



GARLAND

**MOSQUITO ABATEMENT,
SURVEILLANCE & DISEASE CONTROL**

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Current Activities

Current mosquito control activities fall into two broad categories

- Special mosquito abatement activities in response to the unprecedented rainfall & flooding
- Routine surveillance and abatement activities designed to minimize the incidence of West Nile Virus (WNV)

Flood Response

- In response to the flooding rains, the Environmental Health Staff suspended most routine activity to focus on treating residual flood water with larvicide, which kills mosquitoes in the larval stage before they develop into biting adults
- The larvicide used will last approximately 30 days, plenty of time for most floodwaters to dry-up under normal June weather conditions

Floodwater Mosquitoes – Abatement

- Staff focused on treating standing water in the 62 city parks and in unimproved alleys throughout Garland
- The process was completed on June 10 after six full days of fieldwork
- Citizen complaints regarding standing water are included in this initiative as is a public outreach component to enlist the public's help in eliminating standing water on private property
- Treating residual flood waters with long acting larvicide will also help reduce WNV disease carrying mosquitoes that would otherwise breed in residual waters that become stagnant

Mosquito Larvae in Standing Water



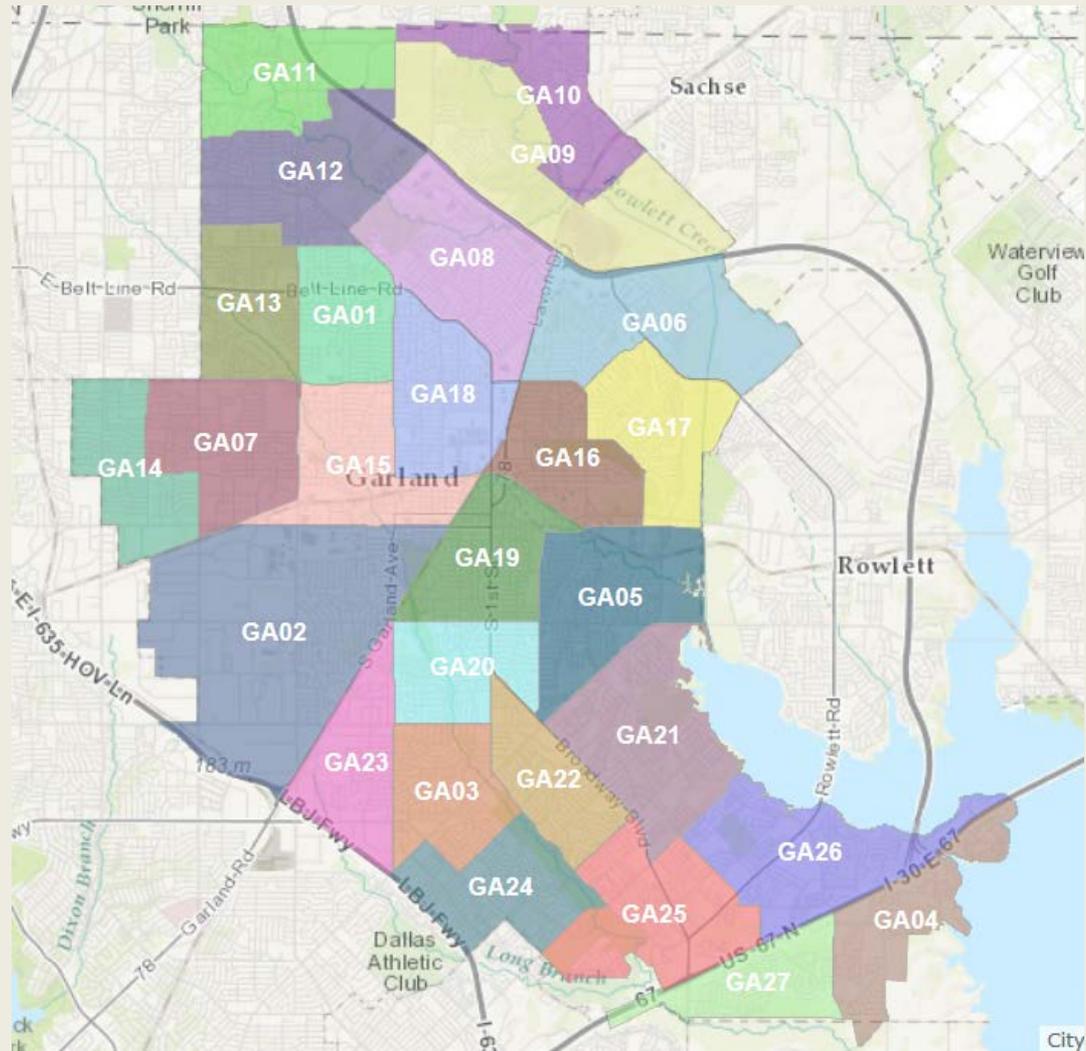
Larviciding Activity



Larviciding Activity



WNV Disease Surveillance & Abatement



WNV Disease Surveillance & Abatement

- In 2014, Staff divided the city into 27 Mosquito Management Areas (MMA) in response to CDC recommendations based on the historic 2012 WNV outbreak
- Surveillance involves the placement of mosquito traps at a fixed site in each MMA weekly from April-October
- Surveillance continues through the winter months at a reduced rate

Mosquito Trap



WNV Disease Surveillance & Abatement

- Staff uses truck mounted ultra low volume (ULV) applicators to spray adulticide targeting mature mosquitoes under the following circumstances:
 1. A trap count of 100+
 2. Laboratory confirmation of the presence of WNV in a mosquito trap
 3. Reports of a suspected or confirmed WNV human case

ULV Spray Apparatus



ULV Spray Apparatus



WNV Disease Surveillance & Abatement

- Twice per year, Environmental Health Specialists collect egg rafts for the purpose of resistance testing
- Resistance testing helps to determine if the local mosquito population is developing resistance to a particular pesticide
- Thus far, resistance testing in Garland indicates a high susceptibility to the pesticide currently used to spray for adult mosquitoes

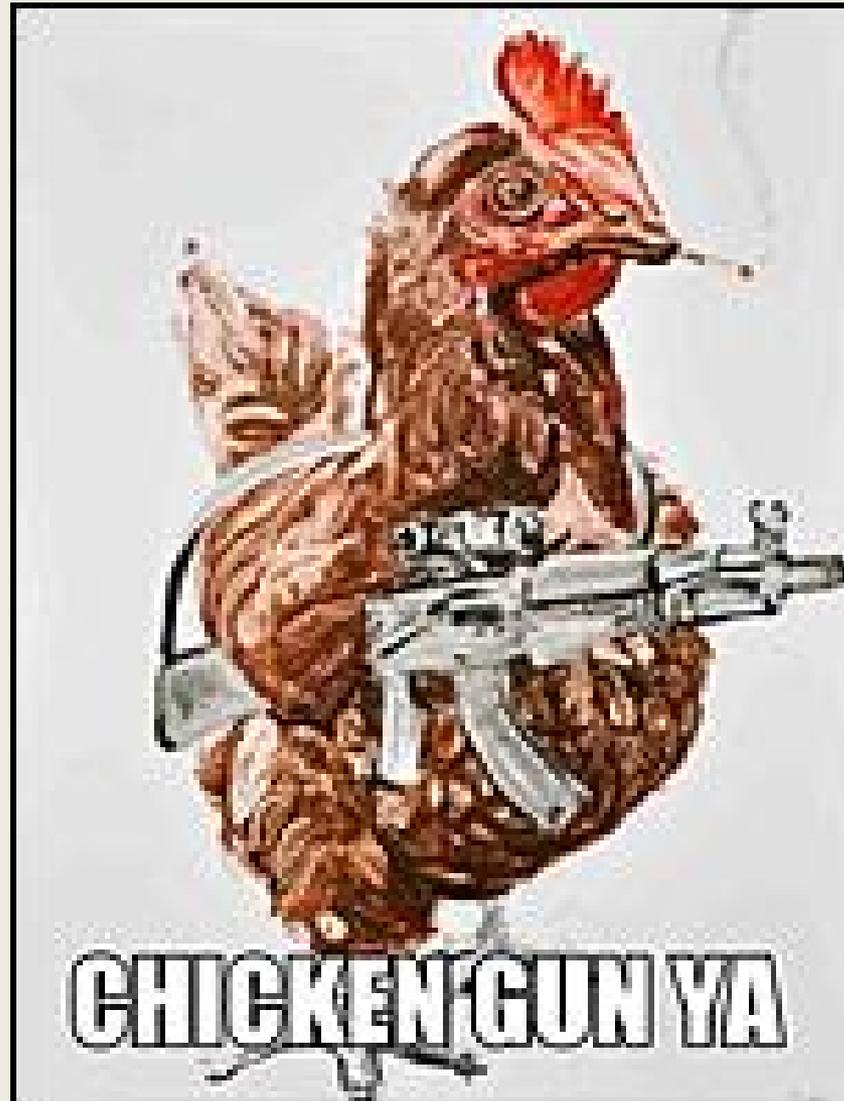
Culex quinquefasciatus Egg Rafts



WNV Disease Surveillance & Abatement

- When the application of adulticide is warranted, staff sprays the entire MMA twice (on consecutive nights if possible) to disrupt the mosquito life cycle
- Environmental Health staff also respond to reports of stagnant water on a continuous basis as part of the WNV disease abatement program
- YTD 2015, 6 mosquito pools within Dallas County have tested positive for WNV, 1 in Garland (GA09)
- Seven traps have captured 100+ mosquitoes since mid-May and staff is in the process of spraying those grids

Potential Emerging Threat



Chikungunya

- The name can be translated as “that which bends ”
- A mosquito borne disease endemic to Africa & Asia
- Spread human to human by *Aedes aegypti* & *Aedes albopictus* mosquitoes
- First reported in the Caribbean in 2013
- Since 2013 there have been more than 1.2 million suspected cases reported in the Americas

Chikungunya

- Symptoms include fever, joint & muscle pain, headache, joint swelling and rash
- The disease does not often result in death, but symptoms can be severe and unlike WNV, many people infected experience symptoms (38% - 63%)
- GHD has investigated 2 imported cases (people who were infected during travel) in Garland
- GHD is working with other jurisdictions on a uniform regional plan to prepare to respond to this emerging threat



GARLAND

Questions?