

Zika Overview and Incident Response

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General Zika Information

- Flavivirus- Like WNV and Dengue viruses
- Originally identified in Africa and Southeast Asia
 - First identified in Uganda's Zika Forest in 1947
- Transmission
 - *Aedes aegypti*
 - *Aedes albopictus*

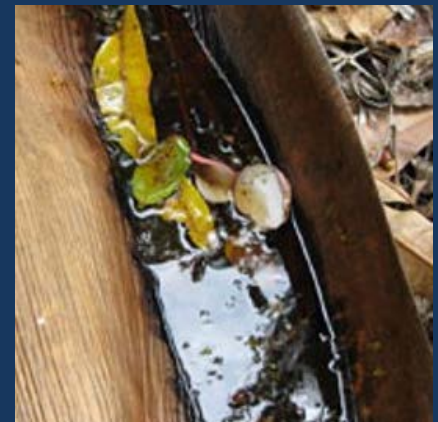
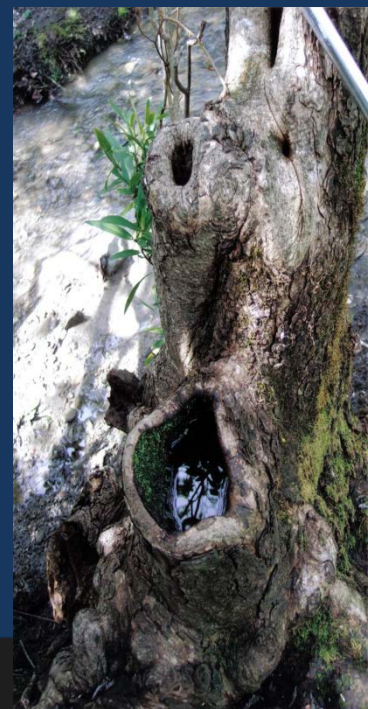


Florida Medical Entomology Laboratory
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Domestic Preference

- Prefer urban areas around human habitation.
- Utilize natural and man-made containers for laying eggs.



Domestic Preference

- Daytime biters
 - Prefer human hosts
- Short flight range
 - Only travel ~150 m



Zika Virus

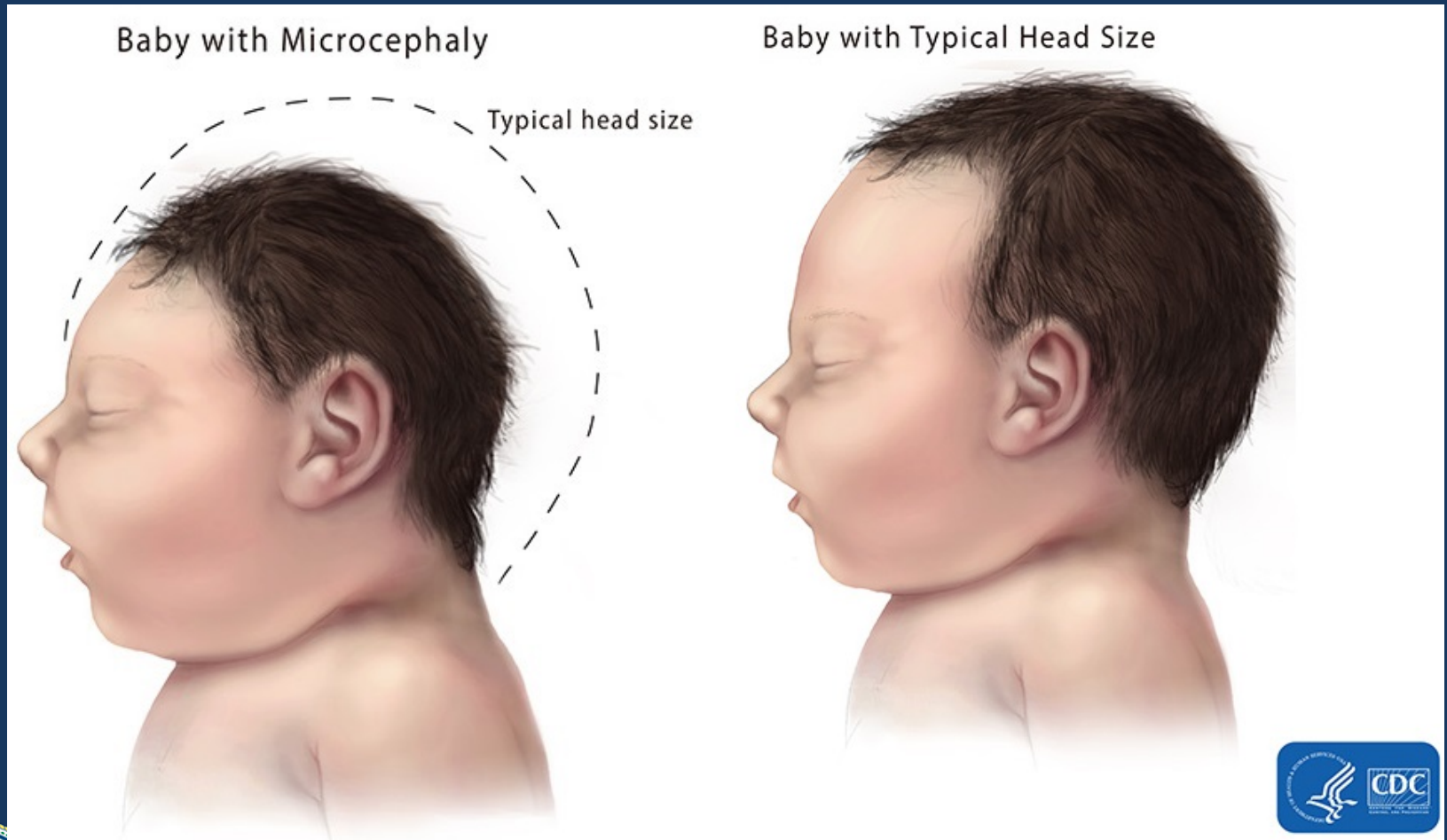
- Incubation period: 2-14 days
- 1 in 5 people infected will become symptomatic
- Few hospitalizations

Most common signs and symptoms

- Fever (often low-grade)
- Rash
- Joint pain
- Red eyes
- Muscle ache
- Headache
- Pain behind the eyes
- Vomiting



Zika Virus Link to Microcephaly



<http://www.cdc.gov/ncbddd/birthdefects/microcephaly.html>

CHIKUNGUNYA, DENGUE, or ZIKA: What is an imported case?

A person who was bitten by an infected mosquito while traveling away from home.



A person gets bitten by an infected mosquito while traveling.

Symptoms may begin 3–7 days after being bitten by an infected mosquito.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



CHIKUNGUNYA, DENGUE, or ZIKA: What is local transmission?



A person who has not traveled recently gets bitten by an infected mosquito where they live, work, or play.



A mosquito bites a person who is sick. The mosquito gets infected.

Infected mosquitoes can then bite healthy people and spread the infection.

Within 3–7 days, the person may become sick. Other mosquitoes can bite the sick person, become infected, and bite more people.

Zika Virus in Florida

- Florida Governor, Rick Scott signed Executive Order 16-29 - February 3rd
 - Directed State Surgeon General to declare public health emergency
 - All new counties with confirmed cases are added



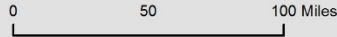


Executive Order 16-29

- Designates FDOH as lead agency
- Directs FDOH to take any action to protect the public, following CDC guidelines to prevent spread
- State Health Officer must immediately notify Commissioner of Agriculture of public health threat.
- Commissioner is authorized to issue mosquito declaration in those counties in need of additional mosquito control measures







As of 12/21/2016

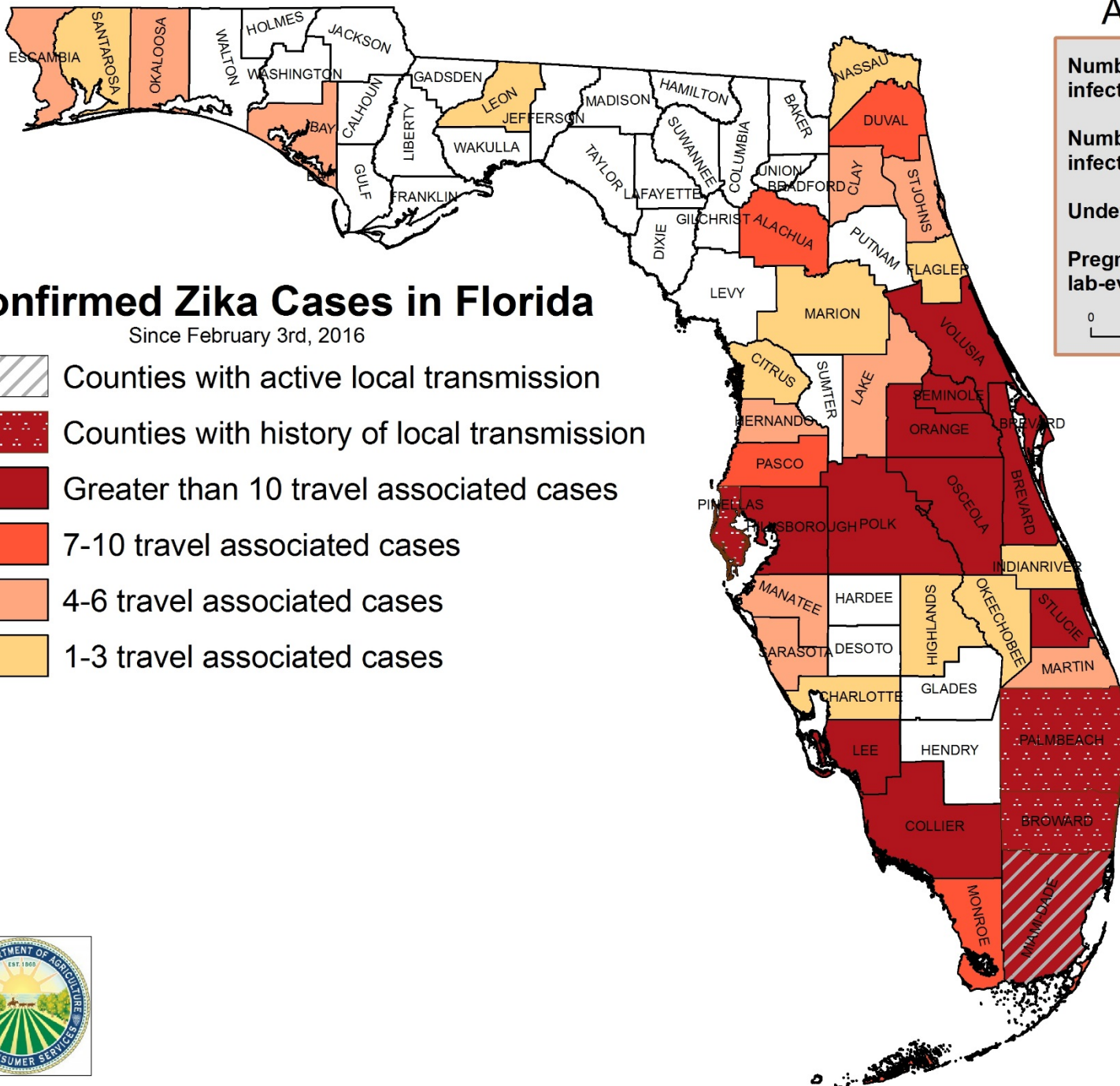
Number of travel-related infections of Zika: 1002
Number of locally acquired infections of Zika in Florida: 253
Undetermined: 17
Pregnant women with lab-evidence of Zika: 198



Confirmed Zika Cases in Florida

Since February 3rd, 2016

-  Counties with active local transmission
-  Counties with history of local transmission
-  Greater than 10 travel associated cases
-  7-10 travel associated cases
-  4-6 travel associated cases
-  1-3 travel associated cases



Mosquito Control in Florida

- Conducted at the local level
- 59 statutorily-approved MCPs
- Budgets range from to \$39k to \$25 million
- Programs range in staff size from 1 to over 120
- Some own planes/helicopters and have their own airport....others, staff split time with other disciplines (i.e., storm water)



State Roles for Zika Response

- Department of Health (FDOH) - lead agency
- FDACS role
 - Support local MCPs
 - Actively engage and monitor response to cases
 - Supplement as necessary
 - Provide technical assistance



FDACS Zika Response

- Open and maintain communication
- Identify resource needs and limitations
- Facilitate communication between programs
- Task Force for counties with no or limited programs



Technical Guidance/Outreach

- MCPs and “open counties”
- PCOs
- Beekeepers
- FDACS Staff
- Farmworker Community
- Dairies



FDACS Mosquito Control Support Regions



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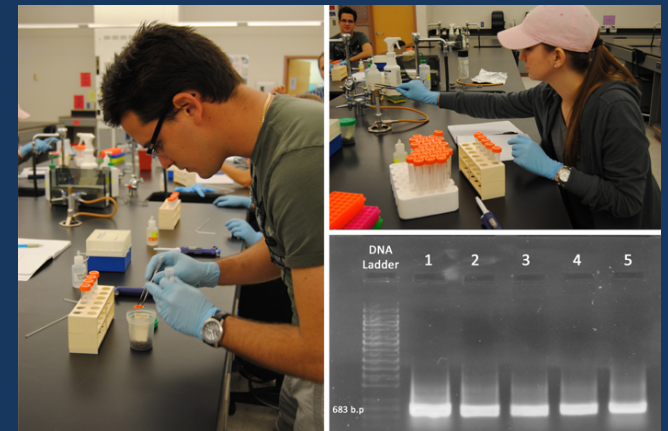
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FDACS Zika Response

- Provided BG Sentinel Traps to MCPs
- Bronson Animal Disease Diagnostic Laboratory (BADDL)
- Multiplex RT-PCR assay for rapid detection of Zika, Dengue, and Chikungunya viruses.



0 0.25 0.5 1 Miles

Positive Mosquito Pools

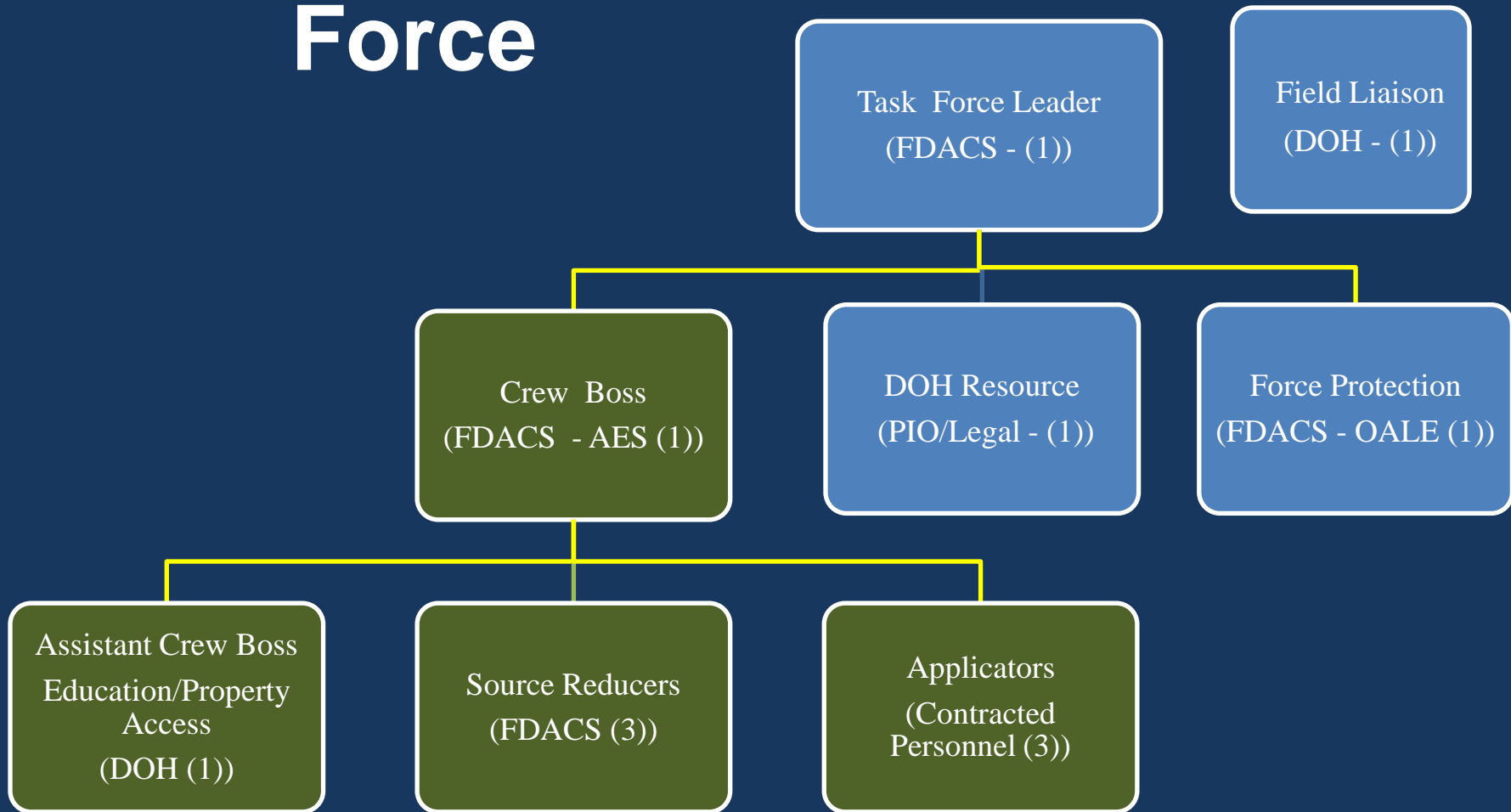
Positive Pool Number	Date Collected	Number of mosquitoes in pool
1	8/22/16	39
2	8/23/16	25
3	8/23/16	40
4	9/4/16	50
5	9/9/16	21
6	9/20/16	23
7	9/23/16	1
8	10/5/16	13

2016 State Response Plan

- Implemented an Incident Command Structure.
- Developed a control strategy for state level response.
- Developed a strategy to assist in situations where a program/county cannot properly respond.



Task Force





2016 Hurdles

- Resource constraints
- Public perception of pesticides- naled, pyrethroids and Bti
- Accessing private property for source reduction
- Lack of specific location of cases - increases cost
- Convincing citizens to take action
- Funding and spending constraints- vehicles
- Misconceptions- role of the BG traps

Zika 2017

- Encourage MCPs to work proactively
 - Early season interventions to maintain low populations
- Continue to provide technical support to MCPs and monitor programs as they respond to cases
- Continue to work with FDOH to facilitate supplemental funding
- Provide technical assistance and incident response



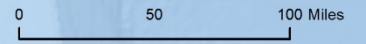
Number of travel-related infections of Zika: 27

Number of locally acquired infections of Zika in Florida: 2

Undetermined: 2

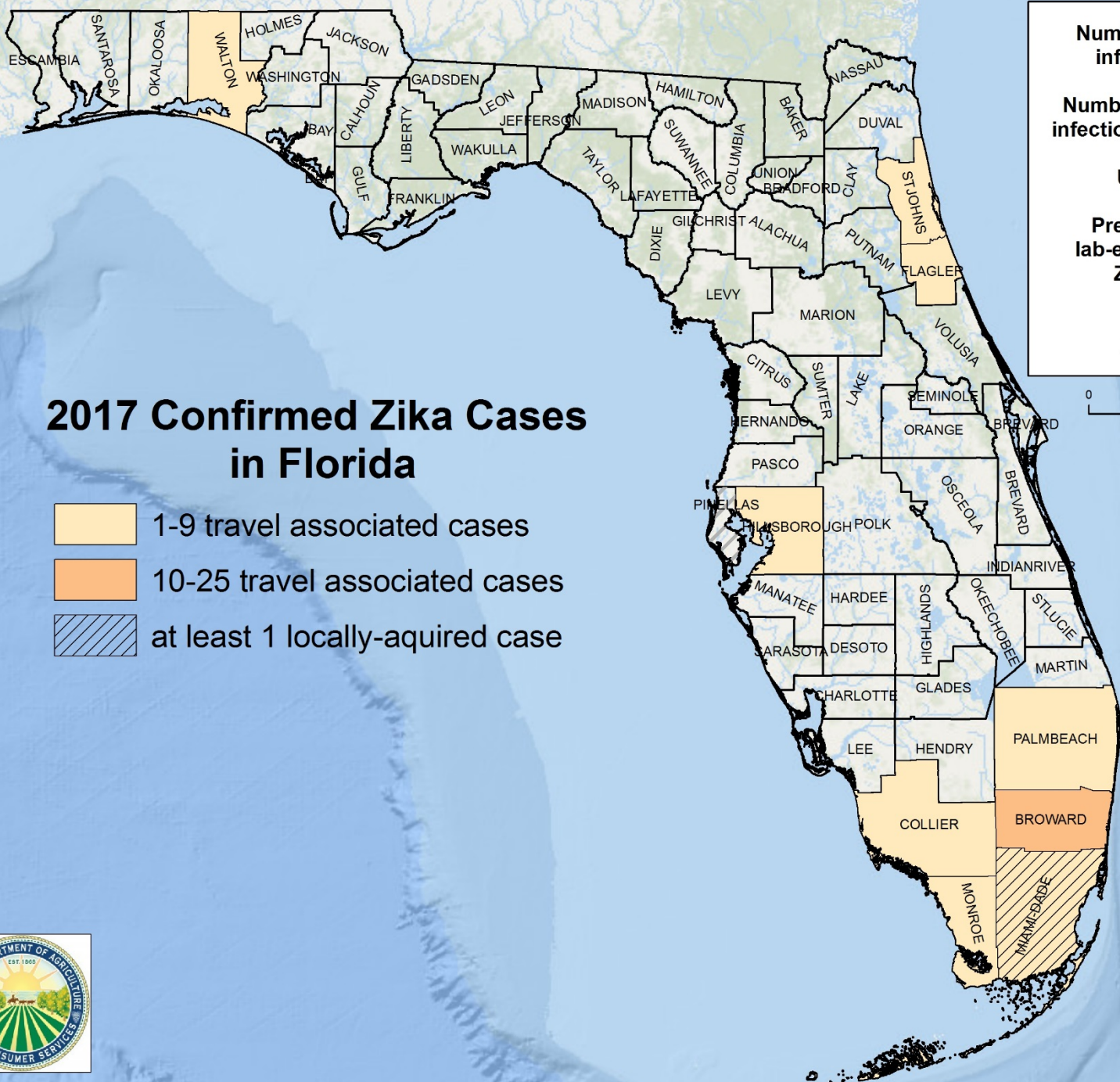
Pregnant women with lab-evidence of possible Zika infection: 15

As of 3/23/2017



2017 Confirmed Zika Cases in Florida

- 1-9 travel associated cases
- 10-25 travel associated cases
- at least 1 locally-acquired case



What can you do?

- Eliminate water holding containers around your home
 - Drain, discard or destroy containers
 - Clean gutters
 - Flush bromeliads and bird baths out every 3-5 days
 - Stock ponds w/ fish and keep pump running



What can you do?

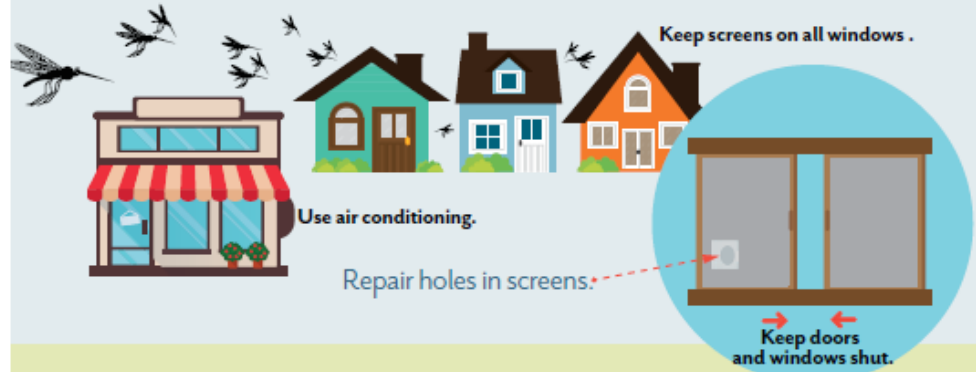
- Keep mosquitoes outside
 - Use/repair screens on all windows/doors
 - Use air conditioning
- Wear protective clothing
- Use insect repellent in accordance with label



Take Home Message:

www.floridahealth.gov

Keep mosquitoes **outside**



Stop mosquitoes from **breeding**



Questions?

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