



# PEST PREVENTION SYSTEM *and* INVASIVE SPECIES UPDATE

Nick Condos



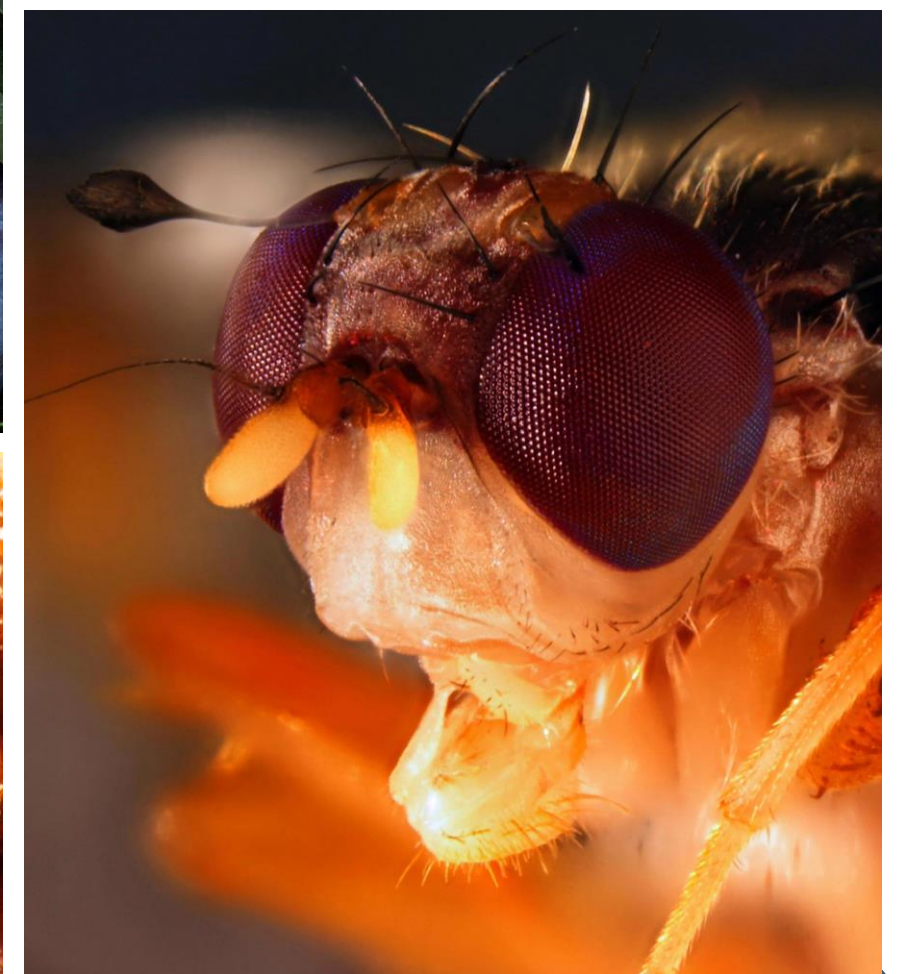
CALIFORNIA DEPARTMENT OF  
FOOD & AGRICULTURE

Bob Wynn



# THE MISSION

Protect ornamental plants and native habitat as well as agricultural crops from the harm caused by invasive species.





# PEST PREVENTION SYSTEM

The pest prevention system incorporates the following elements in order to protect California:



## EXCLUSION

external and internal exclusion activities designed to prevent pests introduction and respond in a timely manner to contain the spread of newly detected pests



## DETECTION

early detection of plant pests before they become well established



## ERADICATION

timely and effective eradication actions to eliminate new pest infestations



## CONTROL

control and containment systems for plant pests that have become widely established



## IDENTIFICATION

accurate and timely pest identification



## PUBLIC OUTREACH

outreach programs to enlist public support of pest prevention activities through enhanced public awareness and education



## SCIENTIFIC SUPPORT

research, information technology and pest risk analysis systems to assure that the pest prevention program is relevant, scientifically based and continuously improved

# PEST PREVENTION SYSTEM CONTRIBUTORS

Primarily focus is on pests of specific concern to a commodity group.



**USDA/CBP/USFS**

Focus is on pests of national significance and international pest pathways

## Agriculture Industry Groups

Primarily focus is on pests of specific concern to a commodity group



## California Department of Food and Agriculture

Focus is on interstate and local activities and concerns



## County Agricultural Commissioners

Focus is on local activities and concerns

## Agriculture Industry Groups

Contribute to the pest prevention system by funding exclusion activities such as vehicle and watercraft inspections at Border Protection Stations and detection surveys for aquatic weeds like Hydrilla



# PEST PREVENTION SYSTEM CONTRIBUTORS

## Who Does What?

### CDFA – State Borders

- ❖ Domestic pests of regional or state concern



### USDA/CBP/USFS

- ❖ International borders
- ❖ Domestic pests of national concern

### County Agricultural Commissioners

- ❖ Local pests
- ❖ Exports

### Agricultural and Forestry Industry

- ❖ Pests of specific concern



# PEST PREVENTION SYSTEM CONTRIBUTORS

Implementing the pest prevention system in California is a partnership involving many organizations, public and private

## SCIENTIFIC SUPPORT

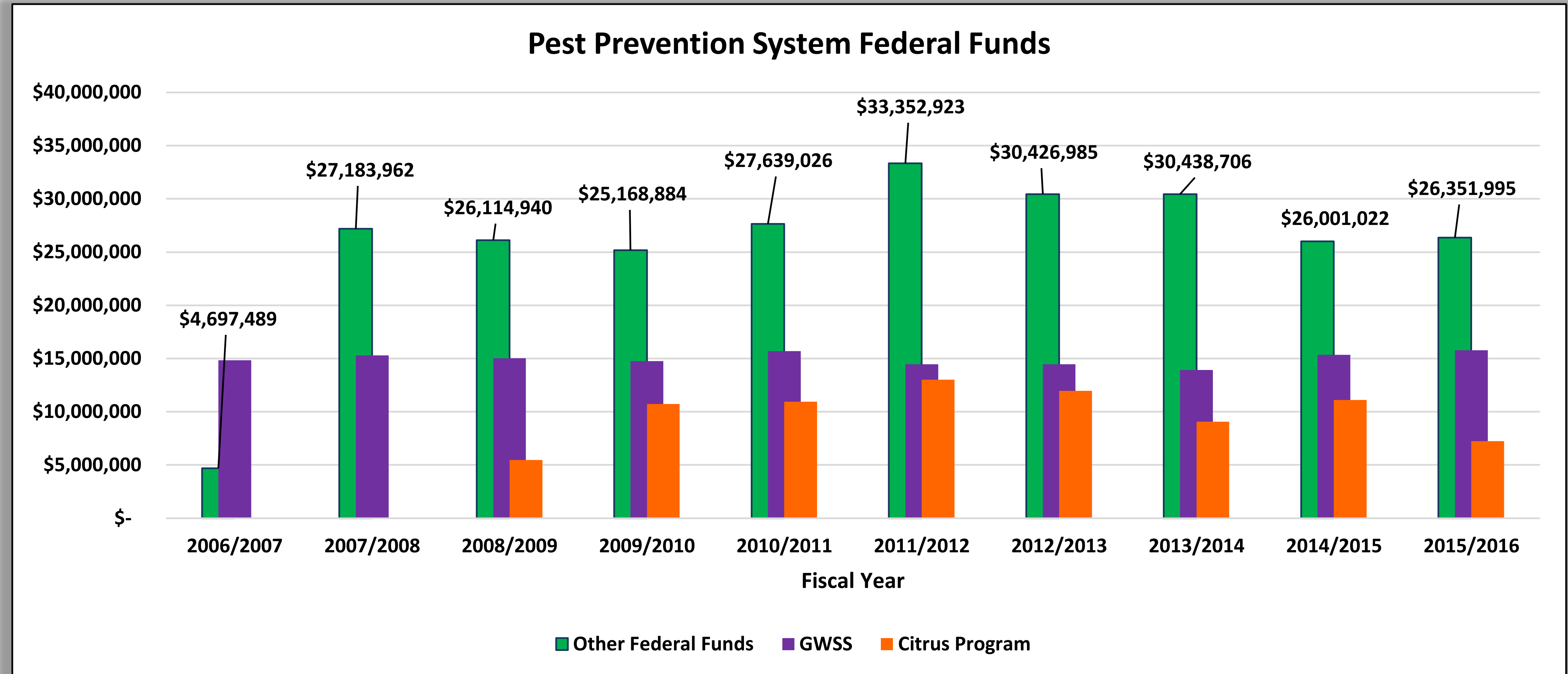
- ❖ USDA's Agricultural Research Service (ARS)
- ❖ University of California (UC)
- ❖ Industry:
  - ❖ Pierce's Disease | Glassy-winged Sharpshooter (GWSS)
  - ❖ Citrus Research Board

## AGRICULTURAL INDUSTRY

- ❖ **Citrus**: Asian Citrus Psyllid (ACP) | Huanglongbing (HLB)
- ❖ **Grapes**: Pierce's Disease | Glassy-winged sharpshooter (GWSS)
- ❖ **Cotton**: Pink Bollworm (PBW)
- ❖ **Tomato**: Curly Top Virus (CTV)

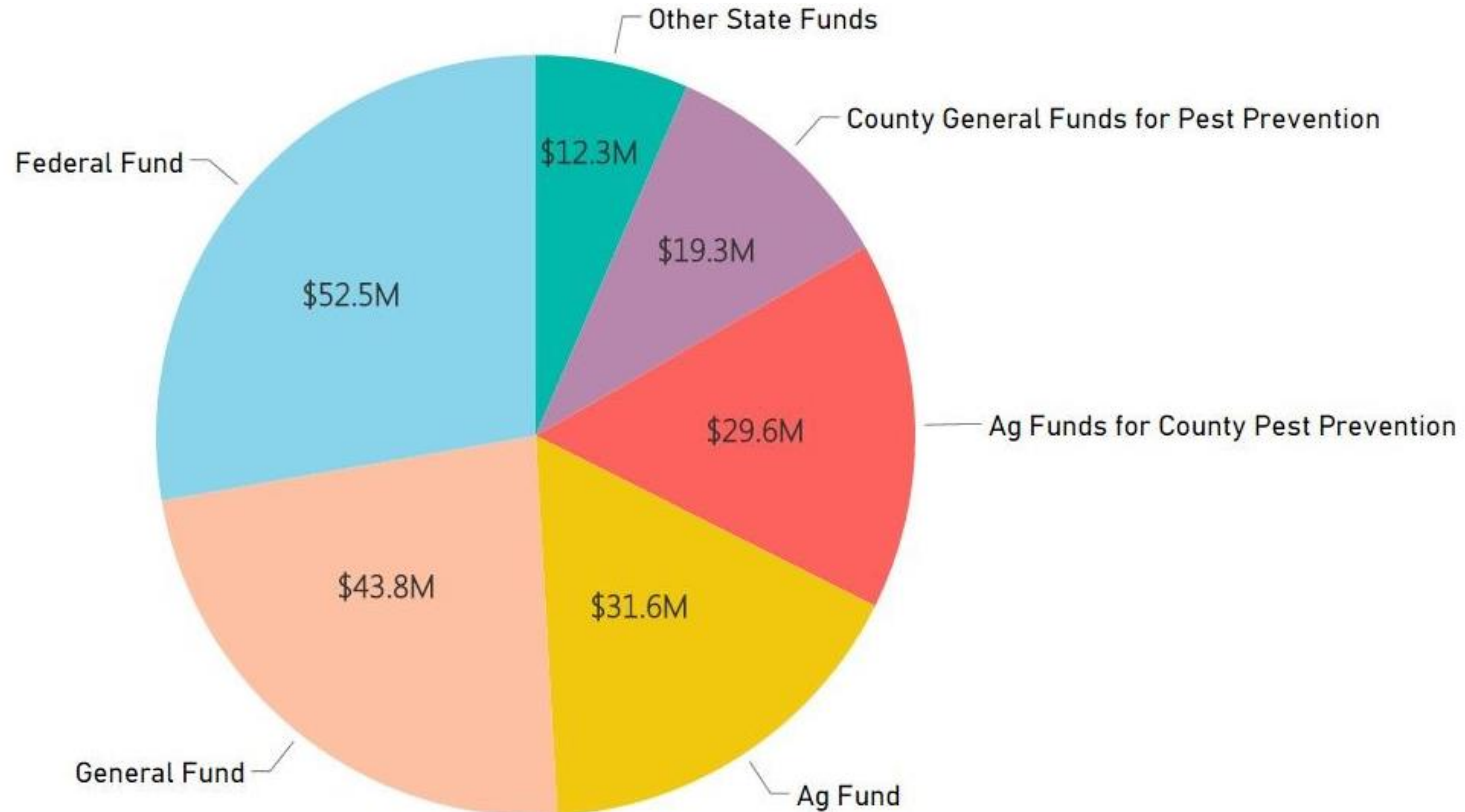


# PEST PREVENTION SYSTEM FEDERAL FUNDS





# 2014-15 PEST PREVENTION FUNDING SOURCES (\$189.1M)

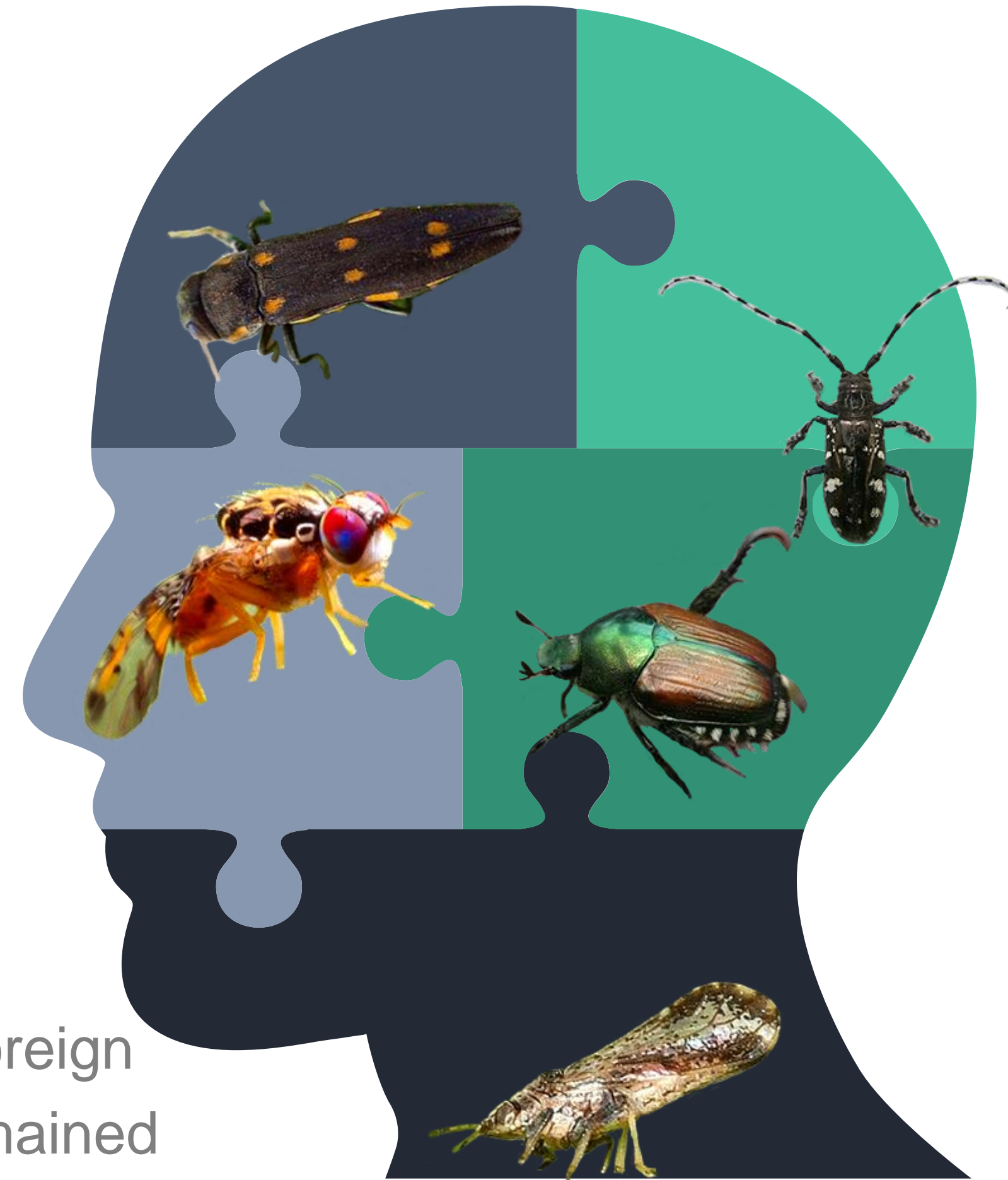




# MORE PESTS ARE BECOMING ESTABLISHED

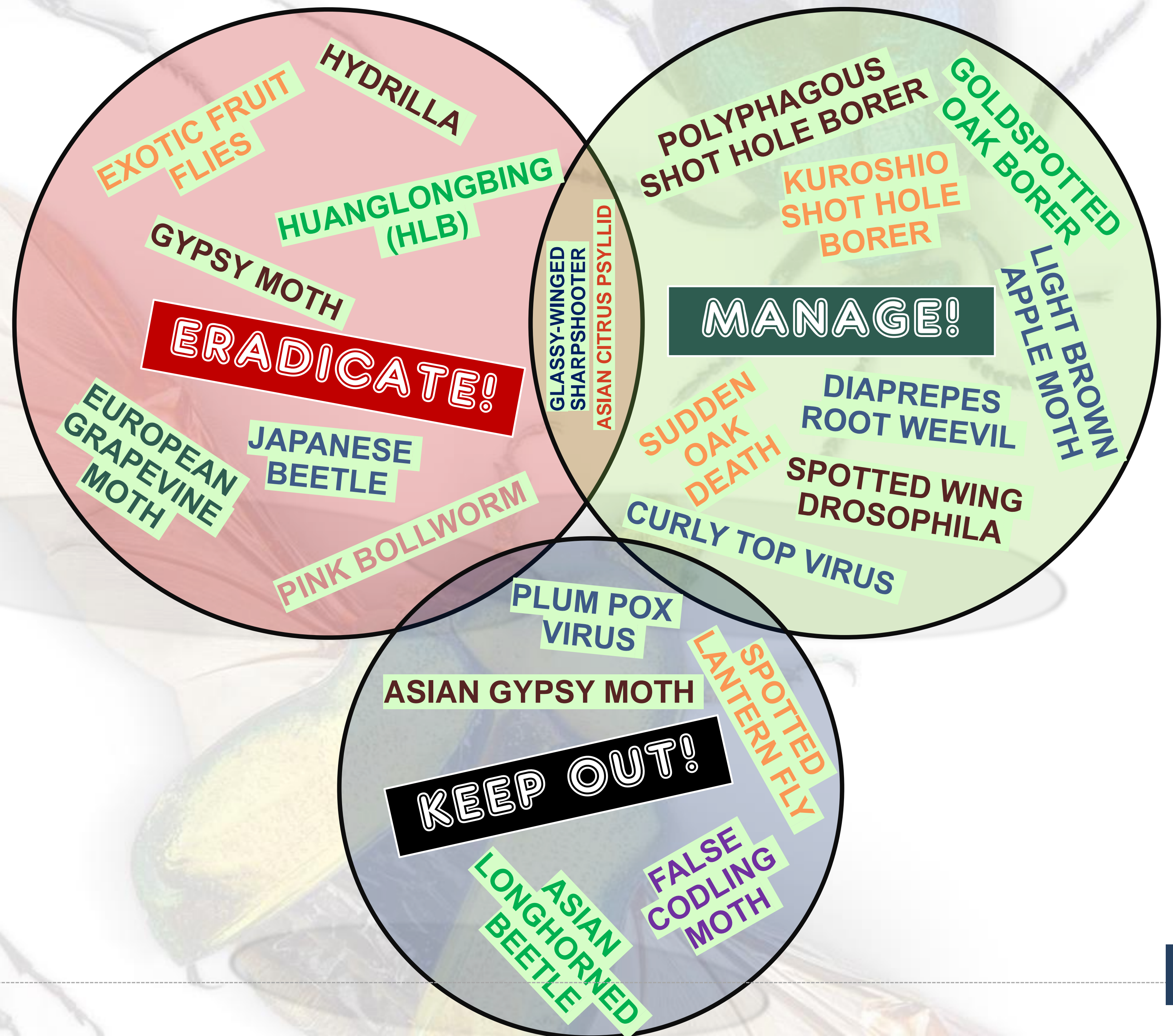
According to a recent update of ongoing research about pest establishment in California:

1. From 1990 to 2010 the annual rate of detection of established populations of new invertebrate species in California increased to ~9 per year which is a 50 percent increase over the previous 20 year period.
2. Approximately 44 percent of non-native invertebrates likely arrived from populations established elsewhere in North America. The rest came from a foreign country through an international border and the rate of establishment has remained unchanged after Customs and Border Protection took over the exclusion responsibility from USDA in the mid-2000s.
3. It is estimated that invasive species cost California over \$6 billion per year according to the University of California Center for Invasive Species Research.





# WHAT CAN WE DO?





# PIERCE'S DISEASE and the GLASSY-WINGED SHARPSHOOTER



1999: *“Say goodbye to California wines.”*



# PIERCE'S DISEASE CONTROL PROGRAM

## MISSION

Minimize the statewide impact of Pierce's disease in California.

## STRATEGY

Contain the spread of the new vector to allow time to develop solutions.

## Components

- ❖ Containment
- ❖ Statewide Survey
- ❖ Rapid Response
- ❖ Public Outreach
- ❖ Research

## Activities

- ❖ Biological Control
- ❖ Area-Wide Programs





# ASIAN CITRUS PSYLLID/HUANGLONGBING

(ACP/HLB)



The Bug/Bacteria

The Disease

Finding It



Eradicating It

Public Outreach

Early Detection Research/Technology



# PINK BOLLWORM

(PBW)



The Bug

History

Long Term Control

Bt Cotton

On the Verge of Eradication



# EUROPEAN GRAPEVINE MOTH

(EGVM)



## The Bug

## Finding It

## Keys To A Successful Eradication

- ❖ a plan
- ❖ motivated and engaged stakeholders
- ❖ publicly-acceptable management options





# EXOTIC FRUIT FLIES



**Who Are They?**

**Finding Them**

**Eradicating Them – Management Options**

**Repeat Introductions**

**Trade Barriers**



# POLYPHAGOUS SHOT HOLE BORER and KUROSHIRO SHOT HOLE BORER (PSHB) (KSHB)



The Bugs

The Disease

Finding It

Management Options

- ❖ research
- ❖ public outreach



# HYDRILLA



**What Is It?**

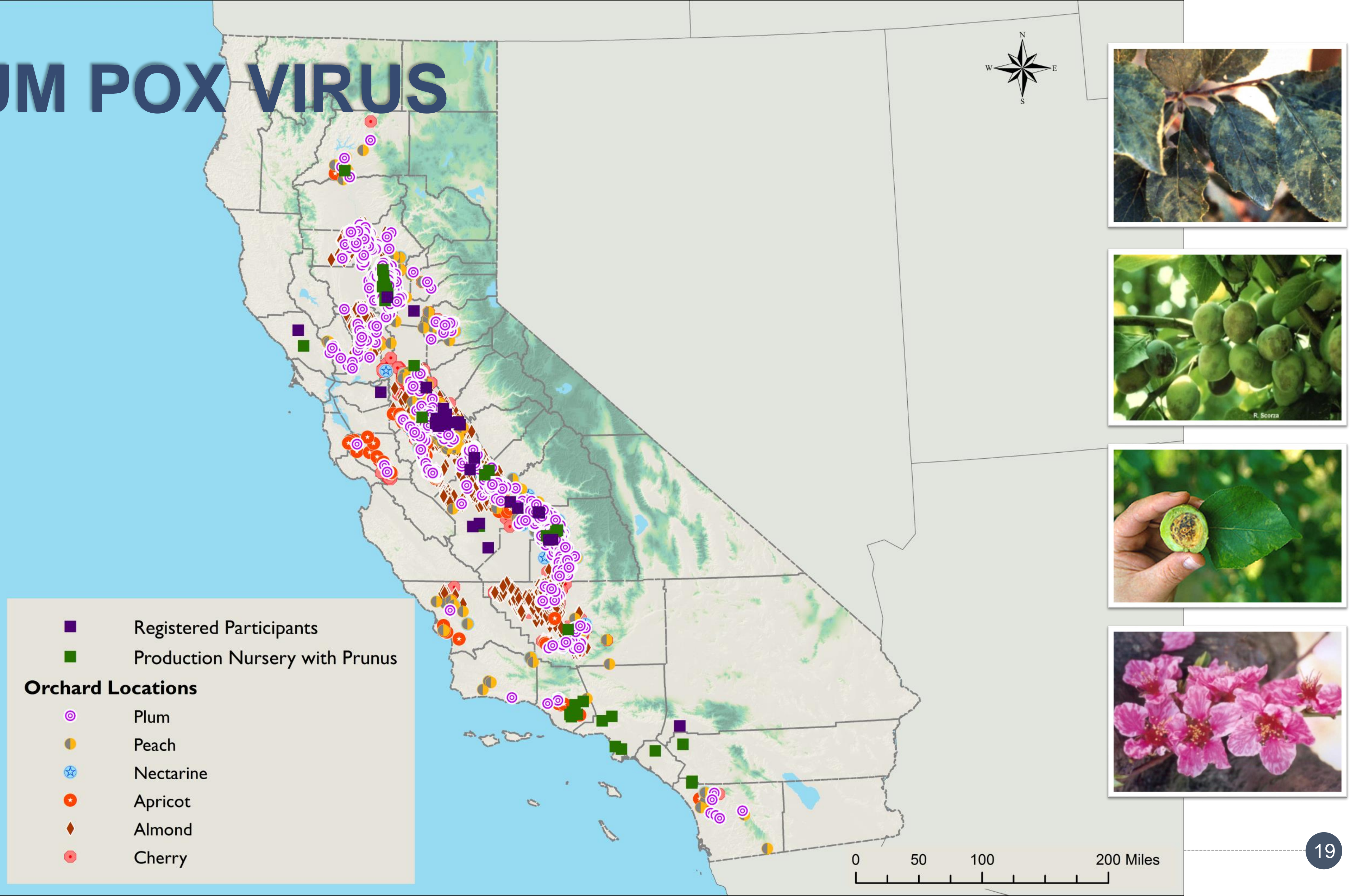
**How Did It Get Here?**

**How Fast Does It Spread?**

**Control Options**



# PLUM POX VIRUS





THE END

GOT HOSTS?

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