

Florida First Detector Training:

Pests and Pathways



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Wild turkey



Alligator



Blueberry



Crabapple

Photo: (Top left) – Jennifer A. Hamel, University of Florida; (All others) – Wikimedia Commons.



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Native

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

Blueberry



Wild turkey



Photos: (Left) – Wikimedia Commons; (Right) - Jennifer A. Hamel, University of Florida.



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Introduced

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

- Usually introduced via human intervention
- Can have beneficial or detrimental effects on environment



Honeybee



Peaches

Photos: Wikimedia Commons



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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)



Damaged hemlock woolly adelgid trees



Wheat stem rust

Photos: (Left, main) - William M. Ciesla, Forest Health Management International, <http://www.invasive.org/> Image No. 2167012; (Left, inset) Connecticut Agricultural Experiment Station, www.bugwood.org, #3225077; (Right) - USDA-ARS Photo, <http://www.ars.usda.gov/Main/docs.htm?docid=9910>



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Pest

Organisms that compete with humans for resources.

- Only have detrimental effects
- 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, #1546017; (Left, inset) - Erich G. Vallery, USDA Forest Service - SRS-4552, www.bugwood.org, #5289035; (Right, main) - Daniel Herms, The Ohio State University, www.bugwood.org, #5171038; (Right, inset) - David Cappaert, Michigan State University, www.bugwood.org, #2106098.



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



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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

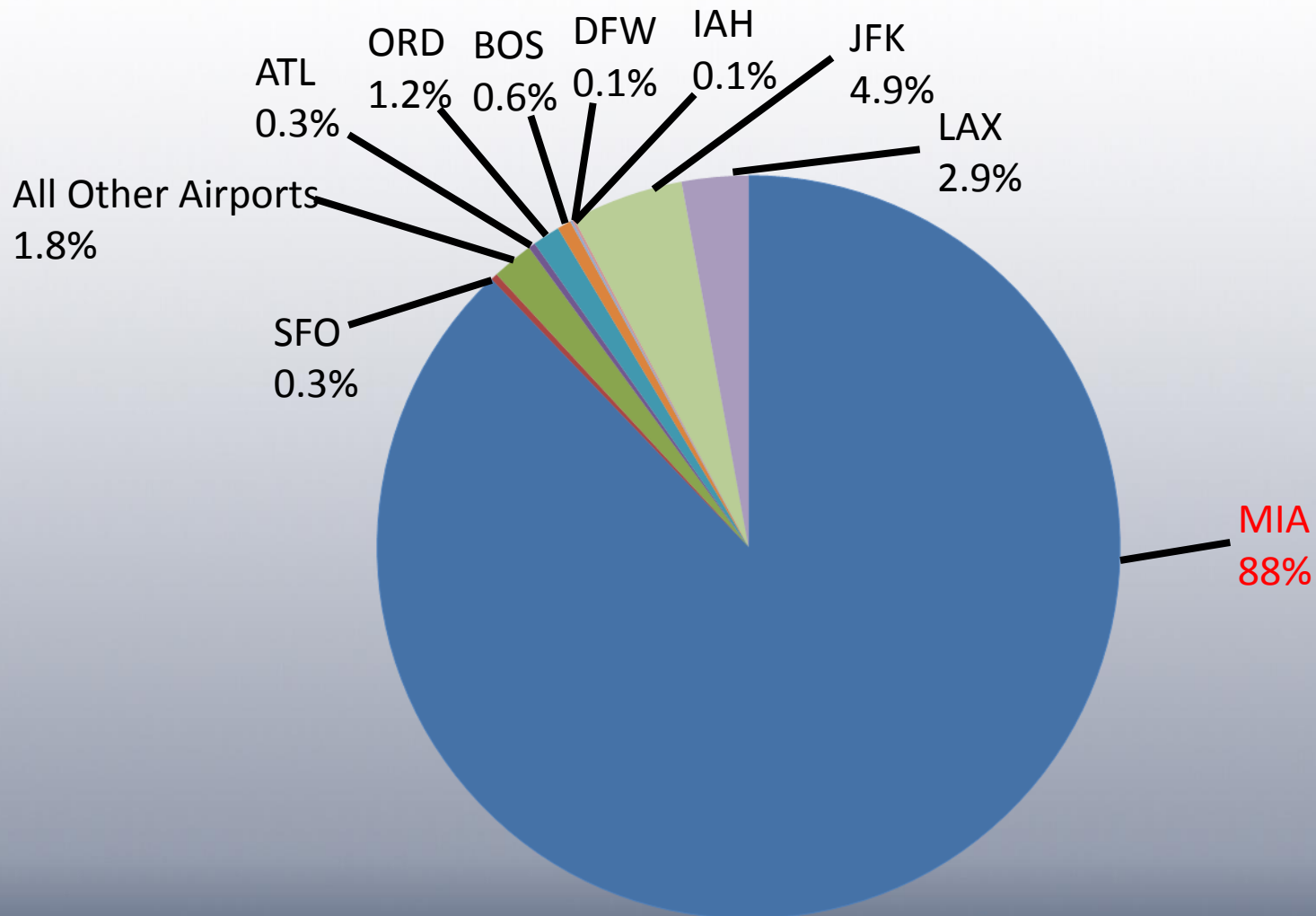


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U.S. Flower Imports

US Airports, 2004

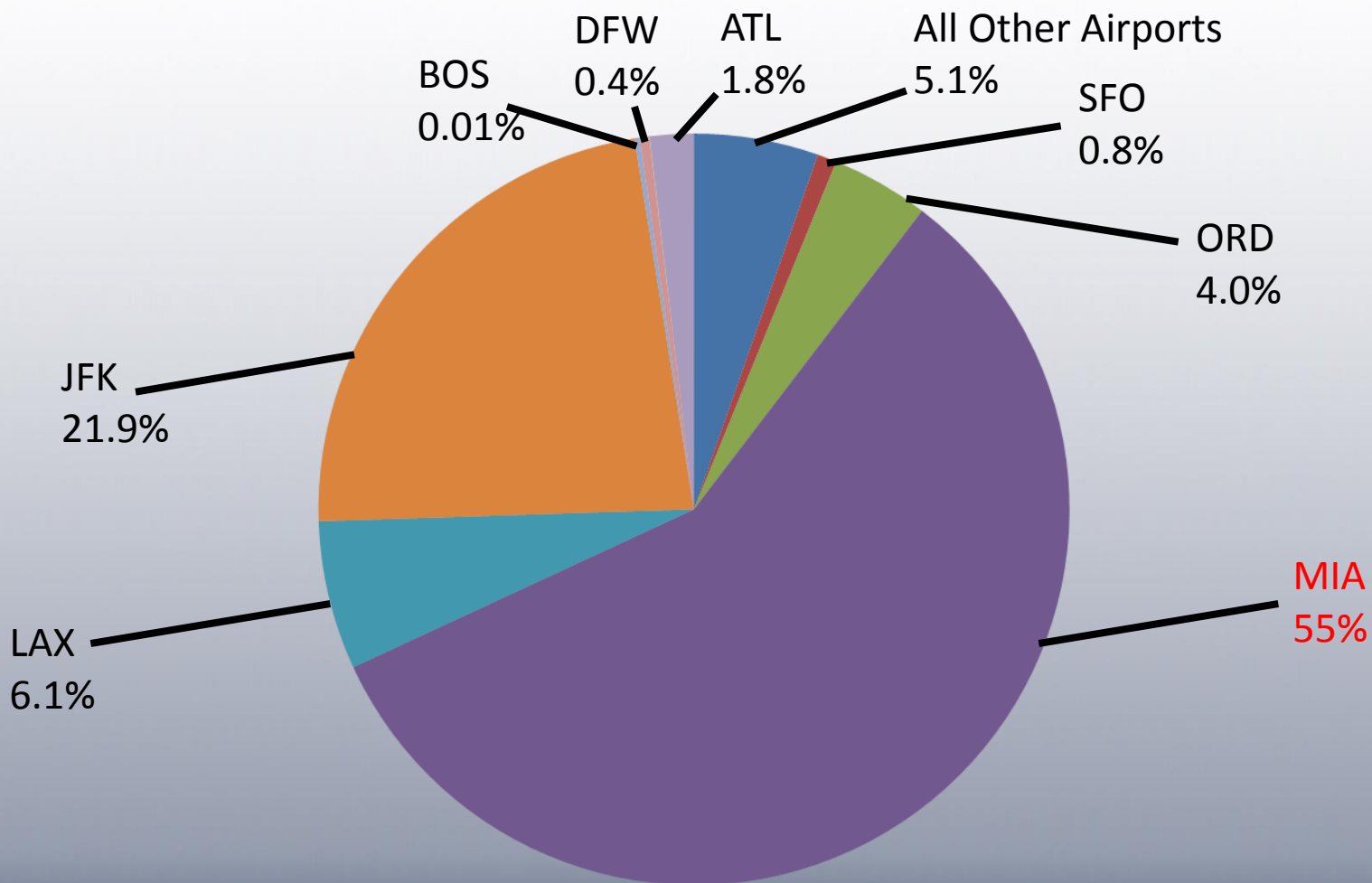


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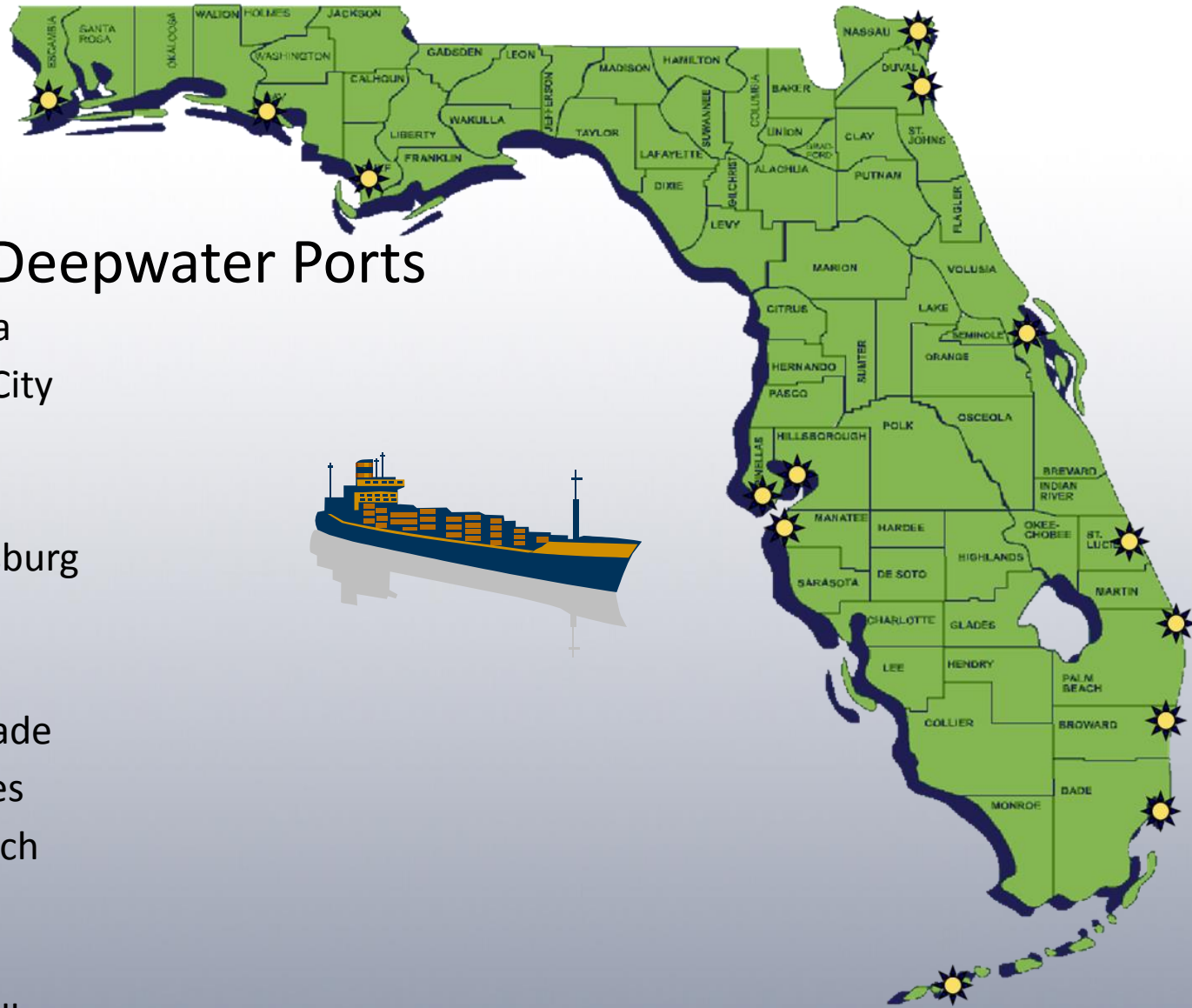
U.S. Fruit and Vegetable Imports

US Airports, 2004



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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

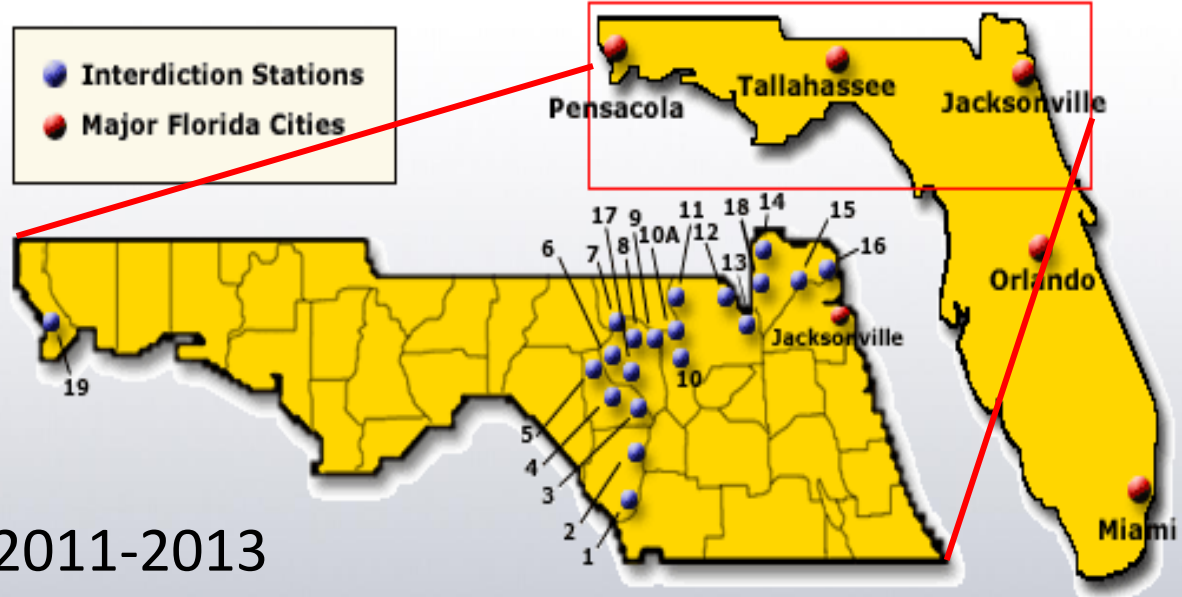
Photo: Microsoft Power point clip art, Map courtesy of: Florida CAPS



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Agricultural Interdiction Stations



Multiple Interceptions: 2011-2013



Brown Marmorated Stink Bug



Bagrada Bug

Map courtesy of: Florida CAPS



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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.



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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)
- Protect U.S.
- University of Florida Institute of Food and Agricultural Sciences (UF-IFAS)



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