



# MONTHLY UPDATE

## February 2025

This update includes a preview of the February 19 agenda items and general announcement.

### MEETING ITEMS

#### *Policy for Indemnification of OC LAFCO by Applicants*

At the February meeting, the Commission will consider amendments to the agency's *Policy for Indemnification of OC LAFCO by Applicants* in accordance with recent amendments to the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. Originally adopted by the Commission in February 1999, the policy outlines the requirement for applicants to indemnify OC LAFCO.

#### *OC LAFCO Personnel Policies and Procedures Update*

At the beginning of each year, staff and general counsel complete a review of the agency's personnel, records and retention, and public records policies and procedures. At the February meeting, the Commission will consider administrative amendments and updates to the respective policies to ensure consistency and agency compliance with any changes in state and federal law.

#### *California Association of Local Agency Formation Commissions Membership Status*

The Commission will receive an update on recent CALAFCO activities and discuss membership status for Fiscal Year 2025-26.

### COMING SOON

#### *MSR and SOI Update for OCWD and Feasibility Analysis of the Potential Consolidation of OCWD and MWDOC*

OC LAFCO Staff has been working collaboratively with the consultants Albert A. Webb and Associates and John Schatz on the draft MSR. It is expected that staff and the consultants will be presenting the item during the Commission meeting on Wednesday, March 12, 2025.



Public Review Draft

### MUNICIPAL SERVICE REVIEW

Orange County Water District  
MSR | SOI  
23-06 | 23-06

# Lab Update

## OCMVCD Vector Activity Recap 2024



West Nile virus		Dengue		Flea-borne Typhus	
+ Human Infections	1	Travel-acquired Human Infections	57	+Human Infections	16
+ Mosquito Pools	53	+ Mosquito Pools	0	+ Flea Pools	166
+ Dead Birds	1				
+ Horses	0				

# Operations Update

- Hylio AG-230 treatment drone training with licensed pilot staff began yesterday and further field training continued today
- It will improve treatment efficacy, lessen environmental impacts and reduce injury risk in difficult terrain situations



# Communications Update

## 1. Social Media and Customer Service Calls Update



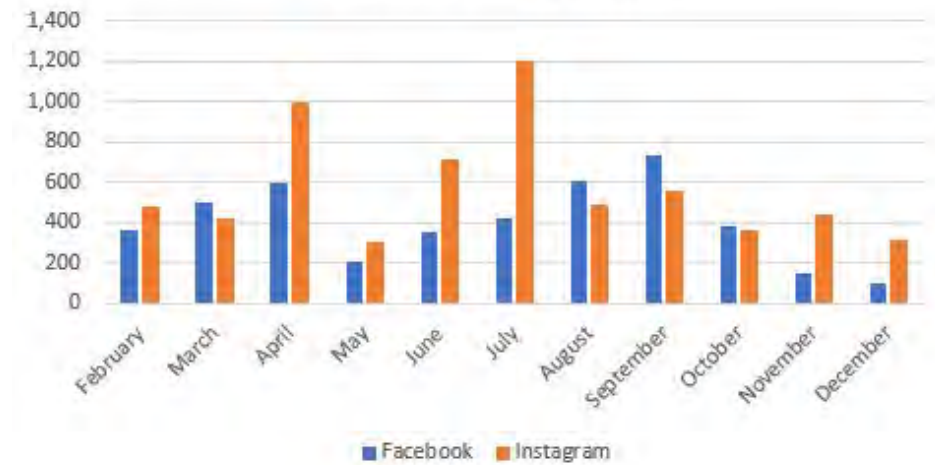
**Rats**

**Vehicle Damage?**  
 During the colder months, rats often shelter in vehicle engine bays causing havoc. To protect your vehicle, avoid parking near dense vegetation or trashcans. Keep your property clutter-free, maintain your yard, harvest all fruit, and park in the garage if possible.

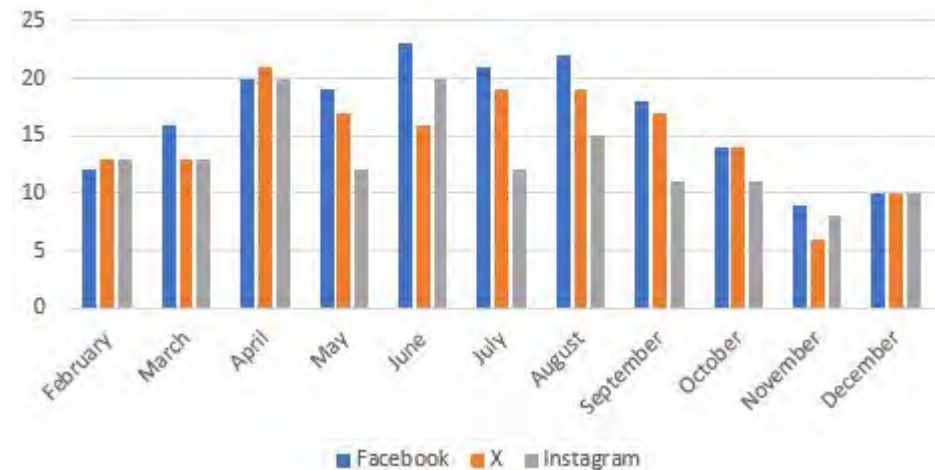
OCVECTOR.ORG



Content Interaction



Posts



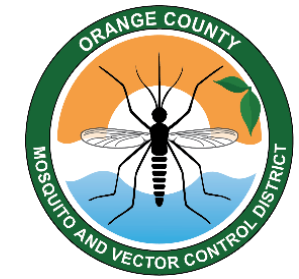


# **OCMVCD Typhus Program**

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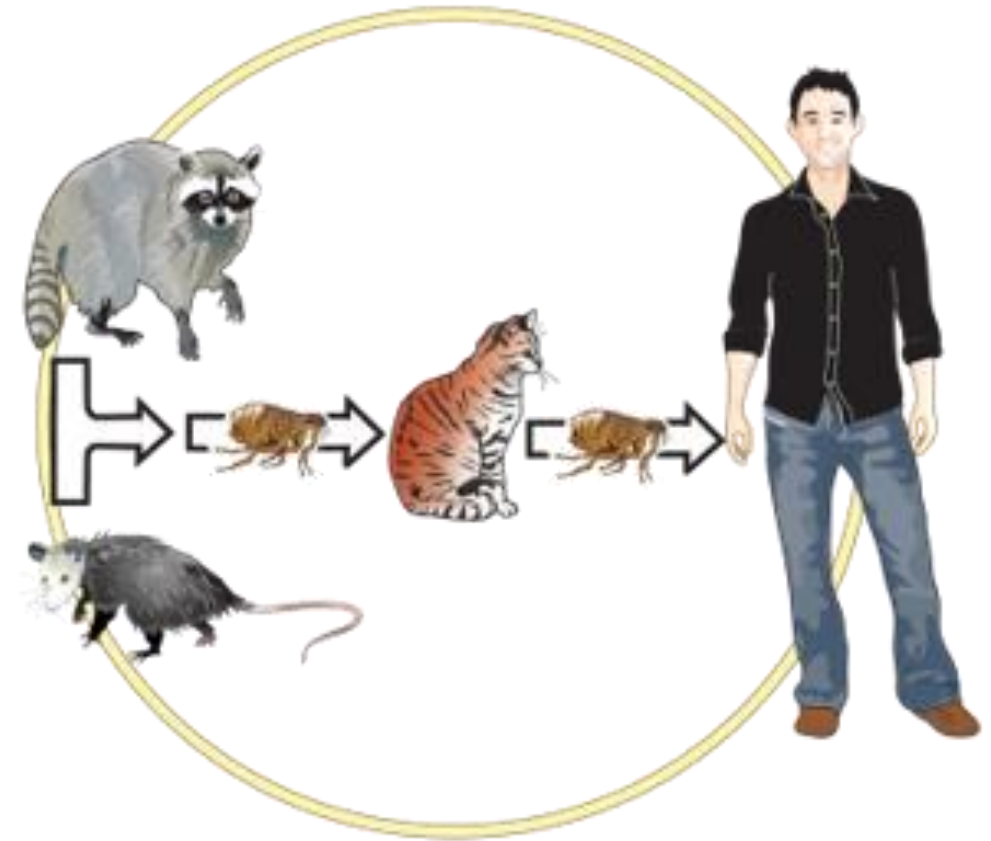
Amber Semrow – Director of Scientific Technical Services





# What is Typhus ?

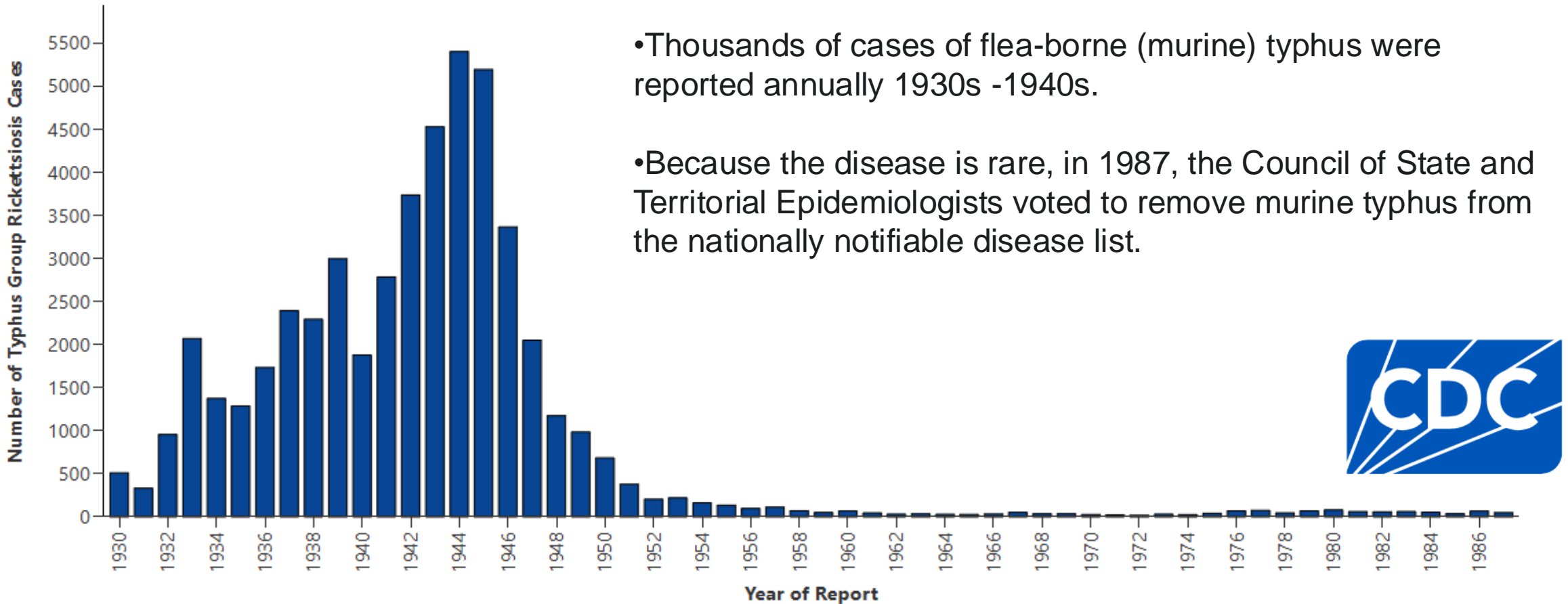
- Flea-borne typhus is a vector-borne disease caused by bacteria.
- The bacteria are spread to people through contact with infected fleas, typically the Oriental rat flea or the cat flea.
- Fleas infect animals such as rats, cats, and opossums with the bacteria.
- Fleas transmit the bacteria to people or animals when the flea feces are scratched into wounds, inhaled, or rubbed into the eyes.



**Typhus Transmission Cycle**

# History of Typhus Fever in the US

Number of annual typhus group rickettsiosis cases, 1930-1987



# Reemergence of Typhus in early 2000s

- Since 2004, there has been a resurgence of flea-borne typhus in Texas, Hawaii, and California. Nationally there are an average of 300 human cases per year.
- In 2006 Orange County began receiving reports of human cases for the first time since 1991.
- Orange and Los Angeles counties are areas where flea-borne typhus is endemic, or always present.
- Southern California is a high-risk area for flea-borne typhus.

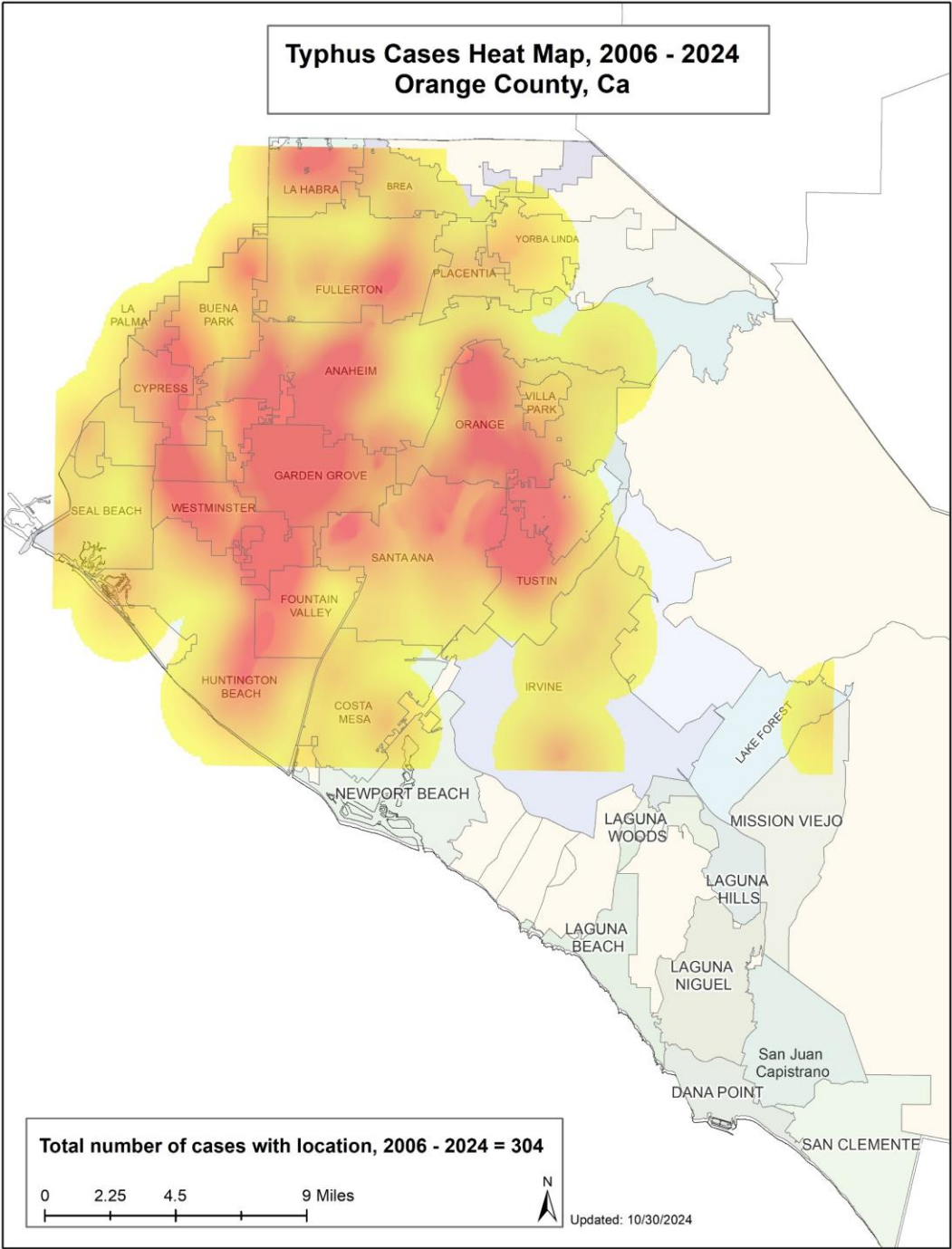
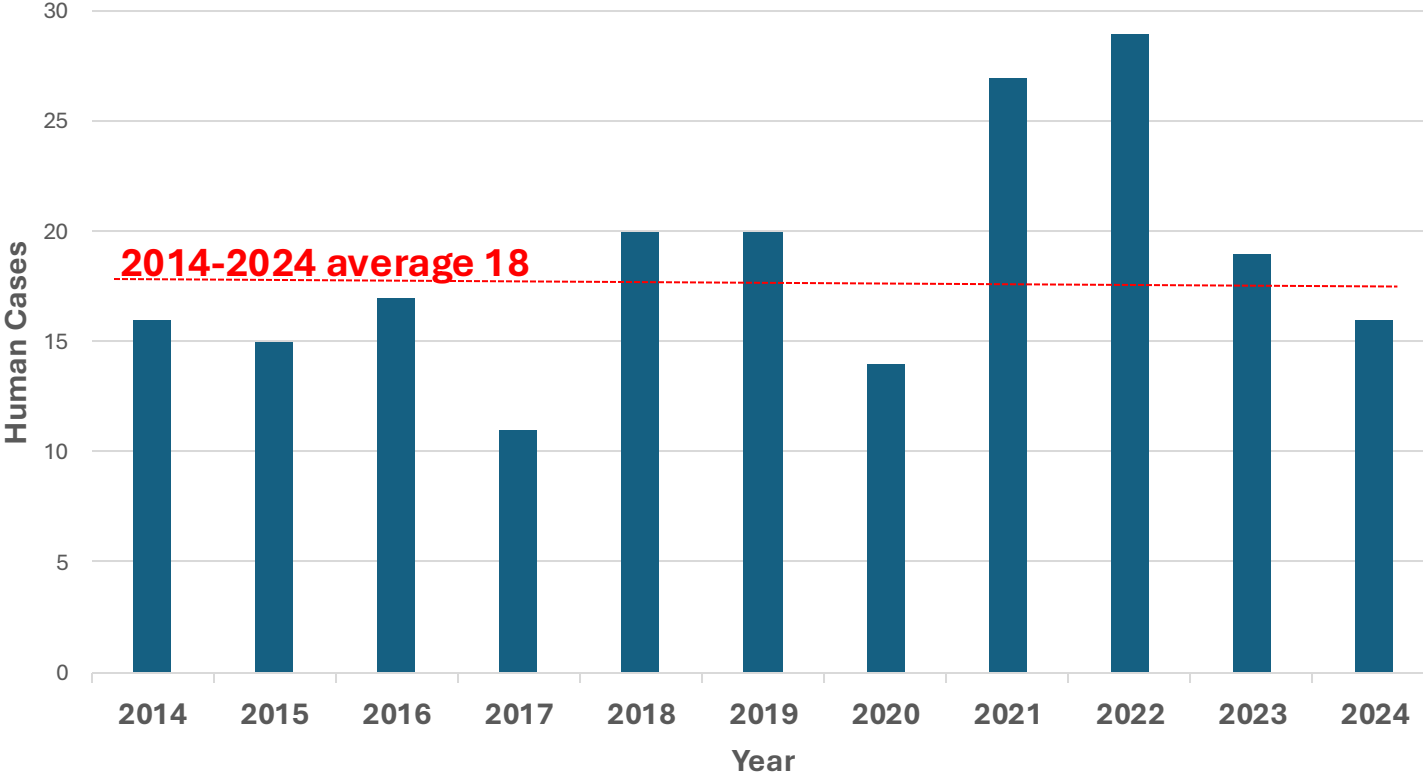
Human Flea-Borne Typhus Cases by Year and County, California, 2015 – 2024

County	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence
Alameda	0	0	1	0	0	0	0	1	0	0	2	0.01
Amador	0	1	0	0	0	0	0	0	0	0	1	0.27
Contra Costa	0	0	0	0	1	1	0	0	1	2	5	0.04
El Dorado	0	0	0	0	0	0	0	0	1	0	1	0.05
Fresno	0	0	1	0	0	0	0	1	0	0	2	0.02
Imperial	0	1	0	0	1	0	0	0	0	0	2	0.11
Kern	1	0	0	0	0	0	0	0	0	0	1	0.01
Los Angeles	67	83	87	149	118	114	177	191	144	120	1,250	1.23
Marin	1	0	0	0	0	1	0	0	0	1	3	0.11
Monterey	0	0	0	0	0	0	0	0	1	0	1	0.02
Orange	15	17	11	20	18	14	26	30	19	15	185	0.58
Placer	0	0	0	0	1	0	0	0	0	1	2	0.05
Riverside	0	1	0	0	1	1	9	5	7	3	27	0.11
Sacramento	0	0	1	0	0	0	1	0	0	0	2	0.01
San Bernardino	0	1	0	1	1	5	4	1	5	8	26	0.12
San Diego	1	0	2	2	1	1	0	0	1	0	8	0.02
San Francisco	0	0	0	0	0	0	0	0	0	1	1	0.01
San Mateo	0	0	0	1	0	0	0	0	0	0	1	0.01
Santa Barbara	0	0	0	0	0	1	0	0	0	0	1	0.02
Santa Clara	0	0	1	0	0	0	0	0	1	0	2	0.01
Santa Cruz	1	0	1	0	0	0	0	0	0	0	2	0.07
Shasta	0	0	0	1	0	0	0	0	0	0	1	0.06
Solano	0	0	0	0	0	1	0	0	0	0	1	0.02
Stanislaus	0	0	0	0	1	0	0	0	0	0	1	0.02
Sutter	0	0	0	0	0	1	0	0	0	0	1	0.10
Ventura	0	0	0	0	2	0	0	0	0	0	2	0.02
Total	86	104	105	174	145	140	217	229	180	151	1,531	0.39

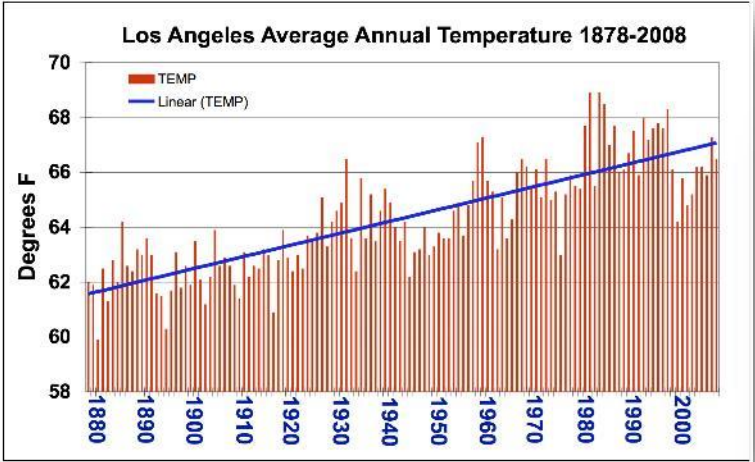
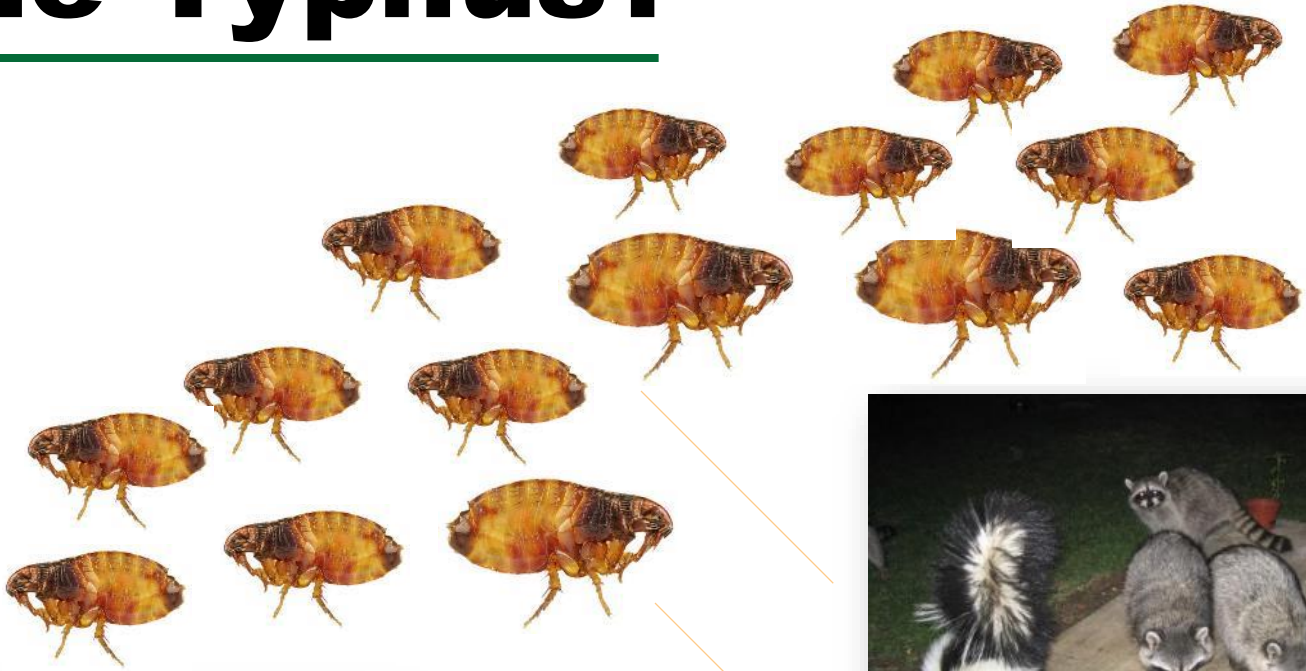
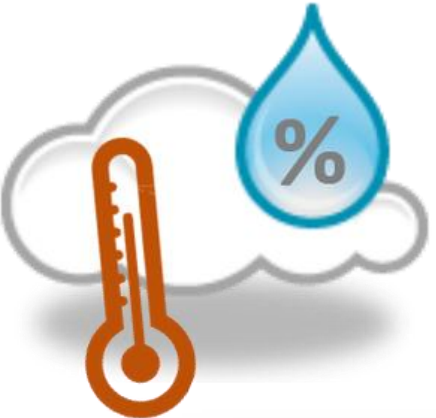


# Flea-borne Typhus Human Cases, Orange County, 2014-2024

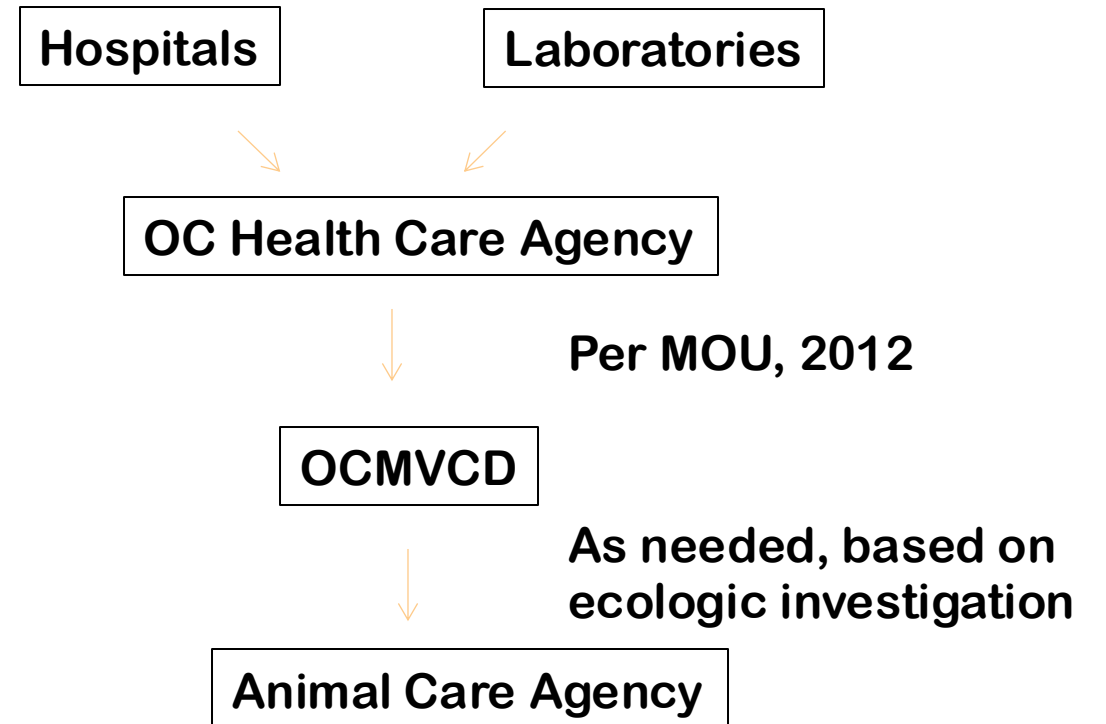
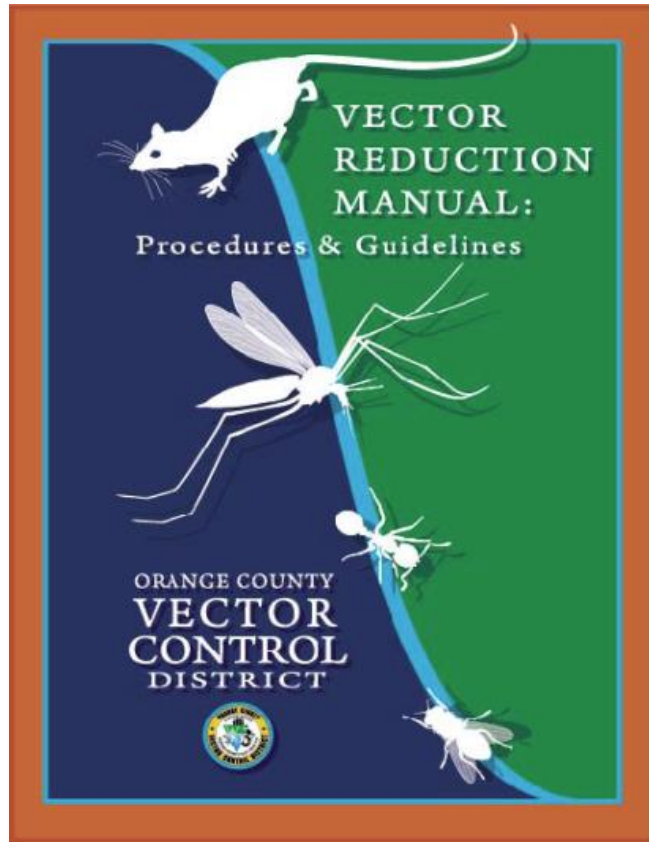
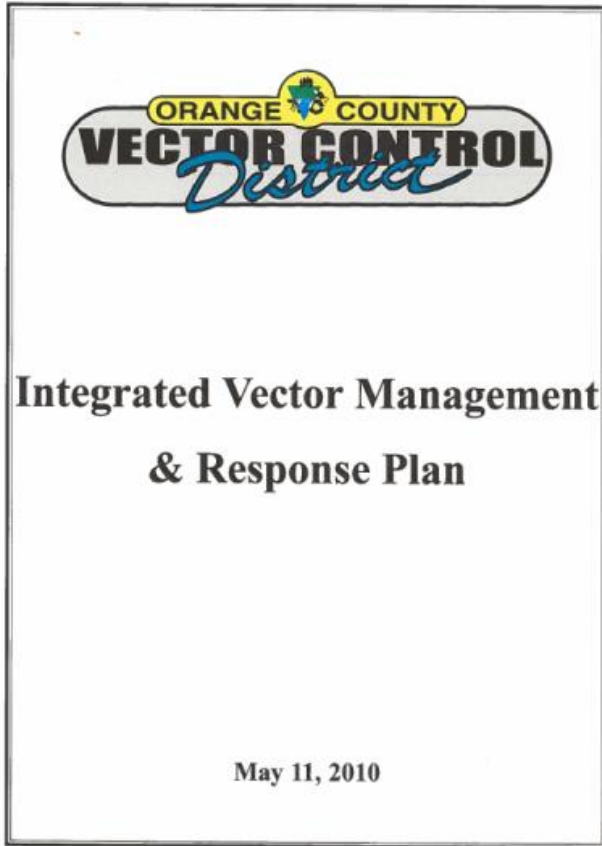
Human Cases of Flea-borne Typhus Reported in Orange County, CA, 2014-2024



# Reasons for Increase of Flea-borne Typhus?



# History of Flea-borne Typhus Response at OCMVCD

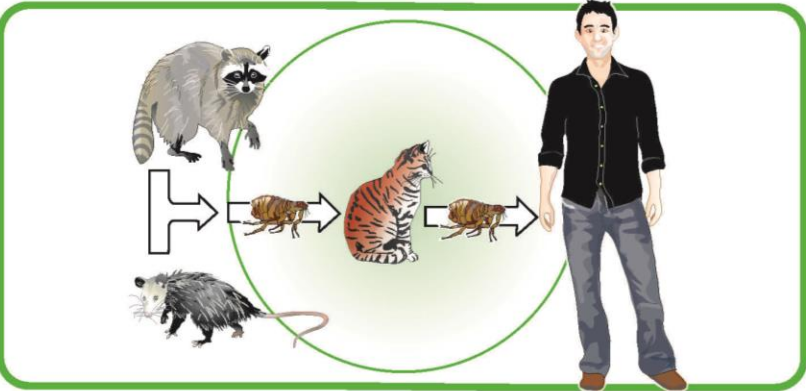


Source: [www.ocvector.org](http://www.ocvector.org)

# OCMVCD Prevention Message



**Typhus can be a serious illness**



**Typhus Transmission Cycle**



**Protect your pets**



**Remove any food wildlife may eat**



**Eliminate places that animals can hide**



**Protect yourself when picking up dead animals**



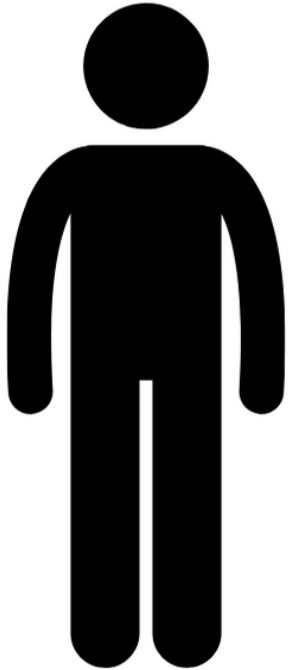
**Call for more information**



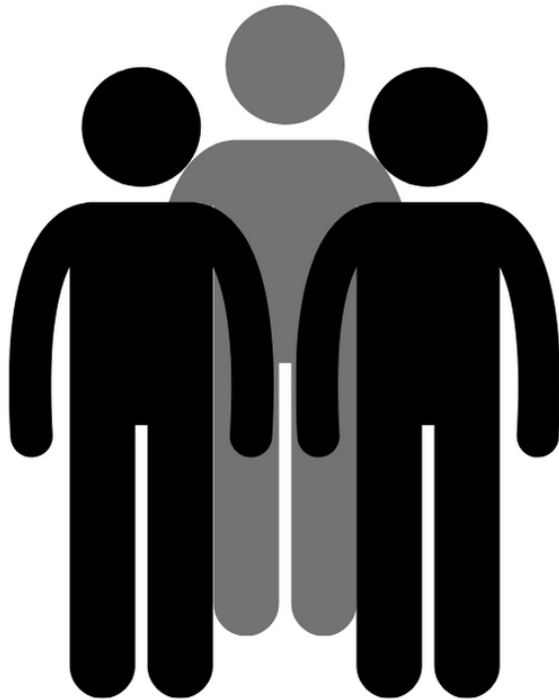
# OCMVCD Response to Fleas and FBT

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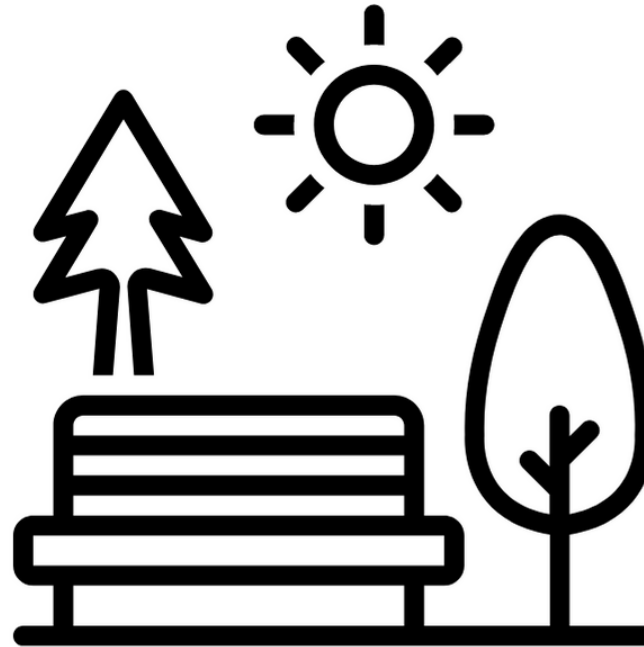
Human Typhus Case



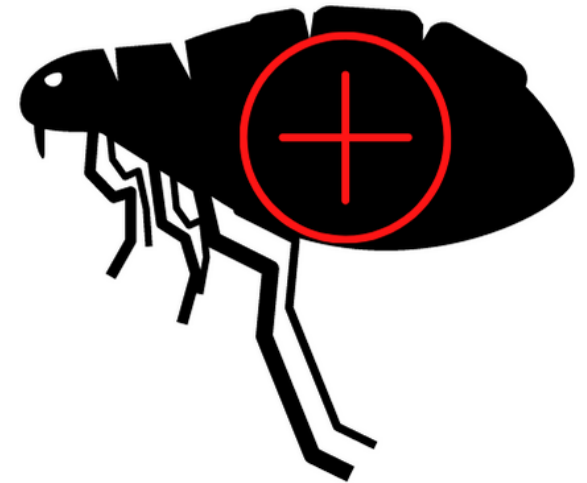
Human Typhus Case Cluster



Fleas in Public Spaces



Detection of *R. felis*/*R. typhi* in flea sample



# OCMVCD Strategy for FBT Disease Response

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- 1) Perform ecologic investigations at exposure sites, conduct inspection and surveillance for infectious agents
  - Determination of target area for intervention(s)
  - Application of residual insecticides to control larval and adult fleas, as warranted
  - Distribution of topical flea control medication to pets in target area
- 2) Notification and education to residents and other stakeholders (cities, county, local animal control/shelters)
- 3) Inspection of public properties with flea complaints
- 4) In-house identification and pathogen testing
- 5) Coordination with public health agencies and local government entities to reduce conditions conducive to fleas

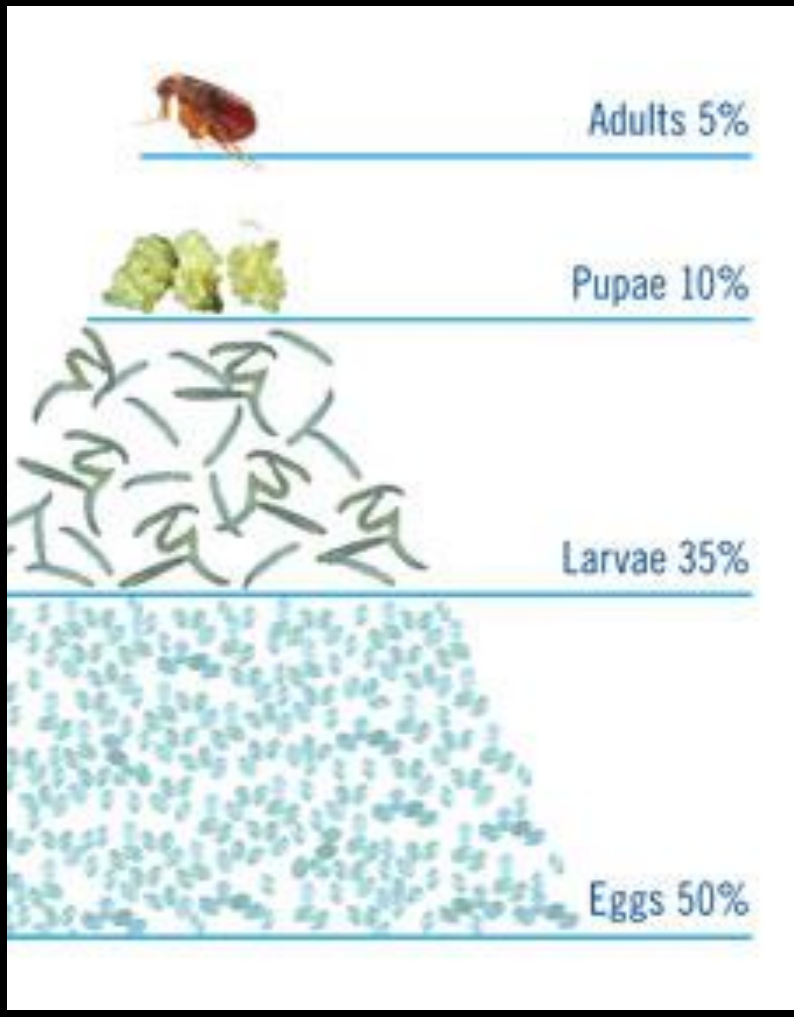
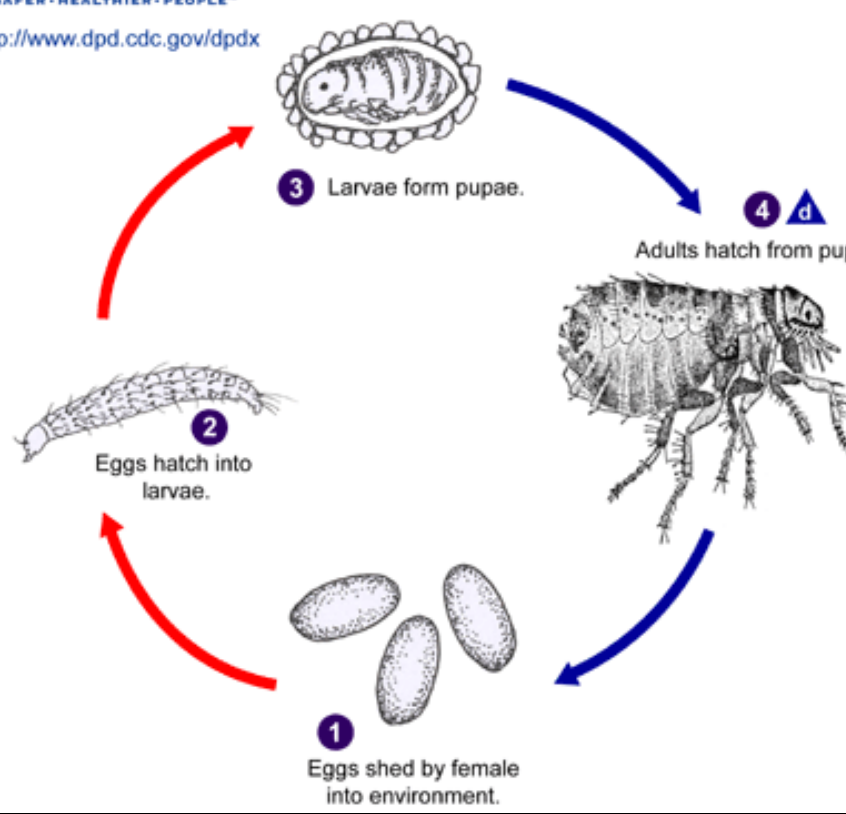
# Ecologic Investigation



# Application of Residual Insecticides Targeting Larval and Adult Fleas



<http://www.dpd.cdc.gov/dpdx>



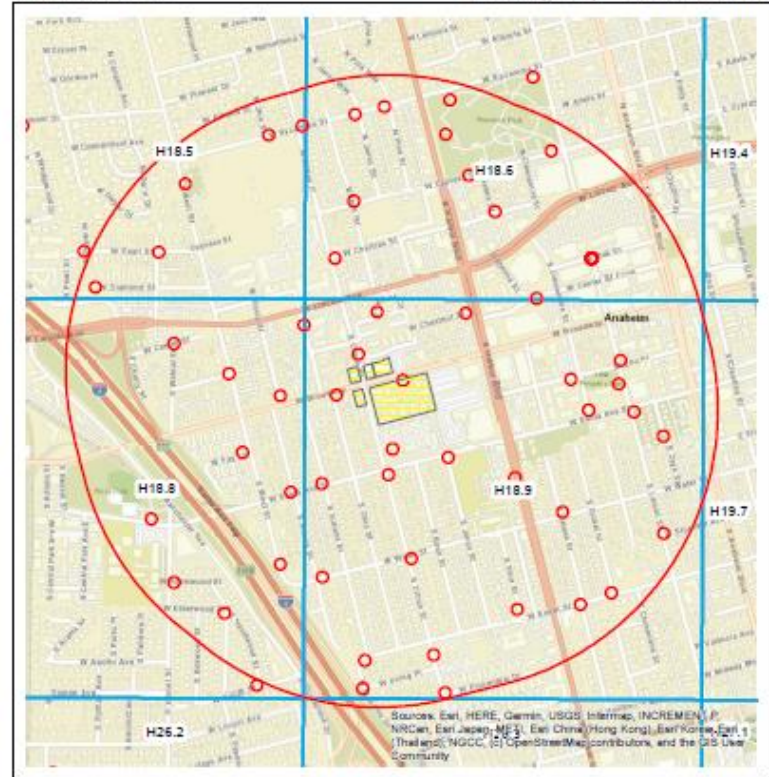


# Determine Target Area for Sign Placement/Door Hangers

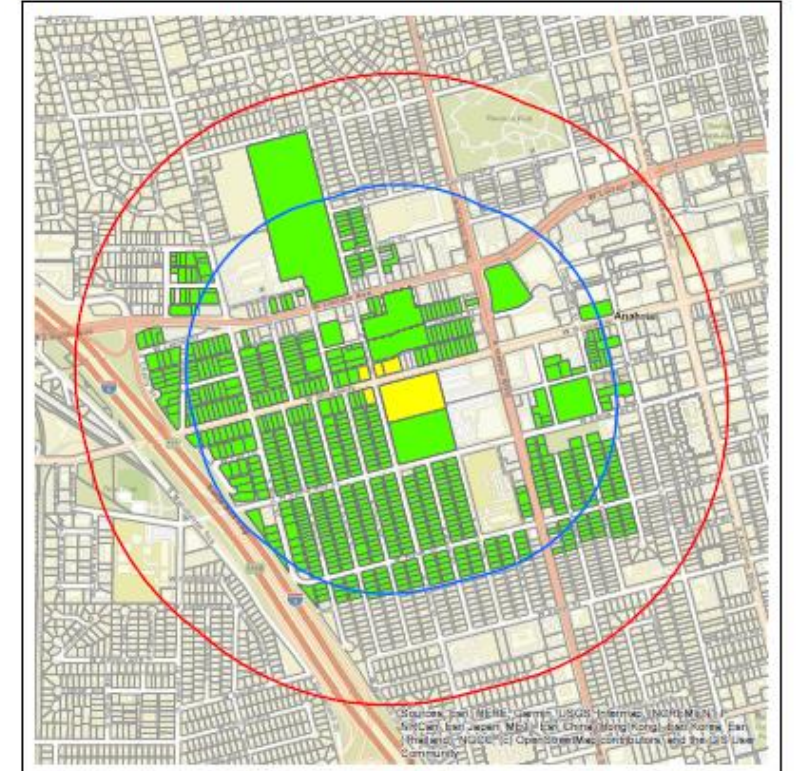
BLOCK H18.3  
DOOR HANGERS TYPHUS (54 +/-) NOTICES PLACED



BLOCK H18.9  
SIGNS POSTED TYPHUS (56 +/-) SIGNS POSTED



BLOCK H18 NOTICE MAILING  
AND SIGNS POSTED ZONE TYPHUS (783 +/-) NOTICES MAILED



Single Case: 0.3 miles  
Signs: 6  
Notices: 54

Cluster Cases: 0.5 miles  
Signs: 54

Cluster: 0.5 miles  
Mailing: 5,413

# Notification of Community in Target Area(s)

## PUBLIC HEALTH ADVISORY



**FLEA-BORNE TYPHUS HAS BEEN DETECTED IN YOUR AREA**



Typhus Transmission Cycle



Fleas found on cats, dogs, opossums and other backyard wildlife can carry the bacterium that causes flea-born typhus in humans.

**To reduce your exposure to fleas, follow these guidelines:**

- Remove outside food sources
- Cover garbage containers
- Trim vegetation around buildings to discourage wildlife
- Report dead opossums, cats, or other animals to local Animal Control agencies
- Keep pet cats indoors and consult your veterinarian about flea control products

Note: Scratching flea bite transfers the bacteria found in the flea feces into the blood stream.

For further information, please visit:  
[www.ocvector.org](http://www.ocvector.org) • 714.971.2421  
[www.ochealthinfo.com](http://www.ochealthinfo.com) • 714.834.8180



## PROTECT YOURSELF FROM FLEA-BORNE TYPHUS



Flea-borne typhus is caused by bacteria found in infected fleas or their poop (also called flea dirt).

You can come into contact with fleas or flea dirt and not know it.

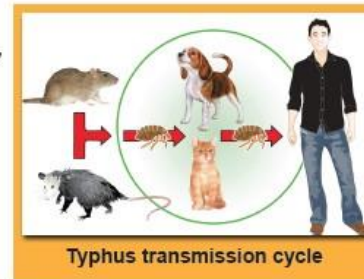
- Pets can bring fleas into and around your home.
- Trash and food waste may attract rats and other pests.
- Fleas can be found on stray wild animals (such as cats, rats, or opossums) near your home.

Prevent contact with fleas by:

- Treating pets for fleas.
- Using EPA-registered insect repellent when outdoors.
- Keeping rodents away from your home.
  - Seal up holes!
  - Trap rats and mice!
  - Clean up trash!

See your healthcare provider if you develop fever, body aches, nausea, vomiting or rash after coming into contact with fleas or stray or wild animals.

Flea-borne typhus is treatable, so see your healthcare provider right away!



Typhus transmission cycle



For more information, please visit  
[ocvector.org](http://ocvector.org) or call (714) 971-2421

**Who we Notify:**

- City
- OCMVCD
- OCHCA
- Target Area Residents

**How we Notify:**

- Signs
- Notices
- Social Media Updates
- OCMVCD Subscribers

# Surveillance for *R. typhi*/*R. felis* in Fleas



# CDPH Guidance on Typhus Response

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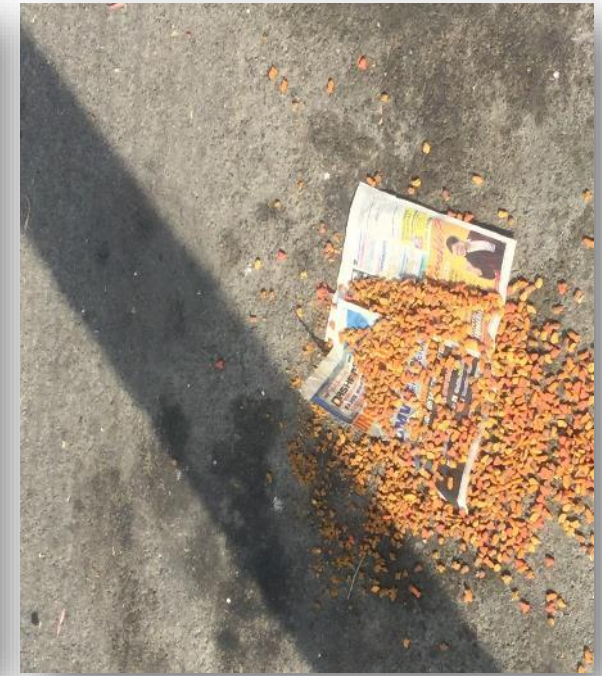
The legal authority for government agencies to control vectors and vector-borne diseases is found in the California Health and Safety Code Chapter 1, Division 3, Sections 2000-2093.

*Pertaining to flea-borne typhus, any property artificially altered from its natural condition that supports the development, attraction, or harborage of flea vectors may be declared a public nuisance and abated. In addition, any developed property onto which rats, opossums, skunks, raccoons, and feral cats are fed or congregate, and those animals are found to be harboring fleas, can be declared a public nuisance and abated.*



# Vertebrate Pest Management

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**Enforcement of local jurisdiction animal ownership limits**  
**Enforcement of “no feeding of wildlife” ordinances**  
**Pet food management**  
**Animal removal**

# Fleas in Public Spaces

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# Recent Program Developments & Highlights

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2022 - Published paper titled ***Challenges of responding to flea-borne typhus: lessons learned after 15 years of investigations in Orange County***

2023 - Published guidance document titled ***OCMVCD Best Management Practices for TNR/RTF/RTH in Communities with Flea-borne Typhus***

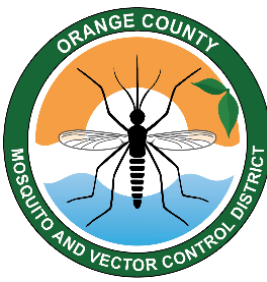
Distributed to 220 Mobile Home Communities

Distrusted to Animal Control Agencies (17) and Shelters/Recues (21)

2024 - Initiated major Vector Reduction Program cases due to conditions conducive to flea-born typhus with:

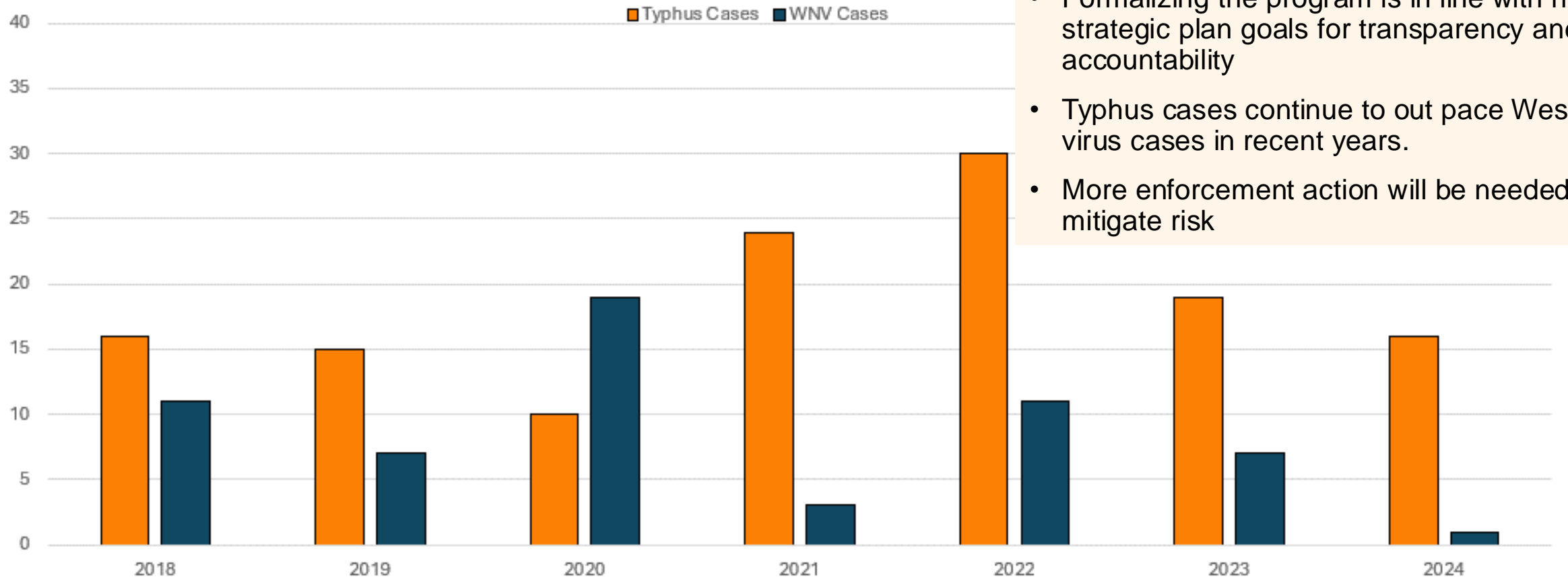
Garden Grove Unified School District

Bristol Place HOA in Santa Ana



# Why Formal Program Adoption Now?

Human Cases of Flea-borne Typhus and West Nile virus Reported in Orange County, Ca, 2018-2024



- Formalizing the program is in line with new strategic plan goals for transparency and accountability
- Typhus cases continue to out pace West Nile virus cases in recent years.
- More enforcement action will be needed to mitigate risk





# Special Thanks

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Laura Krueger, Vector Ecologist  
Typhus Program Lead



Jerry Sims, Director of Operations



Bob Cummings, Research Associate  
(Former Dir. Scientific Technical Services)

# QUESTIONS?



Amber Semrow

Director of Scientific Technical Services

[asemrow@ocvector.org](mailto:asemrow@ocvector.org)

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Flea Guide - [ocvector.org/FK](https://ocvector.org/FK)



Typhus Info - [ocvector.org/flea-borne-typhus](https://ocvector.org/flea-borne-typhus)

