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

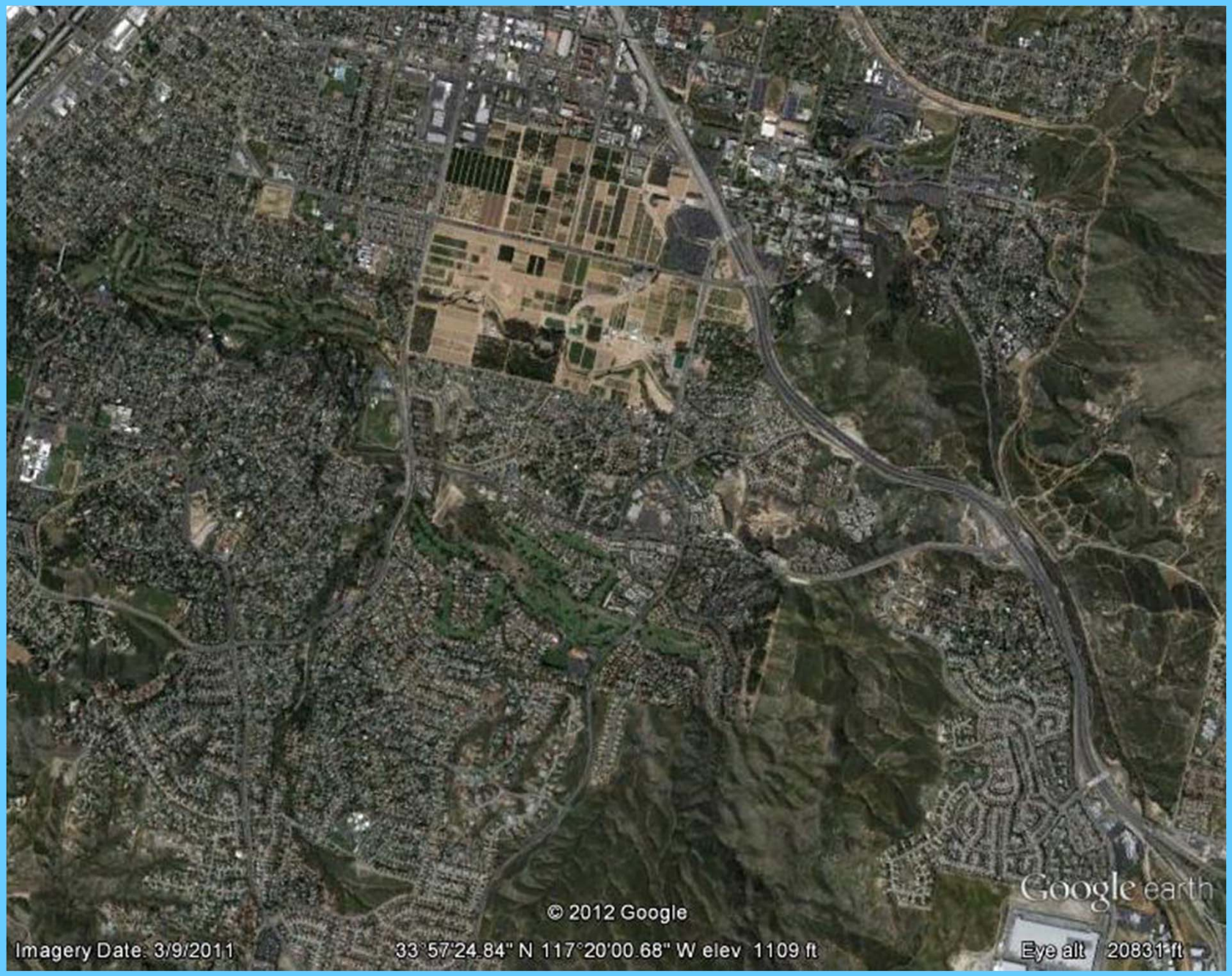
The Los Angeles Arboretum

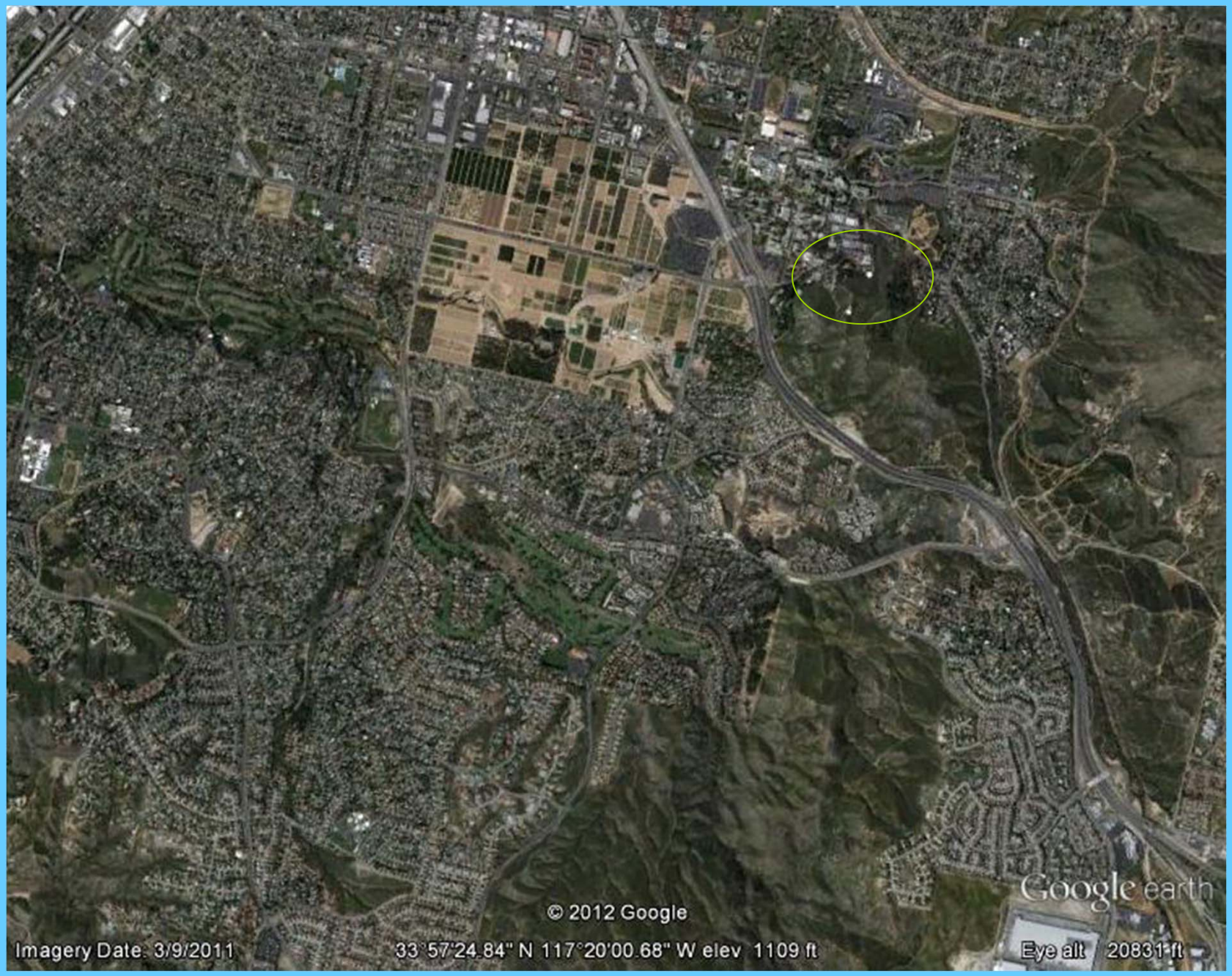
Invasive Ambrosia Beetle Conference
The Situation in California
August 12 – 14, 2012

Session 5

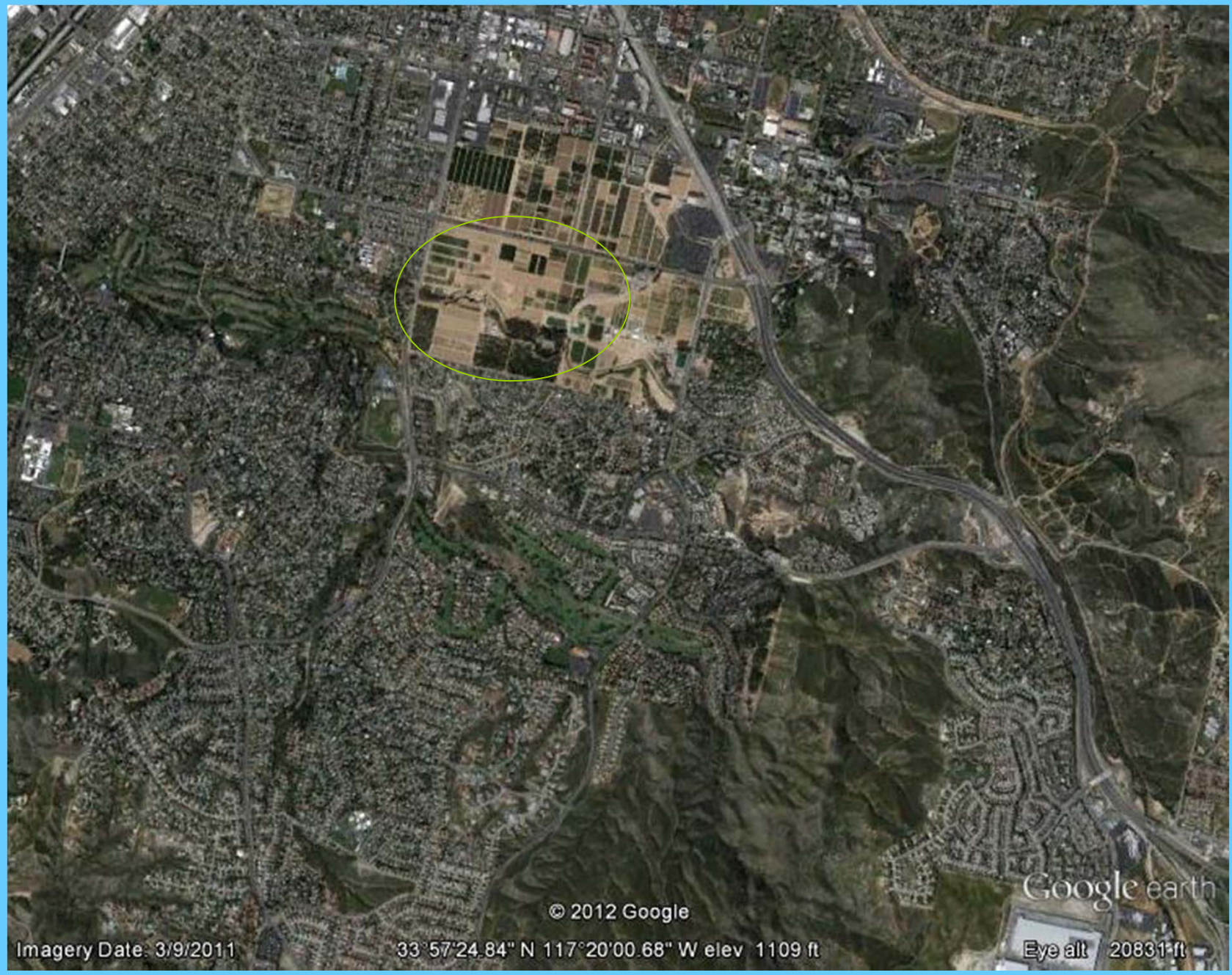
Monitoring and Control Strategies

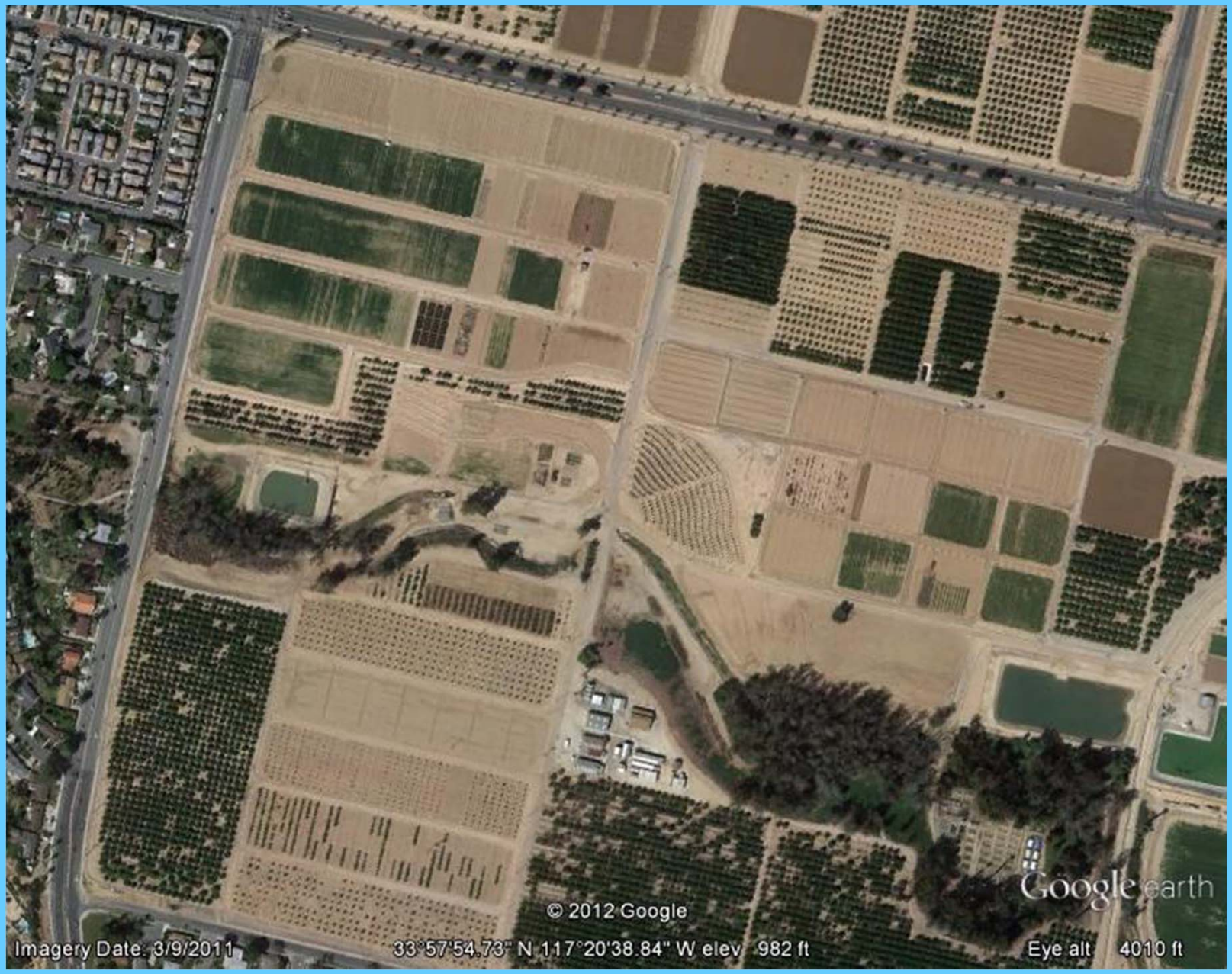

How do you control this pest complex in an ecological landscape?
T.D. Paine
Department of Entomology
University of California
Riverside, CA
© 2012 Google
Google earth
Imagery Date: 3/9/2011
33°57'53.20" N 117°19'02.71" W elev 1432 ft
Eye alt 14677 ft

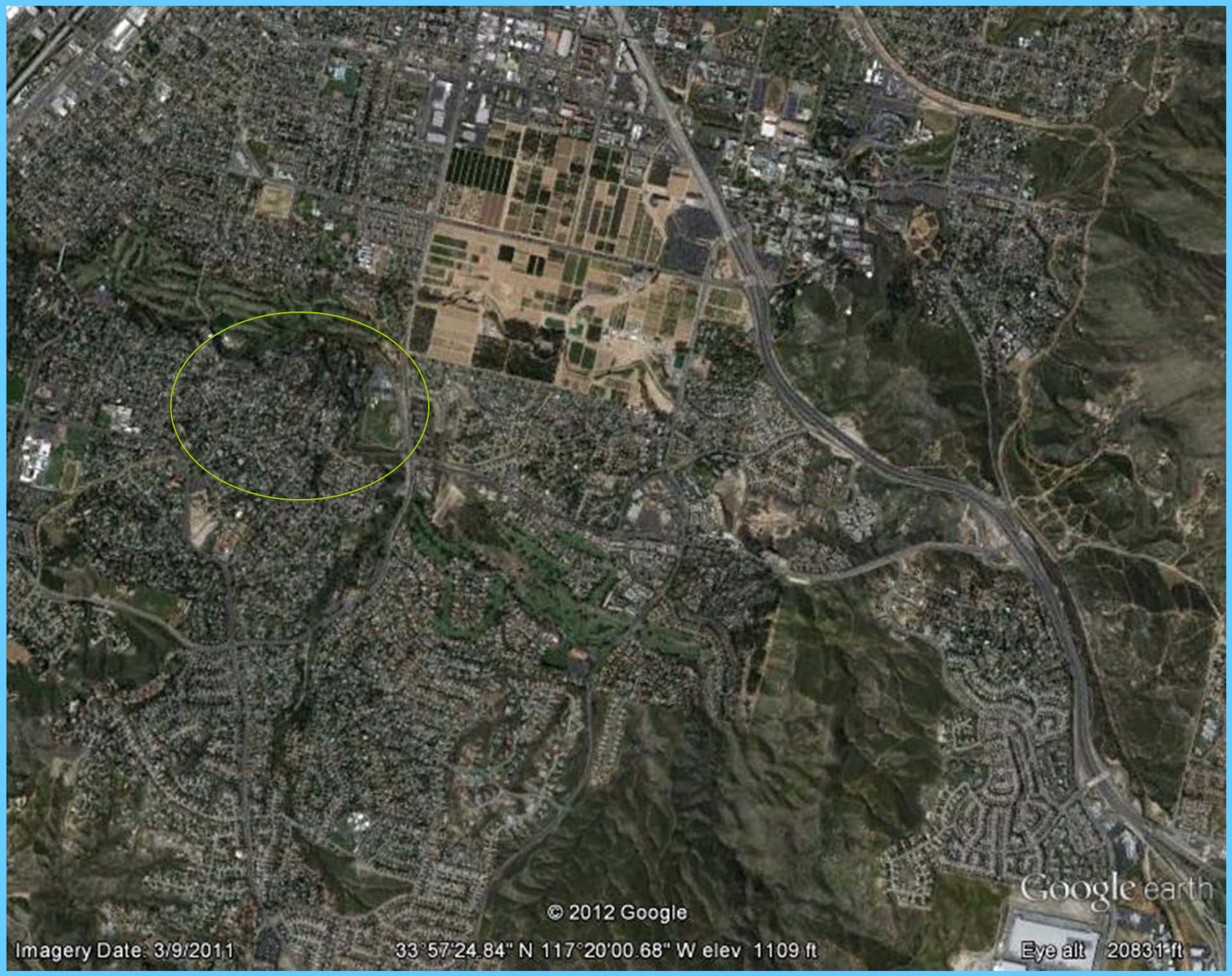

© 2012 Google
Imagery Date: 3/9/2011
33°57'24.84" N 117°20'00.68" W elev 1109 ft
Eye alt 20831 ft
Google earth

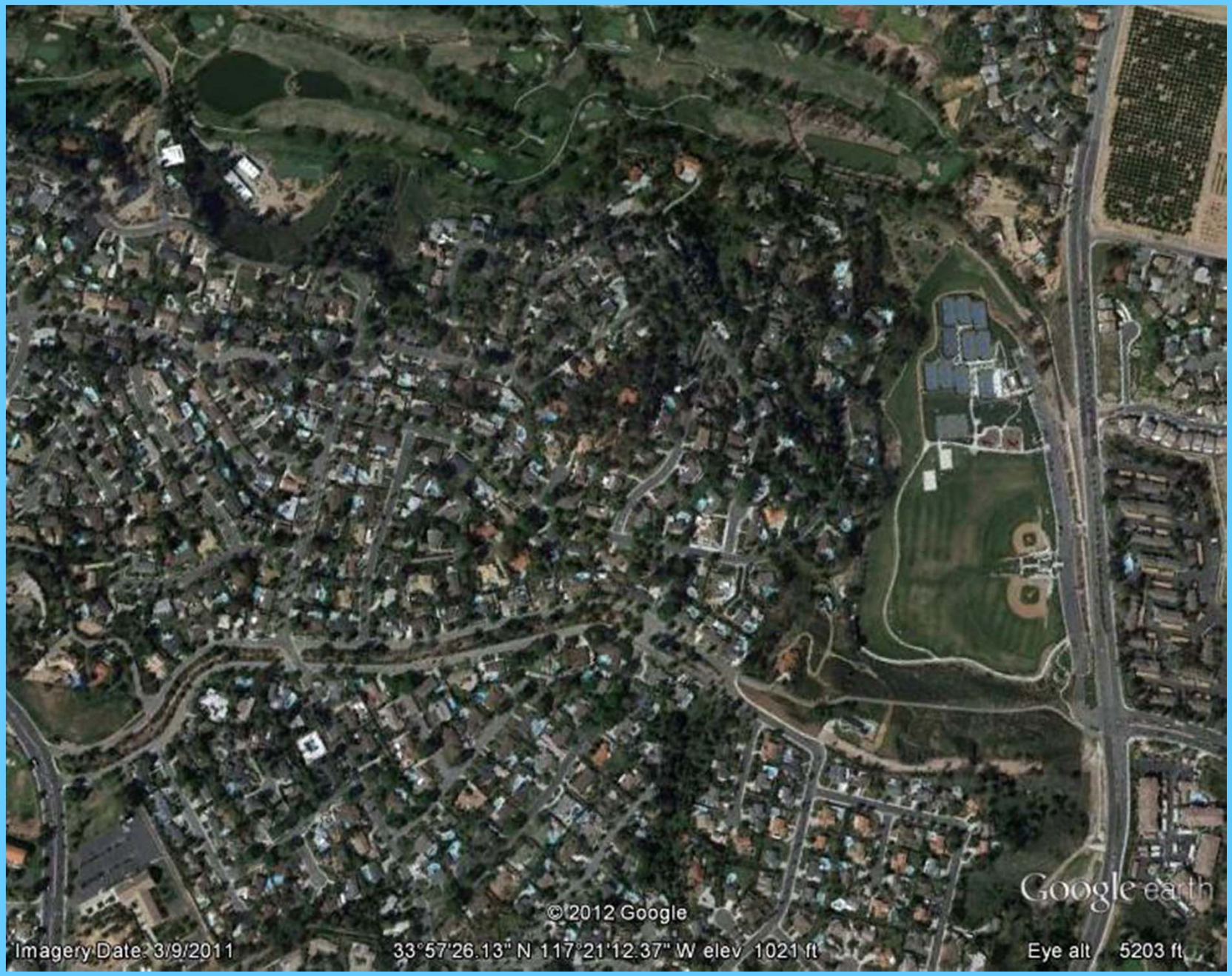

© 2012 Google
Imagery Date: 3/9/2011
33°57'24.84" N 117°20'00.68" W elev 1109 ft
Eye alt 20831 ft
Google earth

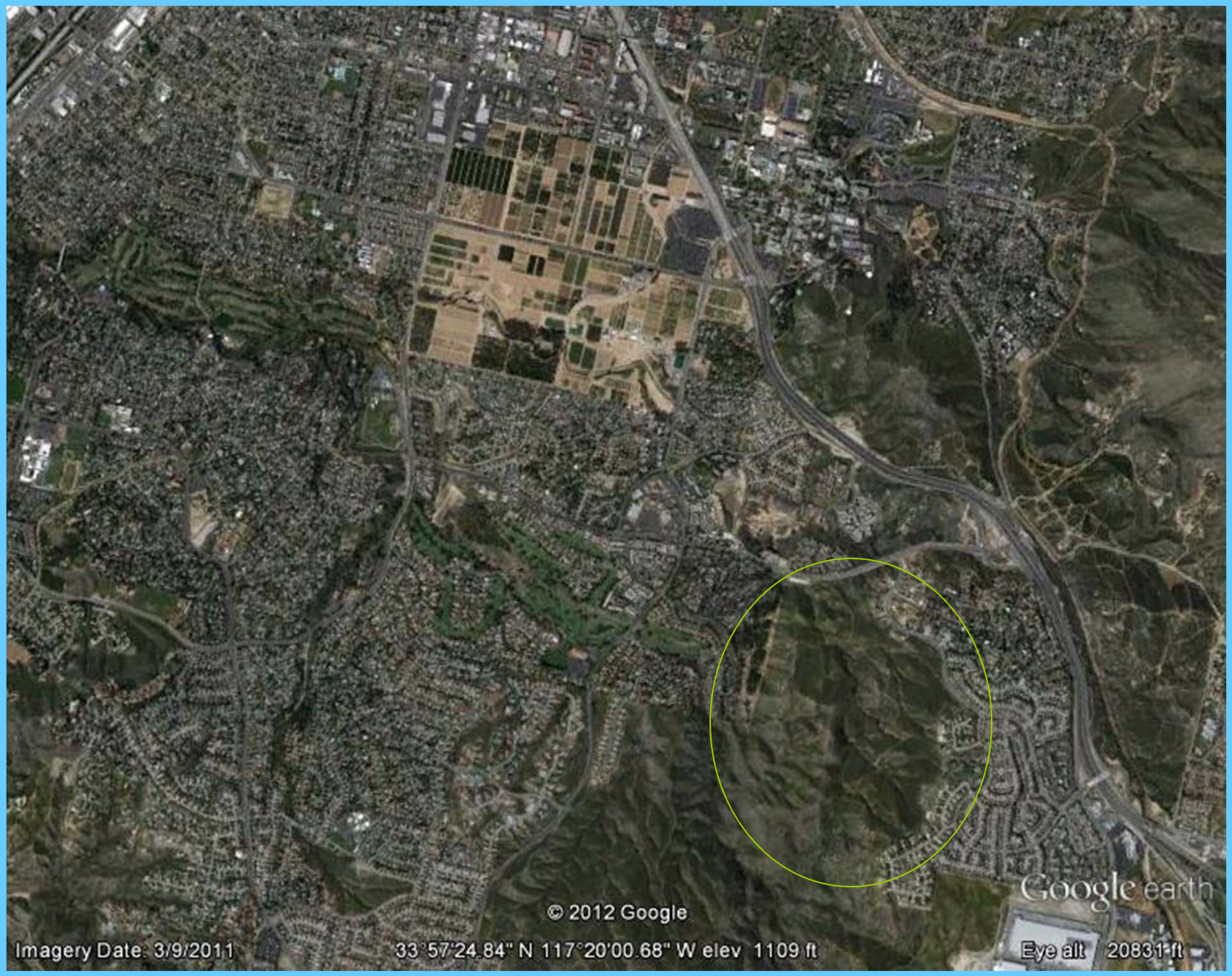

© 2012 Google
Google earth
Imagery Date: 3/9/2011
33°58'13.59" N 117°19'23.98" W elev 1166 ft
Eye alt 2172 ft

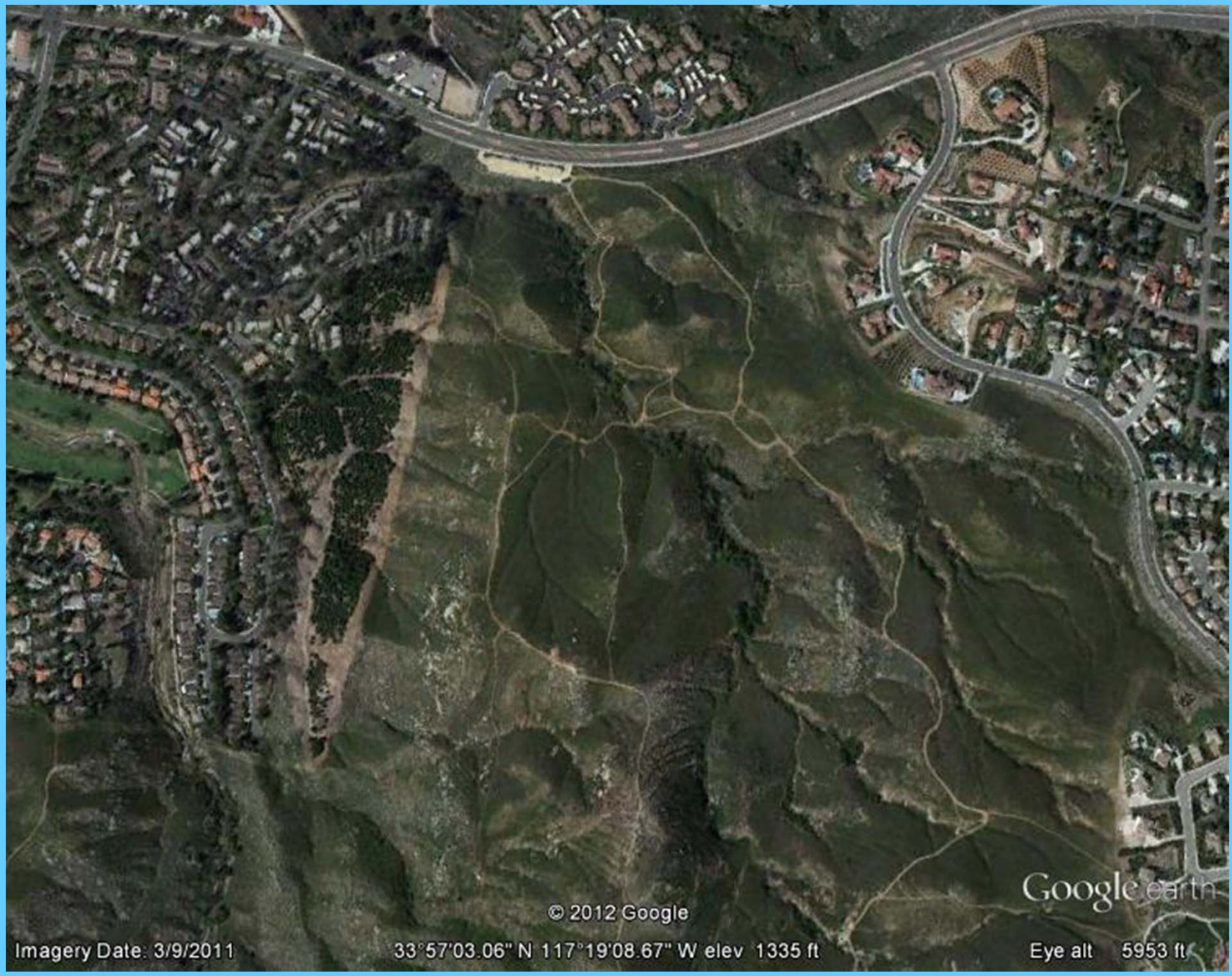

© 2012 Google
Imagery Date: 3/9/2011
33°57'24.84" N 117°20'00.68" W elev 1109 ft
Eye alt 20831 ft
Google earth


© 2012 Google
Google earth
Imagery Date: 3/9/2011
33°57'54.73" N 117°20'38.84" W elev 982 ft
Eye alt 4010 ft


© 2012 Google
Imagery Date: 3/9/2011
33°57'24.84" N 117°20'00.68" W elev 1109 ft
Eye alt 20831 ft
Google earth

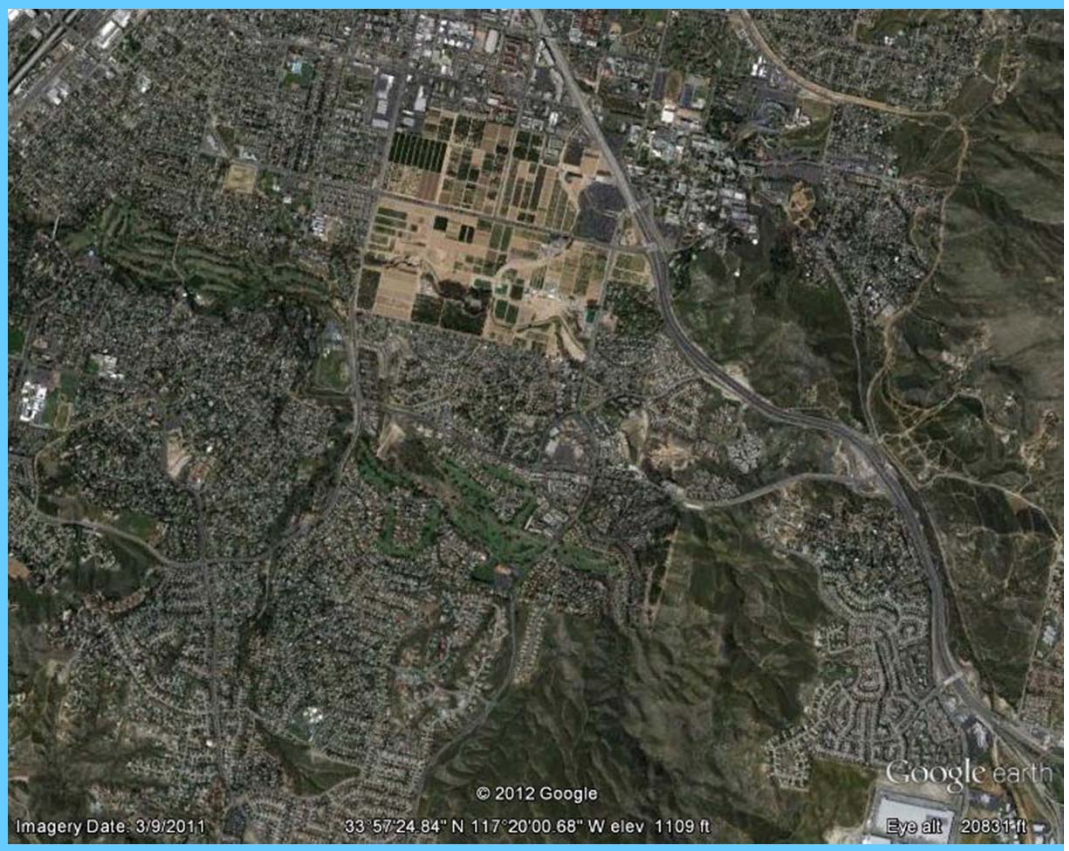

© 2012 Google
Google earth
Imagery Date: 3/9/2011
33°57'26.13" N 117°21'12.37" W elev 1021 ft
Eye alt 5203 ft


© 2012 Google
Imagery Date: 3/9/2011
33°57'24.84" N 117°20'00.68" W elev 1109 ft
Eye alt 20831 ft
Google earth


© 2012 Google
Imagery Date: 3/9/2011
33°57'03.06" N 117°19'08.67" W elev 1335 ft
Eye alt 5953 ft
Google earth

Ecological Landscape

- Structural complexity
- Community complexity
- Barriers or corridors for movement
- Host reservoirs or refuges
- Different values and suitability for control tactics

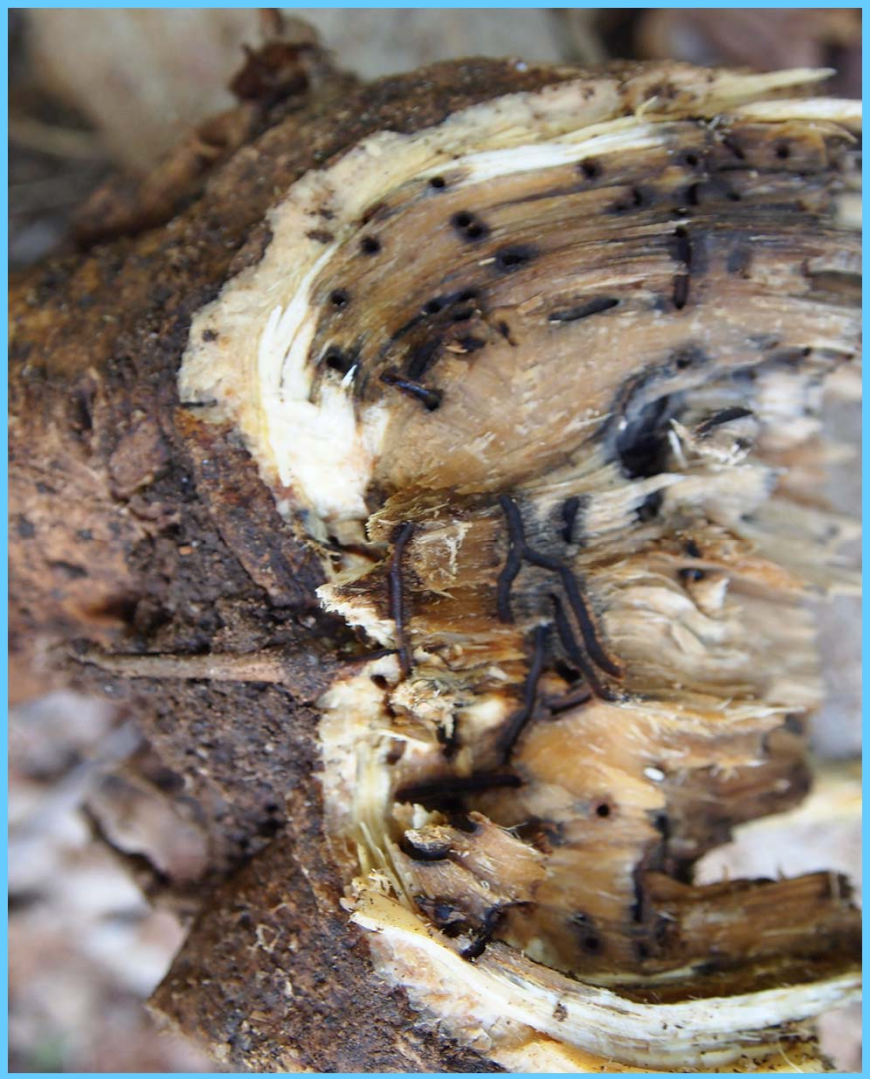


Understanding the Biology

- Background Information
- Life history and reproduction
- Environmental limitations
- Hosts at risk
- Seasonal activity
- Flight distance/ duration

Understanding the Biology

- What are the fungal associates
- How do they interact with the different hosts
- How do they interact with the success of the insect
- How do these interactions influence spread



Strategies to Limit Movement and Tactics for Management

- Routes of facilitated movement – identification and reduction
- Previous efforts with similar species – where are the successes

Trapping

- Assess population activity and relative abundance
- Trap design – purple prism, multiple funnel, yellow card
- Attractive lures

Biological Control

- Native natural enemies
- Potential for introduced natural enemies
- Biological control of fungal associates

Chemical Control

- Insecticides and bark beetles
- Systemic insecticides – injections and drenches
- Contact insecticides – barrier sprays
- Value of trees and cost of treatments

Cultural Control and Sanitation

- Tree removal
- Treatment of slash and debris
- Chipping or grinding
- Solarization and composting
- Firewood movement

Research and Implementation

- New species and new environment
- Start with the experience of others – related species or different environments
- Adapting methods to the California conditions and California stakeholders