# Invasive Ambrosia Beetle Conference *The Situation in California* August 12 - 14, 2012

Meeting sponsored by: The Hofshi Foundation University of California, Riverside UC Center for Invasive Pest Research The Huntington Botanical Gardens The Los Angeles Arboretum

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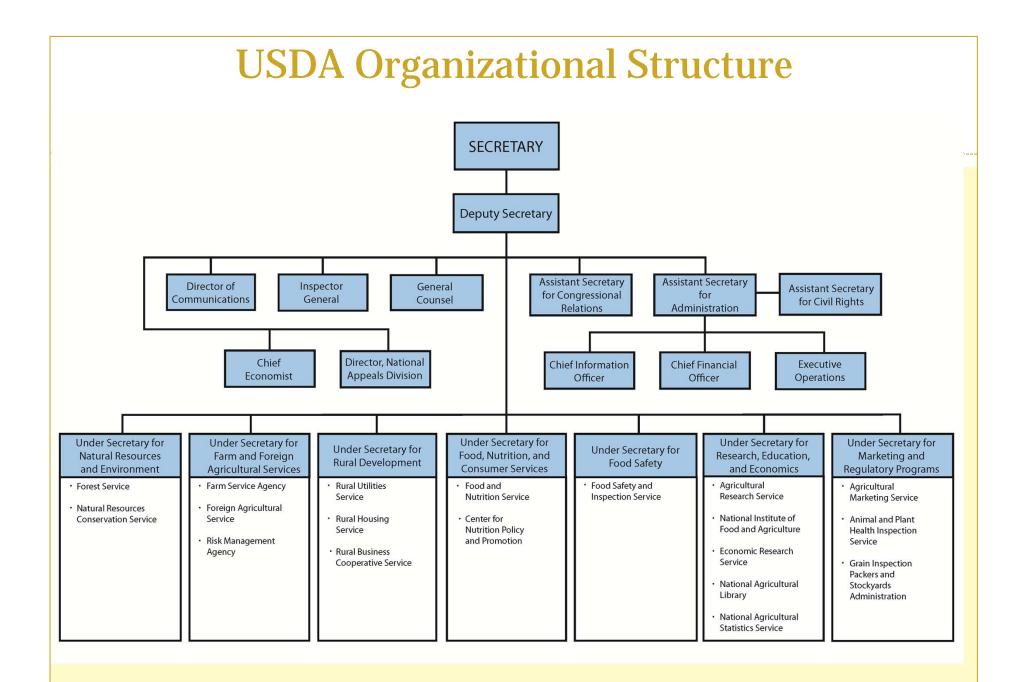
#### Session 6 Invasion Epidemiology

# **Stopping the Spread of Invasive Species**

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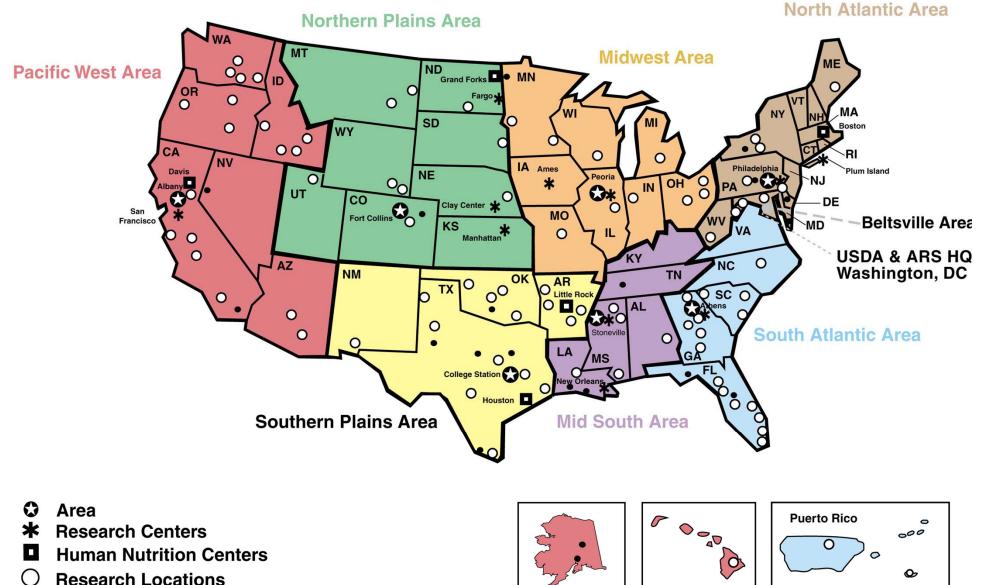




#### **Agricultural Research Service Area Organization**



U.S. Virgin Islands



Alaska

Hawaii

Research Worksites

#### **Overseas Biological Control Labs**



#### South American BCL Buenos Aires, Argentina

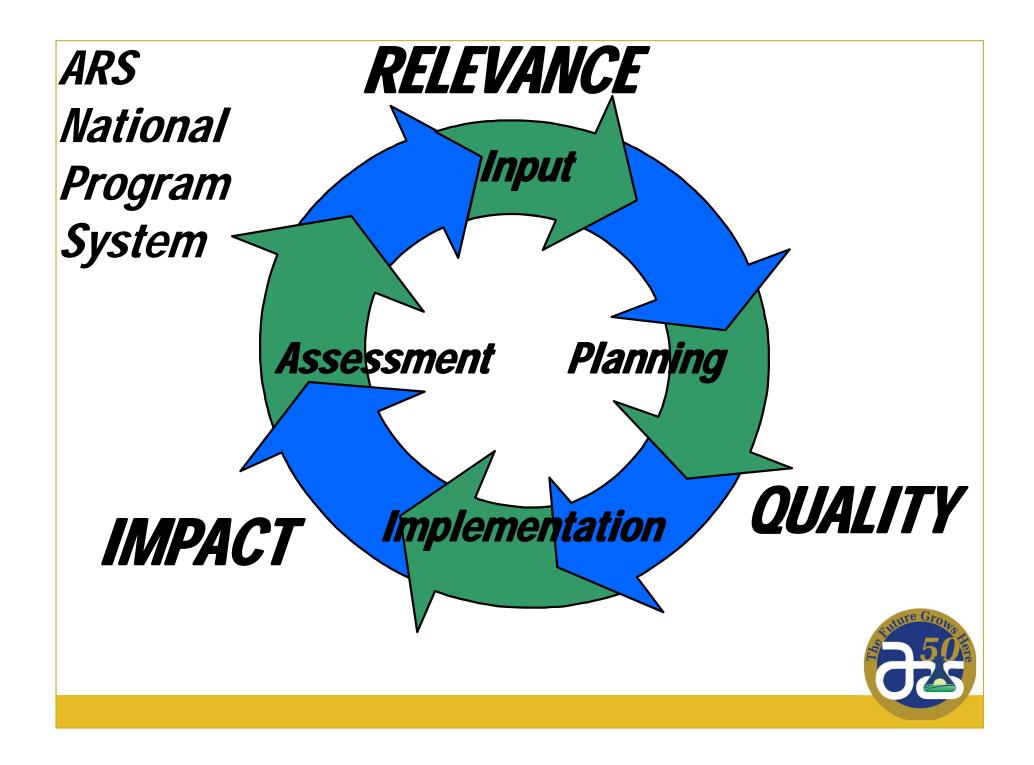


**European BCL Montpellier, France** 



Australian BCL Brisbane Australia

Sino-American BCL Beijing China



## How do we learn about emerging pathogens?

## Formal

- •Routine surveys
- National Plant Diagnostic Network (NPDN)
- American Phytopathological Society
  Committee on Emerging Pathogens
- Informal

## **Example: ARS research on Laurel Wilt**

- 1. Rescue avocado germplasm in ARS collections
- 2. Control vector
- 3. Long-term strategies

#### 1. Rescue germplasm

- 343 avocado accessions from broad genetic background in ARS collection in Miami, FL
- Established rootstock in quarantine ;Ft. Detrick, MD
- 140 scions grafted onto rootstock and observed in quarantine; being transferred to ARS in Hilo, HI
- Additional scions have been grafted
- Will likely take 4 years to transfer collection
- Collection treated with Alamo
- May 2012- Laurel wilt found in Miami-Dade County

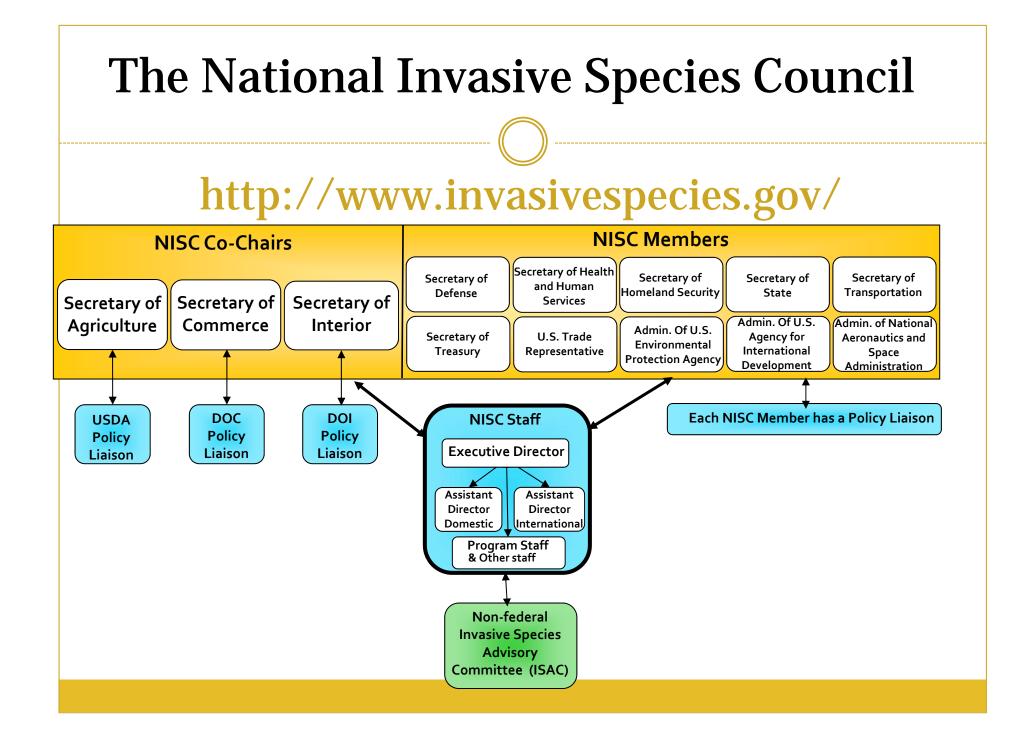
#### 2. Control vector

- Evaluation of host tree volatiles in collaboration with the University of Florida; goal to develop trap and kill station
- Developing a monitoring program in collaboration with the University of Florida

#### 3. Long-term solutions (resistant germplasm)

Screening diverse avocado germplasm; in collaboration with University of Florida

- Planted 38 half-sib families in Ft. Pierce; will inoculate when large enough; in collaboration with University of Florida
- Leveraged USDA, ARS funds with UF matching funds to support a PhD student (SNP chip evaluations, develop tools for rapid evaluation of germplasm)



# National Invasive Species Council Management Plan

- Prevention
- Rapid detection & early response
- Control/management
- Research
- Restoration
- Education & public awareness

#### **USDA** activities

•Coordination of federally-funded research through the USDA Invasive Species Coordinating Committee (ISCC)

•USDA, ARS, OPMP IMP Coordinating Committee (8 agencies in USDA; 3 DOI agencies; DOS; DHHS; DHUD; DOD; EPA; GSA; SI)

#### **USDA, ARS involvement in ISCC**

• Aquatic nuisance species task force (ANSTF)

- Federal interagency committee for the management of noxious and exotic weeds (FICMNEW)
- Invasive terrestrial animals and pathogens (ITAP)

## **ITAP Mission**

- Federal
- Technical Communication and Coordination
- Vertebrates, Invertebrates, Pathogens (of plants and animals)
- Organized by Pest Taxon or Ecosystem





## **Agency Representation**

- 14 Invertebrate Specialists
  - 9 Vertebrate Specialists
  - **5 Plant Disease Specialists**
  - 8 Animal Disease Specialists
  - **5 Weed Specialists**
  - 3 IPM
  - 4 Systematics
  - 3 Economics/Sociology
  - **3 Informatics**
  - 7 General Program Responsibility

#### **ITAP Meeting on Biocontrol of Invasive Species**

- Biocontrol entomologists, plant pathologists, and weed scientists met with regulatory agencies to discuss regulations for biocontrol agents
- Entomologists and weed scientists concerned with importation and release; Agents somewhat invasive
- Plant pathologists concerned with release; Agents primarily excluders

# **THANK YOU !**