

# **Department of Solid Waste Management Mosquito Control and Habitat Management Division**

**Dr. William Petrie, Division Director**

# Mosquito Control Overview



## Miami-Dade Mosquito Control and Habitat Management Division

- Providing mosquito control services since 1935
- Proactive surveillance and monitoring
- Targeted and area-wide treatment activities
- Year-round operations

# Mosquito Control: What We Do



- Targeted inspection and larvicide/adulticide application in response to service requests
  - Door-to-door approach
  - Handheld and backpack sprayers
  - Larvicide granules
  - Draining containers w/ standing water
- Leave-behind information
  - Door hangers
  - Brochures
  - Outreach Activities

# Mosquito Control: What We Do



- Truck / Aerial Spraying
  - Used when surveillance data indicates mosquito counts exceed existing standards
  - Used in 2016 for *Aedes aegypti* mosquito – Zika vector
  - Truck spray schedule online at [www.miamidade.gov/mosquito](http://www.miamidade.gov/mosquito)

# Mosquitoes & Mosquito-Borne Illnesses

A few species of mosquitoes create sufficient annoyance that require control measures. In addition to their annoyance, mosquitoes can also potentially transmit diseases such as:

- West Nile Virus
- Dengue Fever
- Encephalitis
- Malaria
- Dog heartworm
- Chikungunya
- Yellow Fever
- Zika

# All About Mosquitoes

- 48 species in Miami-Dade County
- Three main species that we typically see and are concerned with:



Credit: U.S. Department of Agriculture

*Aedes aegypti*  
(Yellow Fever / Zika  
Mosquito)



*Aedes albopictus*  
(Asian Tiger Mosquito)



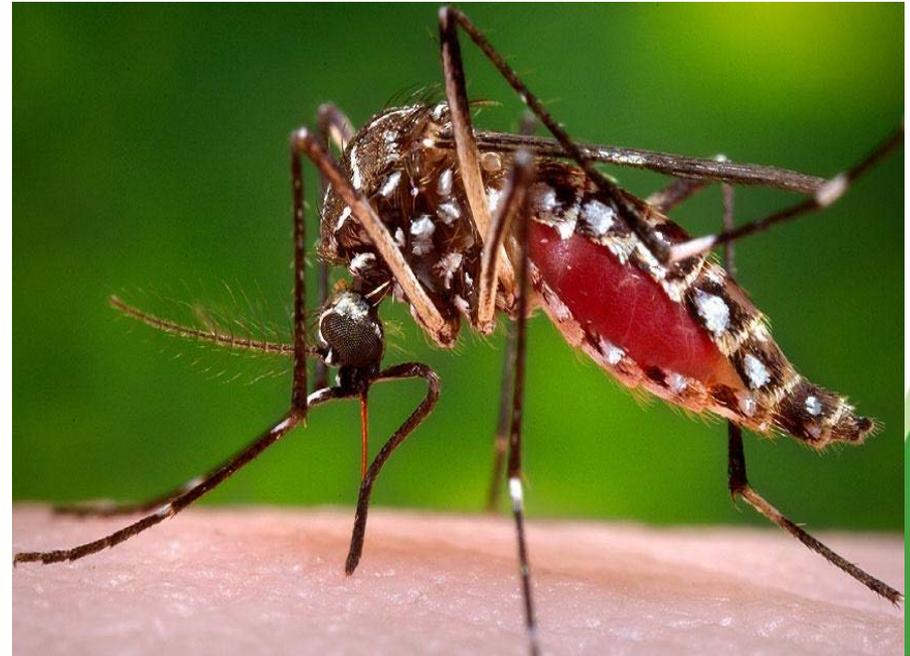
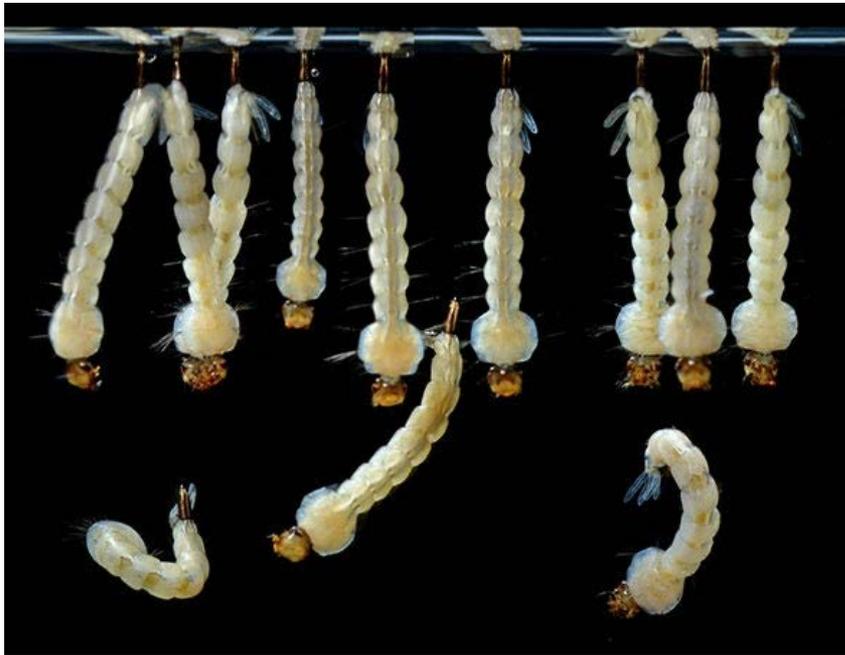
*Aedes taeniorhynchus*  
(Salt Marsh Mosquito)

# Mosquitoes and Construction Sites



# Mosquitoes and Construction Sites

Disease-spreading *Aedes aegypti* mosquitoes can breed in nearly any container that holds water. This can include items around a construction site, such as concrete floors, elevator pits, water-filled jersey barriers, construction dumpsters, five-gallon buckets, 55 gallon drums, empty cans and bottles, old plumbing fixtures, and the like.



# Water-filled Construction Barriers



Water-filled construction barriers can breed mosquitoes. Even when empty, rainwater can enter through cracks or an open drain plug.

How to reduce mosquitoes at construction sites:

- Treat them with a commercially available mosquito larvicide that contains Bti (*Bacillus thuringiensis israelensis*), methoprene (IGR), larviciding oil.
- Consider drilling several holes in the bottom of the barriers so they can drain.
- Fill the barriers with sand instead of water.



# Roll-off Containers

Mosquitoes take about one week to go from egg to adult. Roll-off containers must be emptied at least once per week to interrupt the mosquito life cycle, or treat the water with a suitable insecticide to eliminate.



# Other Breeding Containers

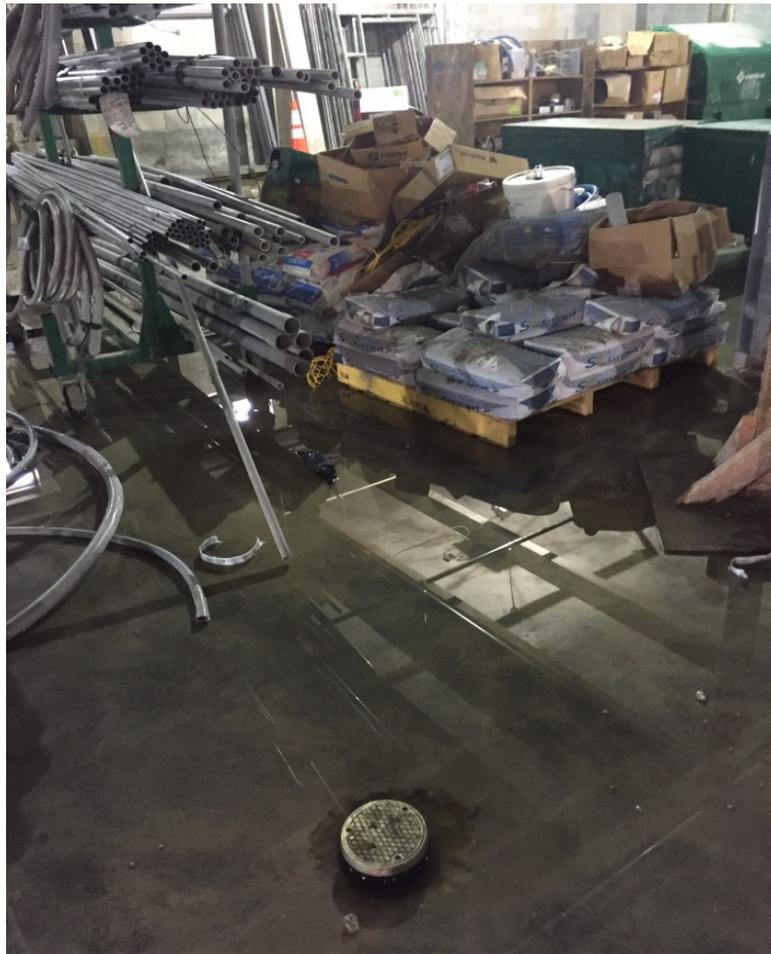
Five-gallon buckets, old plumbing fixtures, and other small containers

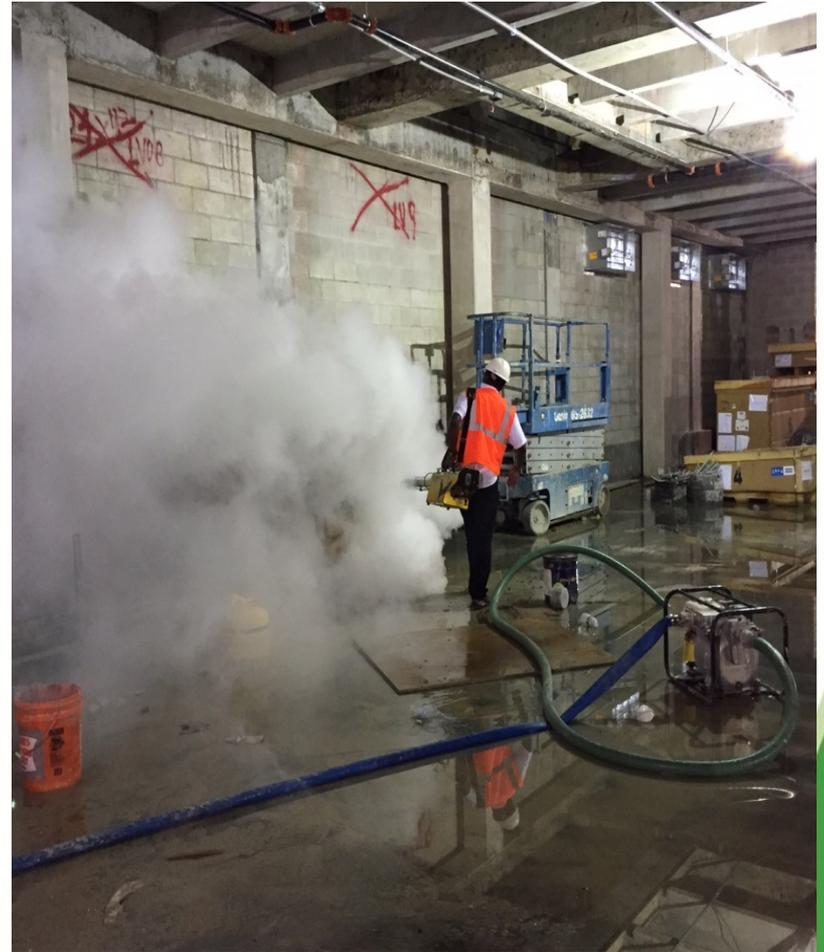
How to keep five-gallon buckets, hard hats, old plumbing fixtures, and other small containers from breeding mosquitoes:

- Turn buckets upside down when not in use; store them where they can't fill up with rainwater.
- Discard or eliminate broken or damaged hard hats. Otherwise, store hard hats where they can't be filled with rainwater.
- Remove any unnecessary small containers, and place those you need where they can't fill up with rainwater.
- Discard or eliminate old bathtubs, sinks, toilets, or other plumbing fixtures. If you need to keep them onsite, cover them or store them where they can't fill up with rainwater.

# **Cans, bottles and other food and beverage containers**

- Provide workers with a container or bag for proper disposal of cans, bottles and food or beverage containers when they're done.
- Mosquitoes can lay eggs in an item as small as a bottle cap from a water or soda bottle.











# Protect workers from mosquito bites

Make sure workers wear long sleeves, long pants and socks, and put on mosquito repellent.



# Code Enforcement

- Chapter 26A-2.1 of the Code of Miami-Dade County.

Prohibition of nuisance. “It shall be a violation of this section for any person to allow the existence of, create, keep, or maintain an artificially induced mosquito breeding area”. (Five mosquitoes in the larval stage)

- Violators are allowed five (5) days for correction without penalty. (These are reduced to two (2) days under a medical alert or state of health emergency).
- A \$200 per day citation is issued on the 6th day if violation is not corrected.
- After the 5th day, the division takes corrective action to abate the violation.
- The property owner is responsible for all costs involved in the abatement and enforcement process.
- A lien may be filed if the owner fails to pay for costs

# Closing

- Going Forward
  - Dedicated Mosquito Control public information staff, additional support staff and inspectors
  - Dedicated social media accounts @305mosquito
  - New technologies to keep stakeholders informed utilizing GIS and mobile inspection reporting
  - Enhanced “off-season” education and outreach
  - Continual “Drain and Cover” & “Fight the Bite” promotional efforts

# Thank You

**Questions?**