Do not plant species that are designated Noxious Weeds



If the plant is weedy, don't use it  
Do not plant species that are designated noxious weeds

## Slide 18

### Looks pretty, but...



Downy rosemyrtle in haku lei

Noxious weeds don't belong in the floral industry or any other.

## Slide 19

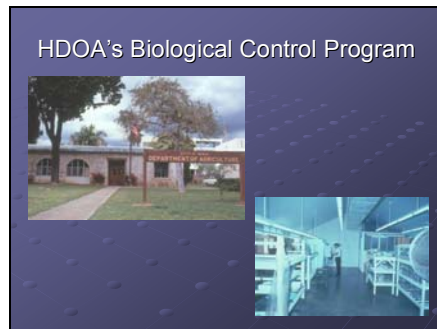


If there are large populations of the plant pest already established, it's a bad idea to plant more of it for any reason.

Studying the laws and rules can be pretty tedious, but by knowing them and how they work we can prevent major mistakes in plant introductions.

Spread the word.

## Slide 20



There has been interest during past Jumping the Fence Line workshops about HDOA's biological control program.

Here's tiny glimpse into HDOA's Bio-Control Program

## Slide 21



Biological control efforts by the government of Hawaii officially began in 1890 under King Kalakaua when the Vedalia beetle was introduced to control the cottony cushion scale on citrus.

In 1902, Hawaii benefited from the first-in-the world, officially recorded, bio-control agent against weeds. The weed was Lantana. Between 1902 and 1999, 24 bio-control agents were introduced of which 17 became established.



## Slide 22

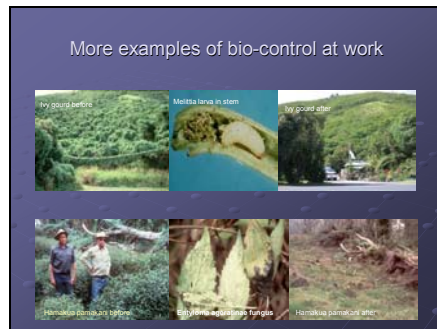


When plants move beyond chemical or mechanical control and become wide-spread, classical biological control may be a solution.

Notice that biological control does not eliminate or eradicate the plant pest, it suppresses it to a manageable level.

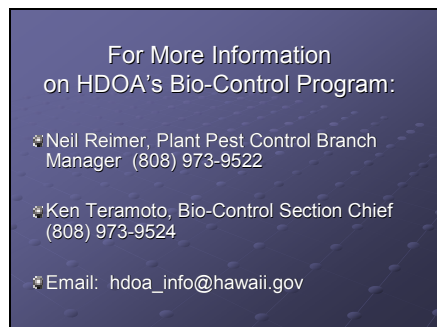
This shows the dramatic results of effective bio-control. The before and after photos show how the beneficial insect took replaced the use of chemicals.

## Slide 23



Every day HDOA's bio-control staff are working towards finding effective biological control against Hawaii's pests. Whether it's the survey entomologist detecting new populations of plant pests, the insect taxonomist identifying the insects, the exploratory entomologist searching in foreign countries for potential beneficials, the insectary entomologists testing these potentials for host specificity, or the technicians rearing the bio-control agents and their hosts for testing, there's continuous forward motion towards achieving control of the pests.

## Slide 24



Contact information for questions



## Slide 25

### Acknowledgments

Photo credits:

- Derek Arakaki, HDOA
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- Dr. CH Lamoureaux, University of Hawaii
- Forest & Kim Starr, USGS
- Mississippi State University
- University of South Florida

References and information:

- WRA: Weed Risk Assessment for Hawaii & Pacific Islands
- Dr. Curt Daehler, UH and Dr. Julie Denslow, USDA-FS
- [A Global Compendium of Weeds](#) – R.P. Randal, DOA Western Australia
- Neil Reimer, HDOA Plant Pest Control Branch Manager
- Ken Teramoto, HDOA Bio-Control Section Chief