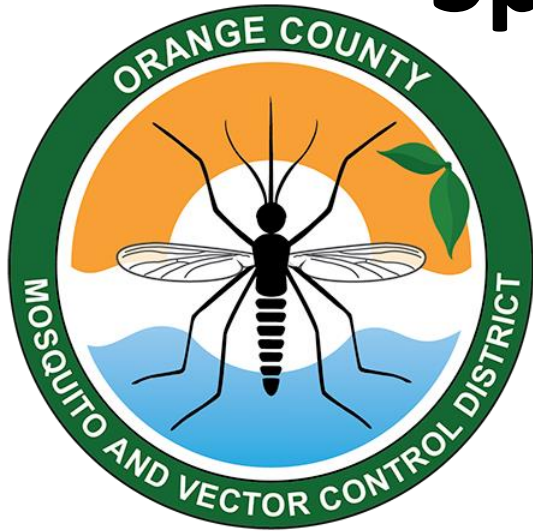


Protection and Relief: Wide Area Larvicide Spray (WALS) Mosquito Control Project in La Habra



La Habra City Council Presentation

June 7, 2021 at 6:30 pm

Amber Semrow, MS
Director of Scientific Technical Services
Orange County Mosquito and Vector Control District



Mosquitoes

Southern House Mosquito

Culex quinquefasciatus



- West Nile virus
- St. Louis encephalitis
- Western equine encephalitis

Yellow Fever Mosquito

Aedes aegypti



- Zika
- Dengue viruses
- Chikungunya
- West Nile virus
- Dog heartworm
- Yellow fever

Asian Tiger Mosquito

Aedes albopictus



- Zika
- Dengue viruses
- Chikungunya
- West Nile virus
- Dog heartworm

Australian Backyard Mosquito

Aedes notoscriptus



- Dog heartworm

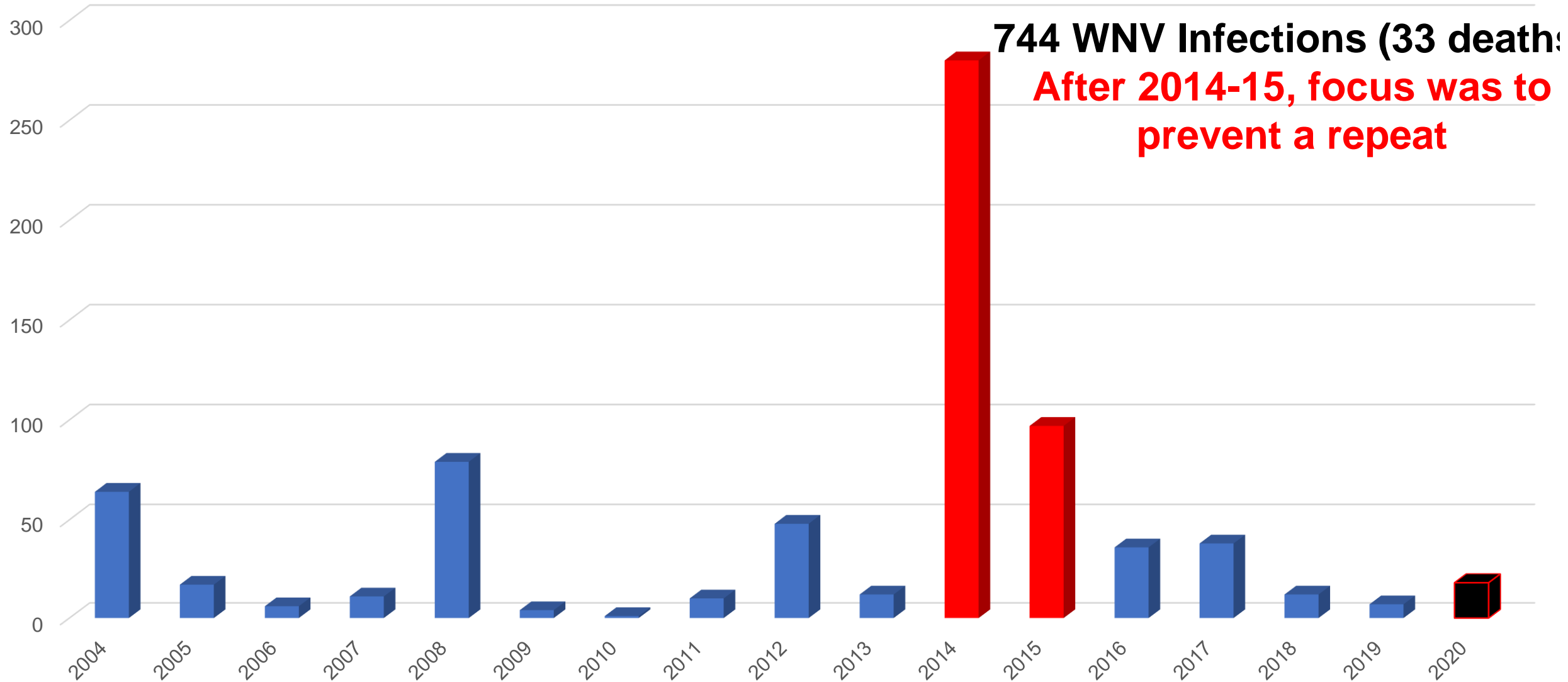




Changing our Quality of Life in Orange County



West Nile Virus in Orange County, 2004 - 2020

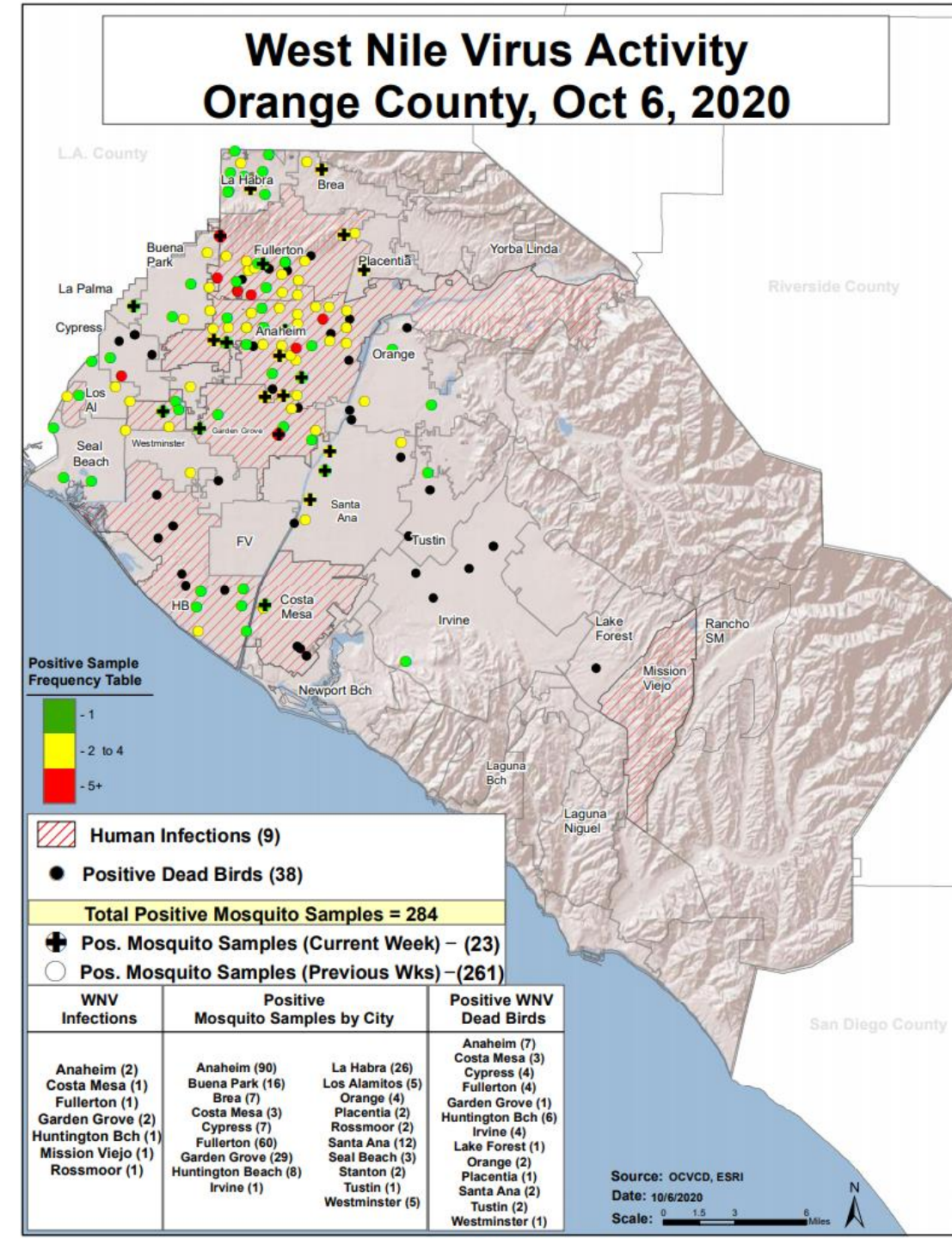


West Nile Virus in OC in 2020

- 284 WNV Positive Mosquito Samples
- 9 WNV Human Cases
- 38 Birds Tested Positive for WNV

In La Habra

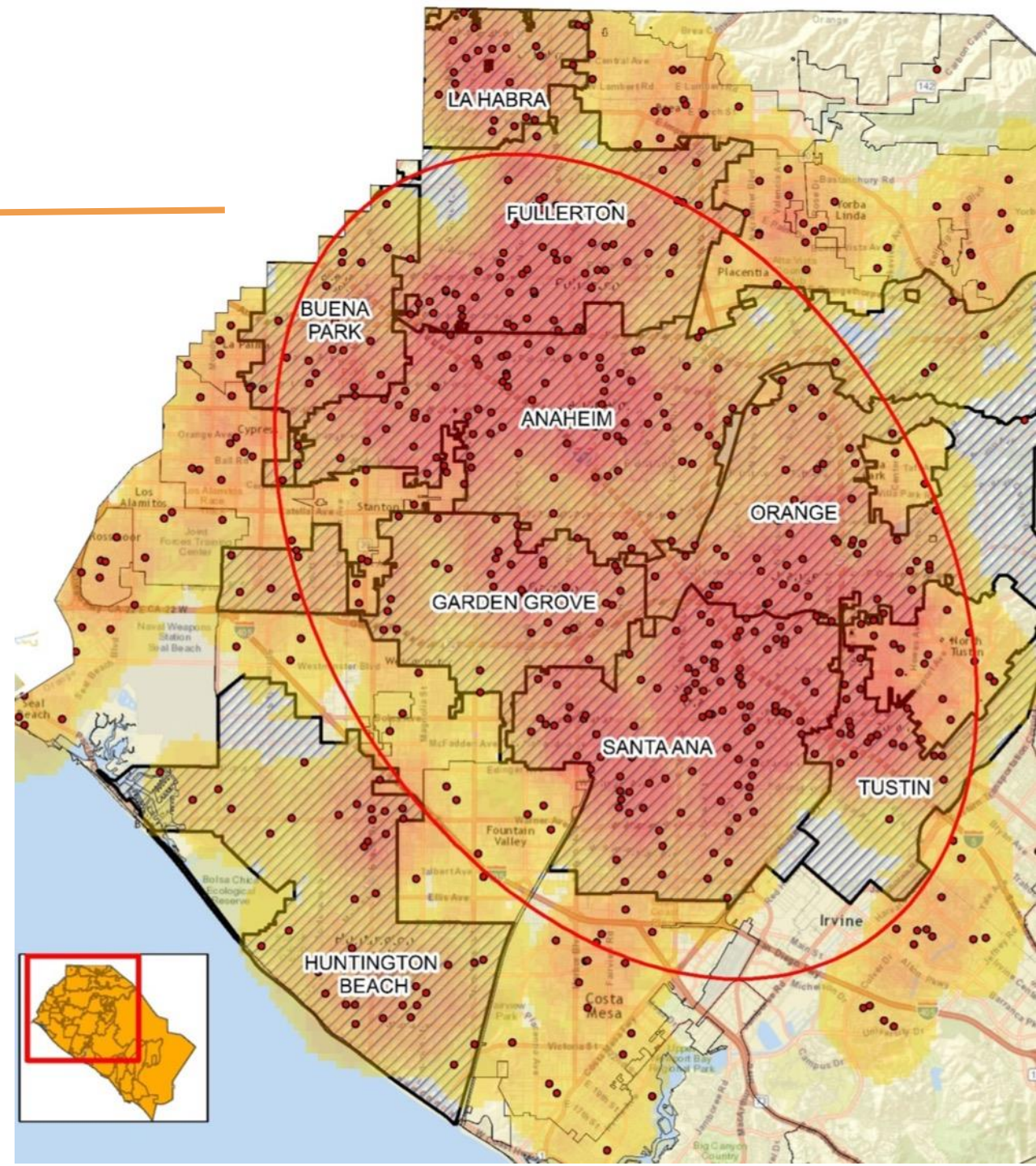
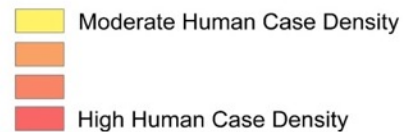
WNV Activity – 26 WNV Positive Mosquito Samples



High Risk 9 Cities

- Santa Ana
- Anaheim
- Fullerton
- Orange
- Garden Grove
- Huntington Beach
- Tustin
- **La Habra**
- Buena Park

WNV Nile Virus High Risk Areas
2004-2016
Hotspot Analysis



Integrated Vector Management

Early Intervention

- Advisory Notices
- Treatment of mosquito breeding sources
- Source Reductions
- Surveillance
- Emergency Response



PUBLIC HEALTH NOTICE



West Nile virus has been detected in this area



Adult mosquito control applications may occur if the area continues to have high West Nile virus activity

Follow these recommendations to protect yourself and your community:

- Dump or drain any standing water
- Repair window and door screens
- Apply repellent when outdoors
- Avoid spending time outdoors at dawn or dusk
- Report mosquitoes, dead birds, neglected swimming pools, ponds, and fountains



OCVECTOR.ORG | 714.971.2421

Invasive Aedes in Orange County



DAILY BREEZE | SIGN UP FOR NEWSLETTERS
E-EDITION
SUBSCRIBE + SUBSCRIBER SERVICES

NEWS + INVESTIGATIONS ▾ LOCAL NEWS ▾ SPORTS ▾ THINGS TO DO ▾ BUSINESS ▾ OBITUARIES ▾ OPINION

SEARCH

TRENDING: 3 burglary suspects arrested Arson charges after boat fire 'The Real Housewives of Orange County' Mosquito misery Pit bull kills small dog, awaits fa

NEWS

Meet the new Aedes mosquito spreading misery around a wide swath of Southern California

THE ORANGE COUNTY REGISTER | SIGN UP FOR NEWSLETTERS
E-EDITION
SUBSCRIBE + SUBSCRIBER SERVICES

NEWS ▾ NORTH OC NEWS ▾ SOUTH OC NEWS ▾ SPORTS ▾ OC VARSITY ▾ THINGS TO DO ▾ OBITUARIES ▾ OPINION

TRENDING: She helped capture Golden State Killer Friday football photos Milo Yiannopoulos plots UCI return 10-vehicle crash on 5 Freeway D

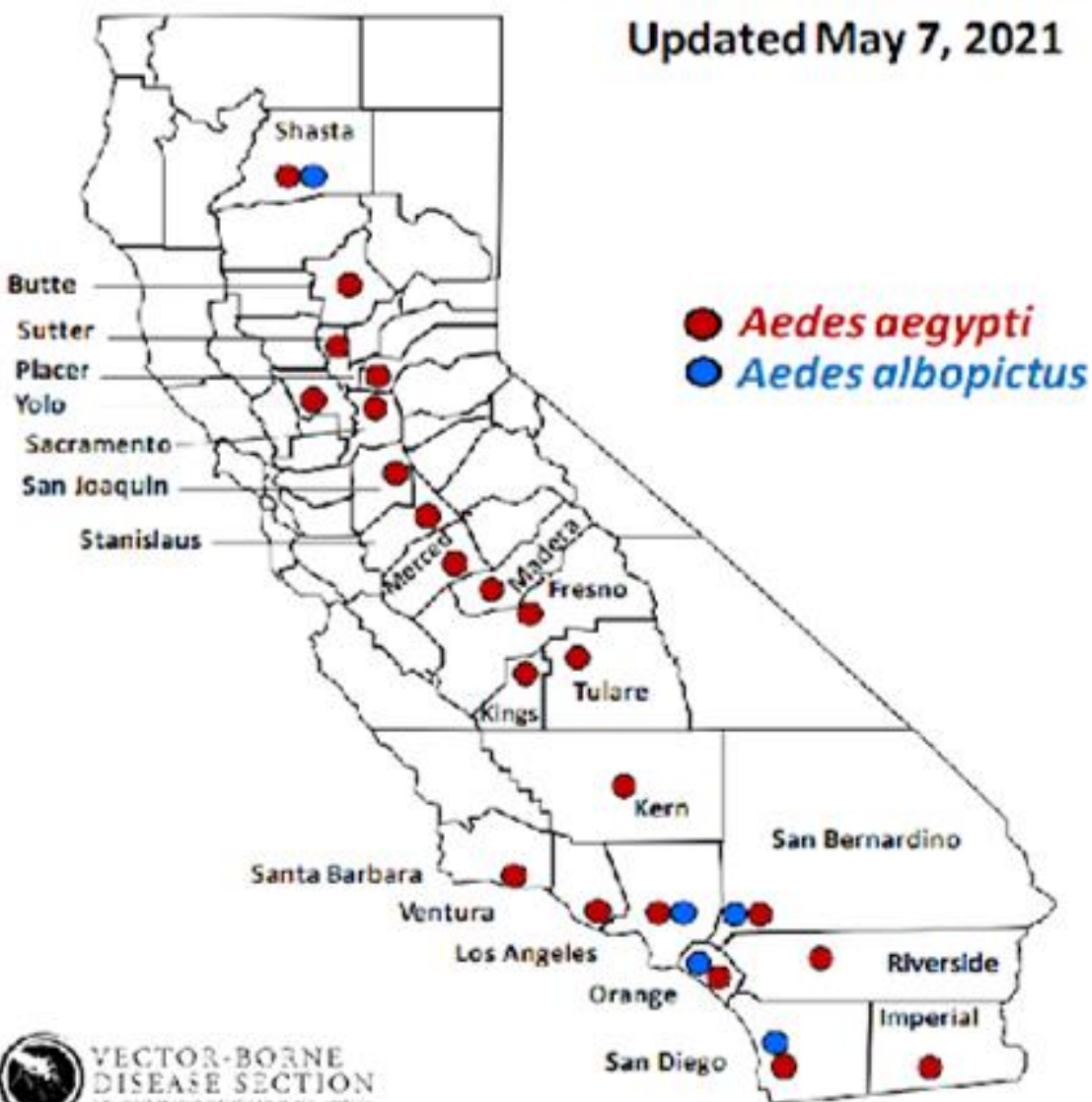
BREAKING NEWS Holy fire flares up near Santiago Peak, home of several communication towers August 27, 2018, 12:47 pm

NEWS

Increase in mosquito population throughout Orange County — particularly in Santa Ana — has vector officials on alert

Aedes aegypti and *Aedes albopictus* Mosquitoes in California by County/City

Updated May 7, 2021



Counties with

Aedes aegypti only:

Butte, Fresno, Imperial, Kern, Kings, Madera, Merced, Placer, Riverside, Sacramento, San Joaquin, Santa Barbara, Stanislaus, Sutter, Tulare, Ventura, Yolo

Both *Aedes aegypti* and

Aedes albopictus:

Los Angeles, Orange, San Bernardino, San Diego, Shasta

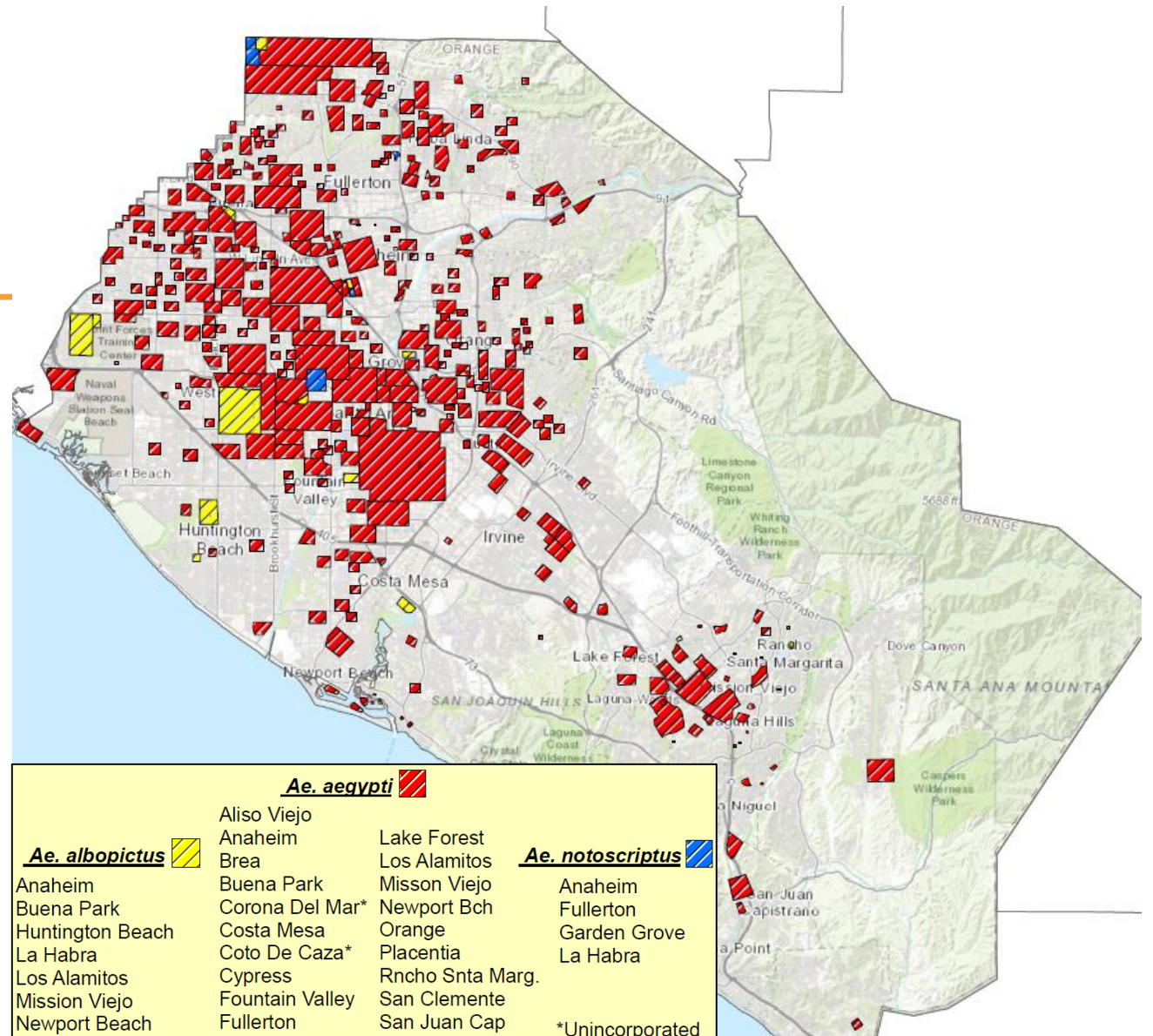
See pages 2 – 8 for *Aedes* detections by city or census-designated place in each county.

Orange County

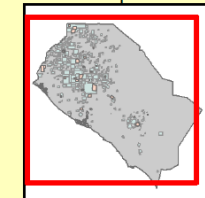
City or Census-designated Place	<i>Aedes aegypti</i>	<i>Aedes albopictus</i>
Garden Grove	Present	Present
Huntington Beach	Present	Present
Irvine	Present	
La Habra	Present	Present
La Palma	Present	
Laguna Hills	Present	
Laguna Niguel	Present	
Laguna Woods	Present	
Lake Forest	Present	
Los Alamitos	Present	Present
Mission Viejo	Present	Present
Newport Beach	Present	Present
North Tustin	Present	
Orange	Present	
Placentia	Present	
Rancho Santa Margarita	Present	
Rossmore		Present
San Clemente	Present	
San Juan Capistrano	Present	
Santa Ana	Present	Present
Seal Beach	Present	
Stanton	Present	
Tustin	Present	
Villa Park	Present	
Westminster	Present	
Yorba Linda	Present	

Invasive *Aedes* Mosquitoes

- 2015 Invasive *Aedes*
- Difficult to control, rapid spread
- 2020 – present in 32 of 34 cities
- Low public tolerance
- Invasive *Aedes* vectored diseases
 - Chikungunya, Dengue, Zika, Yellow Fever



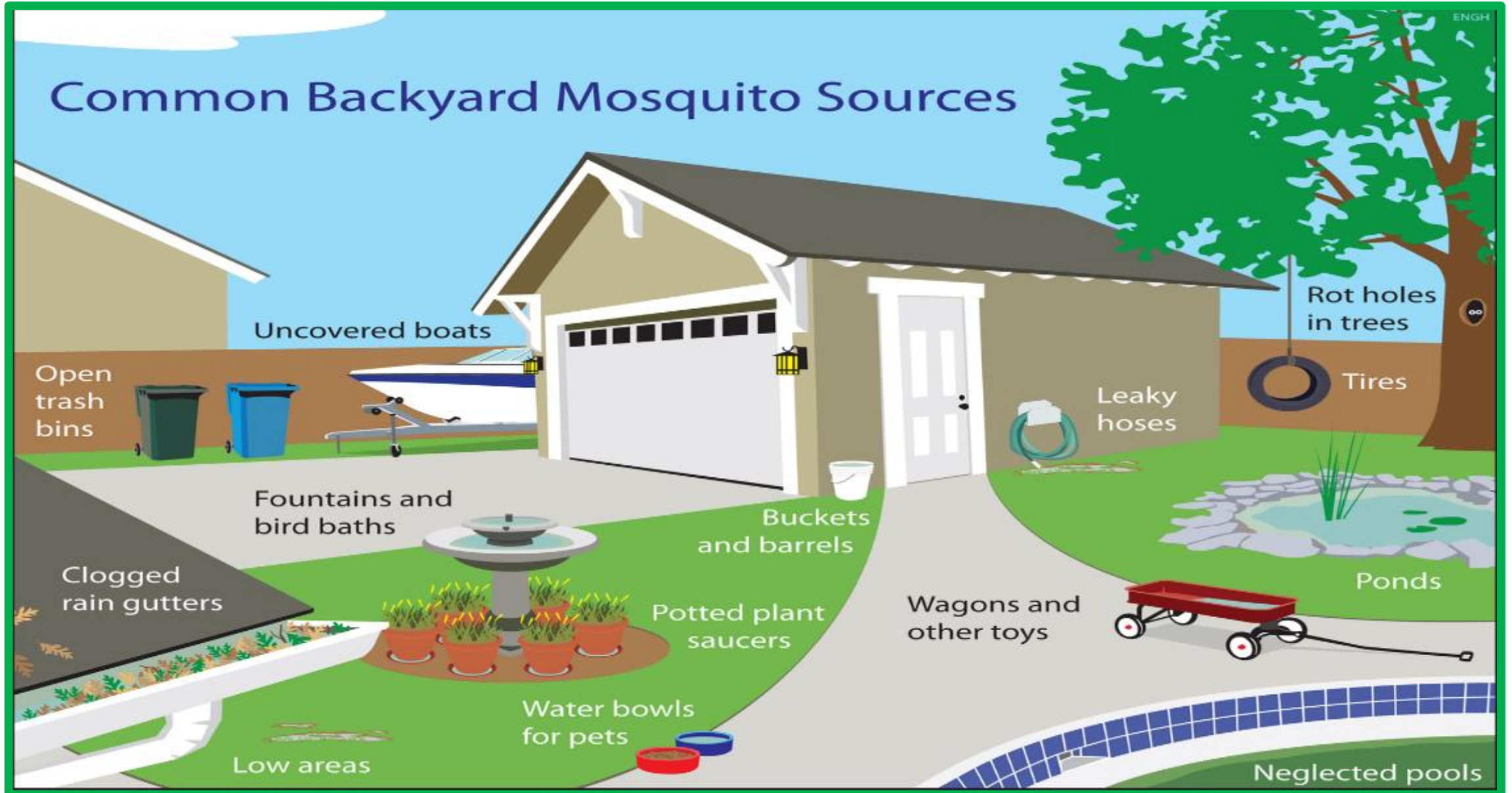
<i>Ae. aegypti</i> [Red Hatched]		
<i>Ae. albopictus</i> [Yellow Hatched]	Aliso Viejo	Lake Forest
Anaheim	Anaheim	Los Alamitos
Buena Park	Brea	Mission Viejo
Huntington Beach	Buena Park	Newport Bch
La Habra	Corona Del Mar*	Orange
Los Alamitos	Costa Mesa	Placentia
Mission Viejo	Coto De Caza*	Rncho Snta Marg.
Newport Beach	Cypress	San Clemente
Orange	Fountain Valley	San Juan Cap
Rossmoor*	Fullerton	Santa Ana
Santa Ana	Garden Grove	Huntington Bch
Garden Grove	Irvine	Stanton
	La Habra	Tustin
	La Palma	North Tustin*
	Laguna Hills	Villa Park
	Laguna Niguel	Westminster
	Laguna Woods	Yorba Linda
		<i>Ae. notoscriptus</i> [Blue Hatched]
		Anaheim
		Fullerton
		Garden Grove
		La Habra
		*Unincorporated



OCMVCD



Backyard Breeding



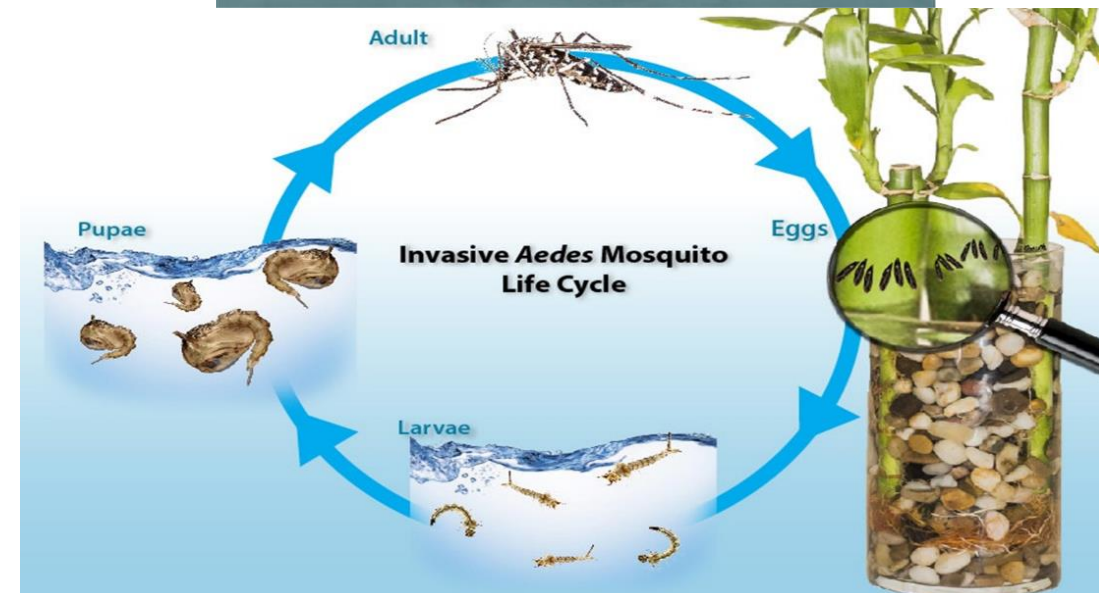
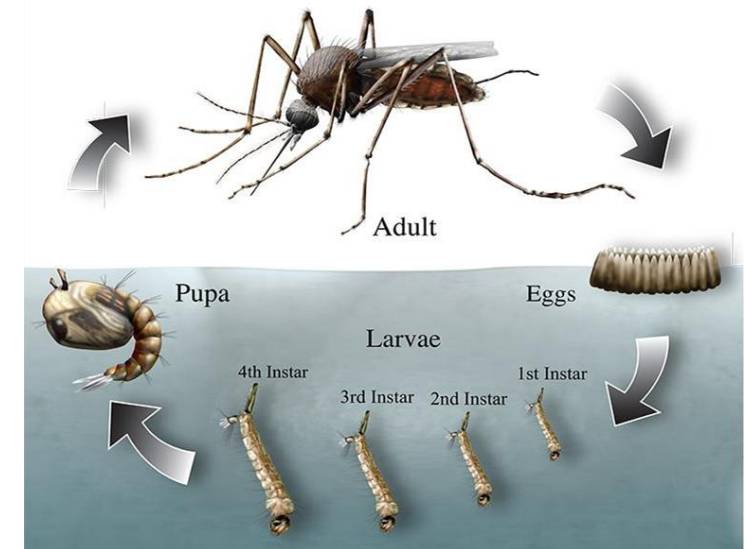
Egg Size



What is the difference?

	<i>Culex</i>	<i>Aedes</i>
Breeding habits	Larger Sources	Backyard Sources
Biting habits	Bite at dusk and dawn, prefer birds	Bite during day, prefer mammals
Eggs	Eggs laid in rafts	Individual eggs
Breeding time	One week	Eggs viable for years in dry conditions
Where do they live	Outdoors	Indoors and Outdoors

Culex Mosquito Life Cycle



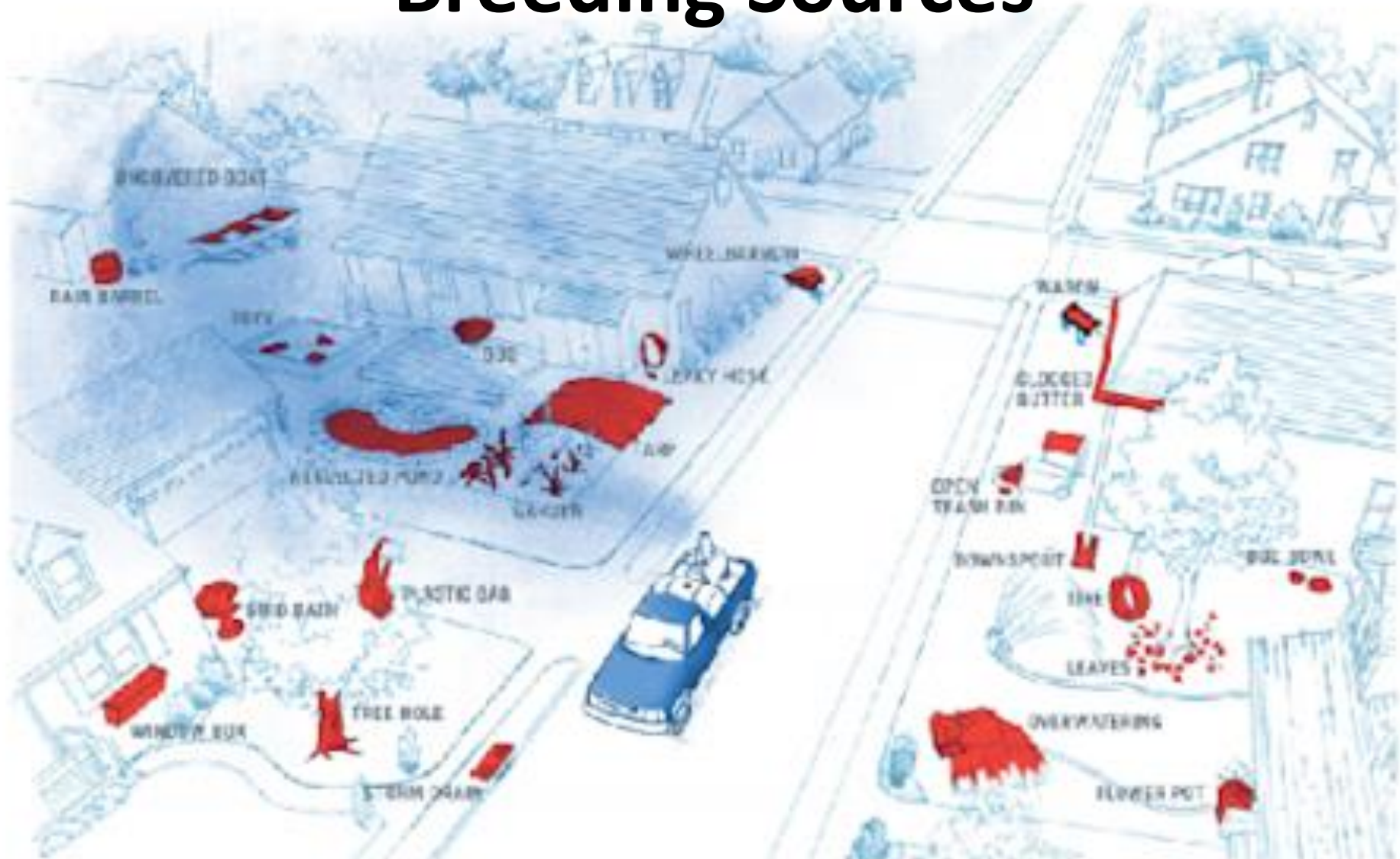
Wide Area Larvicide Spray (WALS)

WALS is a biorational application strategy to control container mosquitoes in cryptic habitats using VectoBac® WDG

- Reduce mosquitoes in larval or immature stages
- The product, VectoBac WDG, can be applied in urban or wetland areas
- The goal is to have the product reach hard to identify water sources
- The product contains Bti, naturally occurring bacteria
- Organic Materials Review Institute (OMRI) rated



Area Wide Control for Cryptic Mosquito Breeding Sources

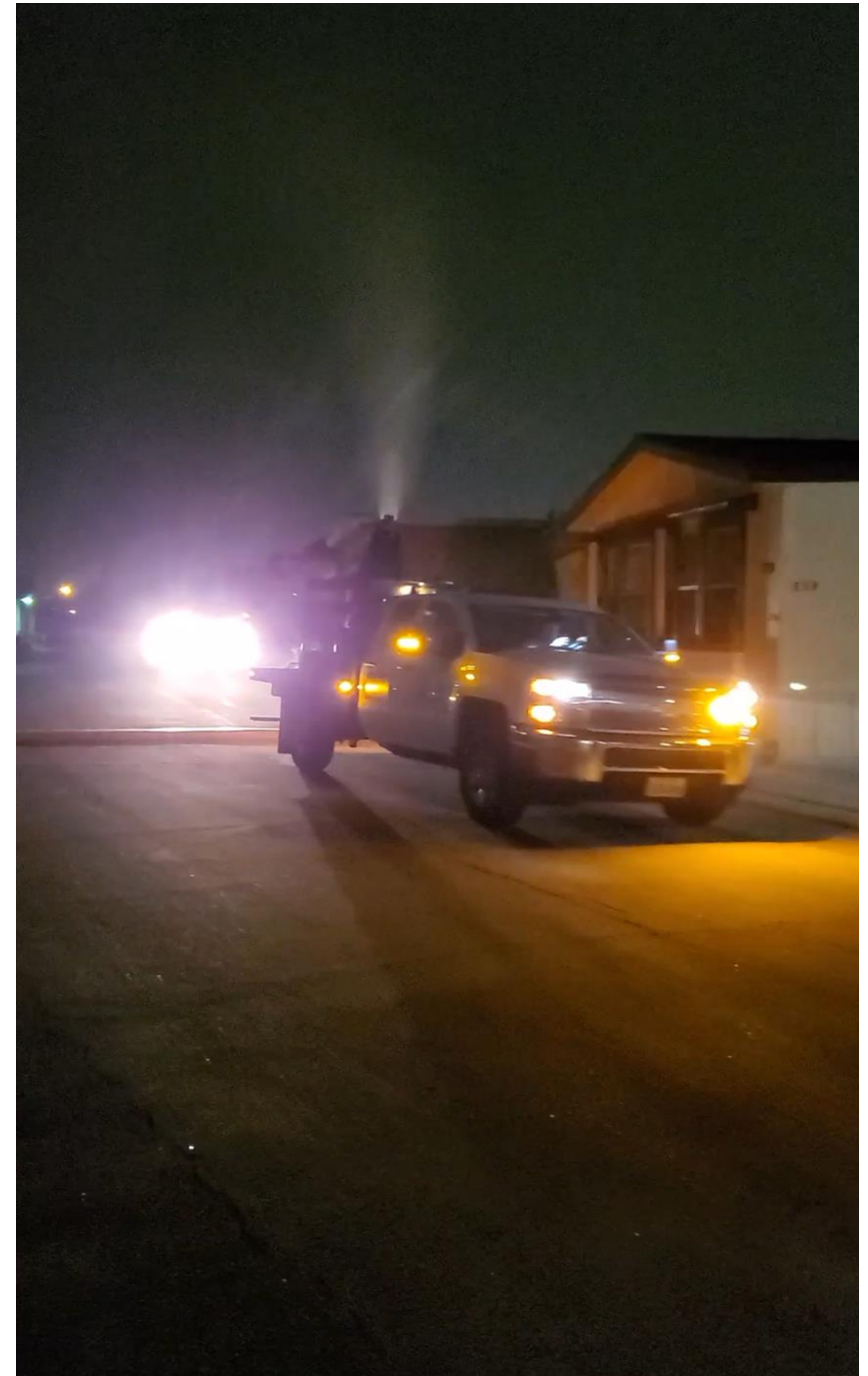


New Equipment

- **A1 Super Duty**
 - Gallons/min – 1.5gal/min
 - Capacity – 100 gal
 - Speed – 15 + mph
 - Swath Width – 300+ ft
- **Larvicide delivery to large areas in urban matrix**
 - Residential
 - Cemetery
 - Marsh



**La Habra
Residential
WALS Application
2020**

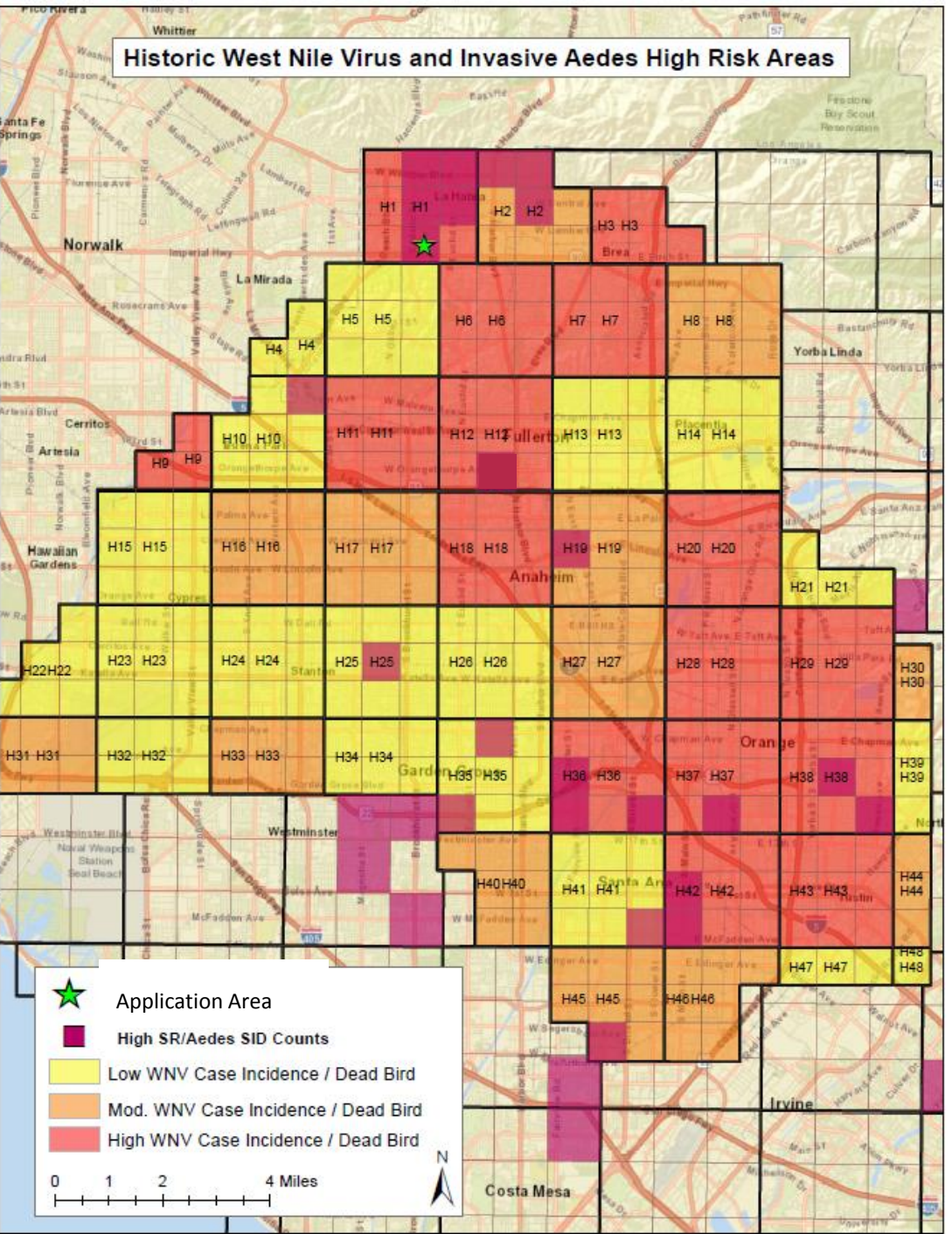


PROJECT: WALS Application Over Large Residential Setting

GOAL

- Utilize WALS to:
 1. Suppress *Aedes* and *Culex* mosquitoes (Phase 1)
 1. Reduce WNV Risk, *Culex* reduction with ULV adulticide (Phase 2)

Historic West Nile Virus and Invasive Aedes High Risk Areas

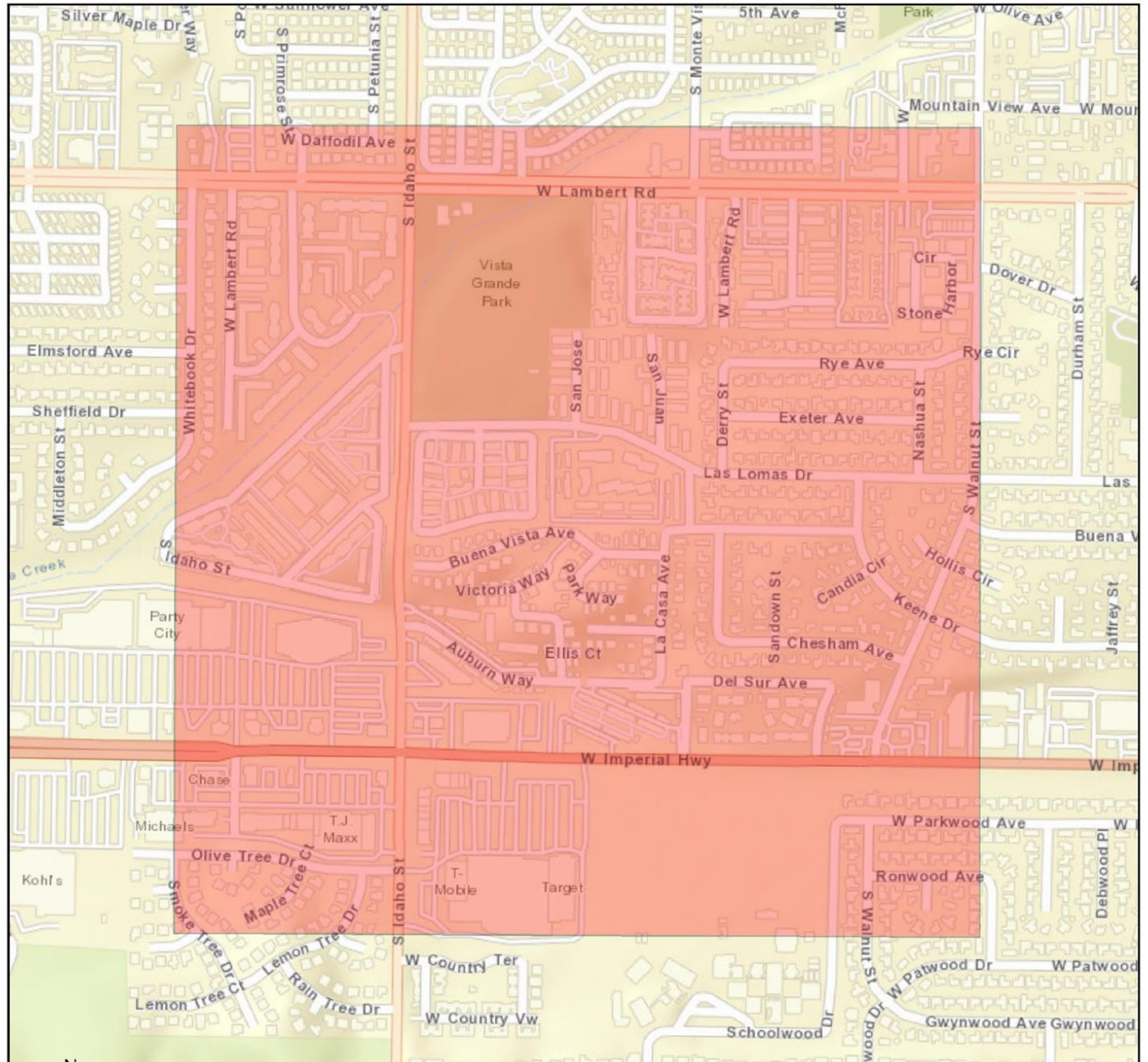


High WNV Activity & High Invasive Aedes Abundance



Application Area

- Vicinity of Vista Grande Park



Timeline for High Risk Area WALs Applications

PHASE 1

Suppress *Aedes* and *Culex* mosquitoes with WALs

Wednesday, June 30

Wednesday, July 7

Wednesday, July 14

Wednesday, July 21

Wednesday, July 28

Wednesday, August 4

Wednesday, August 11

Wednesday, August 18



**8 Consecutive Weeks
Starting at 2 am – 5 am**

PHASE 2 (Only if WNV trigger is reached)

Reduce WNV Risk, *Culex* reduction with ULV adulticide and WALs

Wednesday, September 22 WALs + ULV

Thursday, September 23 ULV

Friday, September 24 ULV

Wednesday, September 29 WALs

Wednesday, October 6 WALs

Wednesday, October 13 WALs



**4 Consecutive Weeks
Starting at 2 am – 5 am**

Public Outreach and Notification

- Presentation to City Council June 7
- Door Hanger Distribution to Residents and Businesses June 22-24
- La Habra Citrus Fair Booth June 25, 26, 27
- Applications Begin June 30



NOTICE

The Orange County Mosquito and Vector Control District will be conducting a mosquito control treatment in your area

Mosquitoes infected with West Nile virus (WNV) and/or capable of carrying chikungunya, dengue, and Zika virus have been detected in your neighborhood.

In an effort to reduce the number of mosquitoes, interrupt virus transmission, and to protect the public from mosquito-borne diseases, the District will be conducting truck-mounted ultra-low volume adult mosquito treatments and/or wide area larval control treatments.

For the treatment schedule and to learn more, visit:
Para más información y el horario en Español, por favor visite:

ocv.net/NeighborhoodMosquitoControl

Treatment may continue for several weeks.

Stay updated on what is going on in your area.

- Sign up for E-Alerts at ocvector.org
- Follow us on social media

Available Resources and Additional Information



Home Services Programs Educational Resources 2021 Campaign About the District Transparency Contact Us

PROGRAMS

PROGRAMS

PUBLIC INFORMATION AND EDUCATION

MOSQUITO AND VECTOR SURVEILLANCE

MOSQUITO CONTROL - SPRAY SCHEDULES

BIOLOGICAL CONTROL

GROUND BASED MOSQUITO CONTROL EFFORTS

DRONE TECHNOLOGY

RESIDENTIAL TRUCK-MOUNTED APPLICATION

Ground-based mosquito control efforts

The goal of OCMVCD is to protect the public health of residents from mosquitoes and mosquito-borne diseases. The decision to use larval or adult mosquito control applications either by truck, backpack, or aircraft application will be based on surveillance information or the documentation of West Nile virus activity at a level that indicates a threat to human health.

Ground ULV Treatment Schedule

[Frequently Asked Questions about ULV](#)

Adult mosquito control will occur when there is an increase in the number of mosquitoes in a particular area, or detection of virus activity in the mosquitoes. The District conducts adult mosquito control by using ultra-low volume (ULV) adulticiding equipment. Public health pesticides (adulticides) that are registered by the US Environmental Protection Agency (US EPA) will be used to reduce adult mosquito populations and mosquito borne disease risk.

Application Date	Time	Location	Treatment	Reason
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Ground WALS Treatment Schedule

[Frequently Asked Questions about WALS](#)

WALS stands for Wide Area Larvicide Spray. WALS is an approach to larval control that uses a form of larvicide, which targets immature mosquitoes in the water using a naturally occurring bacterium to kill mosquito larvae before they emerge into biting



RESIDENTIAL TRUCK-MOUNTED APPLICATIONS

[Click here to view treatments in neighborhoods.](#)



FREQUENTLY ASKED QUESTIONS

On the OCMVCD Website:

- WALs FAQs
- Bti FAQs
- Application Schedule
- Application Area Map
- Sign Up for E-Alert Notifications

Application Details

Location: Near S. Idaho St. and W. Imperial HWY

In vicinity of S. Idaho St. And W. Lambert Rd.

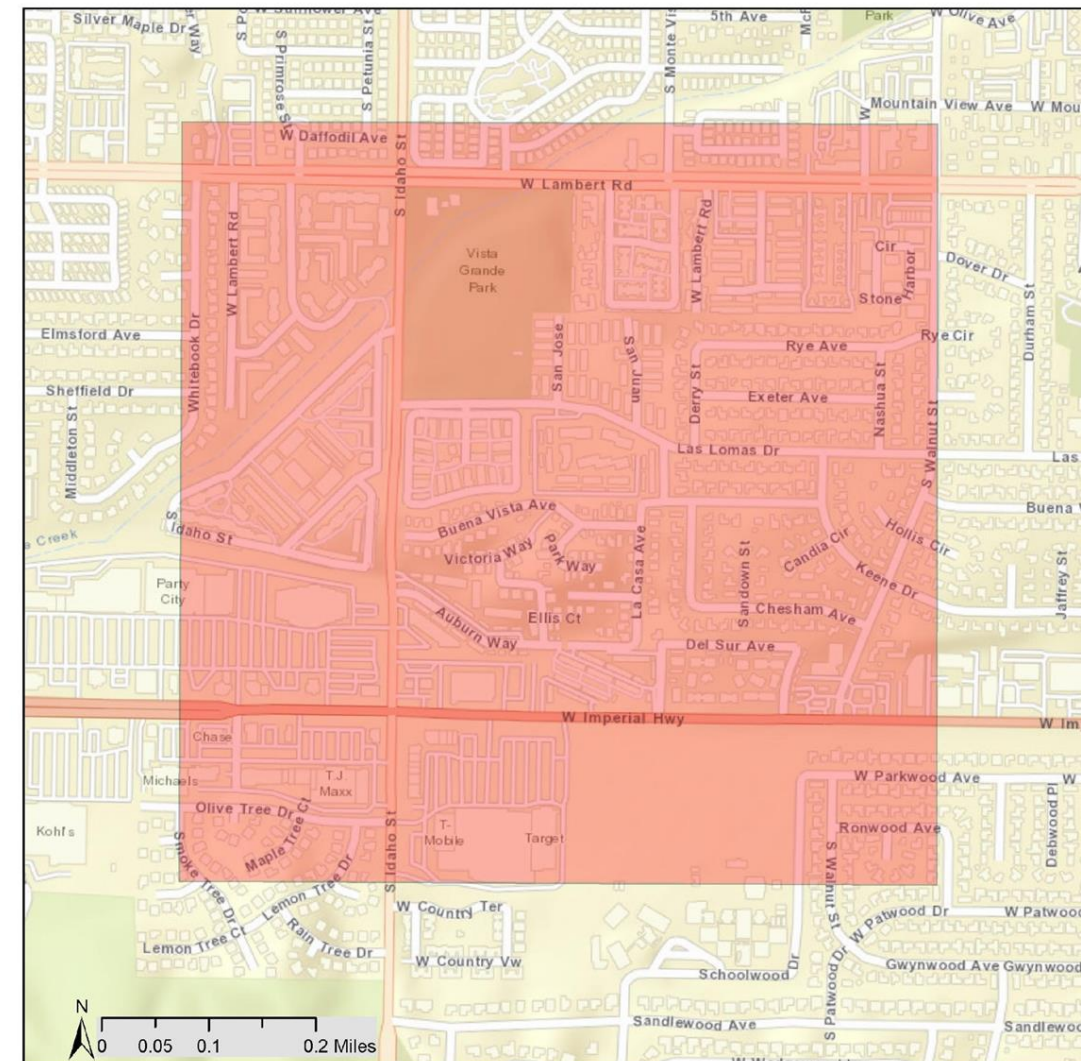
Dates: Phase 1- 6/30, 7/7, 7/14, 7/21, 7/28, 8/4,
8/11, 8/18

Phase 2 – 9/22, 9/29, 10/6, 10/13

Times: 2am - 5am

Product(s): VectBac WDG - WALS

DeltaGard – ULV (Only if WNV activity)



Wide Area Larval Control
W. Imperial Hwy and S. Idaho St, La Habra
June 29, 2021

 Larval Mosquito Control Application Area



WALS - Frequently Asked Questions

- **Is the product being used harmful to humans or pets?** When applied as directed Bti will not harm people, pets, nor wildlife including aquatic life, other insects, and honeybees.
- **Do I have to go indoors during spraying?** No, but residents may take additional measures to achieve personal comfort during the application by going indoors.
- **Will spraying affect bees?** When WALS (Wide Area Larvicide Spray) is conducted using VectoBac WDG, there will be no impact on bees.
- **Will the application leave a type of residue afterward?** The spray deposit may show as very small dried droplets (fine dust when droplet dries) on some outside surfaces and potentially may be visible on surfaces. The dried droplets are washable and will not affect your home, garden, outdoor furniture, or your vehicles.



QUESTIONS?