

# Invasive Pests and pathways



**FLORIDA FIRST DETECTOR**



# What Is The Difference?

Native? Introduced? Invasive?  
What about non-native and exotic?



Japanese honeysuckle



Honeybee



Blueberry

Photo: (Left) – Chuck Barger, University of Georgia, Bugwood.org, #1150068; (Middle and Right) – Wikimedia Commons.

# Native

Organisms that occur in an ecosystem as a result of only natural processes, with no human intervention.



Blueberry



Alligator



Wild turkey

# Introduced

Organisms that are introduced to a new ecosystem where they become established and survive

- AKA Exotic, Non-native
- Usually introduced via human intervention
- Can have beneficial or detrimental effects on environment



Peaches



Honeybee

# Invasive

Organisms that are introduced to an ecosystem where they establish and survive, causing harm.

- Usually introduced via human intervention
- Only have detrimental effects (economic, ecological, and/or human health)



Japanese honeysuckle



Giant African land snail



Wheat stem rust

Photos: (Left)- Chuck Barger, University of Georgia, Bugwood.org, #1150068

(Middle)- Pest and Diseases Image Library, Bugwood.org, #5502140; (Right) - USDA-ARS Photo, <http://www.ars.usda.gov/Main/docs.htm?docid=9910>

# Pest

Organisms that compete with humans for resources

- Competition includes consuming or damaging food, fiber, other resources that humans value
- Pests can be native, introduced, or invasive



Pine tree damage caused by Southern pine beetle



Ash tree damage caused by Emerald ash borer

Photos: (Left, main) - Ronald F. Billings, Texas Forest Service, [www.bugwood.org](http://www.bugwood.org), #1546017; (Left, inset) - Erich G. Vallery, USDA Forest Service - SRS-4552, [www.bugwood.org](http://www.bugwood.org), #5289035; (Right, main) - Daniel Herms, The Ohio State University, [www.bugwood.org](http://www.bugwood.org), #5171038; (Right, inset) - David Cappaert, Michigan State University, [www.bugwood.org](http://www.bugwood.org), #2106098.

# Don't Pack a Pest!

**TRAVELERS: AVOID  
FINES AND DELAYS**

**DECLARE**



**Fruits & Vegetables**



**Plants & Cut Flowers**



**Meat & Animal Products**



**Live Animals**

Foreign insects, plant and animal diseases,  
and invasive plants can be harmful  
to United States agriculture.



U.S. Customs and  
Border Protection

[www.cbp.gov](http://www.cbp.gov)

**DONT PACK A PEST**

English

HOME CAN I BRING IT? TRAVEL GUIDELINES PARTNERS ABOUT

Traveling with food, plants  
or animals: ask yourself...

**Can I Bring It?**

Answer a few easy questions to determine if the items you are  
traveling with could harm native species.

[Why Should You Be Concerned?](#)

<http://www.dontpackapest.com/>

# Don't Pack a Pest!



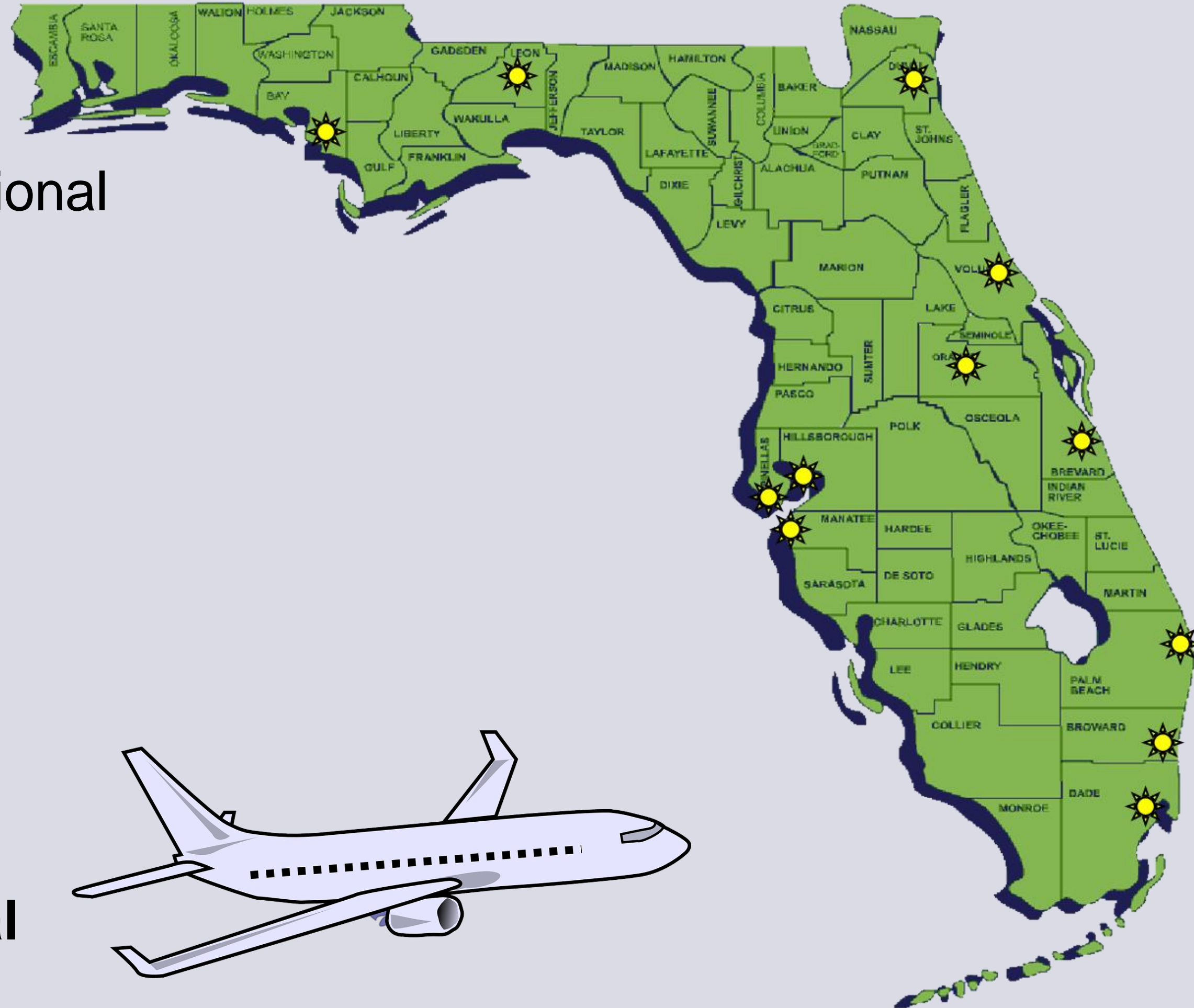
<https://www.youtube.com/watch?v=x0S99cwnDqM>



**How are new species  
introduced and why does  
Florida seem to get so many?**

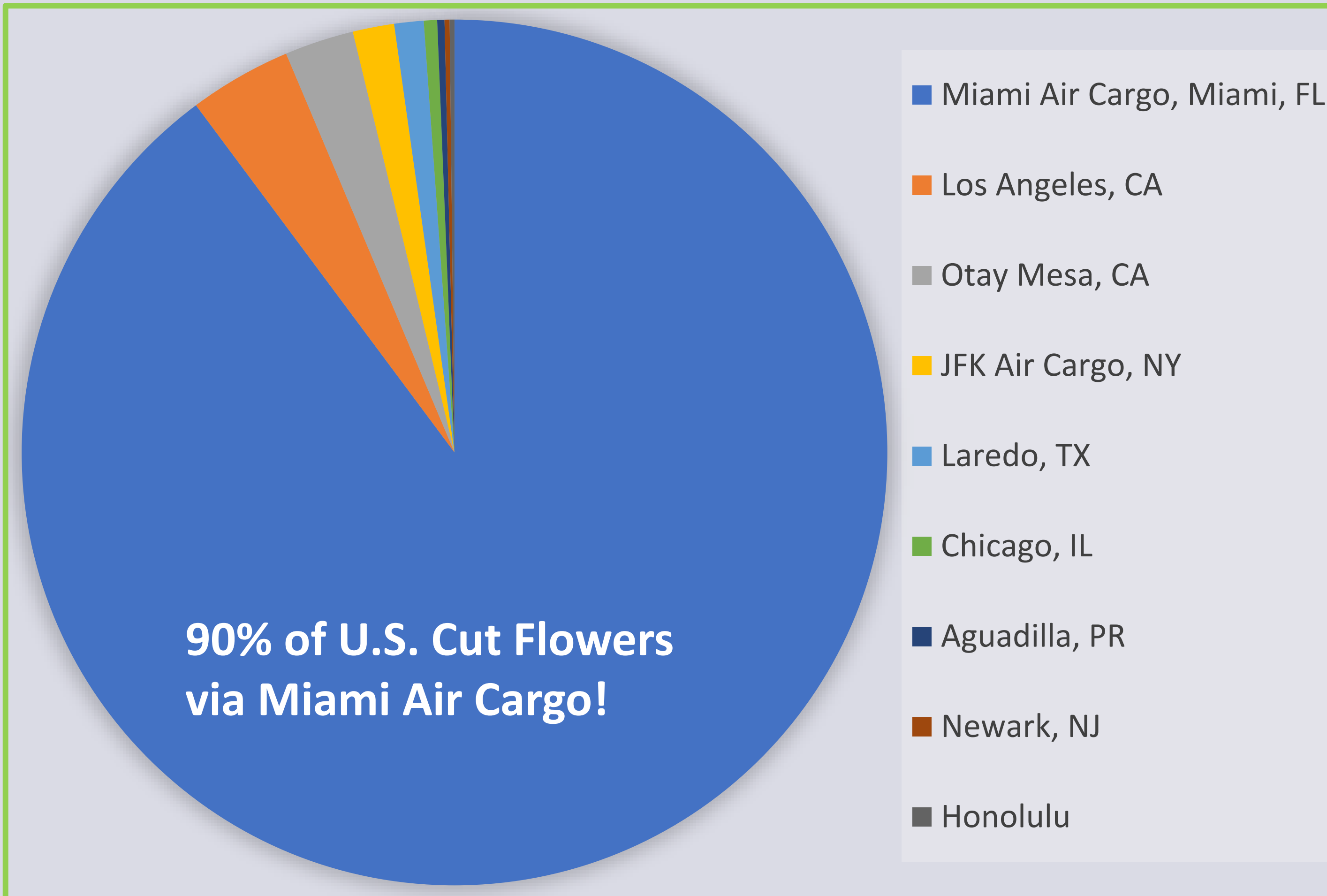
# Florida has 12 International Airports

1. Panama City/Bay County International
2. Tallahassee International
3. Jacksonville International
4. Daytona Beach International
5. Orlando International
6. Melbourne International
7. Palm Beach International
8. Ft. Lauderdale International
9. Miami International
10. **Sarasota International**
11. **St. Pete/Clearwater International**
12. **Tampa International**



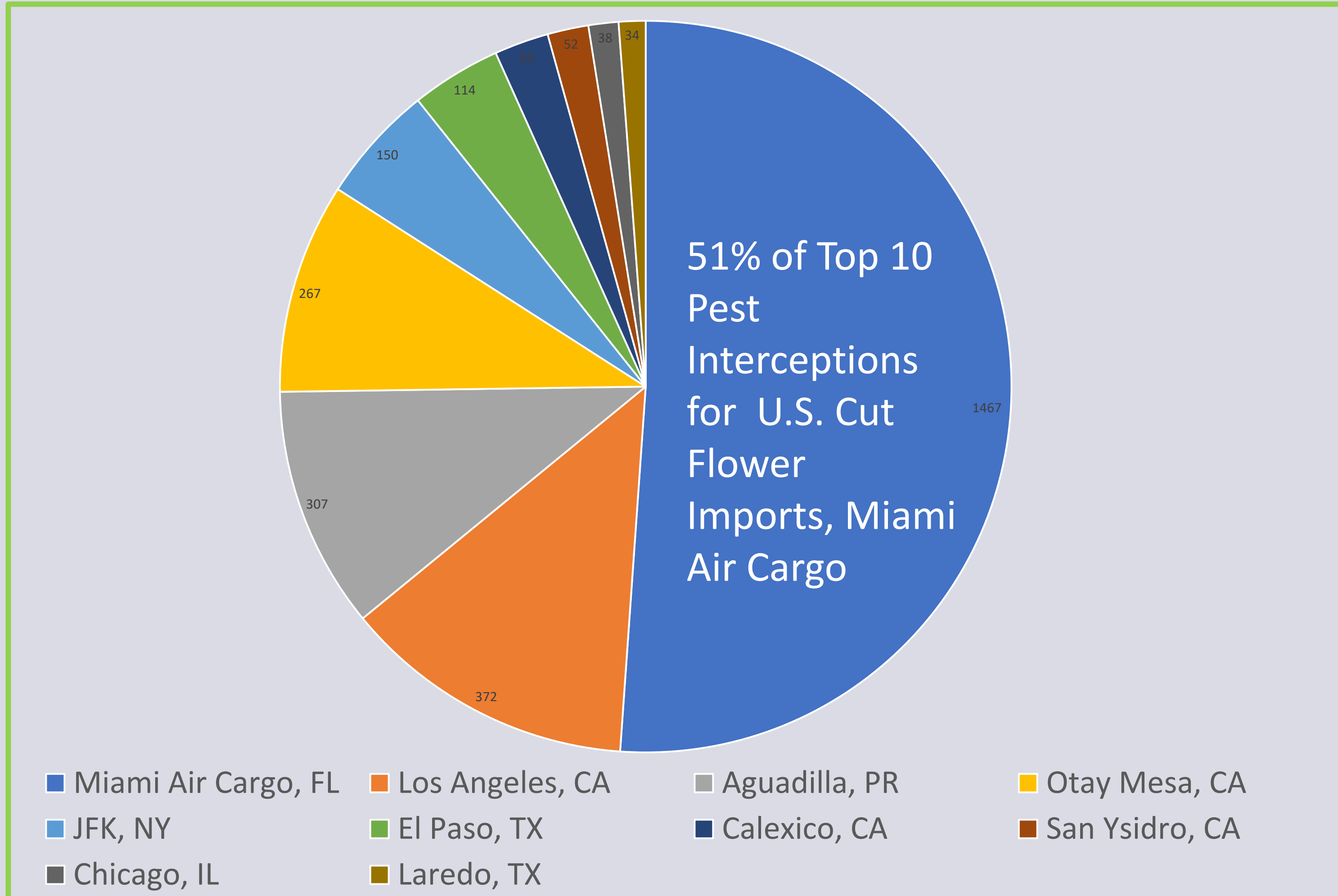
Map courtesy of: Florida CAPS

# U.S. Cut Flower Imports



**90% of U.S. Cut Flowers  
via Miami Air Cargo!**

# U.S. Cut Flower Imports, Pest Interceptions



# Florida has 14 Deepwater Ports

1. Port of Pensacola
2. Port of Panama City
3. Port of St. Joe
4. **Port of Tampa**
5. **Port of St. Petersburg**
6. **Port of Manatee**
7. Port of Key West
8. Port of Miami-Dade
9. Port of Everglades
10. Port of Palm Beach
11. Port of Ft. Pierce
12. Port Canaveral
13. Port of Jacksonville
14. Port Fernandina

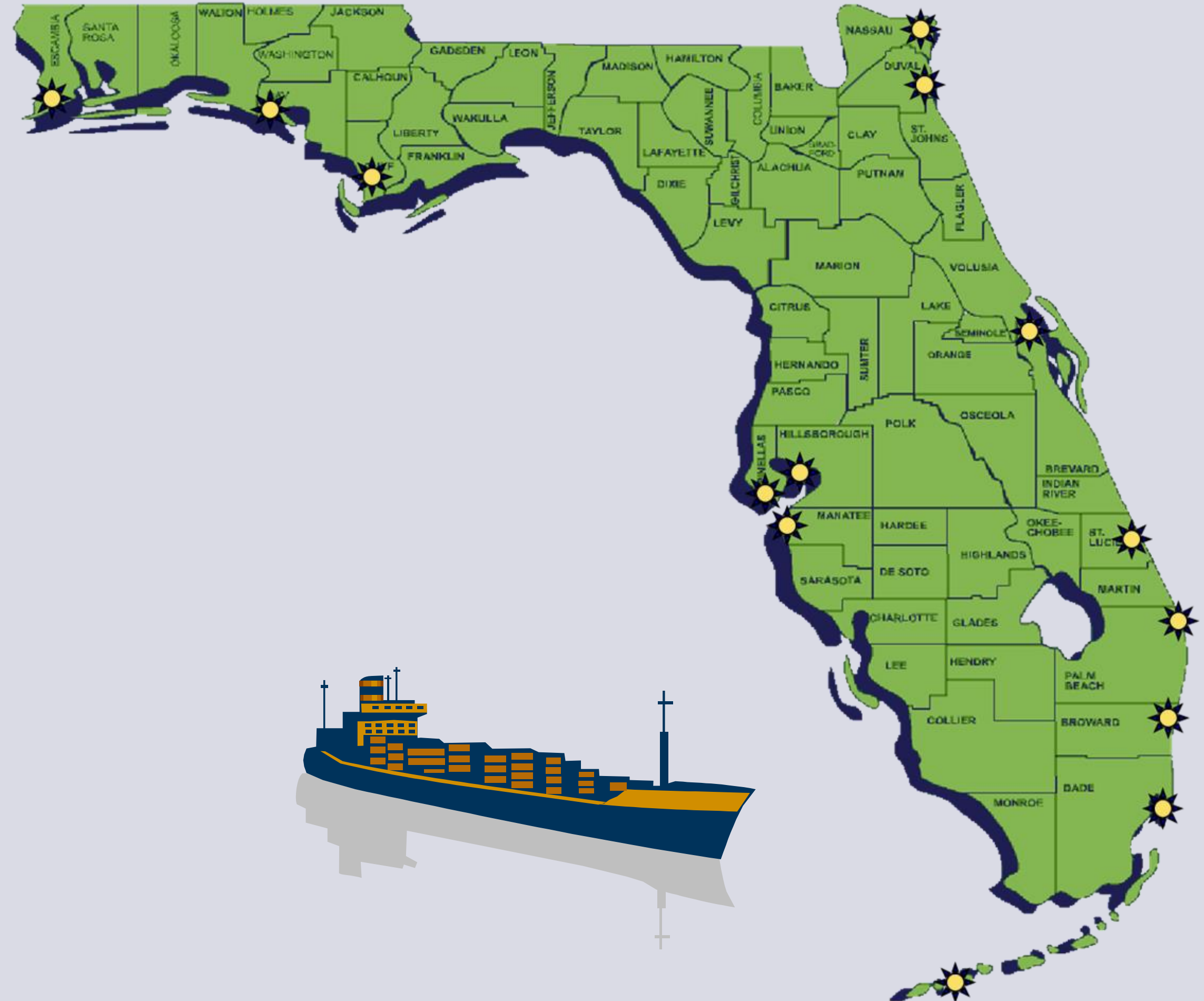


Photo: Microsoft Power point clip art, Map courtesy of: Florida CAPS

# Stowaways in Cargo



Asian longhorned beetle



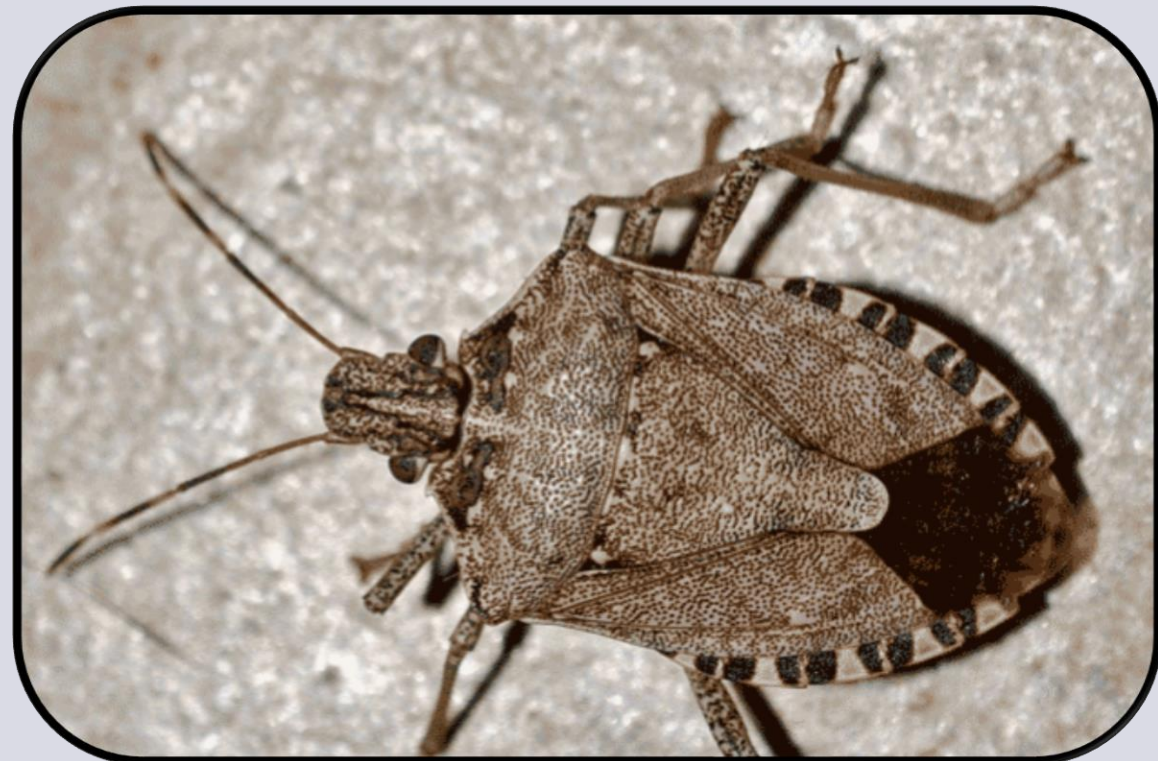
Cargo being inspected



Pallet damaged by Asian longhorned beetle

(Left to right) - Michael Bohne, Bugwood.org #UGA1262002; USDA-APHIS-PPQ, Bugwood.org #1265007; Larry R. Barber, USDA Forest Service, Bugwood.org #3047036;

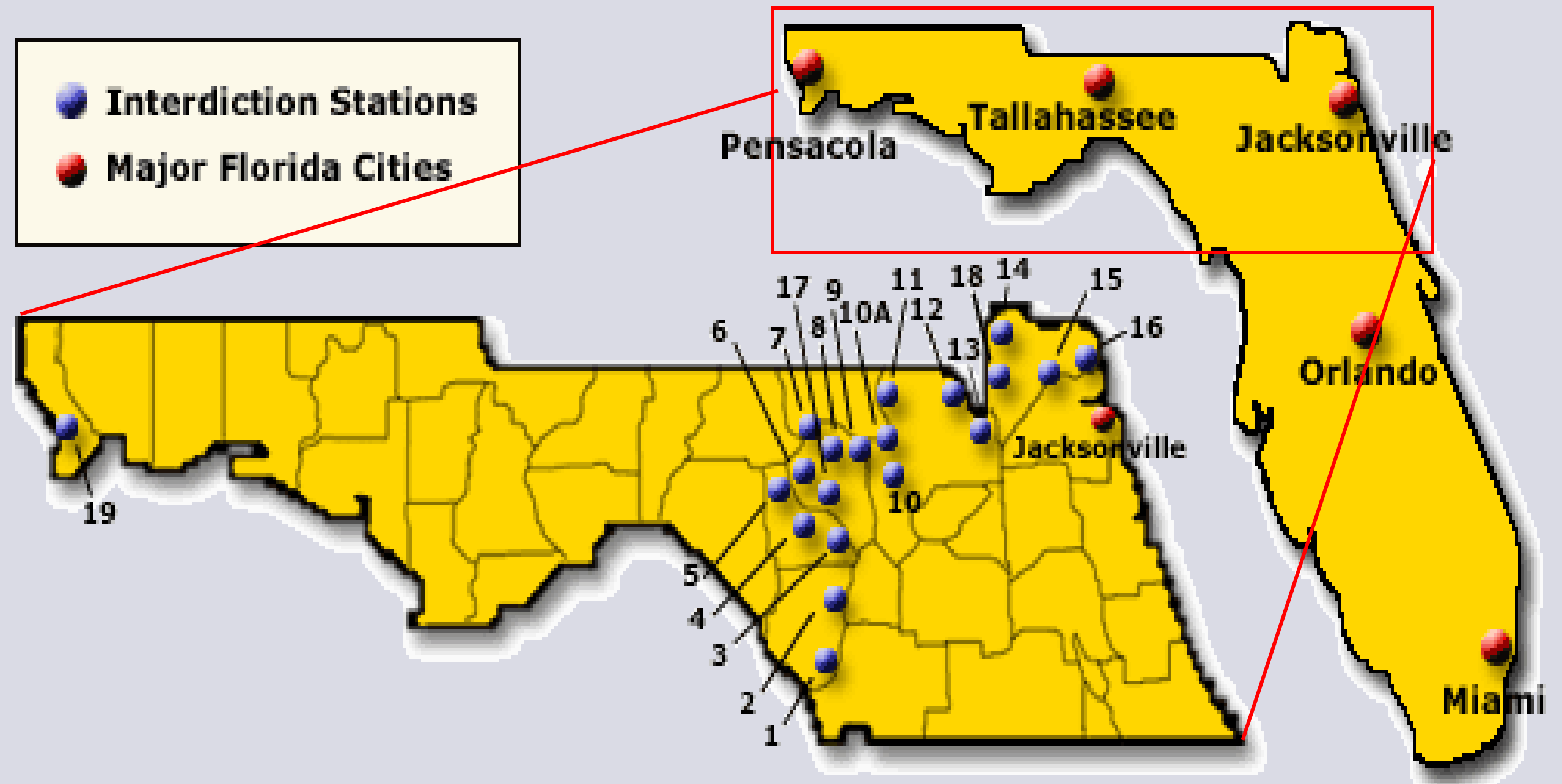
# Agricultural Interdiction Stations



Brown Marmorated Stink Bug



Bagrada Bug



Multiple Interceptions

Map courtesy of: Florida CAPS

# Ficus Whitefly Damage



Photos: A. Hunsberger, UF/IFAS, Miami-Dade County Extension; C. Mannion, UF/IFAS, Tropical REC



# Red Palm Weevil Damage



Photos: (Top left) - Christina Hoddle, University of California - Riverside, Bugwood.org #5432623; (Middle) – Katja Schulz; Others) - Center for Invasive Species Research, University of California, Riverside

**FLORIDA FIRST DETECTOR**

# South American Palm Weevil Damage

Palm trunk  
damaged by  
*R. palmarum*  
in Costa  
Rica



Palm frond  
damage  
caused by  
larval  
tunneling of  
*R.*  
*palmarum*

Red ring  
disease  
showing the  
characteristic  
“red ring” in a  
coconut palm



Photos: (Top left) - Reinaldo Aguilar, [www.osaresearch.org](http://www.osaresearch.org); (Others) - Center for Invasive Species Research, University of California, Riverside; Pupa - Robin M. Giblin-Davis, University of Florida

# Why is Florida a likely place for invasive species to establish?

- Live plant material is imported through airports, deepwater ports, and interstate travel
- Florida has a large tourism industry
- Florida has prolonged growing seasons and a favorable climate



The screenshot shows the TripAdvisor website's 'Top 25 Beaches – United States' page. At the top left is the 'Travelers' Choice 2021' logo with a 'Best of the Best' badge. The main heading is 'Top 25 Beaches – United States' with a subtext: 'Yeah, we wish we were there, too. White sands, rugged coastlines, the works—these are the beaches that travelers dream of all year long.' Navigation links for 'UNITED STATES', 'WORLD', and 'REGIONS' are visible, along with a 'COLLAPSE LIST' button. The first entry is '1 Saint Pete Beach, St. Pete Beach, Florida'. Below the title is a photograph of a beach at sunset with palm trees and yellow beach chairs. To the right of the photo is a quote: 'A great walking beach with white quartz sand, clear calm water, and seashells by the truckload. The most perfect place to watch the sun set over the ocean.' Below the quote is a section 'Shop for a place to stay' with a list: '34 Hotels', '4 B&B and Inns', and '417 Vacation Rentals'. A 'MORE' link is at the bottom right.

Photo: <https://www.tripadvisor.com/TravelersChoice-Beaches-cTop-g191>

**Thank you!**

# Lab Team

## Authors & Editors

Daniela Perez Lugones, M.S. – Graduate Student, Doctor of Plant Medicine Program, University of Florida

Lindsay Mikell, M.S. – Graduate Student, Doctor of Plant Medicine Program, University of Florida

Lyuyi Chen, M.S. – Graduate Student, Doctor of Plant Medicine Program, University of Florida

Sarah Tafel, B.S. – Graduate Student, Doctor of Plant Medicine Program, University of Florida

## Lab Director

Amanda Hodges, Ph.D. - Associate Extension Scientist, Department of Entomology and Nematology, University of Florida

# **Collaborating Agencies**

- U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS)
- Cooperative Agricultural Pest Survey Program (CAPS)
- Florida Department of Agriculture and Consumer Services (FDACS)
- National Plant Diagnostic Network (NPDN)
- Sentinel Plant Network (SPN)
- University of Florida Institute of Food and Agricultural Sciences (UF-IFAS)
- Protect U.S.

# Educational Disclaimer and Citation

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