

Identification and Rapid Expansion of *Ae. aegypti* in Clark County, NV

2017 - 2023

Southern Nevada Health District

Environmental Health - Program Objectives



Routine surveillance to determine species, abundance and disease status



Counterpart notification for breeding site interventions (Code Enforcement, Parks & Recreation, Public Works)



Community education on breeding, biting and disease prevention



No coordinated mosquito abatement across Clark County



**A Practical Guide to Building
Local Mosquito Control Capacity**

July 2021



Aedes aegypti

Invasive urban mosquito

Zika, Dengue, Yellow Fever, Chikungunya

Active during the day – persistent biter

Short flight range



Flower pot saucers



Buckets/Containers



Fountains



Trash cans



Furniture



Rain Barrels



Tarps



Kids' toys



Kiddie Pools



Wheelbarrows



Birdbaths



Watering Cans

Cryptic breeding sources
Hearty eggs resist desiccation





2017

Year	<i>Ae. aegypti</i> *	Zip Codes
17	183	4

*Male and Female

	DISTINCT SITES	SUBMISSIONS	TRAPS	MOSQUITOS
2017	598	2191	2249	59912
Total:	598	2191	2249	59912



2017 - 2021

Year	<i>Ae. aegypti</i> *	Zip Codes
17	183	4
18	59	2
19	177	3
20	173	7
21	220	6

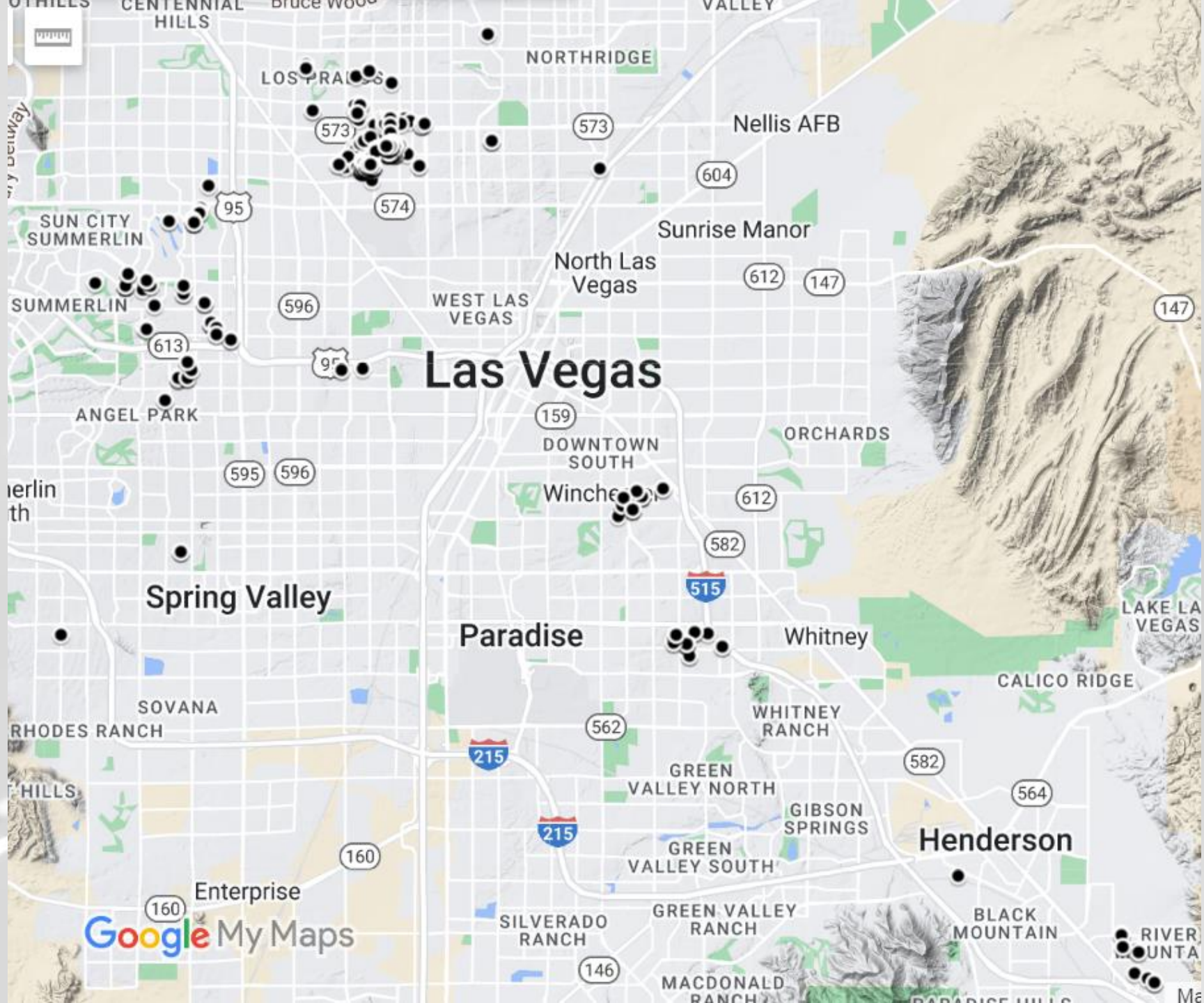
*Male and Female



2017 - 2022

Year	<i>Ae. aegypti</i> *	Zip Codes
17	183	4
18	59	2
19	177	3
20	173	7
21	220	6
22	2,984	12

*Male and Female



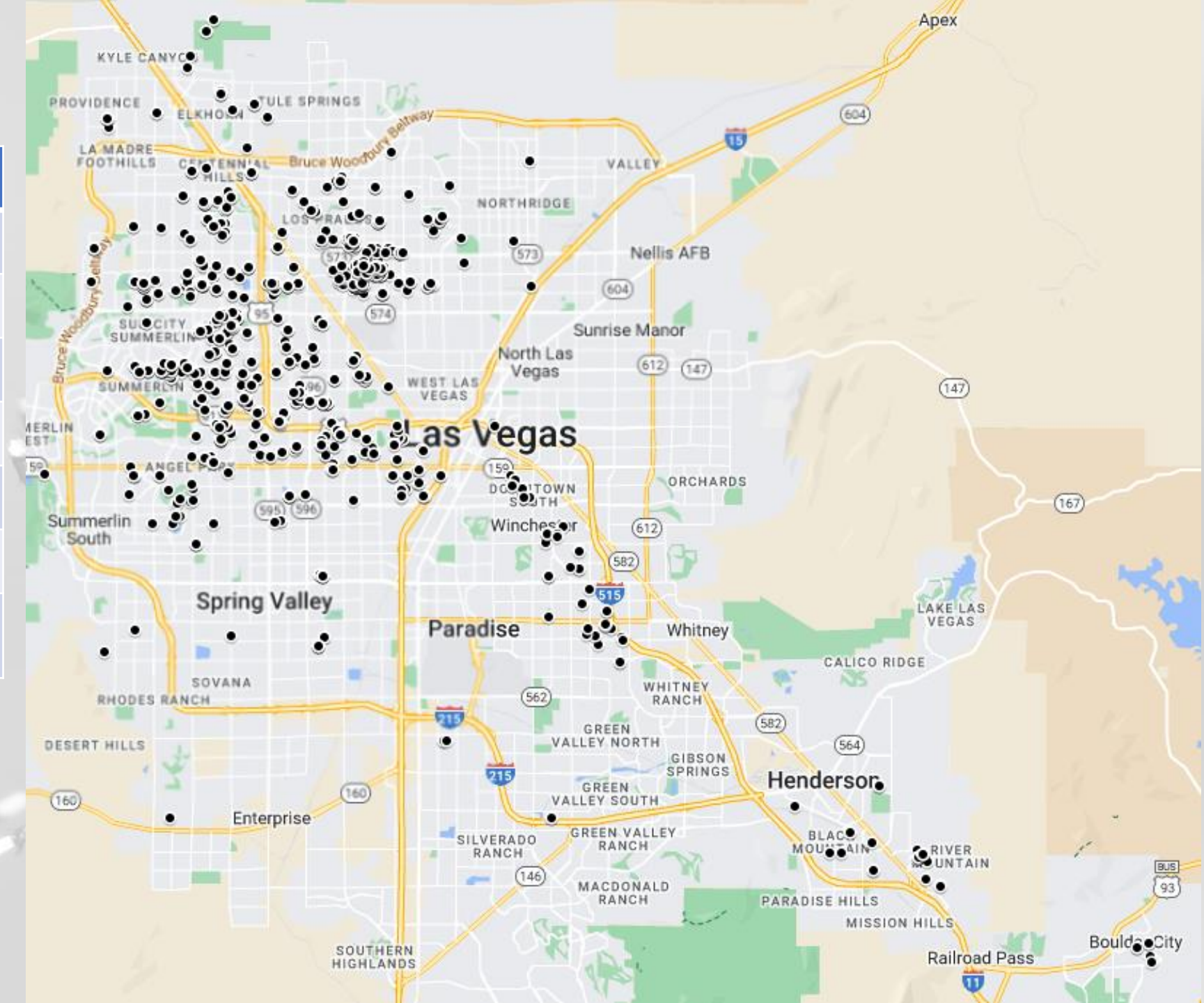
2017 - 2023

Year	<i>Ae. aegypti</i> *	Zip Codes
17	183	4
18	59	2
19	177	3
20	173	7
21	220	6
22	2,984	12
23	12,998	43

* Male and Female

Explosive expansion

Increased trap counts

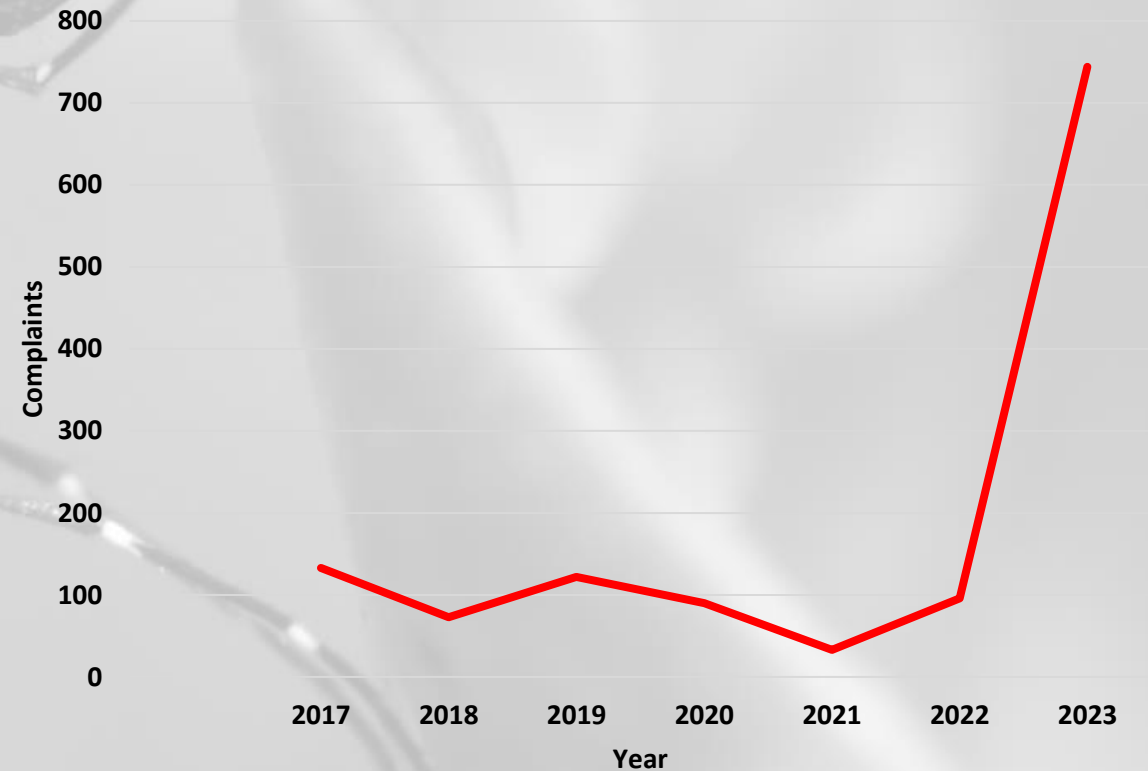


Ae. aegypti Counts & Citizen Complaints 2017 - 2023

***Ae. aegypti* Counts 2017 - 2023**

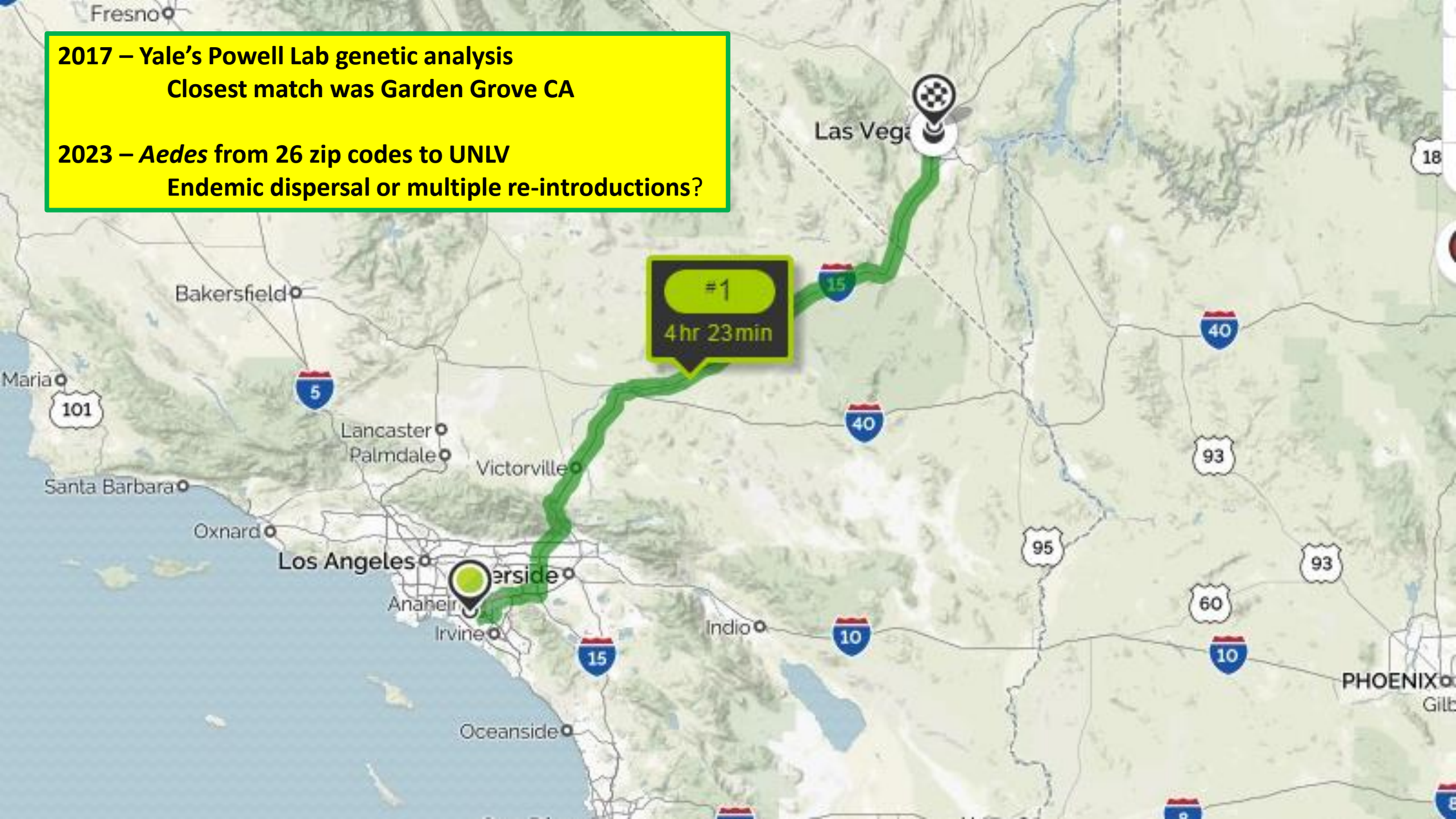


Mosquito Activity Complaints 2017 - 2023



2017 – Yale’s Powell Lab genetic analysis
Closest match was Garden Grove CA

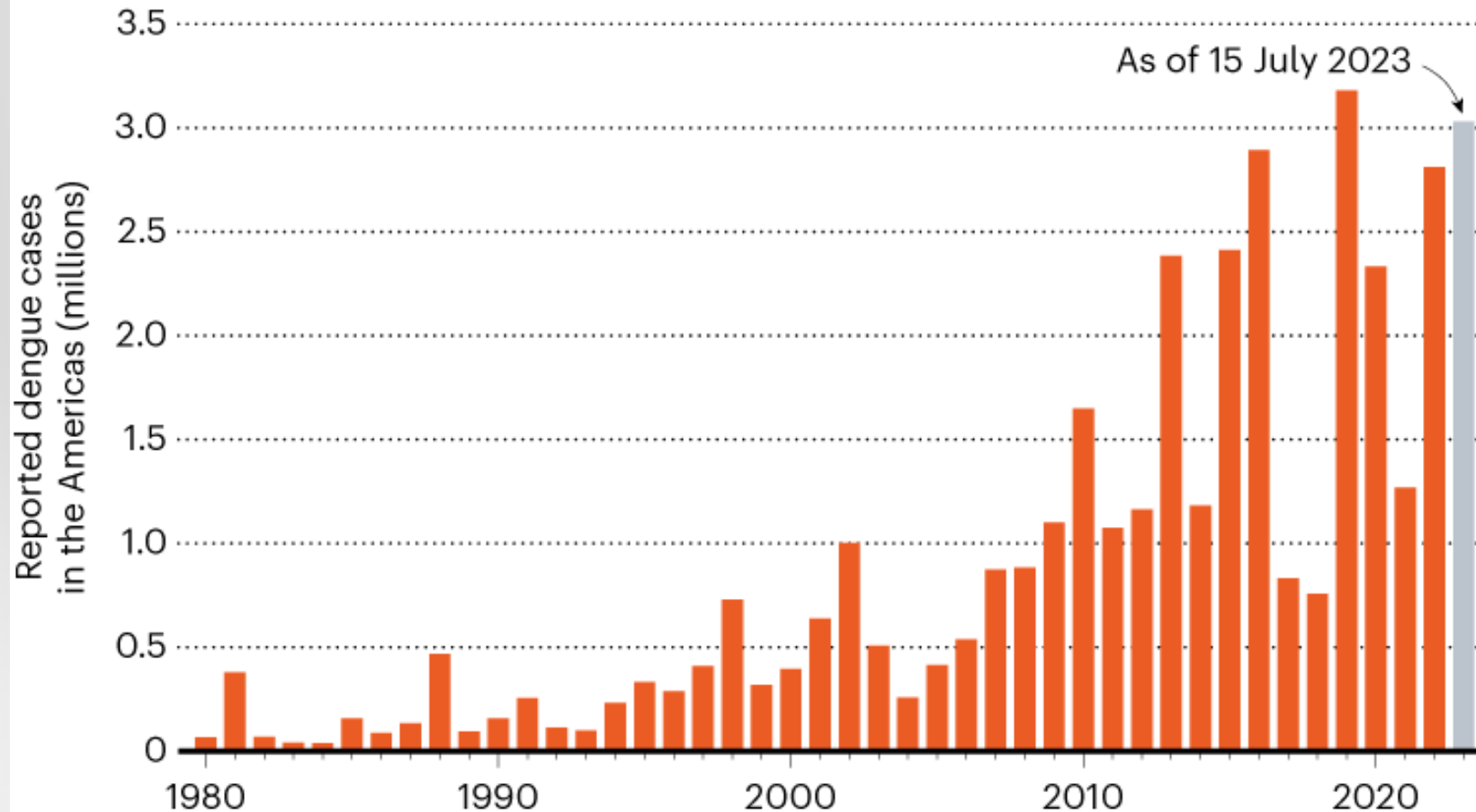
2023 – *Aedes* from 26 zip codes to UNLV
Endemic dispersal or multiple re-introductions?



40.8 million visitors in 2023

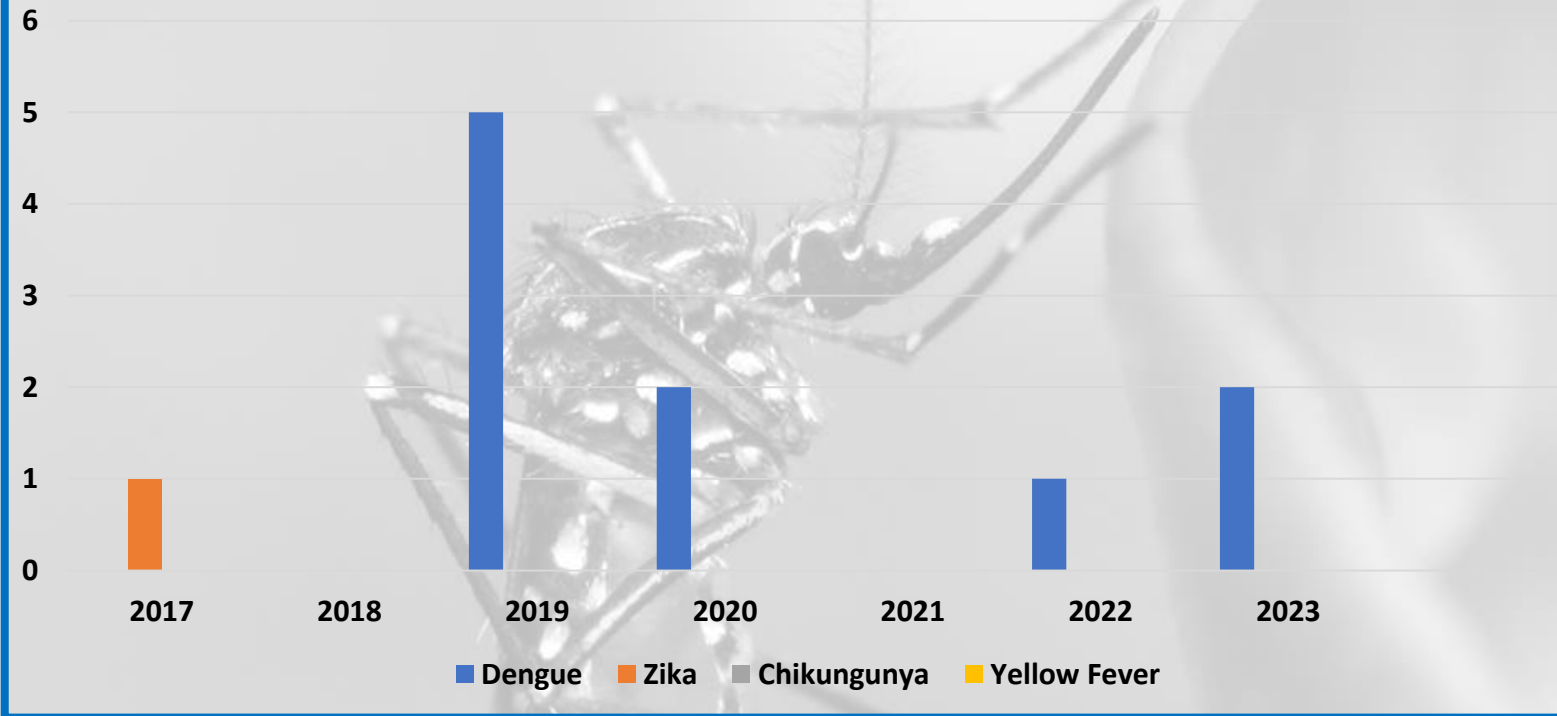
DENGUE ON THE RISE

Changes in temperature and rainfall patterns in the Americas might help to explain high incidences of dengue in recent years.



Origin Region	2023 Prelim
Canada	1,419,050
Mexico	1,084,840
Total North America	2,503,890
Europe	1,175,600
Western Europe	1,120,220
Eastern Europe	55,380
Asia	480,620
Northeast Asia	372,640
Southeast Asia	56,230
South Asia	51,750
Oceania	300,540
South America	187,420
Central America	33,960
Middle East	23,420
Caribbean	18,540
Africa	12,730
Total Overseas	2,230,000
Total International	4,740,000

Aedes aegypti - Associated Diseases Confirmed Clark County 2017-2023



	2017	2018	2019	2020	2021	2022	2023
Chikungunya	0	0	0	0	0	0	0
Yellow Fever	0	0	0	0	0	0	0
Zika	1	0	0	0	0	0	0
Dengue	0	0	5	2	0	1	2

Long Term Community Impact

No single, coordinated mosquito control program across Clark County



Aedes aegypti will continue to expand and entrench itself – calls for service



Community needs a consistent and organized IMM Plan / MAD



Develop emergency abatement responses: Zika, Dengue, West Nile