



# **Vector Control 2022**

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**Rick Howard, District Manager  
Orange County Mosquito and Vector Control District**

# Scope and Governance

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- 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



# What is a Vector?

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A **Vector** is an organism, typically a biting insect or tick, that transmits a disease or parasite from one animal to another animal or person.



# **Why are Mosquitoes Dangerous?**

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- **Can transmit diseases to people and pets**
- **Can impact the quality of life**
- **Mosquito bites can lead to secondary infections due to itching**
- **Aedes mosquitoes are invasive to Orange County**

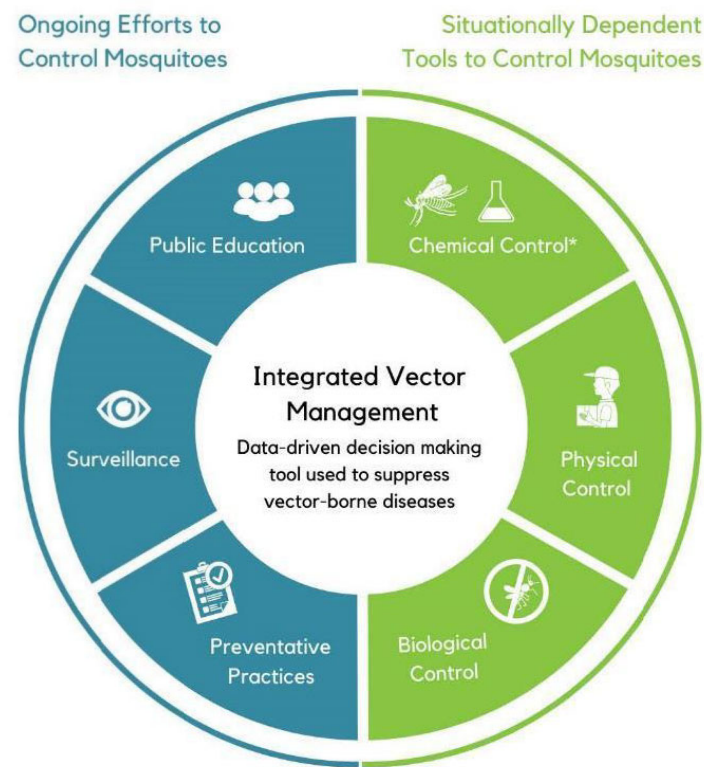




# How OCMVCD Controls of Mosquitoes

## Integrated Vector Management

- Education and outreach
- Mosquito Surveillance
- Source Reduction
- Control



# Mosquitoes in the OC #27

**Southern House  
Mosquito**

*Culex quinquefasciatus*



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

**Yellow Fever  
Mosquito**

*Aedes aegypti*



- Zika
- Dengue viruses
- Chikungunya
- Dog heartworm
- Yellow fever

**Asian Tiger  
Mosquito**


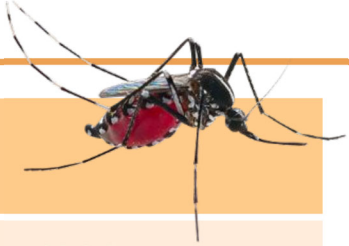
*Aedes albopictus*



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



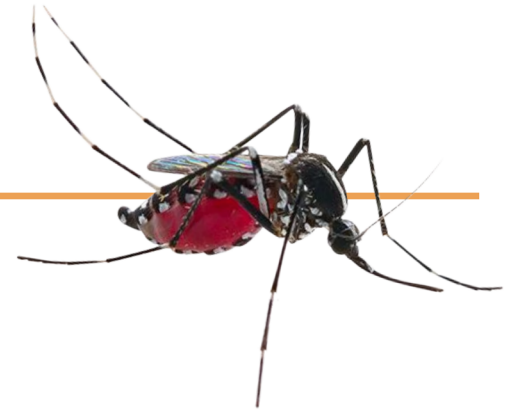
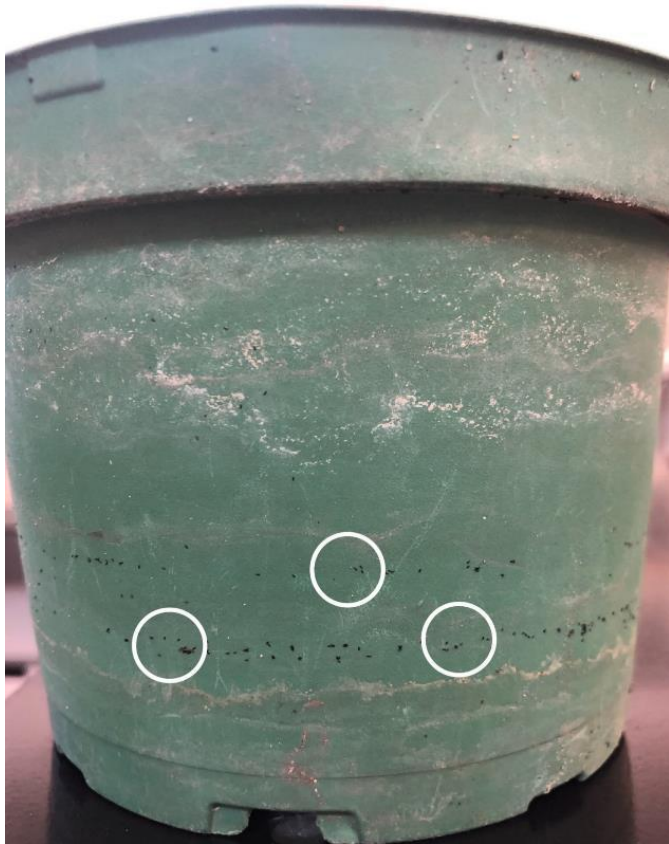
# Mosquitoes

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



# Invasive Aedes

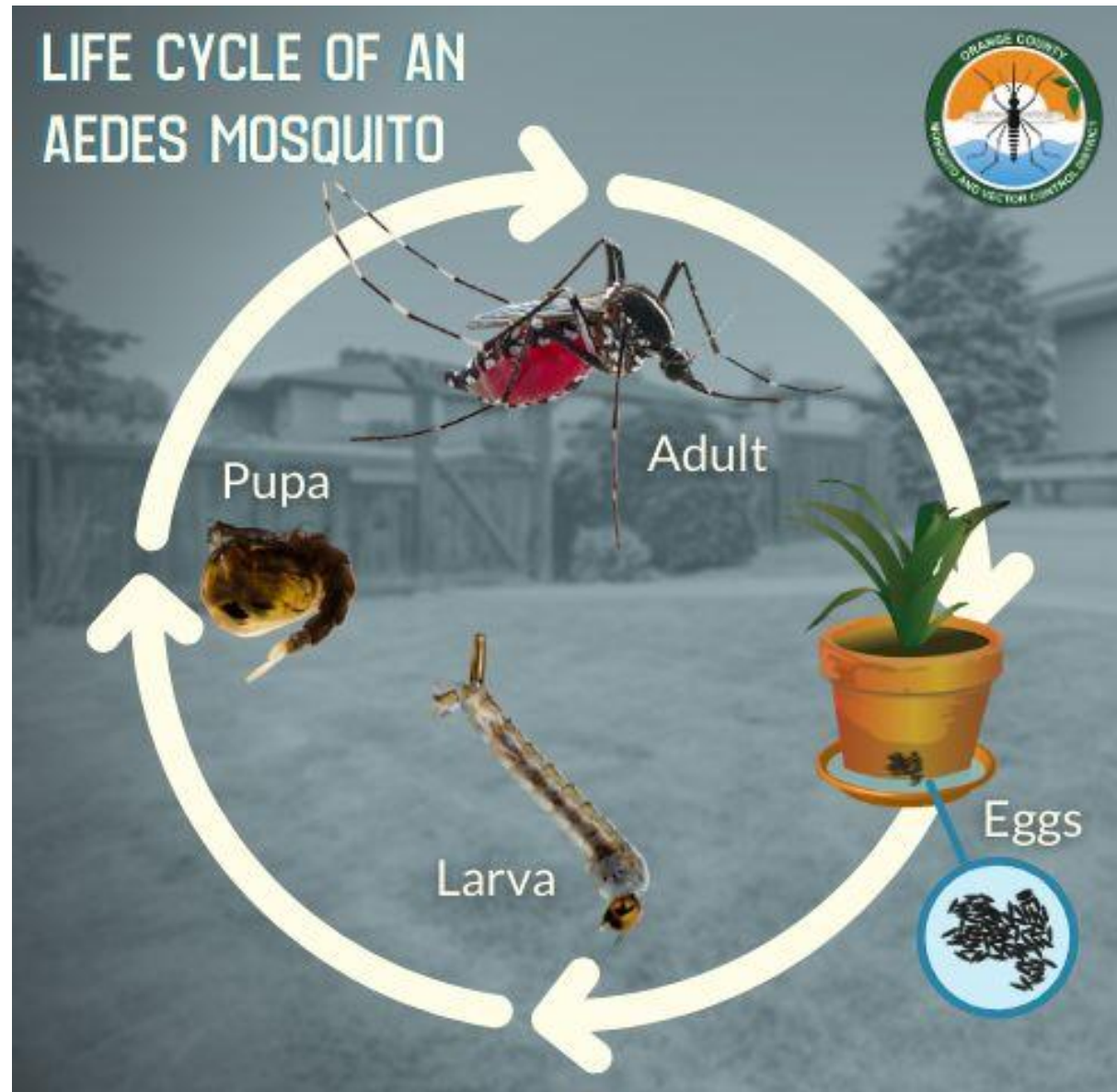
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- 1/4 inch long
- Not native to California
- Black and white bands across body
- Aggressive day-time biters
- Breed indoors and outdoors

# Life Cycle of the Aedes Mosquito

- Mosquitoes can complete their life cycle (from egg to adult) in about 5-7 days.
- Mosquitoes need stagnant water to go through their life cycle.
- Eggs can survive without water for several years and will hatch when water is present, and conditions are right.





# Aedes Infestation

2016 = 3,500 acres or 5.0 sq.mi

2017 = 17,000 acres or 26 sq.mi

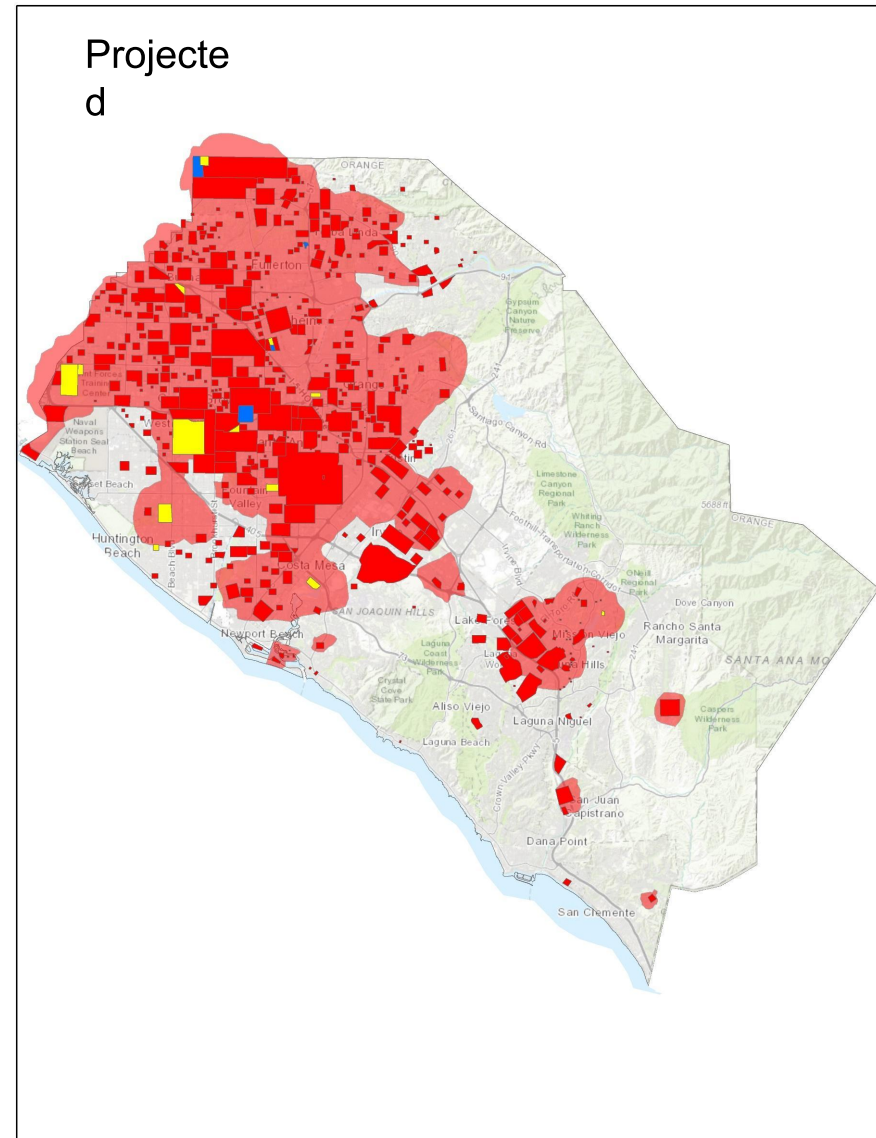
2018 = 45,600 acres or 71 sq.mi

2019 = 63,813 acres or 99.7 sq.mi

2020 = 65,229 acres or 102 sq.mi

2021 = 74,880 acres or 117 sq.mi

Projected = 89,666 acres or 140 sq.mi



# Controlling for Aedes Mosquitoes



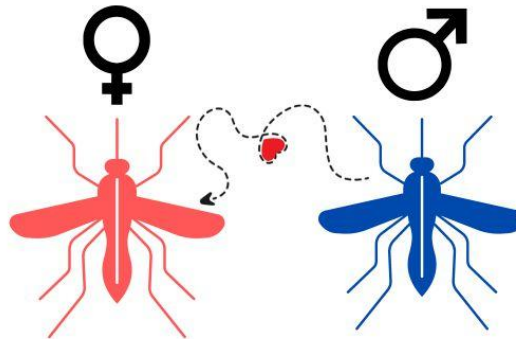
## Challenges of Invasive Aedes

- Have rapidly spread throughout California.
- Found in every city in Orange County
- Prefer smaller water sources, making them harder to control
- They lay their eggs in water sources in people's front yards, backyards, and patios
  - Areas where mosquito control agencies can't easily inspect



# New Technologies: SIT

- Environmentally-friendly insect pest control method
- A non-chemical control method
- The basic steps of SIT are:
  - Sterilization of a target pest (mosquitoes),
  - Release of sterile males in a specific area over time
  - Sterile males will mate with wild females
- The SIT technique results in no offspring and a declining pest population, reducing the presence of the specific breed of virus-spreading mos





# Different SIT Techniques

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- **Wolbachia:** Wolbachia is a common type of bacteria found in insects. The bacteria is injected into male mosquitoes. Once they mate the eggs are not viable.
- **Irradiation:** Irradiation such as X-rays, is used to sterilize insects so that, while they remain sexually competitive, they cannot produce offspring.
- **Genetically Modified Mosquitoes:** GM mosquitoes are mosquitoes that have been implanted with a gene not originally present in the insect. In one case, a self-limiting gene that disrupts the normal processes of mosquitoes' offspring.



# SIT: What you need to know

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- Male mosquitoes do not bite and can not transmit diseases
- SIT will not eliminate the use of other chemicals to control for mosquitoes.
- SIT only targets one specific type of mosquito
  - *Aedes aegypti*
- SIT releases will have to be ongoing every mosquito season
- SIT will not be widely implemented for several more years



# SIT in Orange County

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- District is exploring the use of irradiation in 2023
  - Irradiation is available to be implemented as soon as the mosquito colonies and equipment are available, no long regulatory process
  - This method is proven in other insects and more evidence is showing it works for Aedes mosquitoes
  - Approximately 300 Meter diameter or a quarter square mile



# New Technologies: Drones

- Staff FAA licensed to operate drones
- Drones assist in minimizing damage to environmentally sensitive areas
- Work with landowners to utilize drones in marshes, wetlands and other large areas



# **Large Area & Routine Treatment Areas in Costa Mesa**

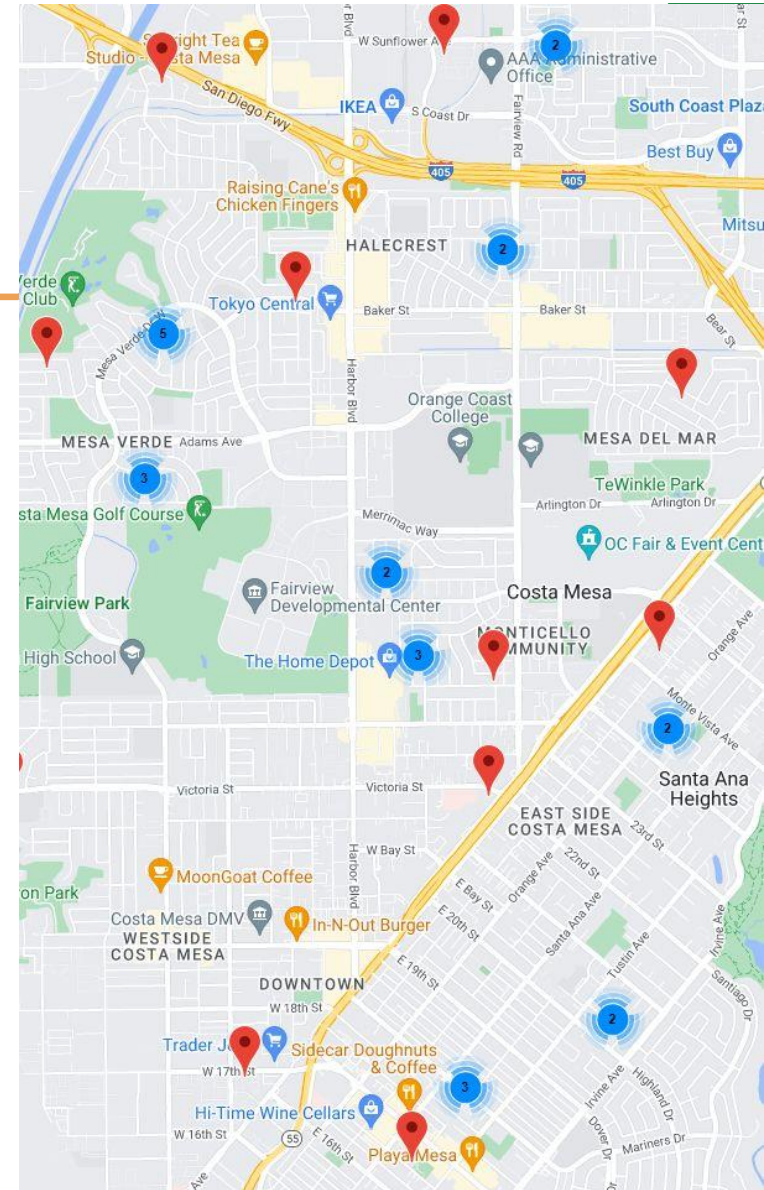
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- **127 routinely treated Area**
  - Parks
  - Schools
  - Commercial Area
- **Other Large sites**
  - Mesa Verde Country Club
  - Costa Mesa Golf Course
  - The OC Fairgrounds
  - Fairview Developmental Center
  - Estancia High School
  - Orange Coast College
  - Canyon Park

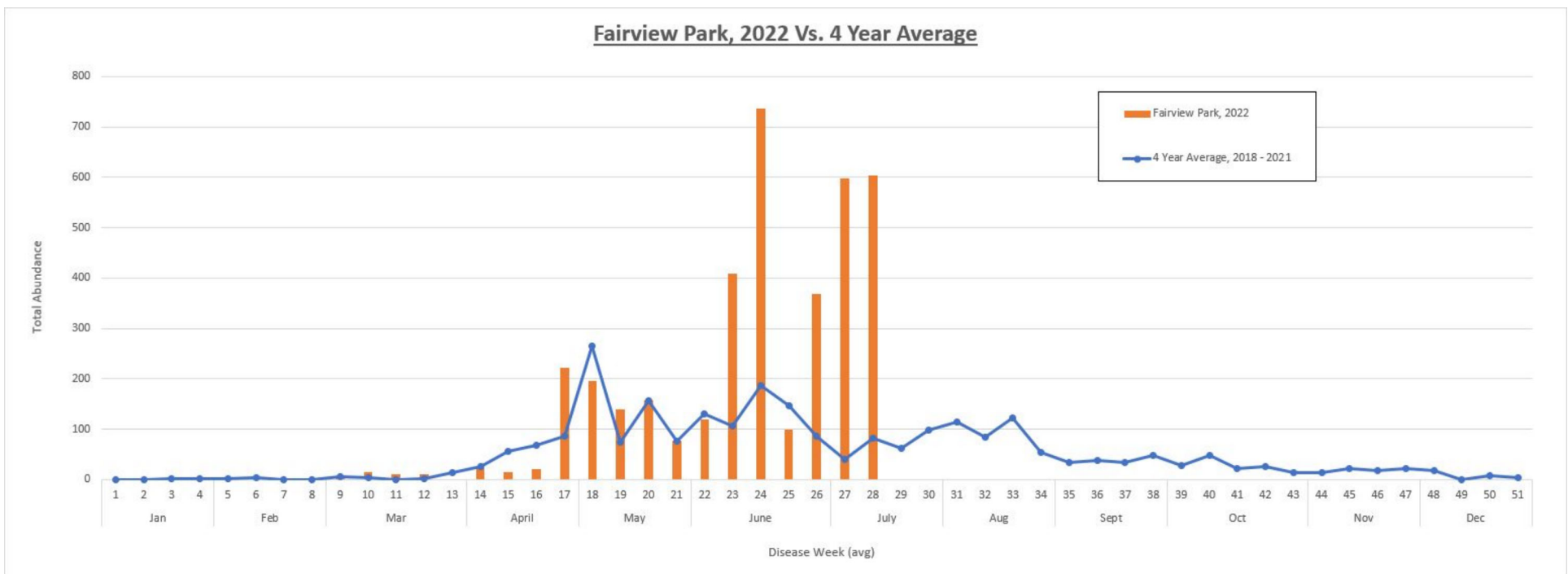


# Service Request Data in Costa Mesa

Service Requests	2019	2020	2021	2022 (YTD June)
Mosquitoes	175	361	194	36
Red Imported Fire Ants	1	0	8	0
Rats	29	18	30	14
Other**	13	4	4	0
** Other includes service for flies				



# Fairview Park Trap Data





# Fairview Park Inspection and Treatments

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- Two areas of routine inspection
  - Upper Fairview (vernal pools)
  - Fairview Wetlands
- Vernal pools only come into existence with heavy rains
  - OCMVCD has a MOU with Fish and Wildlife Service and the City of Costa Mesa to provide mosquito control
- Fairview wetlands can produce mosquitoes, due to the Tule patches in all five ponds
  - In 2020 the wetlands were inspected 21 times and treated 8 times
  - In 2021, they were inspected 22 times and treated 12 times
  - Special Services inspects and treats the wetlands twice a month





# Working Together

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- Include the District messages in emails and newsletters to residents
- Participate in the Annual Summer Awareness Campaign
- Share or Reshare social media messaging
- Invite the District to community outreach events and presentations
- Help increase awareness among residents on the shared responsibility of mosquito control:
  - Tip
  - Toss
  - Take Action

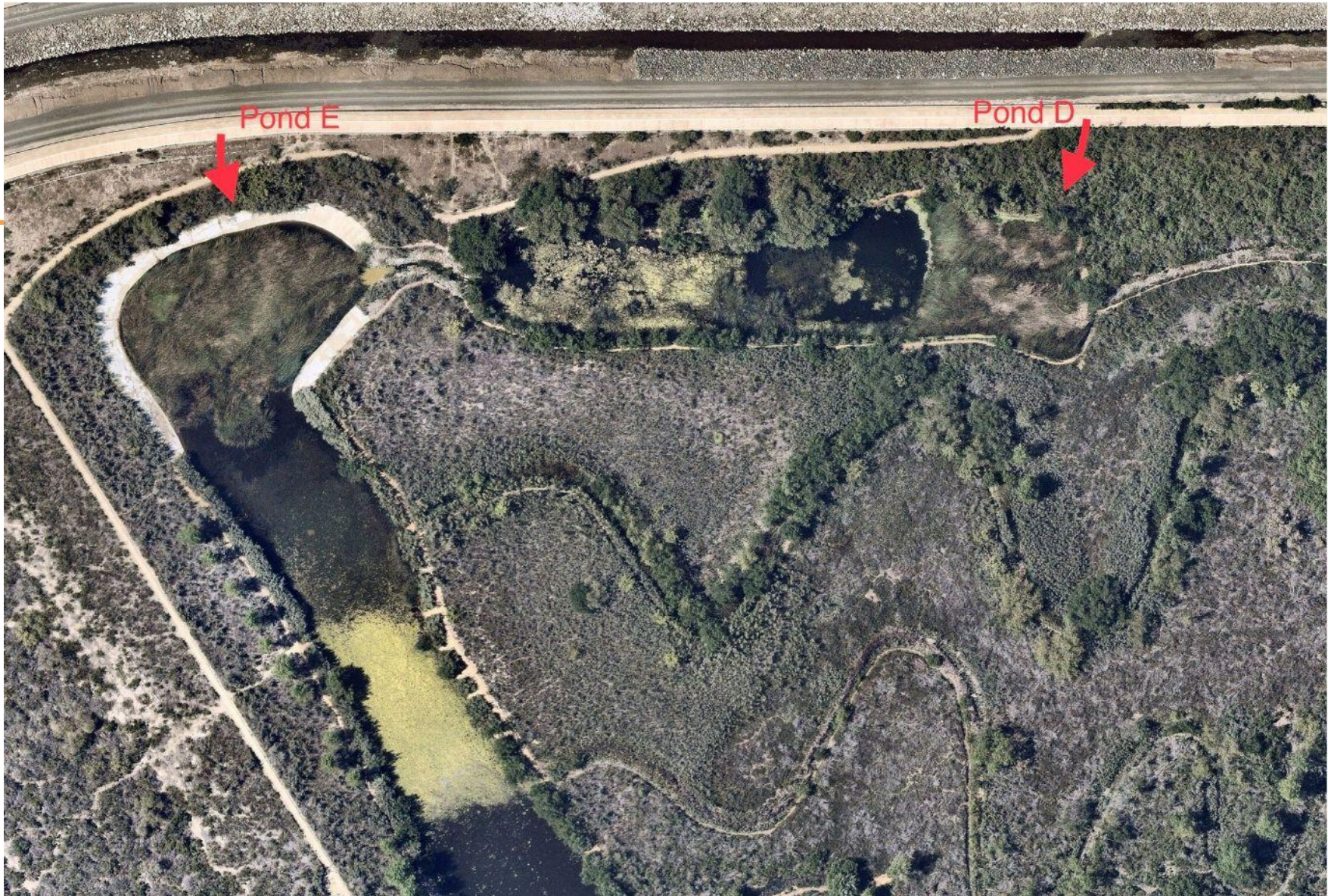


# Questions

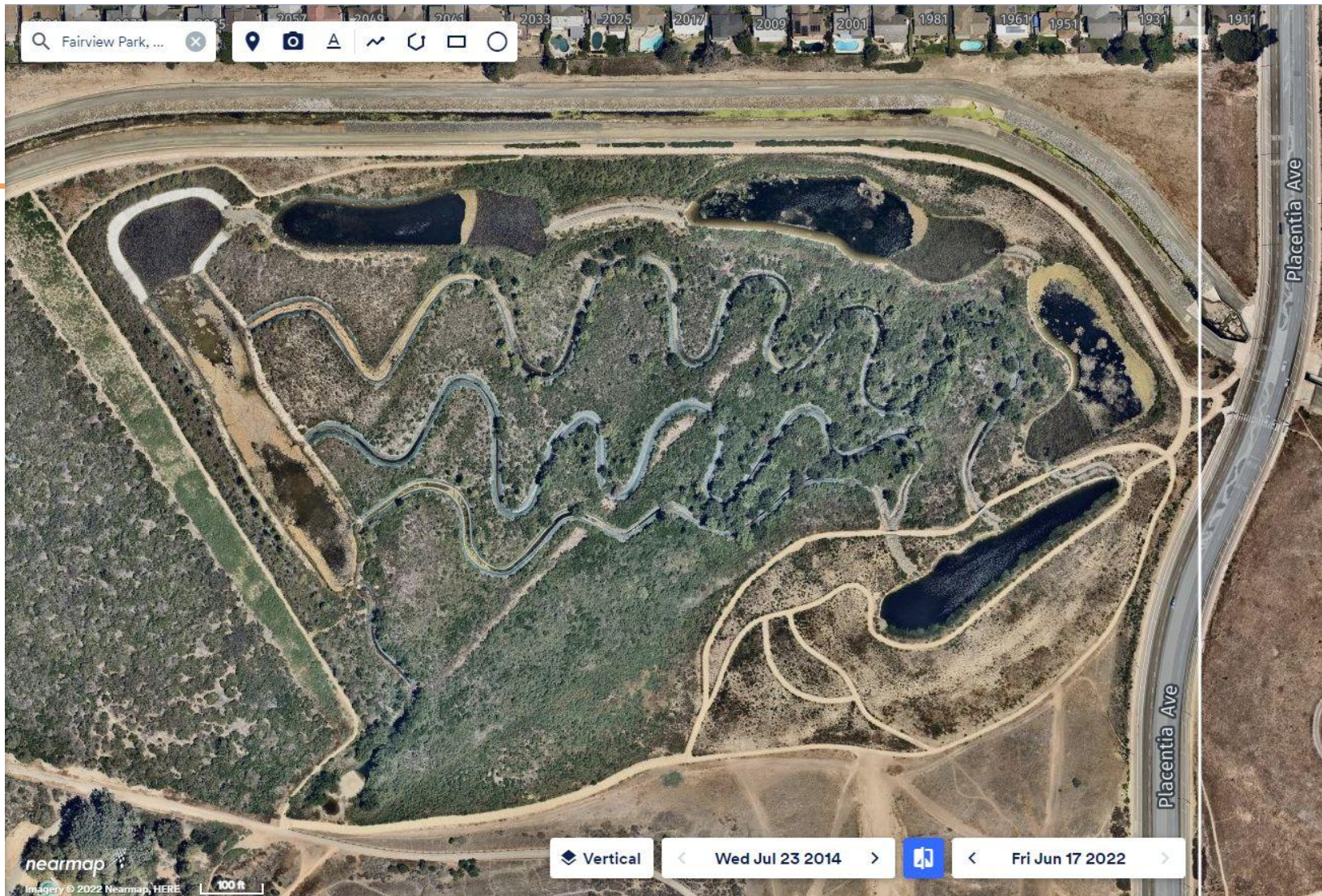
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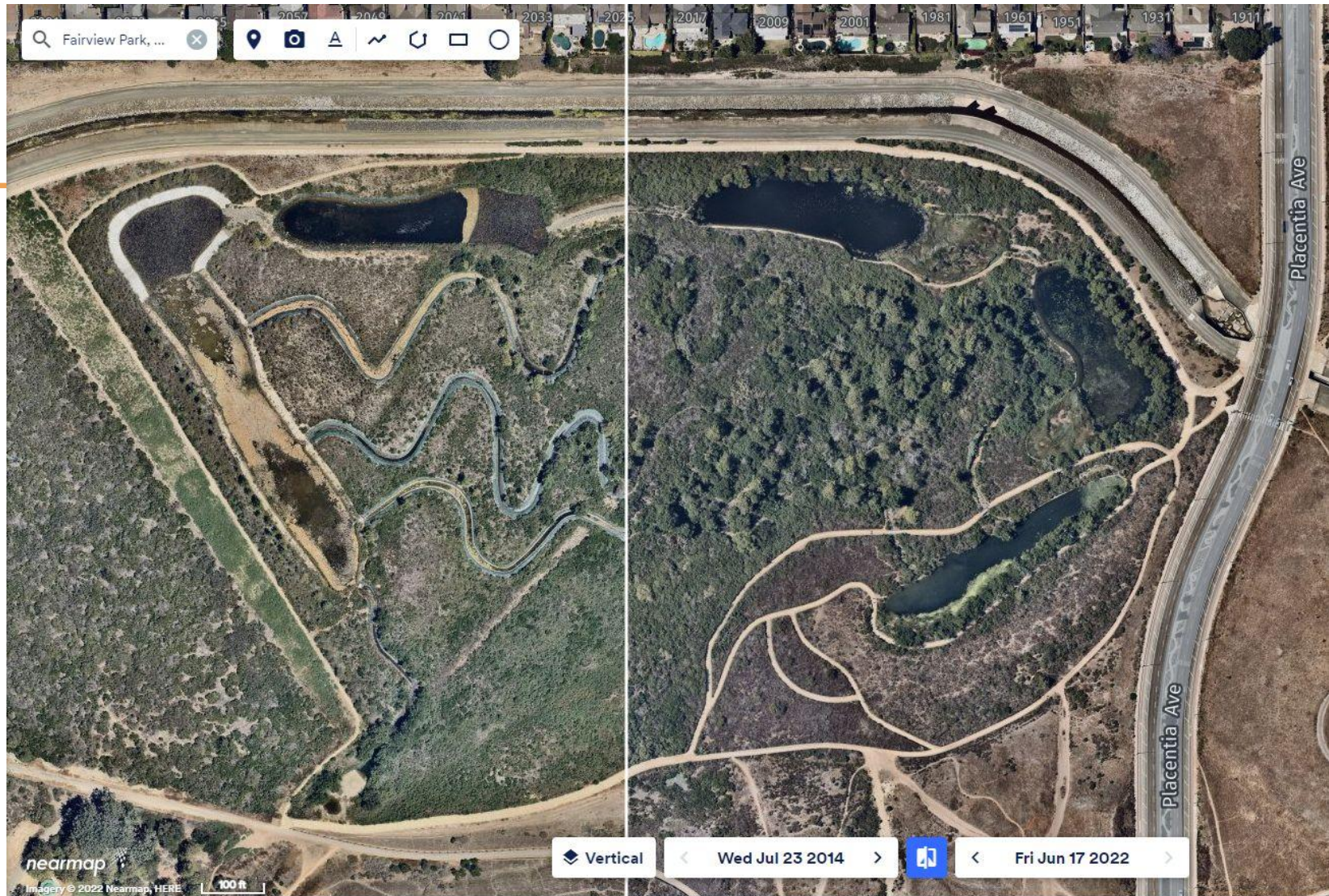




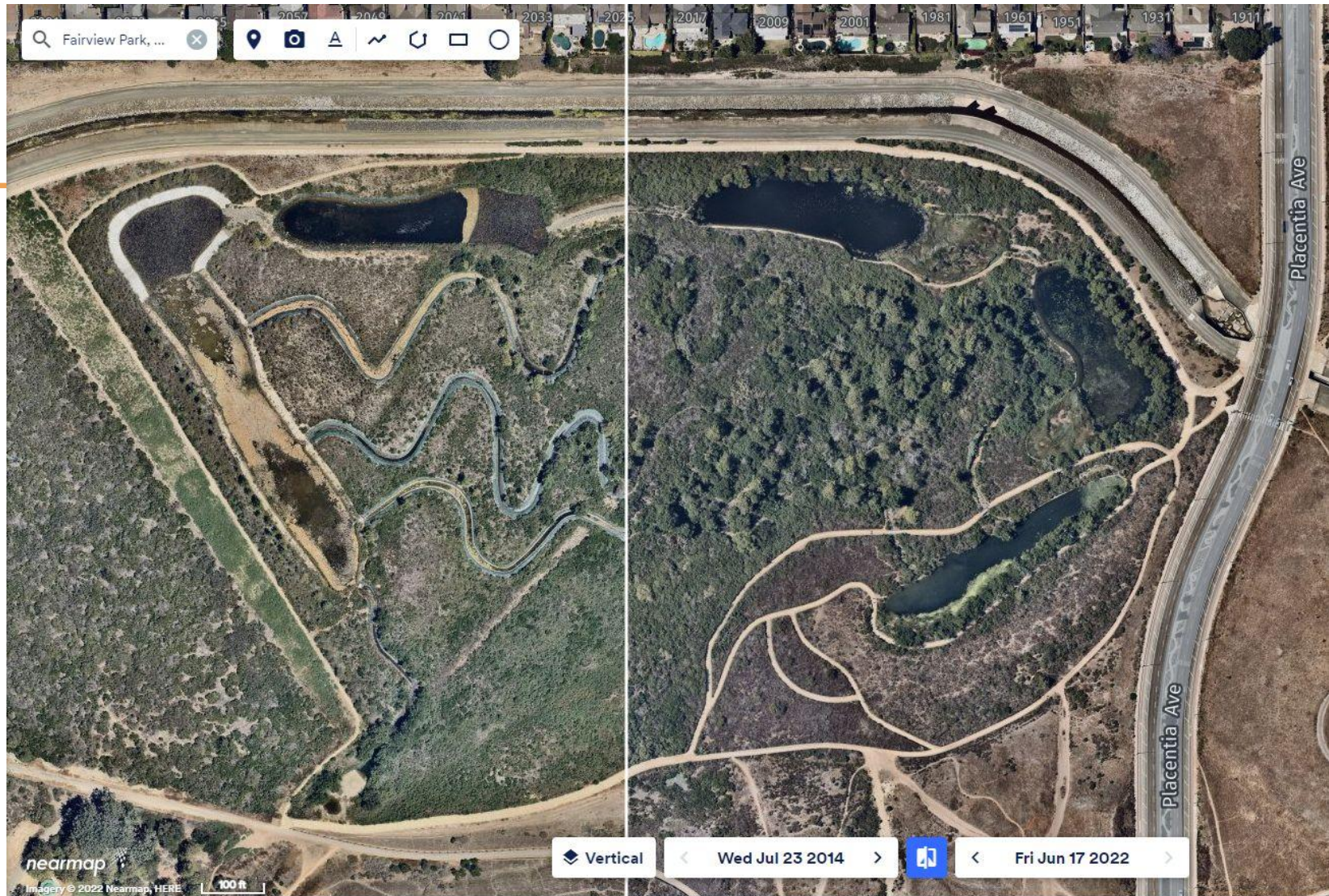




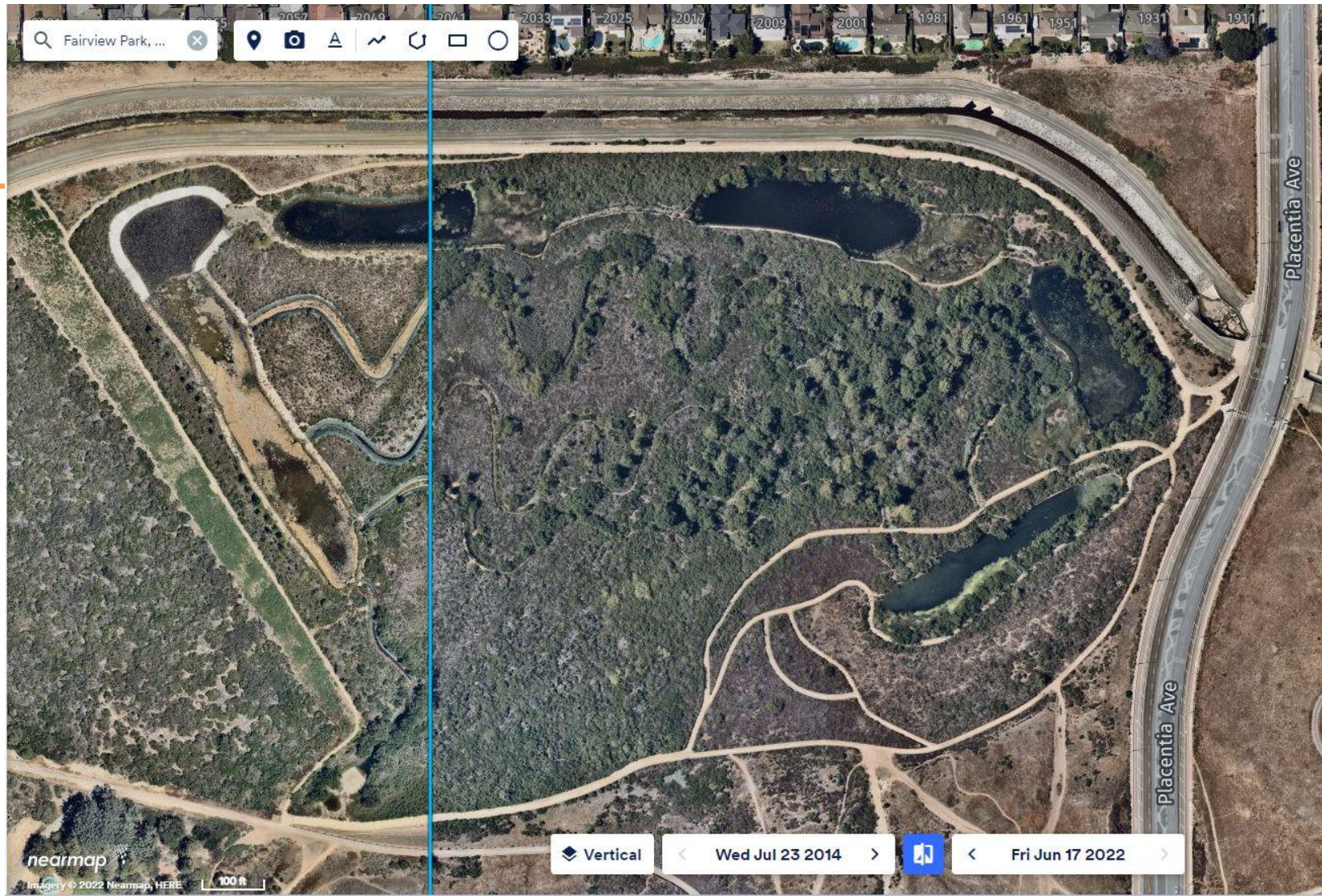




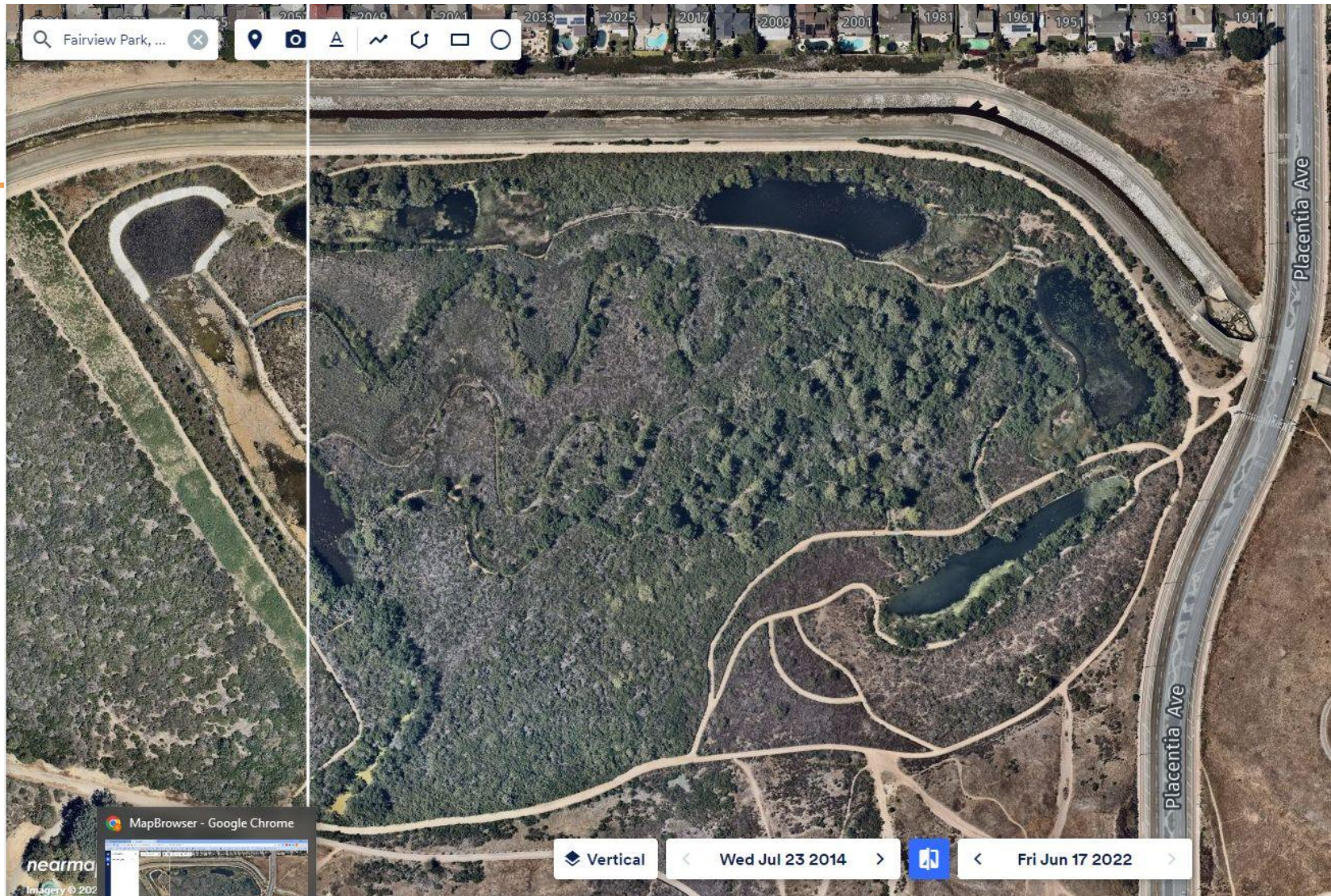




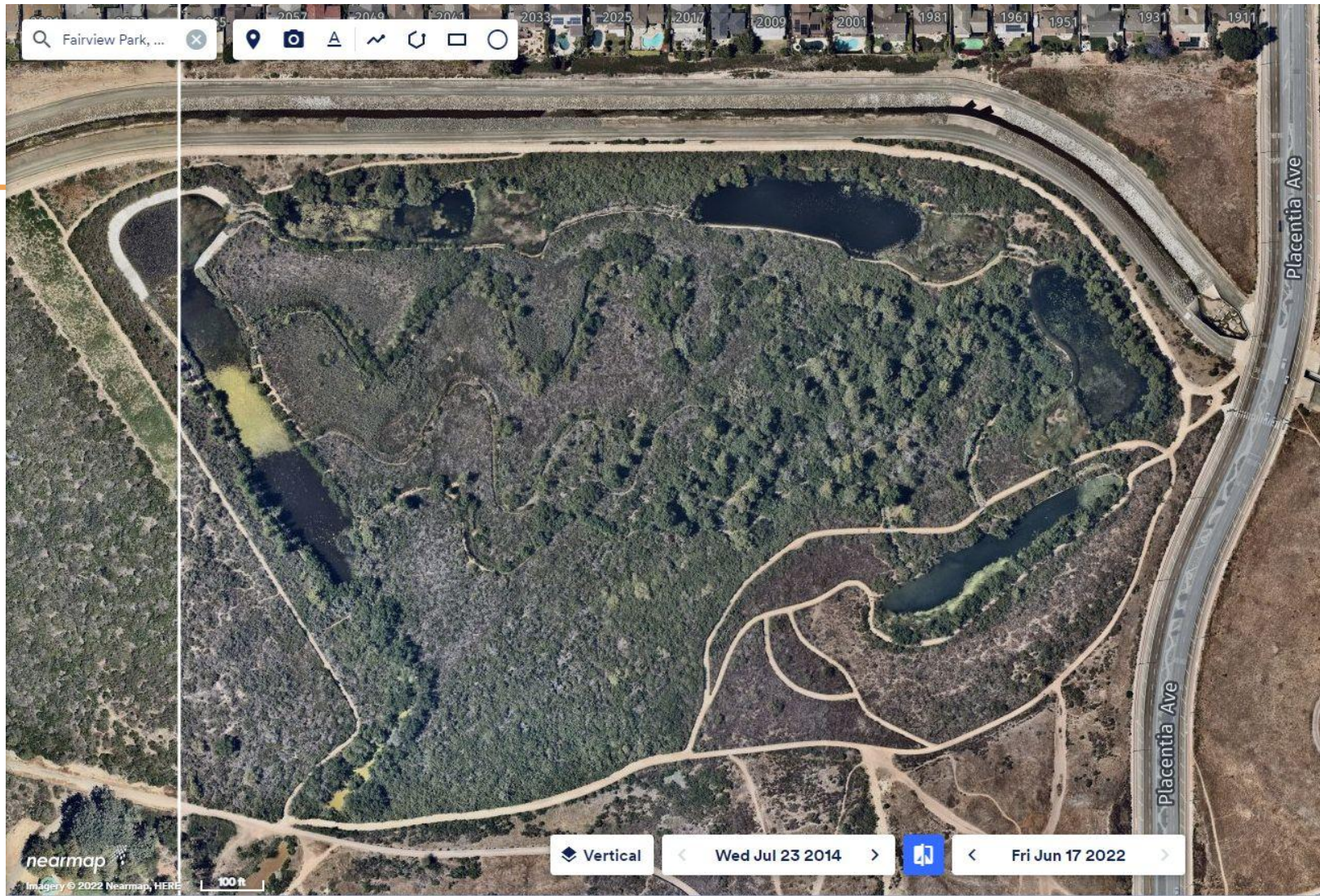




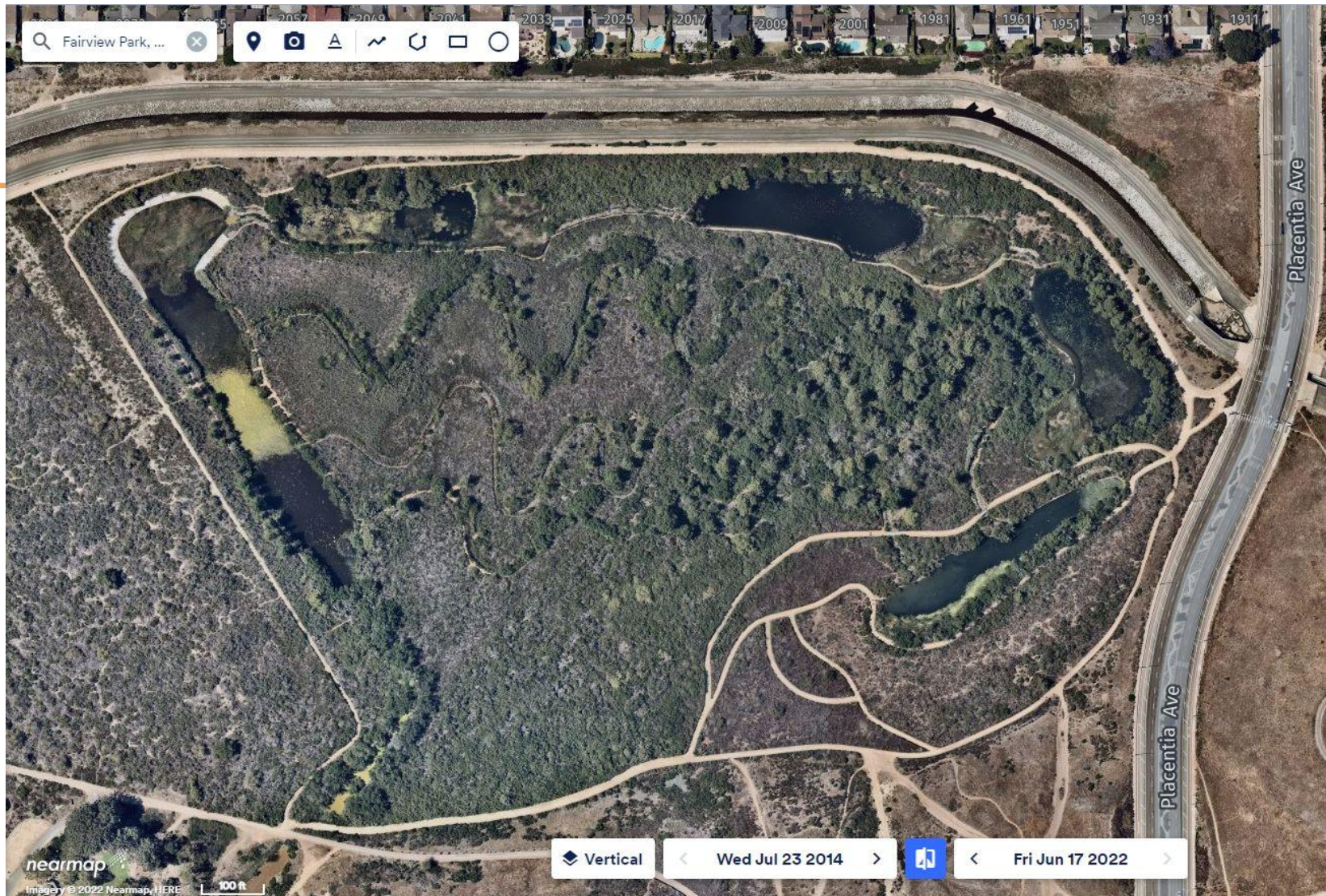














June  
2022



April  
2021















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**SECOND READING AND ADOPTION OF AN ORDINANCE  
TO APPROVE CODE AMENDMENT FOR CMMC  
PERTAINING TO PARKING BY PERMIT ONLY AND TO  
AUTHORIZE RELATED FEES**

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**Public Works Department**

**City Council Meeting  
July 19, 2022**







# BACKGROUND

## May 3, 2022 City Council Meeting

- Approved the Revised Residential Permit Parking (RPP) Program Guidelines and Policies.
- Authorized staff and City Attorney to initiate amendments to the Costa Mesa Municipal Code (CMMC) incorporating proposed changes to the RPP program and return for approval through a Public Hearing process.
- Approved in concept the implementation of an annual residential parking permit fee with an escalating rate structure and discount for qualifying low-income residents.







# First Reading of Ordinance

- June 21, 2022 City Council Meeting
- Proposed Amendments of portions of Title 10 of CMMC to incorporate changes to the RPP program
  - Pertain to Parking by Permit Only
  - Require the payment of related fees
- Comments from CC Meeting incorporated into proposed amendment for 2<sup>nd</sup> reading and into revised RPP Program guidelines and policies:
  - Define “Eligible Driver” and vehicle registration to address of dwelling
  - Add flexibility for special cases
  - Work vehicles registered to business do not qualify
  - Recommend a maximum number of permits per dwelling
  - Provide equitable access and permit fees





# Resolution to Establish Annual RPP Fees

- Proposed escalating permit fee structure
- Discounted rate option for qualifying low income residents
- Fees aimed to cover administrative costs to efficiently manage and enforce
- Annual fees to be reviewed biennially







# Fiscal Review

- Funding for the new Residential Permit Parking Program approved in the FY 22-23 budget.
- Permit fees aimed to cover administrative costs of managing the RPP Program to make program cost-neutral.





# Staff Recommendations

Staff recommends the City Council:

1. Give second reading to and adopt, by title only, Ordinance No. 2022-04 to approve Code Amendment CO-2022-xx, amending Article 3 of Title 10 of the Costa Mesa Municipal Code pertaining to parking by permit only.
2. Approve revisions to the Residential Permit Parking Program Guidelines and Policies.
3. Approve proposed Resolution No. 2022-xx to establish annual residential permit parking fees.







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**THE CITY OF COSTA MESA REVITALIZATION AND  
RESIDENTIAL NEIGHBORHOODS PROTECTION  
MEASURE**

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**CITY BALLOT INITIATIVE**

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**July 19, 2022**





# CITY COUNCIL HOUSING GOAL

## Diversify, Stabilize and Increase Housing to Reflect Community Needs



- Complete resource planning to implement longer-term programs such as ADU's, STR's, and HOME funds and present the results to the City Manager.
- Evaluate and identify short-term and long-term staffing needs to assist with core Development Services Department programs.
- Complete a Public Review Draft Housing Element and present to the City Council.
- Present a Development Program to the City Council for senior housing at the Senior Center site.

- Present to the City Council opportunity sites for potential motel conversions with site control options.
- Present to the City Council for action necessary code amendments to address SB 8, 9, and 10.
- Initiate and convene a Citizens Advisory Group to discuss Measure Y and Housing Element compliance.
- Present to the City Council for action the Housing Element.
- Present to the Planning Commission a draft Inclusionary Housing Ordinance.
- Initiate a draft STR Ordinance and an evaluation of program implementation options.
- Present to the City Council for consideration a development plan and land use documentation for affordable housing at the Senior Center.





# STATE MANDATED RHNA ALLOCATION FOR COSTA MESA

Income Category	% of Area Median Income (AMI)	RHNA Allocation (Housing Units)
Very Low Income	0 - 50% AMI	2,919
Low Income	51 – 80% AMI	1,794
Moderate Income	81 – 120% AMI	2,088
Above Moderate Income	>120% AMI	4,959
Total:		11,760

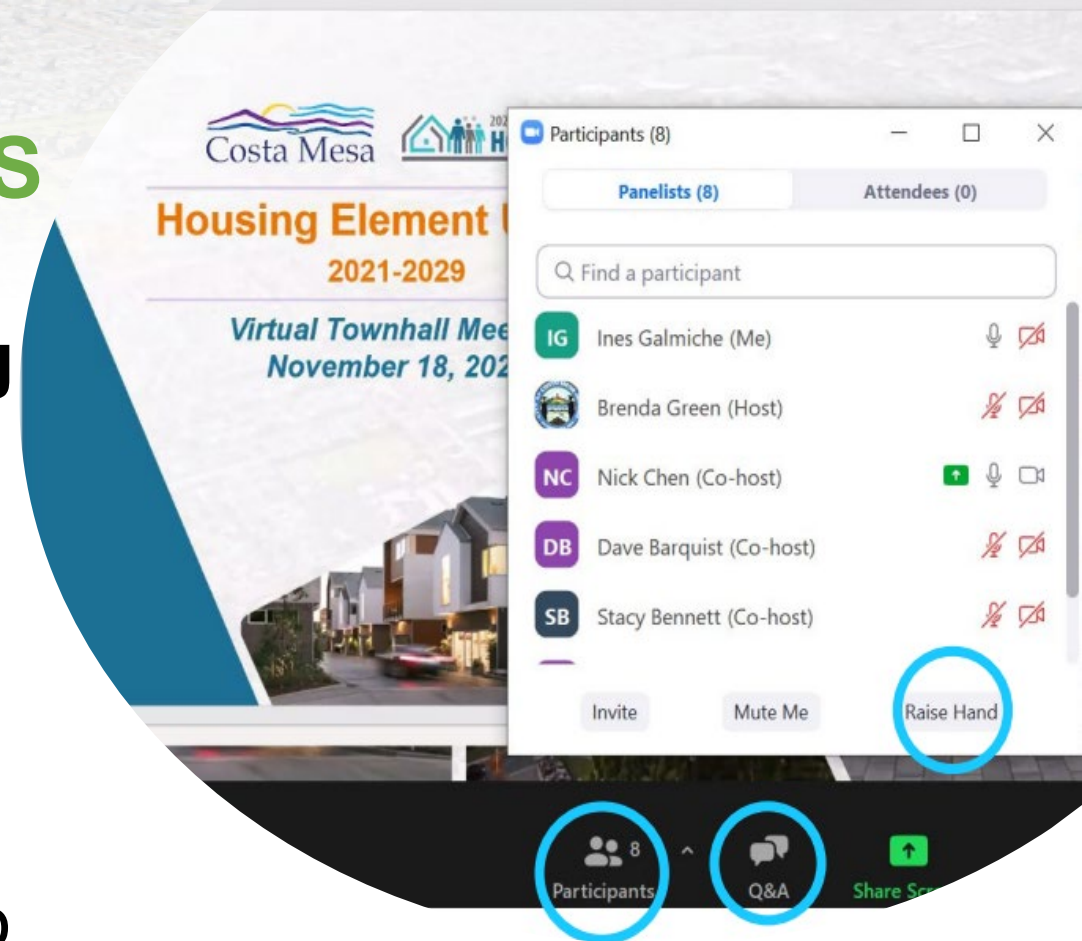
# HOUSING ELEMENT OUTREACH

- **Housing Element Update kickoff - Summer 2020**
- **Community Outreach**
  - ✓ Town Halls & District Specific Meetings
  - ✓ Community Survey with 465 responses
  - ✓ Subject Matter Expert / Group Meetings
  - ✓ Multiple Study Sessions
  - ✓ Three Planning Commission public hearings
  - ✓ Two City Council public hearings



# SUMMARY OF PUBLIC COMMENTS

- **Overall, the City needs more housing**
- Housing should be focused on increasing quality of life for residents
- Need education about affordable housing to increase awareness and understanding
- Accessory Units should be affordable to lower income households
- Need supportive services along with housing





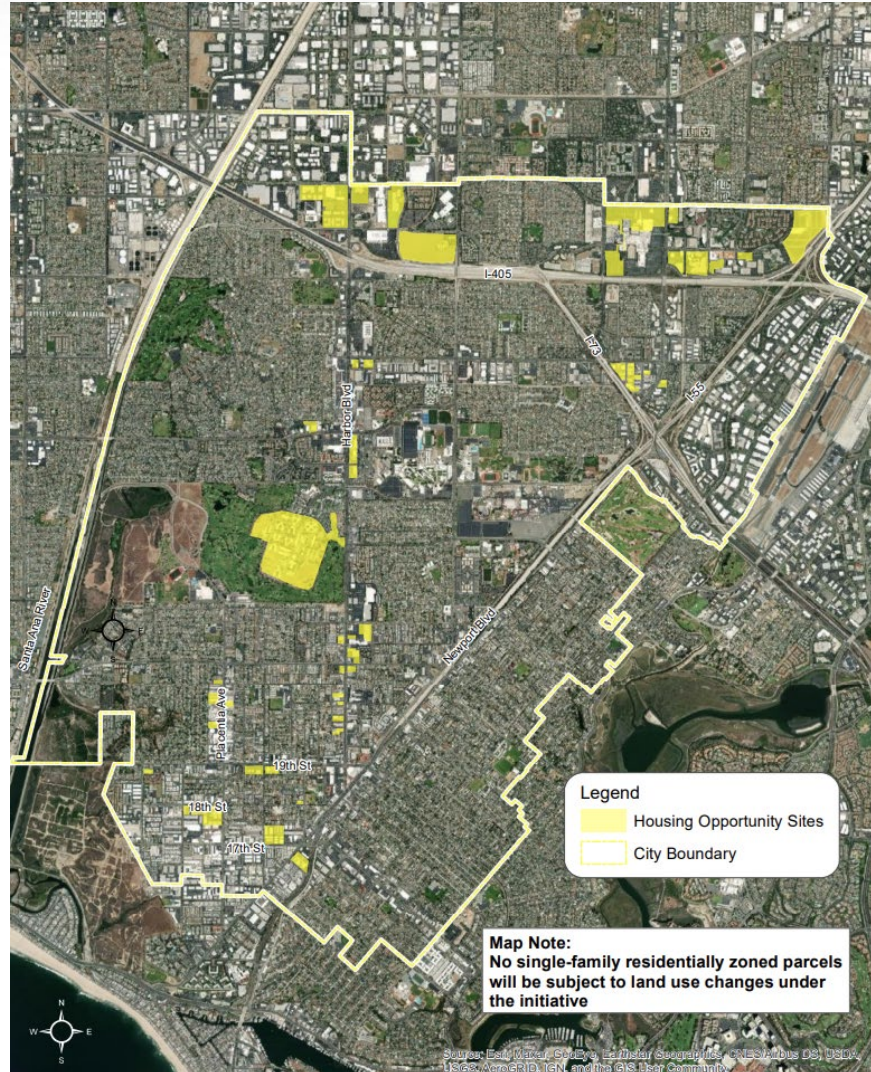
# SUMMARY OF PUBLIC COMMENTS

- Overcrowding often occurs and there is a need for multigenerational living
- Senior housing should be prioritized, followed by housing for persons with disabilities
- Established residential neighborhoods should be preserved
- More affordable housing near transit and jobs
- Overall need for more affordable housing for residents of Costa Mesa, both for renters and owners



# POTENTIAL HOUSING OPPORTUNITIES

- Preserve open space and established residential neighborhoods
- Focus new housing opportunities on already developed properties along major commercial, industrial, and mixed use corridors:
  - ✓ Harbor Boulevard
  - ✓ Areas north of the I-405 freeway
  - ✓ the SoBECA area
  - ✓ Placentia Avenue
  - ✓ West 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> Streets
  - ✓ Newport Boulevard





# STATE HOUSING ELEMENT CERTIFICATION

- The City submitted the Housing Element to the State for certification in October 2021 and resubmitted in February 2022.
- In its comments, the State identified the City's Municipal Code provisions which require a City-wide vote for land use plans and certain projects as "clearly a constraint on development and conflicts with meeting State requirements." (Measure Y, 2016)
- The State has required that Housing Element Program 3G be modified to outline specific steps and a timeline to address the constraint to housing posed by the City-wide vote requirement.

# JULY 12, 2022 HOUSING STUDY SESSION

- On July 12, 2022 the City Council held a study session to receive an update and to discuss the future of housing in Costa Mesa and potential solutions to the current housing challenges.
- Staff provided an overview of community demographics, the status of Housing Element certification by the State, strategies to address housing instability implemented to date, and strategies for planning for the future.
- The Council Ad Hoc also provided a report on its activities and recommended the City Council agendaize a discussion of a potential ballot measure for the July 19, 2022 meeting.



# HOUSING AD HOC RECOMMENDATION

The Ad Hoc recommended that a potential ballot measure should amend the City's zoning code and be based on the following objectives:

1. Conducting a public visioning process resulting in updated land use plans for corridors and area north of the I-405 freeway
2. Revitalize corridors while keeping single family residential areas intact and restricting building heights
3. Providing affordable housing for middle- and working Costa Mesa families, youth, seniors, and individuals
4. Protecting open space and the environment
5. Requiring developers to pay impact fees for traffic, parks and open space

# BALLOT MEASURE

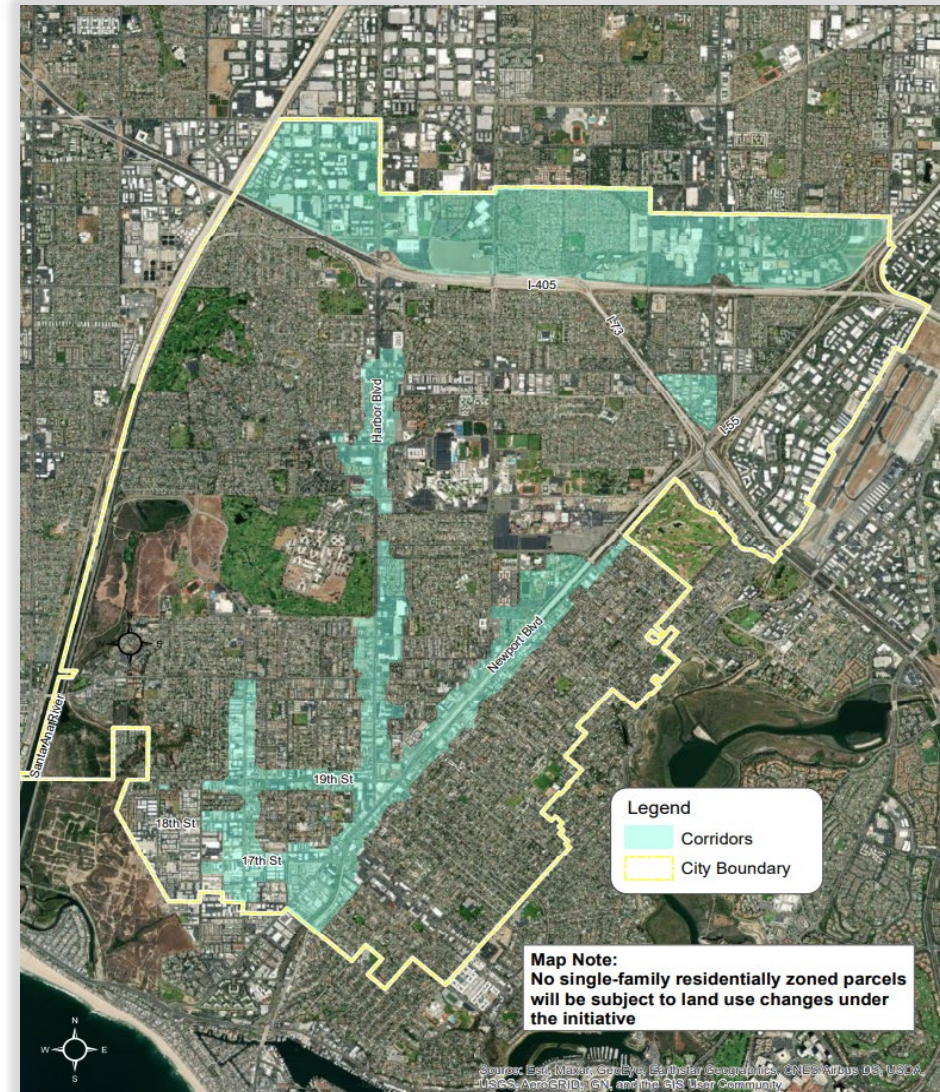
Following the Council's direction from the July 12, 2022 Study Session, staff have prepared a ballot measure that amends CMMC Section 13-200.106 to allow the City Council to approve and amend the City's General Plan, zoning, specific plans or overlay plans located in specific areas of the City.



# REVITALIZING CORRIDORS AND PRESERVING ESTABLISHED RESIDENTIAL NEIGHBORHOODS

The City corridors identified as housing and economic revitalization opportunities are:

- Harbor Boulevard;
- Areas north of the I-405 freeway;
- West 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> Streets;
- Placentia Avenue;
- the SoBECA area; and
- Newport Boulevard.



# BALLOT MEASURE

- Affordable housing opportunities and revitalization of existing commercial and industrial corridors.
- Shall not include any single family residentially-zoned property or open space.
- Must include deed-restricted affordable housing per a Council-adopted affordable housing ordinance or Development Agreement.
- Must include restrictions on building heights.
- Impact fees paid by developers to improve traffic, parks, and open space.
- Must be subject to environmental studies.
- Must include a public review process that includes community visioning and noticed public hearings.



# RECOMMENDATION

Staff recommends that the City Council:

- Approve the proposed ballot initiative entitled “The City of Costa Mesa Revitalization and Residential Neighborhoods Protection Measure”; and
- Determine whether to place the proposed initiative on the November 8, 2022 ballot and if so, adopt the Resolutions attached to the staff report.



THANK YOU