

INVASIVE ANIMAL OPERATIONS UPDATES

Invertebrates: Laurel Wilt and
Giant African Snails

Andrew Derksen
FDACS



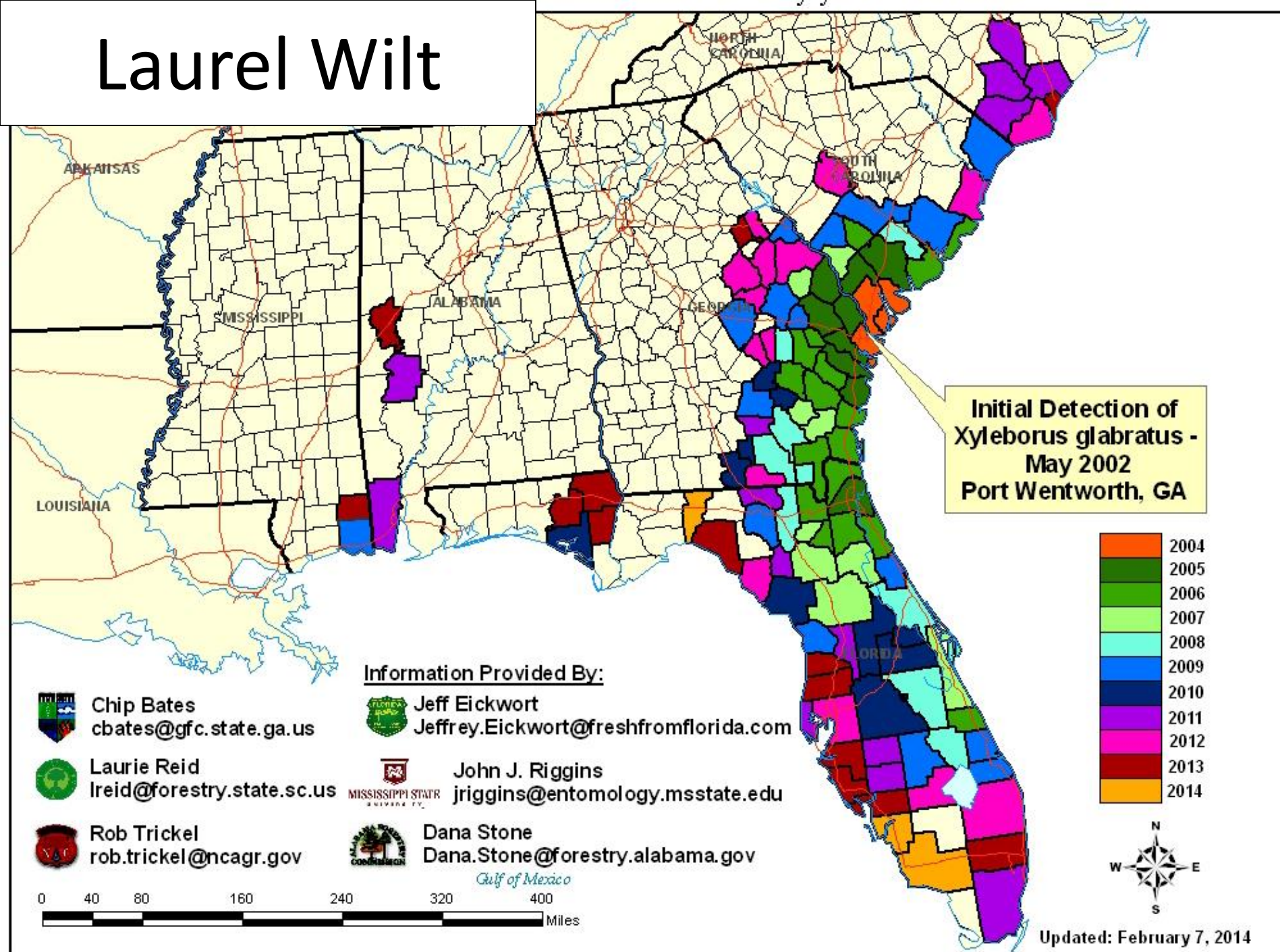
Laurel Wilt (*Raffaelea lauricola*)

- Vascular fungus
- Primary vector is
 - redbay ambrosia beetle (*Xyleborus glabratus*)
- Lethal to Lauraceae
 - Redbay (*Persea borbonia*)
 - Swampbay (*Persea palustris*)
 - Avocado (*Persea americana*)

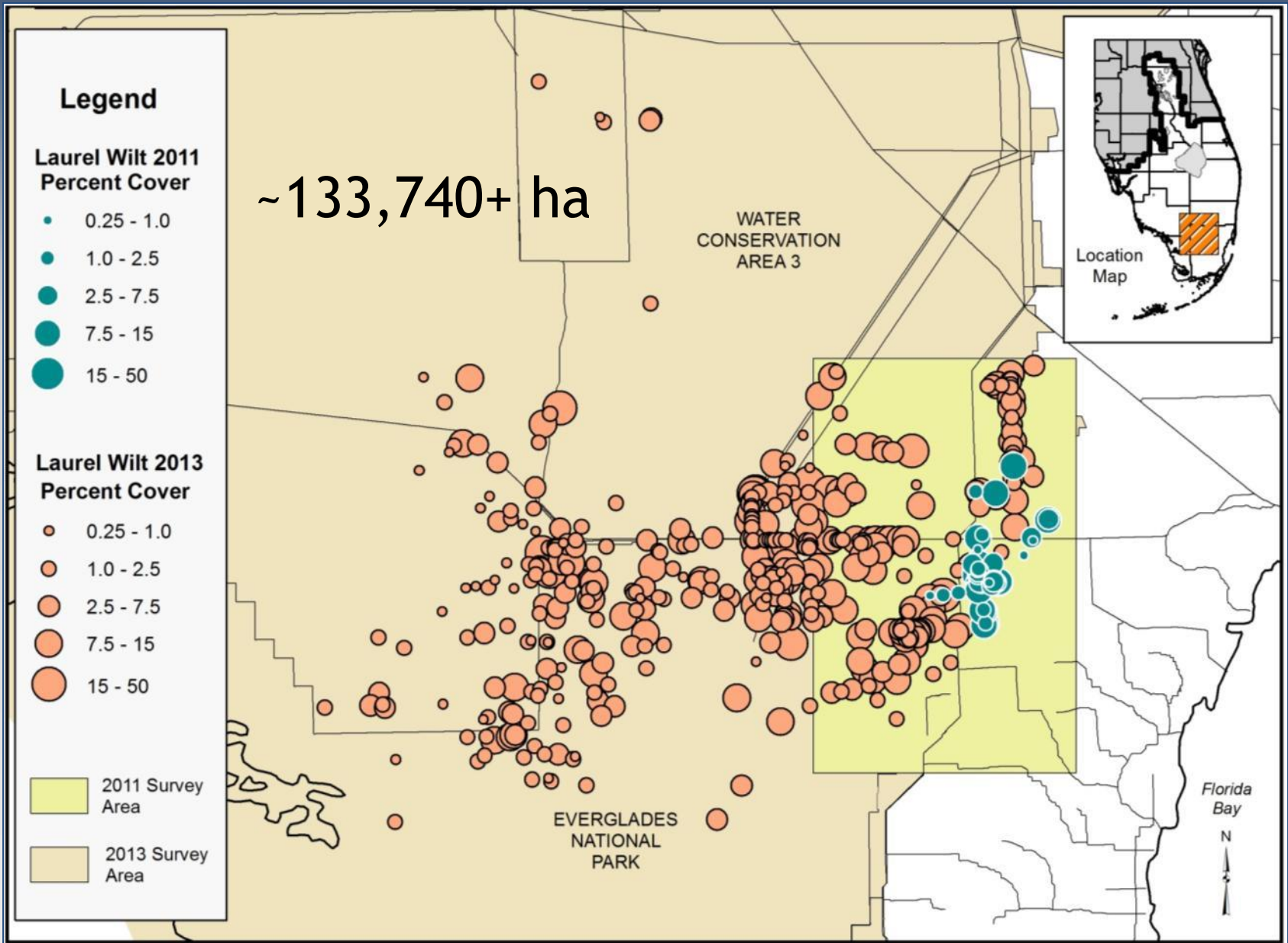


(Clockwise from left)
Mike Thomas, FDACS 2008
LeRoy Rodgers, SFWMD 2013
Andrew Derksen, FDACS 2010

Laurel Wilt

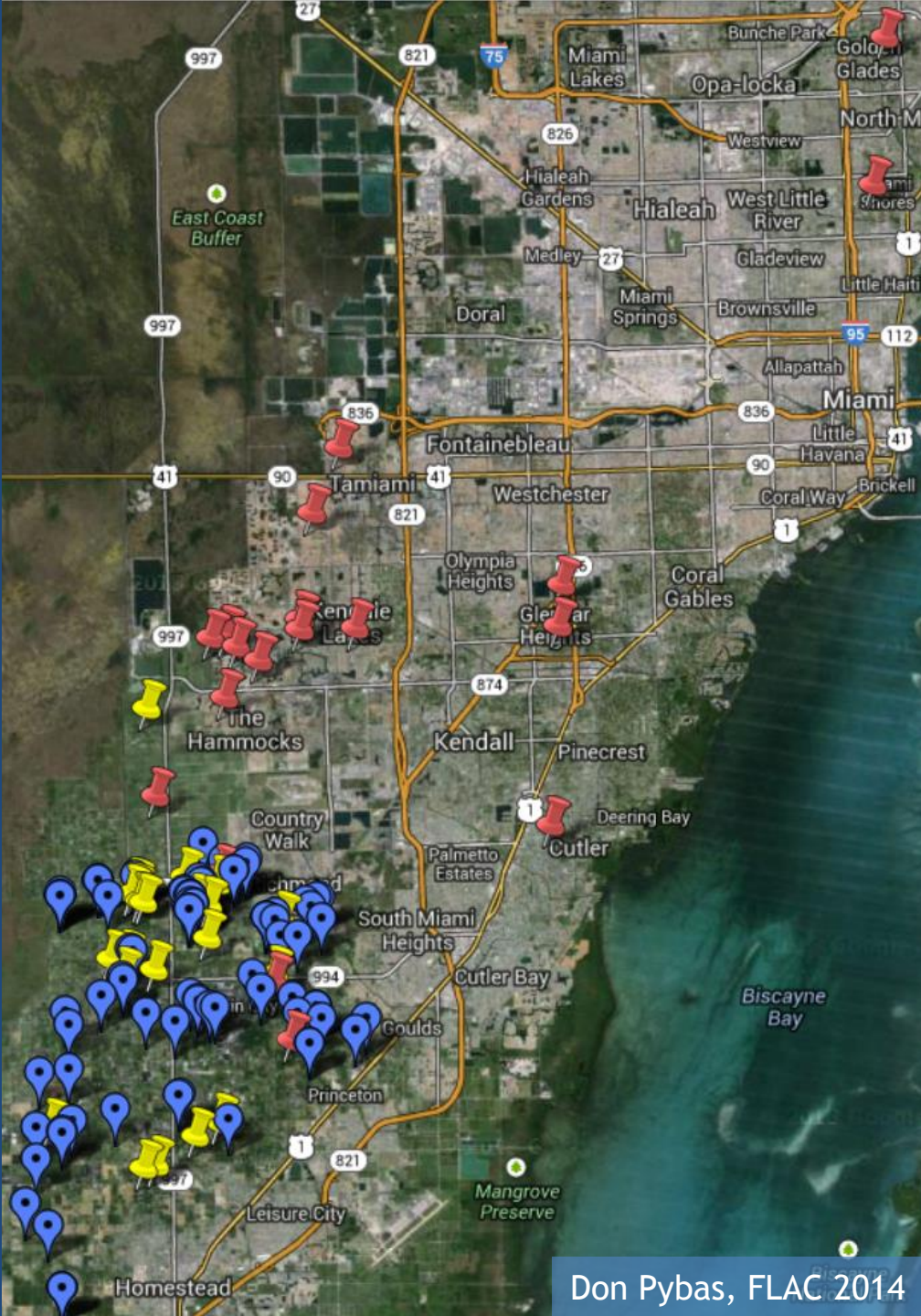


Distribution of Laurel Wilt in 2011 and 2013



Laurel Wilt

- FEB 2014
- Commercial
 - 3000+ avocado trees removed
- Residential
 - 200+ symptomatic avocado or bay trees



Don Pybas, FLAC 2014

Legend

Laurel Wilt 2011 Percent Cover

- 0.25 - 1.0
- 1.0 - 2.5
- 2.5 - 7.5
- 7.5 - 15
- 15 - 50

Laurel Wilt 2013 Percent Cover

- 0.25 - 1.0
- 1.0 - 2.5
- 2.5 - 7.5
- 7.5 - 15
- 15 - 50

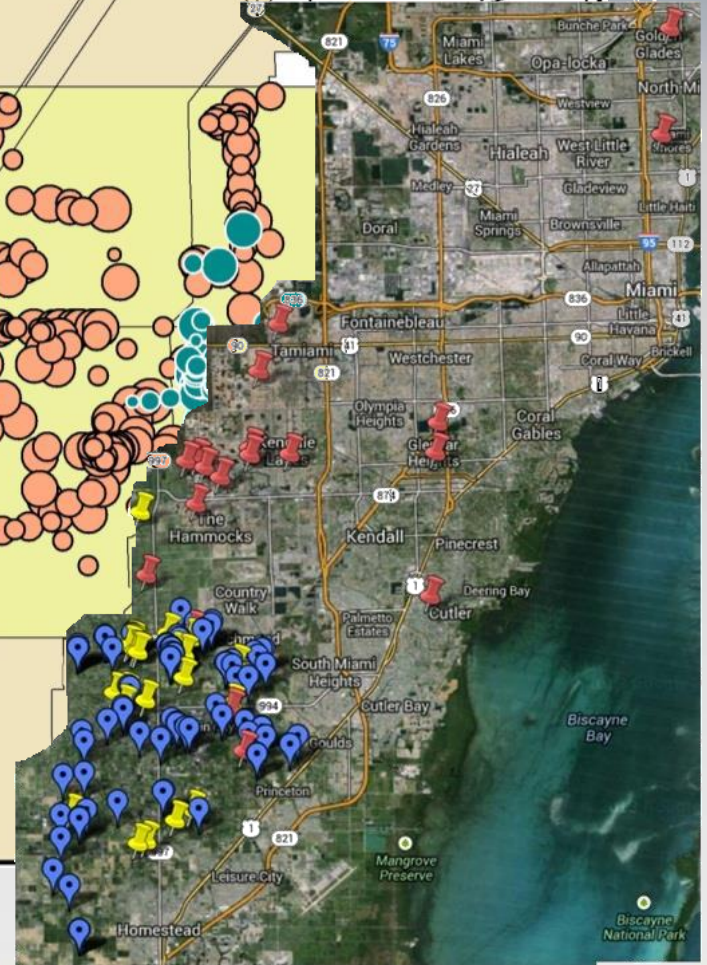
2011 Survey Area

2013 Survey Area

WATER
CONSERVATION
AREA 3

EVERGLADES
NATIONAL
PARK

Location
Map



Laurel Wilt

- Seven vector species
 - Low rate of transmission
 - May have different hosts
 - Unknown what f/x this will have on other hosts
 - Watch for surprises



Xyleborus glabratus



Xyleborus affinis



Xyleborus volvulus



Xyleborus ferrugineus



Xyleborinus gracilis



Xyleborinus saxeseni



Xylosandrus crassiusculus

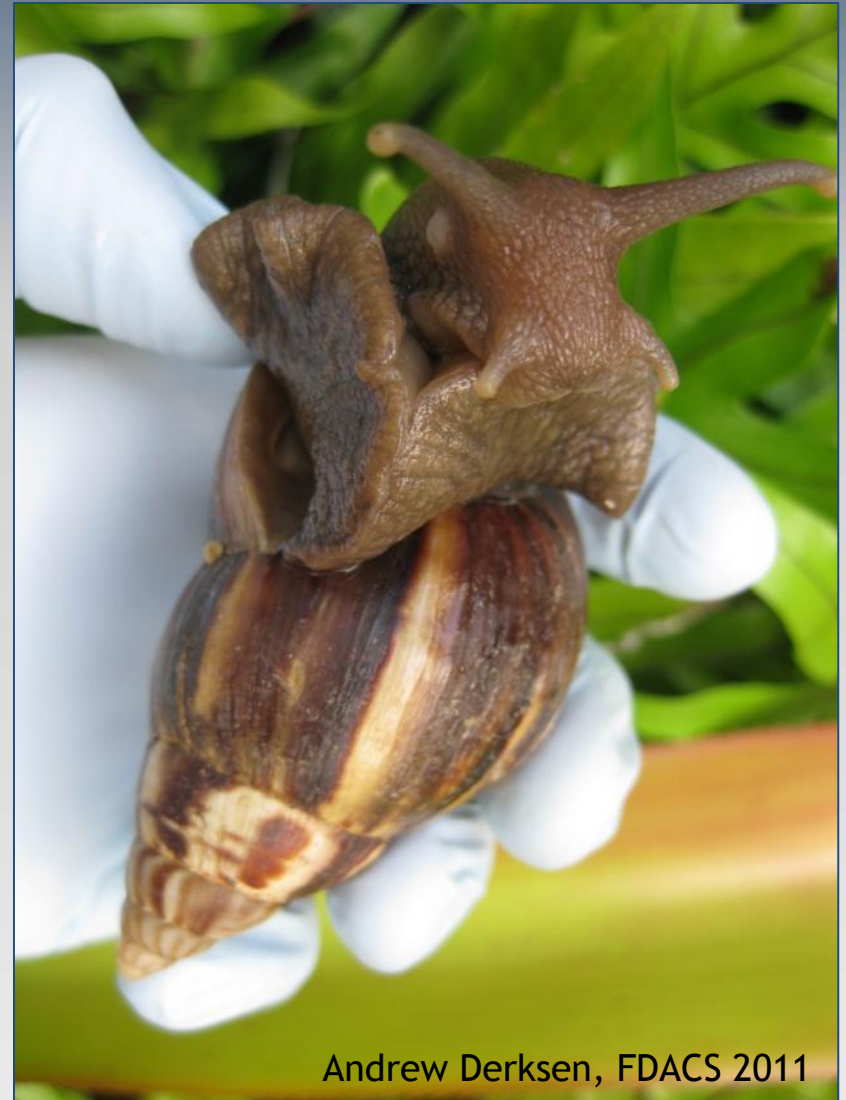
Laurel Wilt



- Searching for resistant strains of redbay
- Survivors taken from twelve field sites in FL, GA, SC
- Method for propagation as cuttings developed

Giant African Snail (*Lissachatina fulica*)

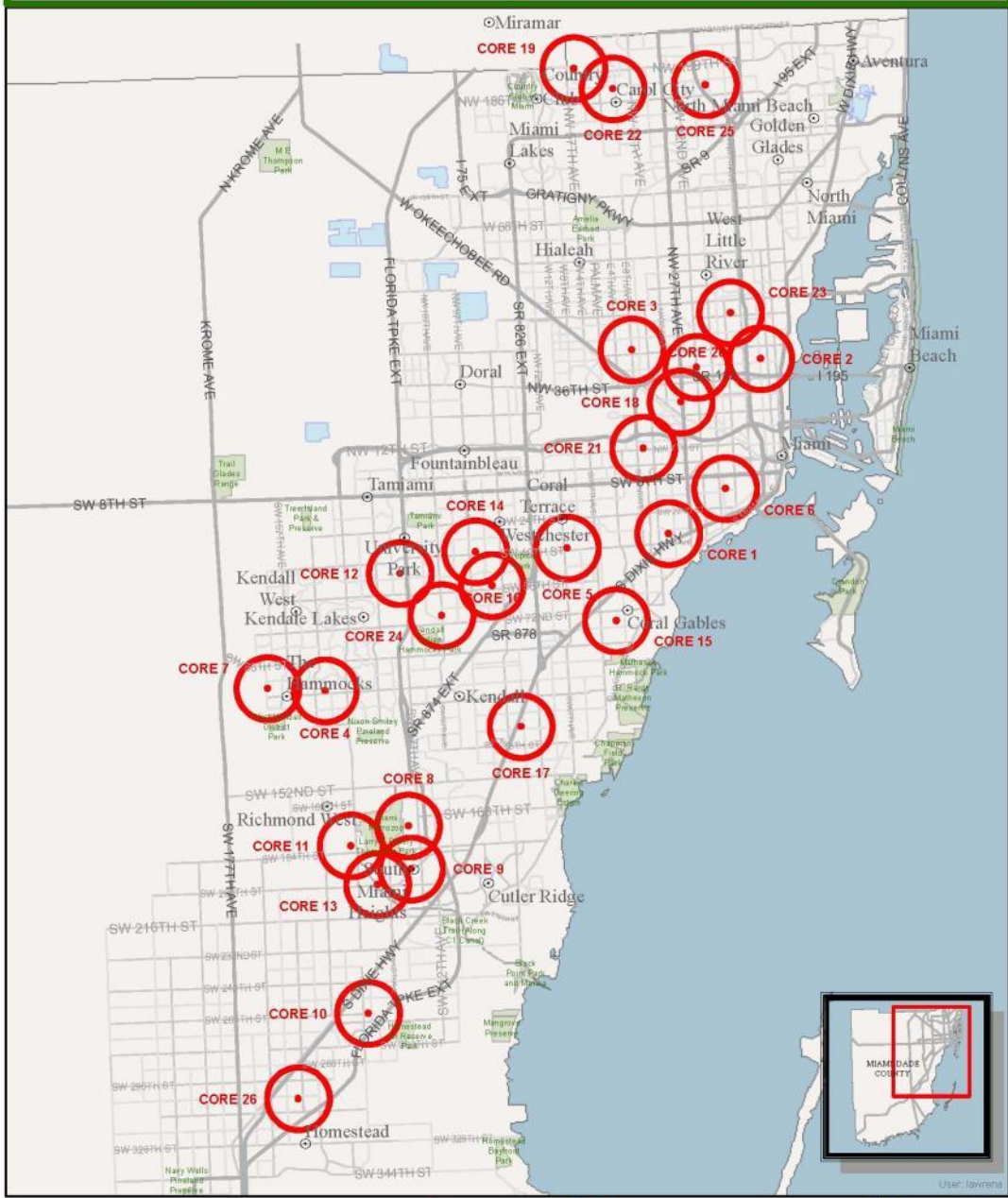
- Broadly polyphagous
- Rapid developmental cycle
 - Sexual maturity in six months
 - 45 viable eggs per month
- Vectors rat lungworm (*Angiostrongylus spp.*)



Andrew Derksen, FDACS 2011

Giant African Land Snail (GALS) Detections

Miami-Dade Co., February 19, 2014

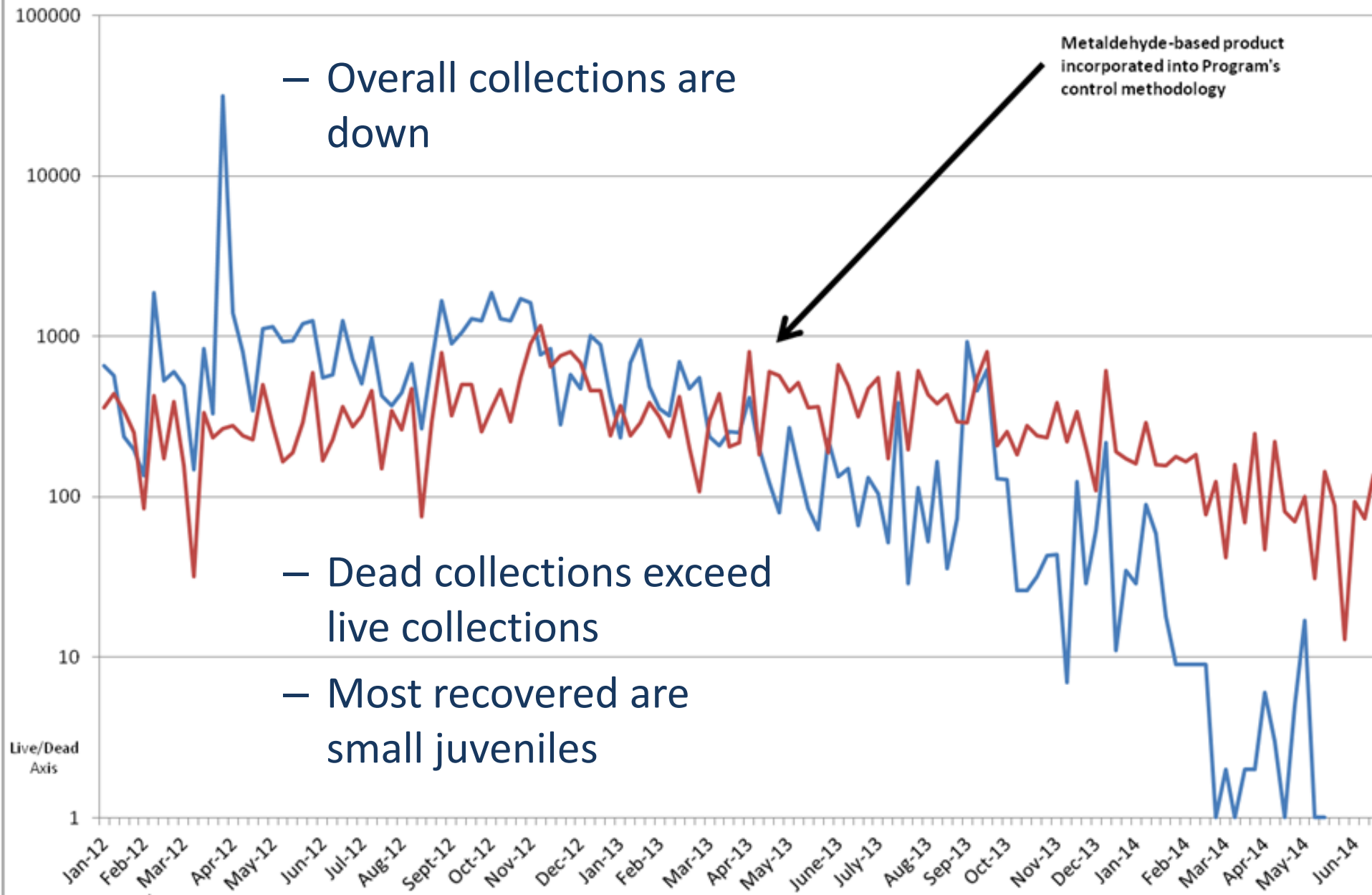


Giant African Snail

- Holding at 26 cores
 - No new detections since February 2014
 - 643 properties (13%) remaining with positive detections within the last nine months
 - 4,304 properties (87%) surveyed have not had a detection for more than nine months
 - 2,523 (51%) clean for two years or more



Logarithmic GALS Specimen Live/Dead Track From 2012 to Present



* Note: In order to avoid drastically skewing the graph, we have removed the 31,000 retroactive snails added to the total count.

Giant African Snail

- Two detector dogs have been added to program
- Detect *Lissachatina*
 - At low frequencies
 - Underground
- Allows for
 - Targeted application of force
 - Higher confidence in negative results on helpline calls



Julio Rodriguez, FDACS 2014

Questions?

