



Mosquitoes in Orange County

City of Santa Ana

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Orange County Mosquito and Vector Control District



Scope and Governance

- Established in 1947 as the Orange County Mosquito Abatement District
 - Independent Special District governed by the California H&S Code
- Serves all of Orange County's 34 cities and unincorporated areas
 - 3.2 million residents
- Governed by a 35 member Board of Trustees
 - One City appointed representative from each city
 - One appointee from County
 - Budget 15.5 Million FY 20/21



Mosquitoes

Southern House
Mosquito
Culex quinquefasciatus



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

Yellow Fever Mosquito
Aedes aegypti



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

Asian Tiger Mosquito
Aedes albopictus



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

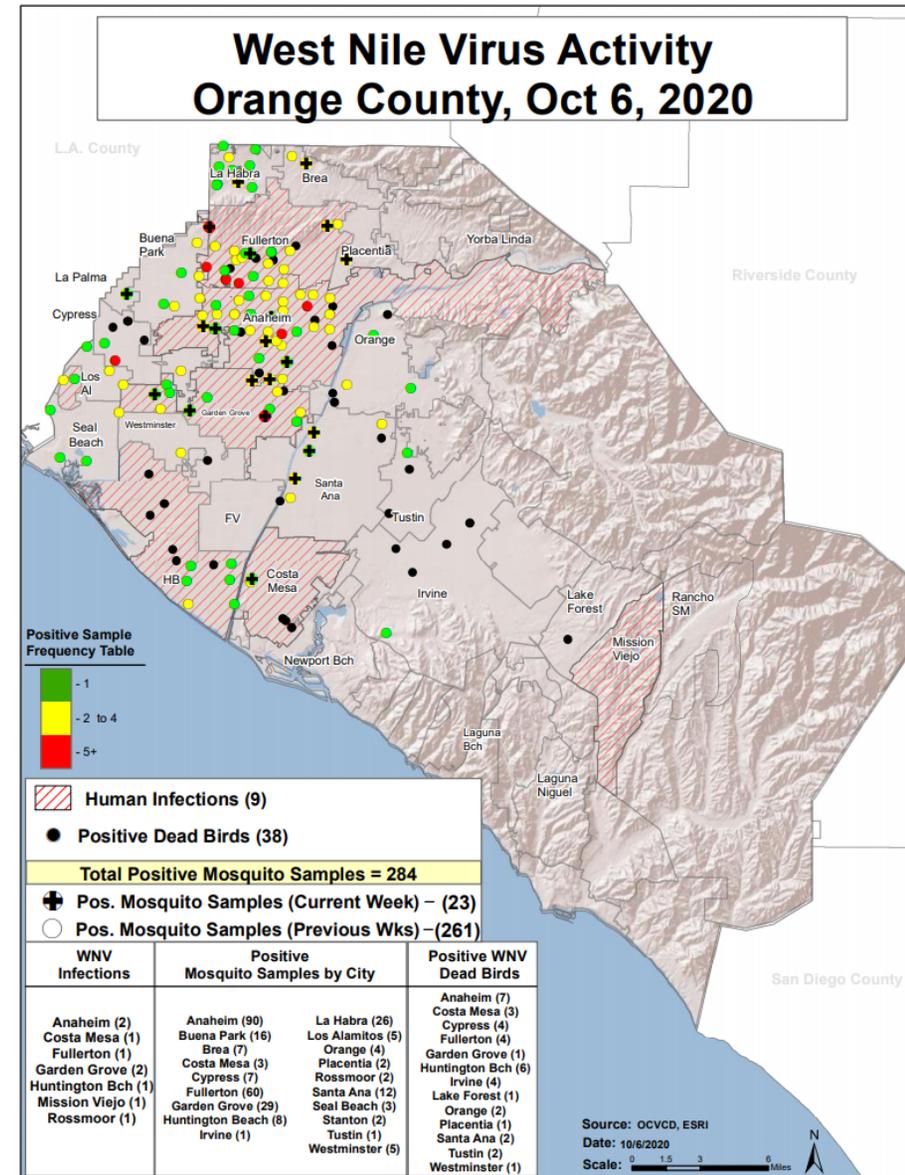


West Nile Virus in OC in 2020

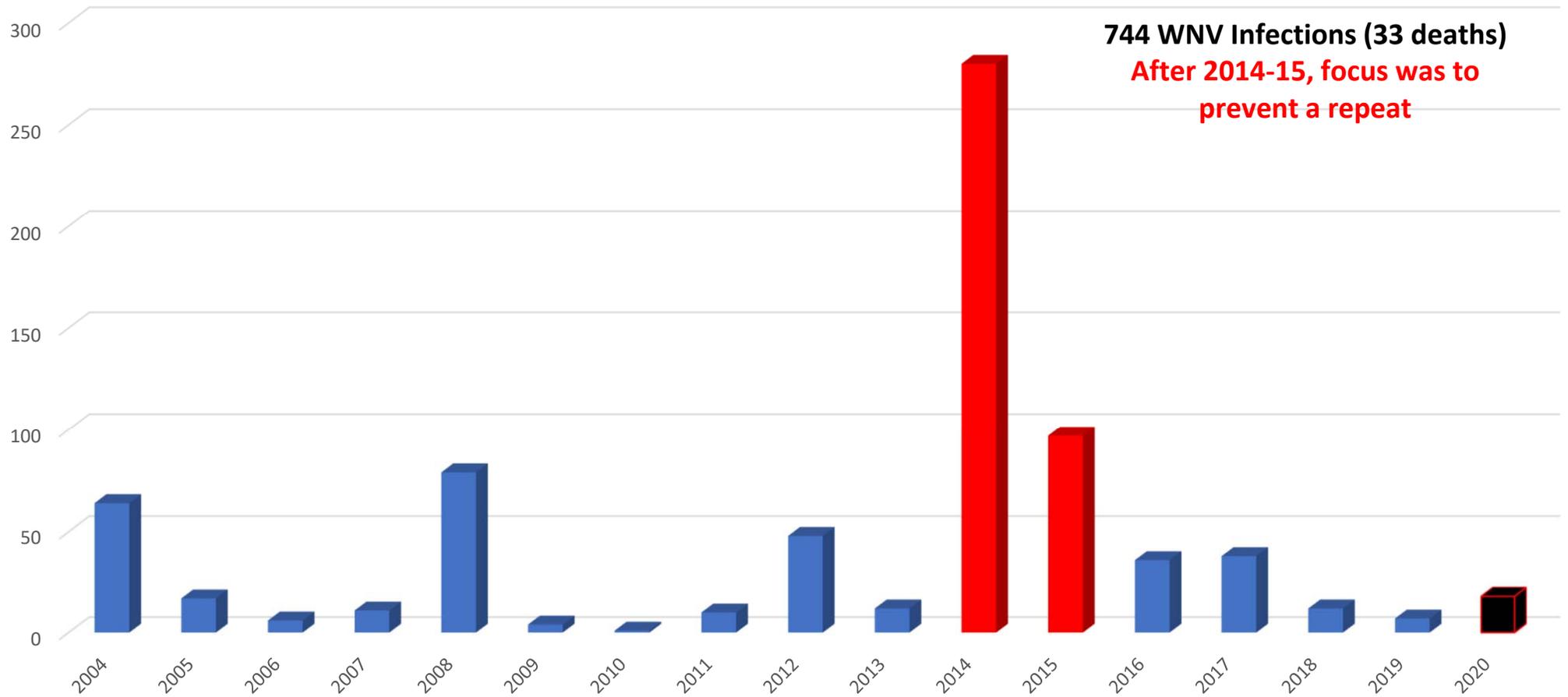
- 284 WNV Positive Mosquito Samples
- 9 WNV Human Cases
- 38 Birds Tested Positive for WNV

In Santa Ana

- 12 WNV Positive Mosquito Samples
- No WNV Human Cases
- 2 Bird Tested Positive for WNV



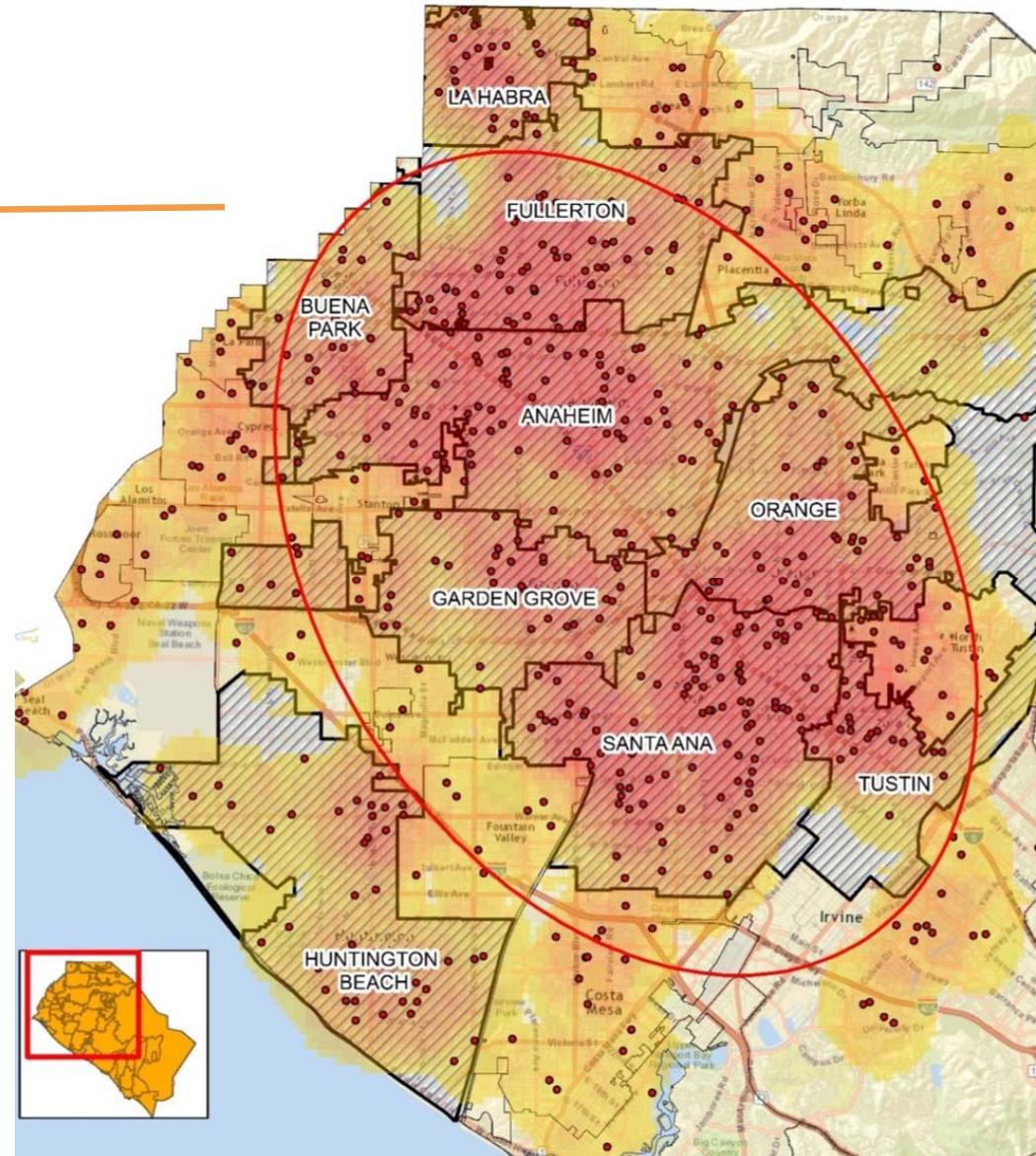
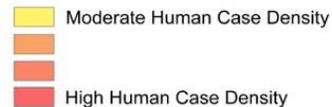
West Nile Virus in Orange County, 2004 - 2020



High Risk 9 Cities

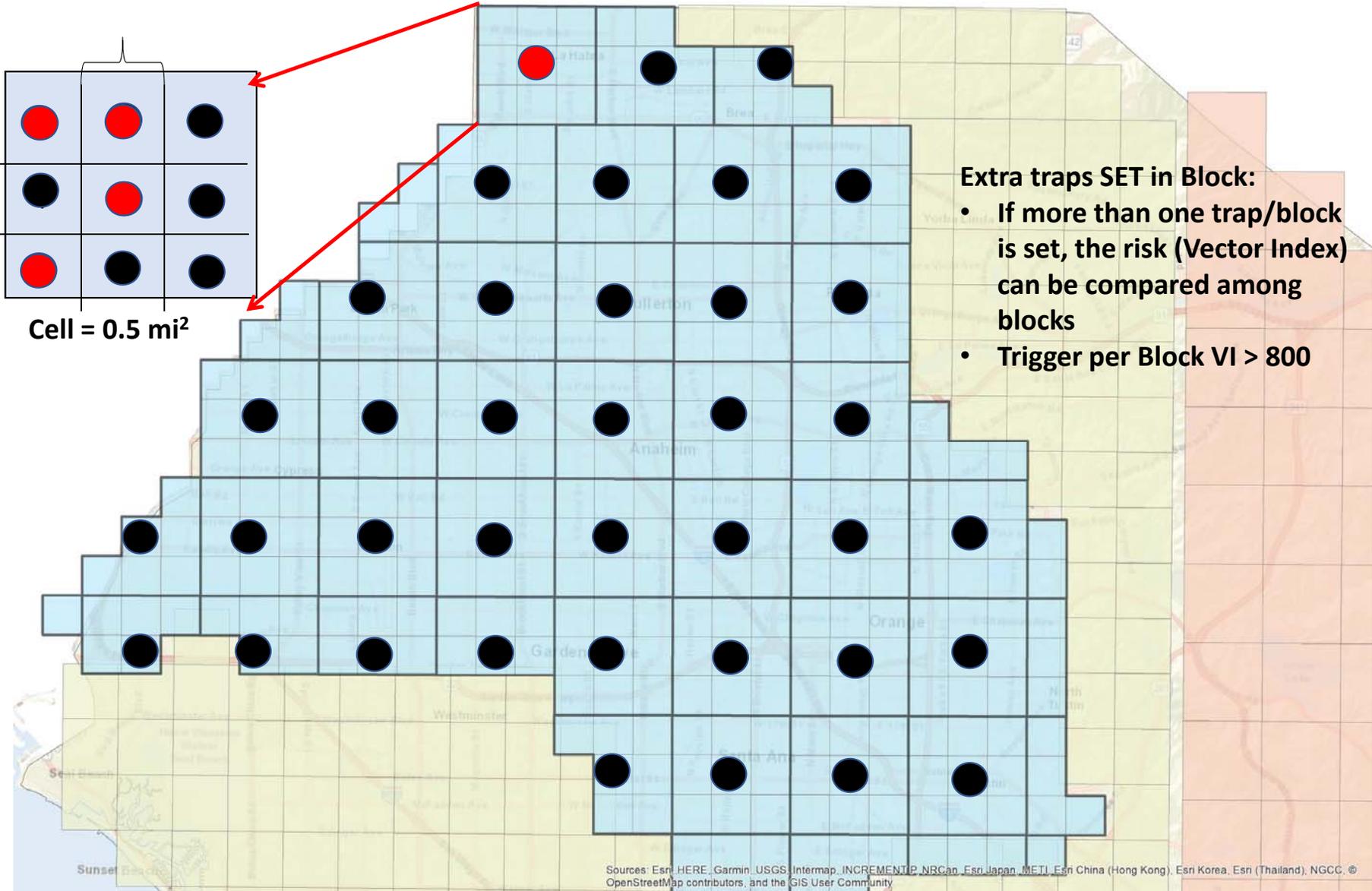
- Santa Ana
- Anaheim
- Fullerton
- Orange
- Garden Grove
- Huntington Beach
- Tustin
- La Habra
- Buena Park

WNV Nile Virus High Risk Areas
2004-2016
Hotspot Analysis



BLK =
4.5 mi²

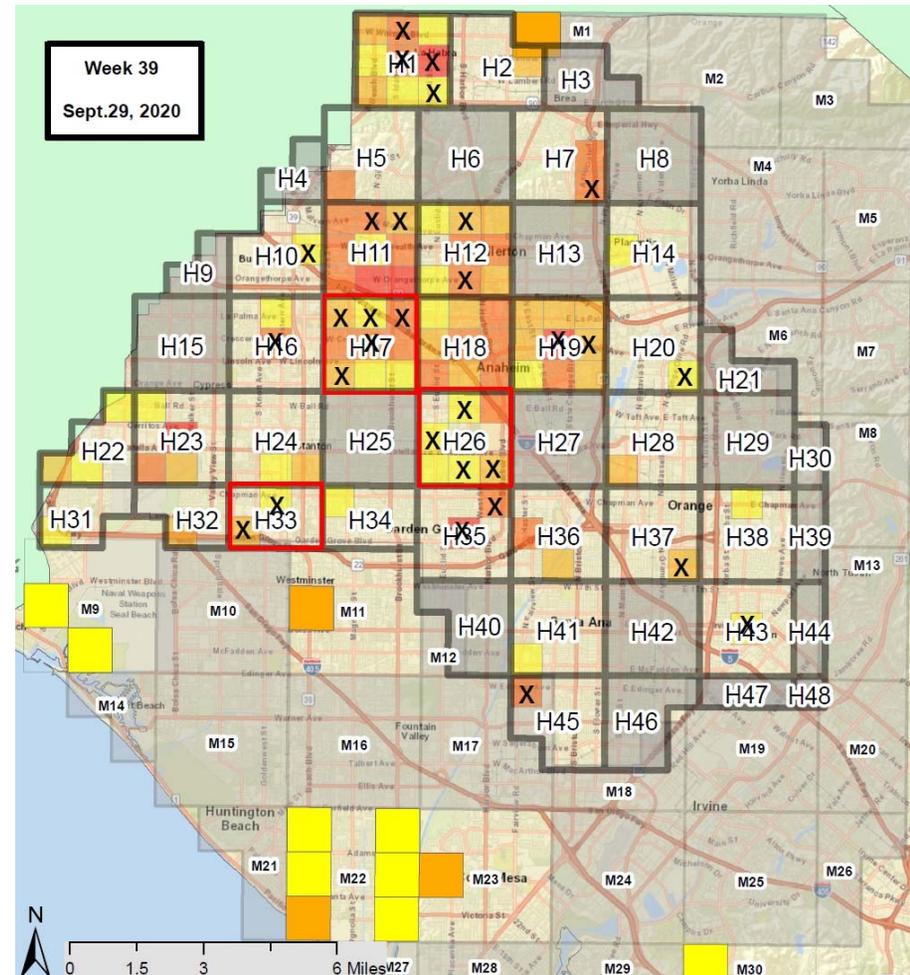
Cell = 0.5 mi²



- Extra traps SET in Block:**
- If more than one trap/block is set, the risk (Vector Index) can be compared among blocks
 - Trigger per Block VI > 800

Determining High Risk Areas

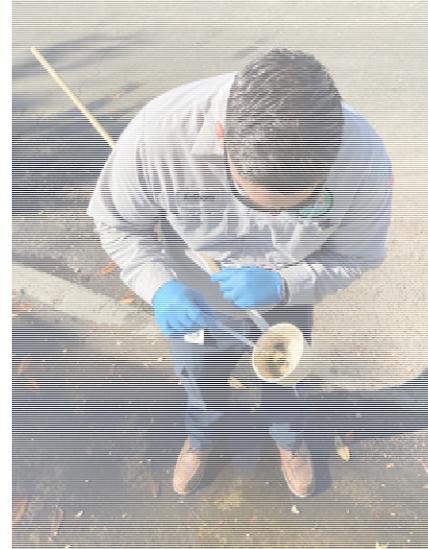
- District sets over 100 traps per week
- Extended trapping is initiated with a positive sample
- Control methods are determined based on surveillance data and increased risk for mosquito-borne diseases



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



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

NEWS

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

THE ORANGE COUNTY REGISTER

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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 Infestation

2016 = 3,500 acres or 5.0 sq.mi

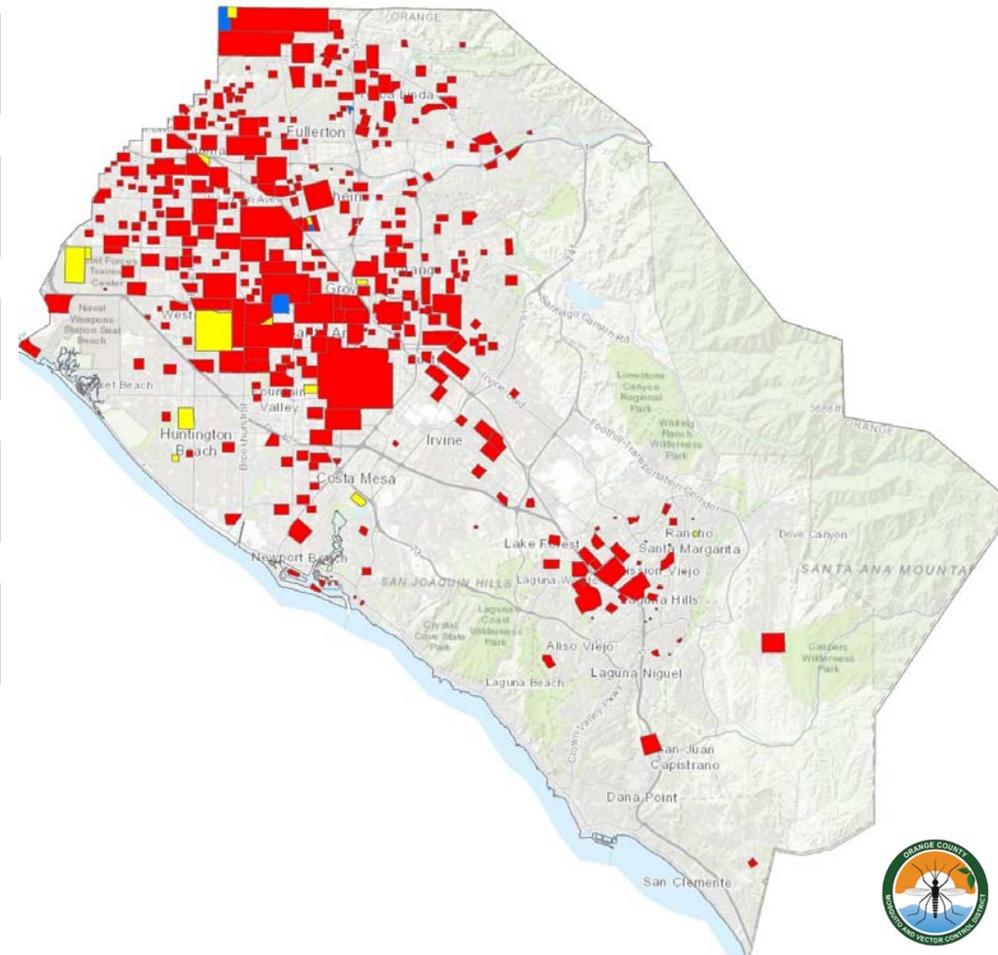
2017 = 17,000 acres or 26 sq.mi

2018 = 45,600 acres or 71 sq.mi

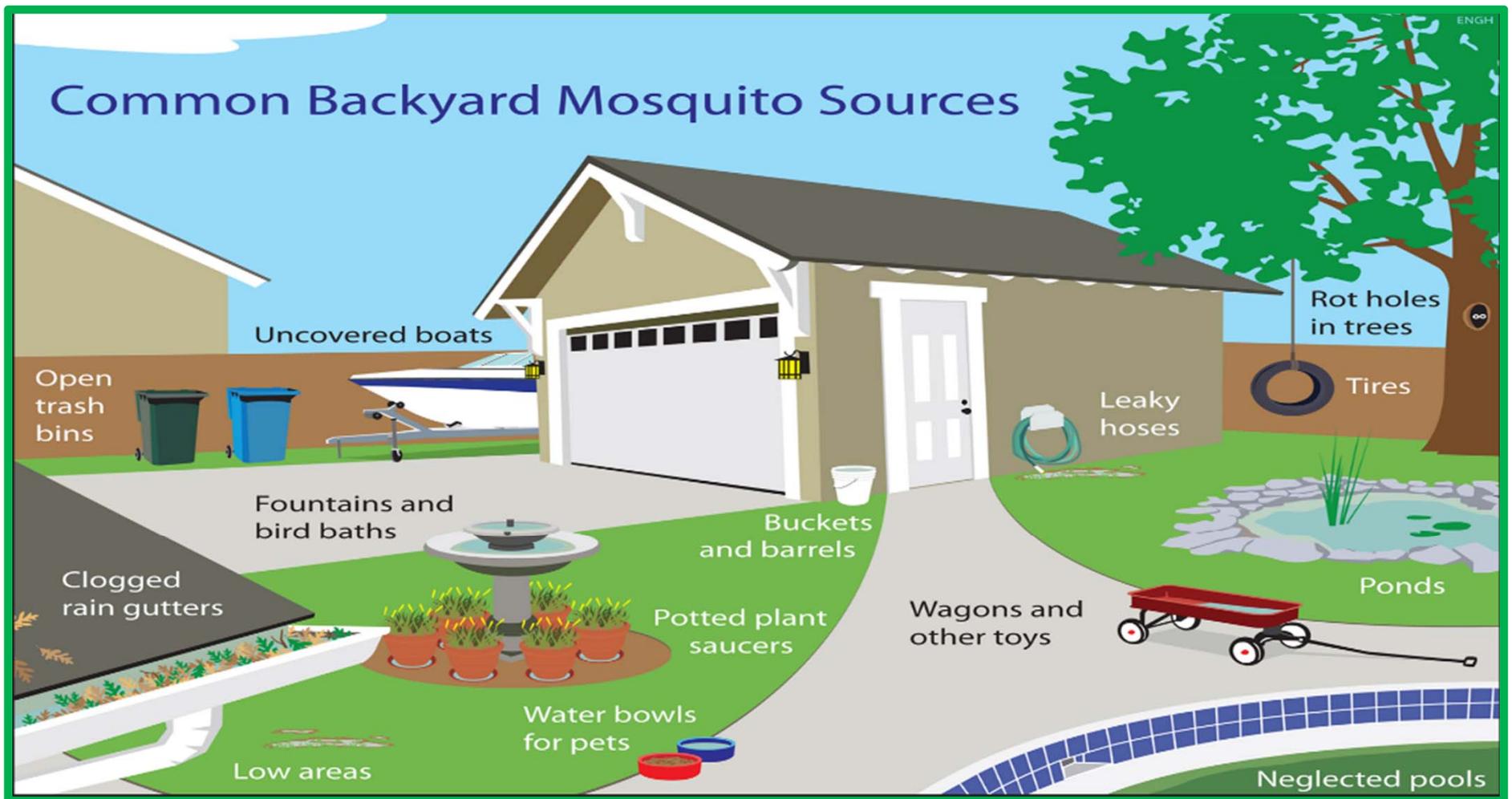
2019 = 63,813 acres or 99.7 sq.mi

2020 = 65,229 acres or 102 sq.mi

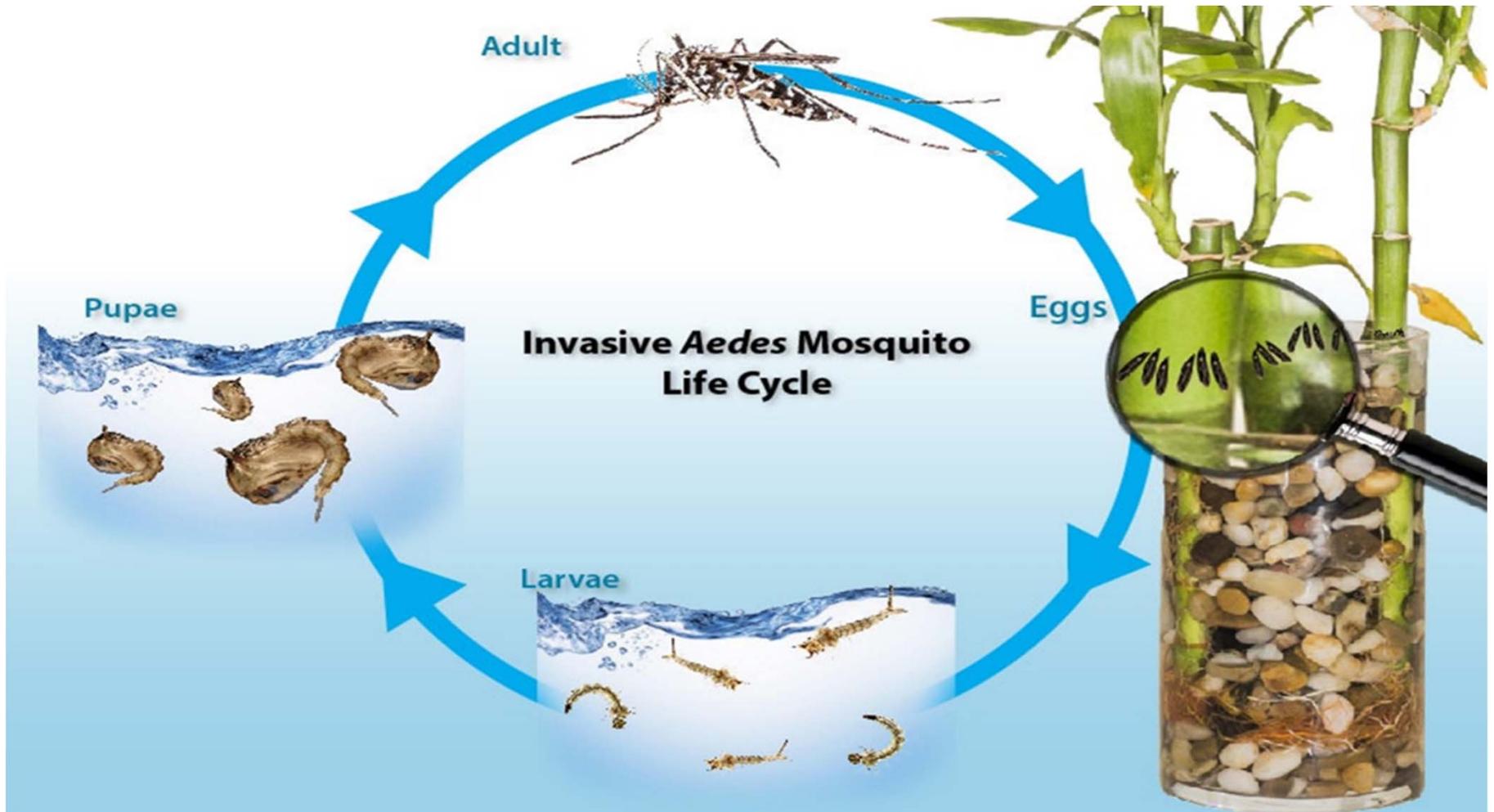
2020



Backyard Breeding



Invasive Aedes Life Cycle



Egg Size



What Is the difference?

	Culex	Aedes
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



2020 Service Request in Santa Ana

	Santa Ana	County
Mosquitoes	568	7230
Rats	13	374
Red Imported Fire Ants	18	659
Other (includes mosquitofish requests)	25	193
Total	624	8456



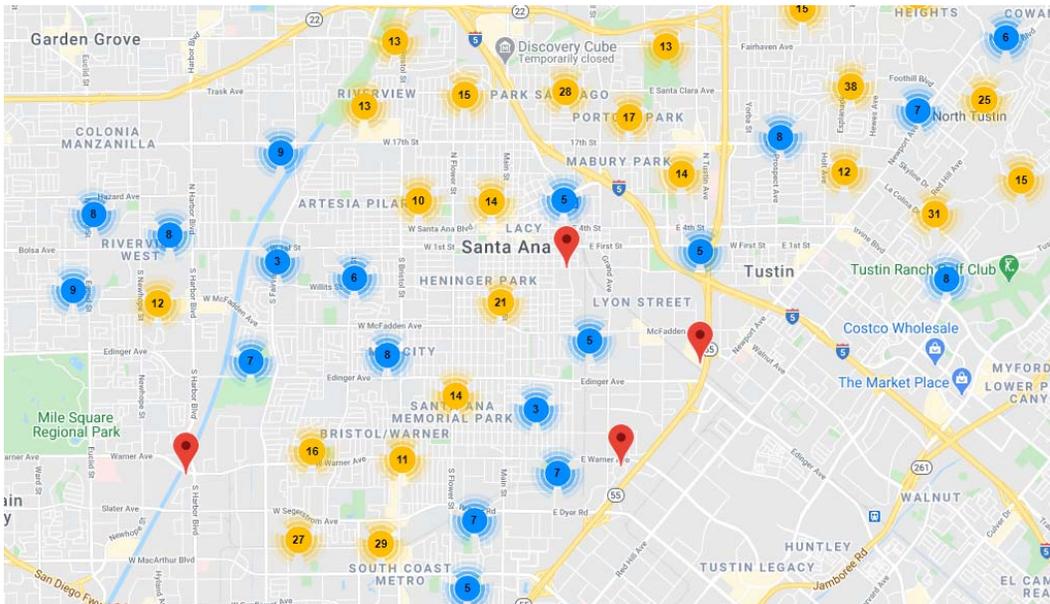
Mosquito Activity in Santa Ana

High Service Request Areas

- E. 17th St & Wright
- W. Edinger & S. Flower area
- Civic Center (W Santa Ana Blvd. between N Ross St & N Broadway)

High Mosquito Trap Counts

- 21st and Alana
- Birch Park
- Fairhaven/Santa Ana Cemetery



Controlling for Rats

- The District modified its rat control program due to:
 - Growing concerns and evidence showing secondary poisoning of wildlife
 - Increasing regulatory restrictions
 - The District's commitment to integrated vector management practices (IVM)



Controlling for Rats

- Rats are attracted to an area due to:
 - Availability of food
 - Pet food
 - Improper composting
 - Vegetable gardens, fruit trees
 - Snails
 - Availability of habitat
 - Over-grown trees, shrubs, and plants
 - Access into homes and other structures
 - Water



Working Together

- Include the District messages in emails and newsletters to residents
- Partner on shared social media messaging
 - Reshare alerts and notifications for your district
- Invite the District to community outreach events and presentations
- Help increase awareness on the shared responsibility of mosquito control:
 - Residents should check and eliminate for standing water weekly
 - Remove saucers from under potted plants.
 - Scrub outdoor containers that have held water with hot, soapy water to kill mosquito eggs. Store in a dry place
 - Wear EPA-registered repellent when outdoors
 - Talk to neighbors about their mosquito control





Questions



www.ocvector.org