



# MOSQUITO and VECTOR MANAGEMENT DISTRICT of SANTA BARBARA COUNTY

## DISEASE SURVEILLANCE REPORT

April 2024

### Santa Barbara County Vector-borne Disease Surveillance

Mosquito trapping and disease surveillance is underway for 2024, weather permitting. One great horned owl, found dead in Ellwood, was swabbed for West Nile virus; test results are pending. There were no detections of West Nile virus (WNV) in the County in 2023. St. Louis encephalitis virus (SLE) and Western equine encephalitis virus (WEE) have never been documented in the County.

Location	Date	Number of Mosquitoes	Type of Trap	# of Traps	Mosquitoes per Trap Night	Pools Submitted	WSW Virus Test Result
Lake Los Carneros	4/10-4/11	36	EVS	5	7.2	1	Pending
Stow Grove Park, 93117	4/10-4/11	18	EVS	6	3	1	Pending
Chino Street, 93101‡	4/16-4/25	4	BGS2 (w/ CO <sub>2</sub> )	1	0.4	0	--
Vista Buena Rd., 93110	4/24-4/25	6	EVS	6	1	0	--
Shoreline/More Mesa, Goleta Valley	4/30-5/1	240 (also 15 black flies)	EVS	12	20	0	--

BGS2=Biogents Sentinel 2

BGP=Biogents Pro

EVS=encephalitis surveillance trap (CO<sub>2</sub>)

WSW=WNV, SLEV, AND WEE

\*Color indicates the virus-transmitting ability of some or all of the mosquito species caught in the traps:

Purple = high (example: *Aedes aegypti*, *Culex tarsalis*); Aqua = moderate; Tan = low.

For specific trap collection data, please email a request to: [info@mvmdistrict.org](mailto:info@mvmdistrict.org).

‡ Location where *Aedes aegypti* was found in 2020.



BGS2 Trap

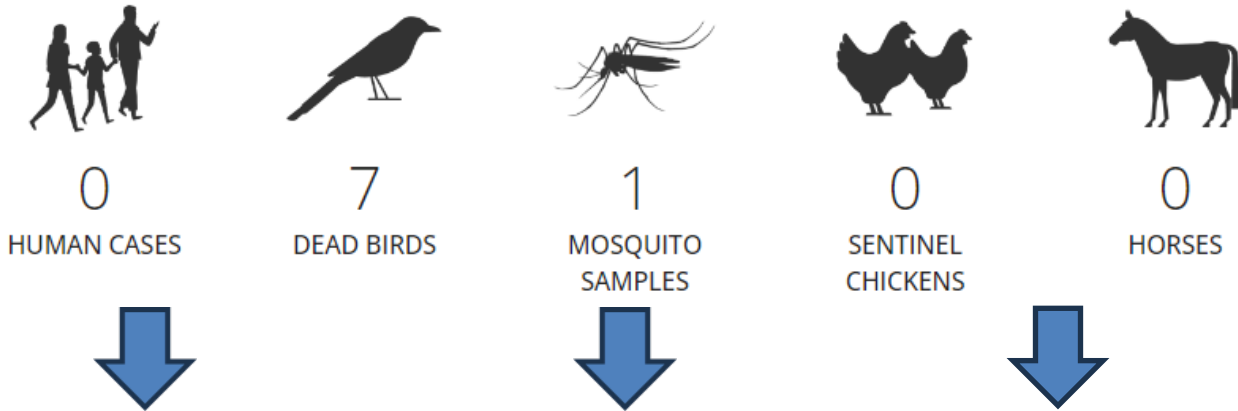


EVS Trap

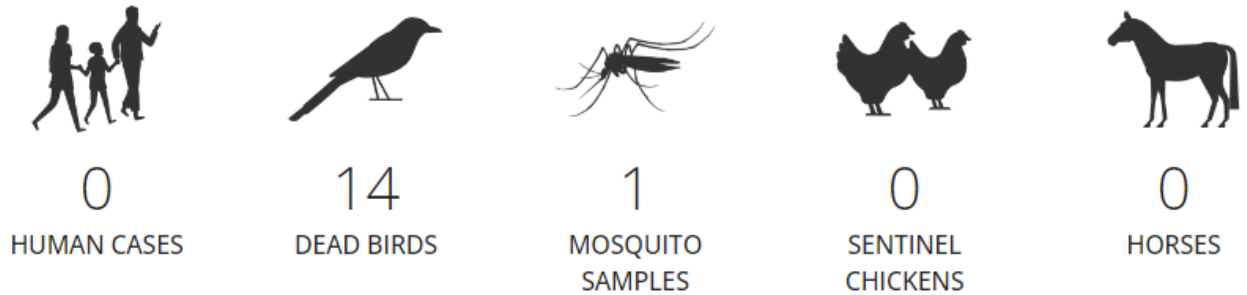
## California Vector-borne Disease Surveillance

Alameda, Contra Costa, Santa Clara, San Mateo, and San Diego Counties have reported samples positive for West Nile virus in 2024. The number of WNV-positive dead birds doubled from 7 to 14 between March 29 and April 26, 2024; this number year-to-date in 2023 was 133. There have been no reports of WEE or SLE.

### California WNV activity as of **March 29, 2024**



### California WNV activity as of **April 26, 2024**

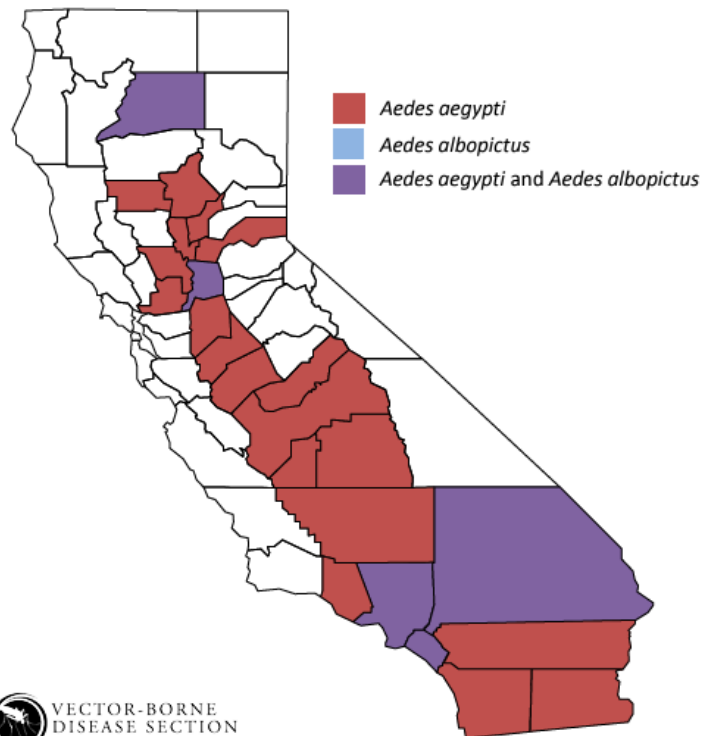


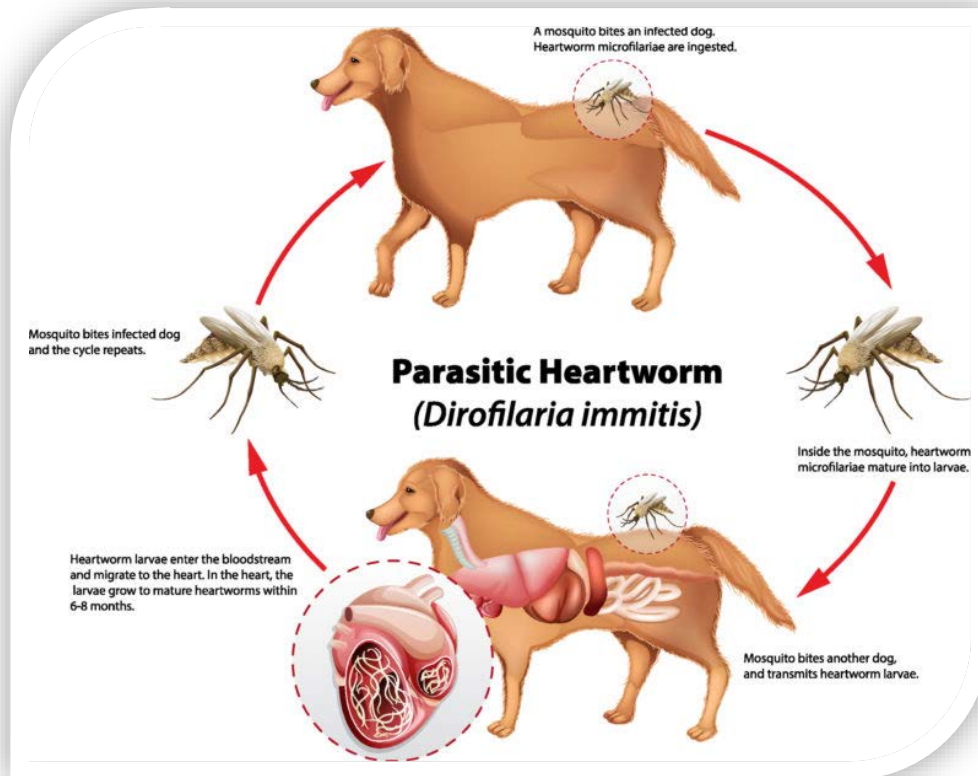
<https://westnile.ca.gov>

## Invasive *Aedes* Mosquito Update

No invasive *Aedes* species have been detected in Santa Barbara County since May 2021. Santa Barbara, along with four other coastal Counties, have been removed from the invasive *Aedes* map because more than two years has passed since the last collection. *Aedes aegypti* is found in 24 California counties, and *Aedes albopictus* is found in five.

Two human cases of locally transmitted dengue virus were discovered in the Long Beach and Pasadena in October of 2023. Non-native *Aedes* mosquitoes, capable of vectoring dengue, Zika, chikungunya, and yellow fever are common in the LA area. In 2024, there have been 23 travel-related human dengue cases in California.





Companion Animal Hospital, Canada

## Dog Heartworm *Dirofilaria immitis*

Dog heartworm is caused by the filarial roundworm *Dirofilaria immitis*, which is vectored by the bite of a mosquito. After infection of a dog or other canine, immature worms travel in the bloodstream to the heart and lungs. After about three months, the worms develop into adults, mate, and begin producing tiny offspring that can be taken-up in the blood by the next mosquito bite. Heartworms congregate mostly in the right ventricle of the heart and can grow to a length of 6 to 12 inches! Infected dogs may show rapid tiring, coughing, shortness of breath, and/or weight loss; heartworm can be fatal. Fortunately, there are oral medications for dogs to prevent heartworm disease. Since the primary vector is the tree-hole mosquito, *Aedes sierrensis*, it is especially important to pre-treat dogs that live near wooded areas. *Ae. sierrensis* mosquitoes usually have one generation per year that emerges in the spring. Humans, cats, ferrets, and other animals can also be affected as “accidental hosts,” but the worm needs to infect a canine to complete its life cycle.

In 2022, researchers in Lake County, California, published the results of their analysis of different mosquito species for presence of *Dirofilaria immitis*. DNA from the heartworm was found in not only *Aedes sierrensis*, the long-known vector, but also in *Aedes increpitus*, *Anopheles freeborni*, and *Culex tarsalis*. Non-native *Aedes aegypti* has also been implicated. Further study is needed to determine how well these mosquito species transmit the worm to dogs.



*Aedes sierrensis*  
Photo Chloe and Trevor Van Loon