

Memorandum



CITY OF DALLAS

DATE February 19, 2016

TO Honorable Members of the Quality of Life & Environment Committee: Sandy Greyson (Chair),
Tiffinni A. Young (Vice Chair), Rickey D. Callahan, Mark Clayton, Philip T. Kingston, B. Adam McGough

SUBJECT **2016 Mosquito Abatement Plan**

On Monday, February 22, 2016, the Quality of Life & Environment Committee will be briefed on the 2016 Mosquito Abatement Plan.

In prior seasons, the City's Mosquito Abatement Program is briefed in late March/early April; however, this season, the start of the public education campaign, which is described in the briefing, will begin March 1st due to the emergence of the Zika virus. The briefing is attached for your review.

Please contact me if you have any questions or need additional information.

A handwritten signature in blue ink that reads "Joey Zapata".

Joey Zapata
Assistant City Manager

Attachment

c: Honorable Mayor and Members of the City Council
A.C. Gonzalez, City Manager
Warren M.S. Ernst, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
Ryan S. Evans, First Assistant City Manager

Jill A. Jordan, P.E., Assistant City Manager
Eric D. Campbell, Assistant City Manager
Mark McDaniel, Assistant City Manager
Jeanne Chipperfield, Chief Financial Officer
Sana Syed, Public Information Officer
Elsa Cantu, Assistant to the City Manager – Mayor & Council

2016 Mosquito Abatement Plan

QUALITY OF LIFE &
ENVIRONMENT COMMITTEE
FEBRUARY 22, 2016



Outline

- Background
- Mosquito-borne Viruses Action Plans
 - West Nile Virus (WNV)
 - Zika
 - Chikungunya (CHIK-V)
- Public Education
- Mosquito Surveillance / Environmental Mitigation
- Spray and Notification
- Additional Preparedness Efforts

Background

Mosquito Abatement Unit of Code Compliance

- The City follows Centers for Disease Control and Prevention (CDC) guidance to conduct public education, monitoring, surveillance and treatments to guard against mosquito-borne diseases
- The City partners with Dallas County to act as the Health Authority as well as the State and the Centers for Disease Control (CDC)
- April 1 – October 31 is our active season and this briefing serves to update Quality of Life & Environment Committee

Background

Mosquito Abatement Unit of Code Compliance

- Deploy traps and collect samples for testing
- Treat standing water with larvicide when it cannot be drained
- Issue a Notice of Violation (NOV) to correct stagnant pools – treat if home is unoccupied
- Conduct ground-based spraying on positive test results
- Educate citizens on preventive measures
- Train other Departments in the City to increase awareness of standing water

Background

Mosquito Abatement Unit of Code Compliance

- Highlights of the FY 2015-16 Program
 - 90+ traps deployed/collected weekly
 - Ground spraying within 5-7 hours of notification
 - Public outreach expanded
 - 4Ds initiative
 - 311 SRs
 - Radio campaign
 - Maintain a larvicide list (over 1,500 sites)
 - Texas Health & Safety Code allows staff to treat abandoned swimming pools

Background

WNV

- Detected in North America in 1999
- Arbovirus transmitted to people by mosquitoes
- *Culex* species mosquitoes transmit WNV
- WNV cycles between mosquitoes and birds
- Mosquitoes most active from dusk to dawn

Background

Zika, Chik-V and Dengue

- Found in tropical regions such as Central, South America and the Caribbean
- Transmitted by Aedes species
- Aedes species are aggressive daytime bitters, they live indoors and outdoors near people (primarily in your yard)
- Only imported cases of Zika have been confirmed in US
- Zika virus may be spread by sexual contact with a person infected with the Zika virus
- Take necessary travel precautions

Background

WNV Human Cases, Dallas County & City of Dallas

WNV Cases	2012	2013	2014	2015
Dallas County	398	16	10	23
City of Dallas	211	7	8	14

WNV Deaths	2012	2013	2014	2015
Dallas County	21	2	0	1
City of Dallas	9	1	0	1

Background

Chik-V & Zika Cases, Dallas County

	2013	2014	2015	2016
Chik-V (Imported)	0	0	8	0
Zika (Imported)	0	0	0	3

2016 Mosquito Abatement Action Plan

Primary Focus – Proactive Prevention

Action	2016 Plan
Public information	Radio, television, billboards, Internet, phone calls, water bill inserts, neighborhood outreach & free mosquito dunks & repellent to City of Dallas residents
Standing water complaint turnaround	Respond within 1 day
Mosquito traps	90 traps
Lab results turnaround	3-5 days for PCR only and 5 to 7 days for cell cultures
Action thresholds plan	Joint plan is in place and will be updated as needed in coordination with Dallas County
Truck-mounted sprayers	5 Trucks
Emergency Management Plan	To be implemented during declared emergency
Aerial spraying plan	Guidance from Dallas County and the CDC

Public Education

Mosquito-borne viruses public education efforts

- Billboards and radio spots
- Social media, Internet and e-mail blasts
- News releases
- Street median signs and outreach at community meetings and events
- Free mosquito dunks & mosquito repellent to City of Dallas residents
- Water Conservation outreach

Public Education

Emphasize the “4-Ds” of prevention

- Drain or treat standing water
 - Empty flower pots, bird baths, wading pools, etc.
 - A teaspoon of water can serve as a breeding place for mosquitoes
- Avoid outdoor activity at Dawn/Dusk
- Use mosquito repellent (DEET)
 - All Day, Every Day
 - Follow label instructions
- Dress with long sleeves, pants

Mosquito Surveillance

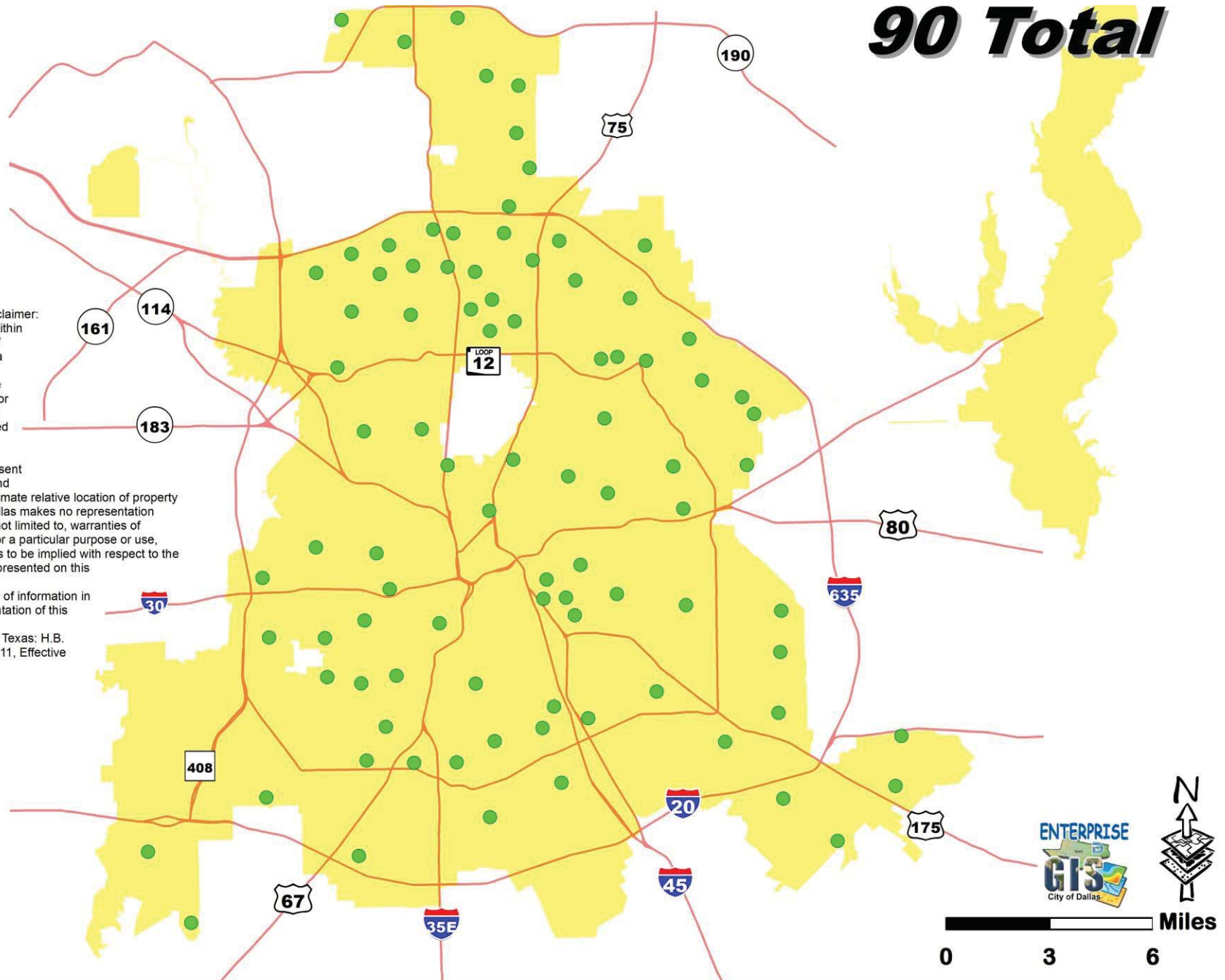
Mosquito trapping and testing

- Maintain 90 traps on a weekly basis during mosquito season (May-Oct)
- Contractor used to sort samples, trapping and testing
- 45 traps sent to Dallas County Health & Human Services (DCHHS) per week
- 45 traps sent to the Texas Department of State Health Services (DSHS) per week
- Special traps

2016 Gravid Trap Recommendations 14

90 Total

City of Dallas GIS Map Disclaimer:
The accuracy of this data within this map is not to be taken / used as data produced by a Registered Professional Land Surveyor for the State of Texas.* "This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. The City of Dallas makes no representation of any kind, including, but not limited to, warranties of merchantability or fitness for a particular purpose or use, nor are any such warranties to be implied with respect to the accuracy information/data presented on this map.
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City of Dallas GIS* State of Texas: H.B. 1147 (W. Smith) – 05/27/2011, Effective on 09/01/2011



Environmental Mitigation

Use of EPA-approved products to reduce mosquito larvae populations (larvicide)

- Insecticide used specifically for the larval life stage of a mosquito
- Used in breeding sites (abandoned pools, bird baths, tires, any areas that have standing water, etc.)
- Mosquito Dunks are a form of larvicide
- Does not kill adult mosquitoes

Environmental Mitigation

Use of EPA-approved products to reduce adult mosquito populations (adulticide)

- The City uses Pyrethroid (Aqualuer 20-20) for ground spraying
- Product is mixed with water
- “Do not Spray” list

Spray & Notification

Spray Guidelines for WNV

- Trap locations with “high trap count”
- Mosquito pool has tested positive for WNV – ½ mile radius
- Confirmed human case of WNV in the City of Dallas and positive mosquito pool in the same area
 - Team will investigate the area of the human case to identify any breeding sites/sources
 - Multiple human cases of WNV within ½ mile radius

Spray & Notification

Spray Guidelines for Zika & CHIK-V

- Confirmed human case in the City of Dallas by Dallas County Health & Human Services
- Travel or locally acquired
- Conduct mosquito surveillance in the area around the human case
- Identify mosquito or vector activity
- Spray activity based on surveillance

Spray & Notification

Spray Guidelines

- WNV
 - Spray between 9:00 PM and 5:00 AM
 - Spray activities begin within 5-7 hours after notification by lab
- Zika & CHIK-V
 - Spray activities based on surveillance
 - Spray during the day

Spray & Notification

Impact of delayed notification

- It takes 7-10 days for a mosquito to complete its life cycle from egg to adult mosquito
- Traps set on Mon/Tue, collected Wed/Thu and results on Thu/Fri
- Additional delays may result in higher mosquito populations



Spray & Notification

Notification

- Signs posted in the area to be sprayed (day time spraying of storm water inlets, Zika and CHIK-V)
- Radio Ads begin in March
 - Announce start of mosquito season
 - Emphasize the 4-D's
 - Spray guidelines
- News release of spray activities
- Spray activity maintained on the City of Dallas website

Additional Preparedness Efforts

WNV, Zika & CHIK-V Action Threshold Plans

- Zika Virus Task Force – continue to meet weekly
- Joint plan with Dallas County that allows for uniform response for public information, education, testing, and spraying efforts
- Phased response plan for public education, mitigation and surveillance efforts based on increasing risk of infections

Questions?

M. CHIKV, Dengue, and Zika Action Thresholds	Risk Level One – Normal Response		
	Conditions: Probability of human outbreak is low (Year-round status in the absence of escalating triggers)		Trigger: Normal mosquito activity with no imported cases
	Surveillance	Information/Education	Control Measures
	<ul style="list-style-type: none"> Routine monitoring of cases by DCHHS Epidemiology Division Monitor larval and adult mosquito bionomics (dip counts and trap surveillance) 	<ul style="list-style-type: none"> Public education and community outreach programs focused on risk potential, personal protection and residential source reduction 	<ul style="list-style-type: none"> Source reduction through physical and environmental measures Biological – mosquito fish Larvicides (surface oils, biorational bacterial products and insect growth regulators)
	Risk Level Two – Public Health Advisory		
	Conditions: Probability of outbreak is moderate		Trigger: Imported / travel human cases
	Surveillance	Information/Education	Control Measures
	<ul style="list-style-type: none"> Deploy BG Sentinel traps 	<ul style="list-style-type: none"> Public health advisory released Advise the public and emphasize source reduction, personal protection and disease symptoms Notify Police and Fire Departments of scheduled treatments 	<ul style="list-style-type: none"> Consider structural-barrier backpack sprayer treatment Consider source reduction, larvicide and thermal fog control Consider ground-based ULV adulticide applications
	Risk Level Three – Public Health Warning		
	Conditions: Probability of outbreak is high		Trigger: Locally acquired case
	Surveillance	Information/Education	Control Measures
	<ul style="list-style-type: none"> Deploy BG Sentinel traps 	<ul style="list-style-type: none"> Public health warning released Warn the general public of the probability of disease and provide guidance 	<ul style="list-style-type: none"> Implement control measures listed in Risk Level Two above Contact vendor for possible aerial treatment(s)
Risk Level Four – Public Health Emergency			
Conditions: Human outbreak is confirmed		Trigger: Multiple human cases confirmed	
Surveillance	Information/Education	Control Measures	
<ul style="list-style-type: none"> Continued mosquito surveillance in areas of confirmed human cases or mosquito traps 	<ul style="list-style-type: none"> Public health emergency considered Declaration of public health emergency/distribution of emergency alerts 	<ul style="list-style-type: none"> Continue adulticide applications in areas of clustered human cases or mosquito traps Recommend aerial adulticide applications in targeted areas 	

M. WNV Action Thresholds	Risk Level One – Normal Response		
	Conditions: Probability of human outbreak is low (Year-round status in the absence of escalating triggers)		Trigger: Normal mosquito activity: no infected mosquitoes detected
	Surveillance	Information/Education	Control Measures
	<ul style="list-style-type: none"> Routine mosquito surveillance Monitor larval and adult mosquitoes Test adult mosquitoes for disease 	<ul style="list-style-type: none"> Public education and community outreach programs focused on risk potential, personal protection and residential source reduction 	<ul style="list-style-type: none"> Source reduction through physical and environmental measures Larvicides and biological (mosquito fish)
	Risk Level Two – Public Health Advisory		
	Conditions: Probability of human outbreak is moderate		Trigger: Virus detected in mosquitoes
	Surveillance	Information/Education	Control Measures
	<ul style="list-style-type: none"> Expand mosquito surveillance in areas of positive traps 	<ul style="list-style-type: none"> Public health advisory released Continue to emphasize source reduction, personal protection and symptomology to the public Post scheduled truck treatments 	<ul style="list-style-type: none"> Ideally, truck ULV adulticide applications multiple times / week around positive trap location for up to one month, with continued mosquito surveillance Larvicide around virus detected traps
	Risk Level Three – Public Health Warning		
	Conditions: Probability of human outbreak is high		Trigger: Multiple mosquito traps from different dates and locations; and/or confirmed human case(s)
	Surveillance	Information/Education	Control Measures
	<ul style="list-style-type: none"> Expand surveillance activities Trap in area of confirmed human cases 	<ul style="list-style-type: none"> Public health warning released Warn the general public of the probability of disease and provide guidance 	<ul style="list-style-type: none"> Calibrate truck ULV adulticide at mid to maximum label rate Continue truck applications in response to positive traps and expand areas as needed Truck ULV application if infected mosquitoes are trapped in areas of confirmed human case(s) Contact vendor for possible aerial treatment(s)
Risk Level Four – Public Health Emergency			
Conditions: Human outbreak is confirmed		Trigger: Increased human cases confirmed with continued and/or increased number of positive traps	
Surveillance	Information/Education	Control Measures	
<ul style="list-style-type: none"> Continued mosquito surveillance in areas of confirmed human cases 	<ul style="list-style-type: none"> Public health emergency released Declaration of public health emergency/distribution of emergency alerts 	<ul style="list-style-type: none"> Continue truck ULV applications in areas of clustered human cases and positive mosquito traps Schedule aerial adulticide application in targeted zones for potential treatment 	

- Once a sample positive for WNV has been identified, Dallas County Mosquito Control will notify the city the trap originated in and schedule a ground spraying mission within the MMA.
- All ground spraying missions will be conducted as soon as possible following positive confirmation and will be executed between 9 p.m. and 5 a.m.

*Updated January 8, 2015