



MOSQUITO and VECTOR MANAGEMENT DISTRICT
of SANTA BARBARA COUNTY

DISEASE SURVEILLANCE REPORT

September 2024

Santa Barbara County Vector-borne Disease Surveillance*

Location	Date	Number of Mosquitoes	Type of Trap**	# of Traps	Mosquitoes per Trap Night	Pools Submitted	WSW*** Virus Test Result
Goleta Sanitary District	9/5-9/6	39	Gravid	2	19.5	1	Negative
Mission Creek @ Pedregosa St.	9/5-9/6	19	Gravid	1	19	2	Negative
Los Prietos Ranger Station, Paradise Rd.	9/9-9/11	36	Gravid	2	18	4	Negative
Carpinteria Creek	9/12-9/13	32	Gravid	3	10.7	2	Negative
Oceano State Recreation Area, SLO County	9/17-9/18	10,750	EVS	15	717	16	Negative
Andree Clark Bird Refuge/Santa Barbara Zoo	9/19-9/20	29	Gravid	3	9.7	Holding for avian malaria testing?	
Andree Clark Bird Refuge/Santa Barbara Zoo	9/24-9/25	1	EVS	6	0.2	0	--
UCSB/SBAir Bluffs	9/26-9/27	47	EVS	11	4.1	2	Pending
UCSB/SBAir Bluffs	9/24-9/28	77	Gravid	3	6.4	2	Pending
UCSB/SBAir Bluffs	9/3-9/27	2	BGS2	1	2	0	--
Chino St, Santa Barbara	9/3-9/27	0	BGS2	1	0	0	--

** BGS2=Biogents Sentinel 2; BGP=Biogents Pro; EVS=encephalitis surveillance trap (CO² baited)

*** WSW=West Nile Virus; St. Louis Encephalitis Virus; and Western Equine Encephalitis

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

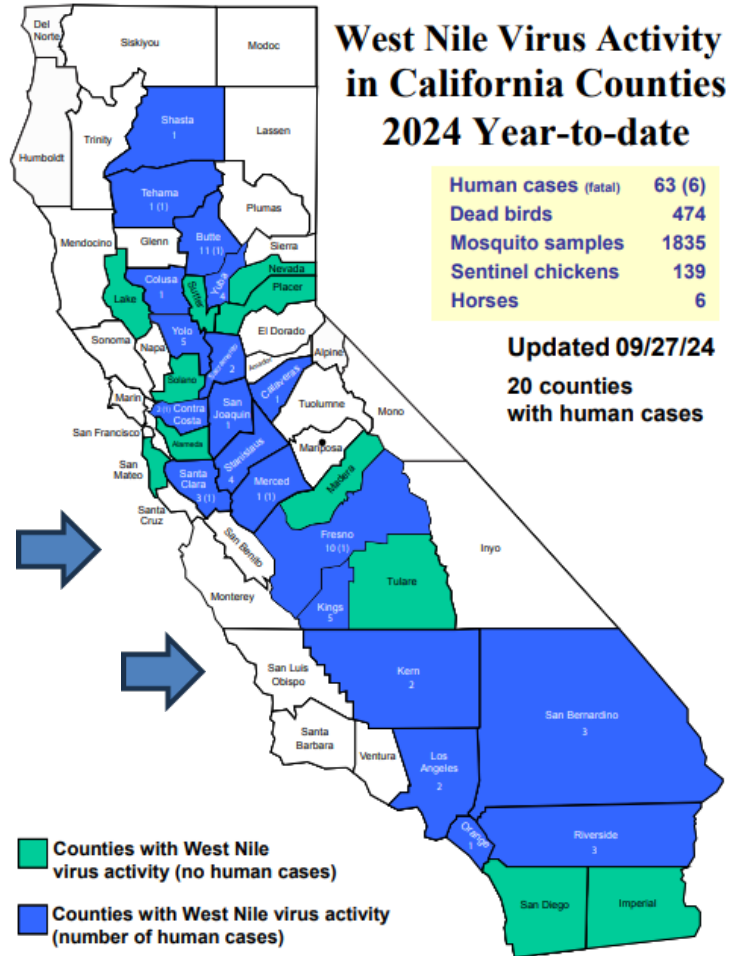
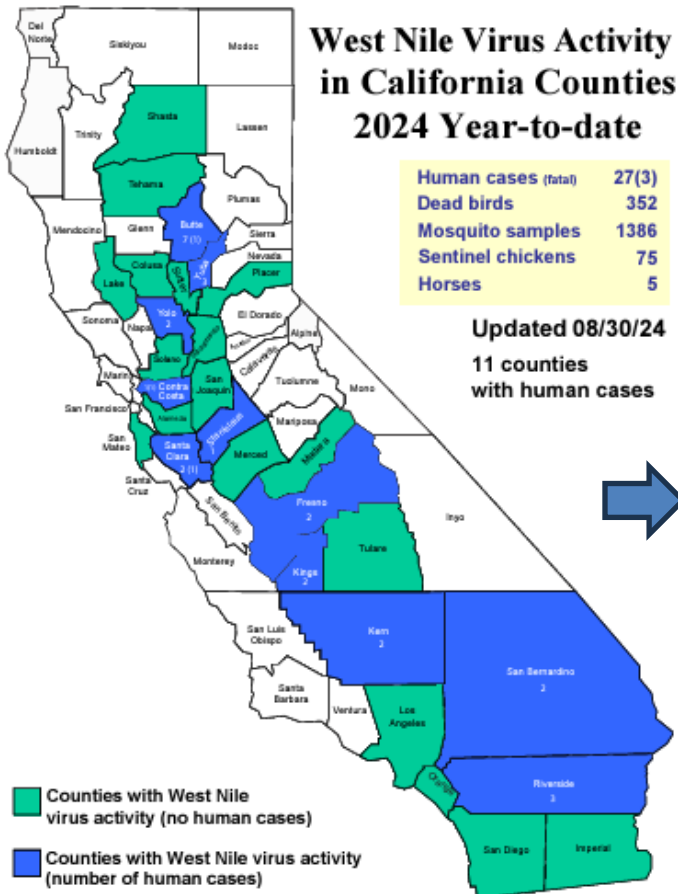
Purple = high (example: *Aedes aegypti*, *Culex tarsalis*); Aqua = moderate; Tan = low.

For specific trap collection data, please email a request to: info@mvmdistrict.org.

One dead parakeet (in the wild, not claimed as a pet) reported from Solvang was sampled in September; the West Nile virus (WNV) test result was negative. Because of their advanced decomposition, two other dead birds were rejected for WNV testing. There have been no detections of WNV in the County in 2024. St. Louis encephalitis virus (SLE) and Western equine encephalitis virus (WEE) have never been documented in the County.

California Vector-borne Disease Surveillance

Thirty-one counties have reported samples positive for West Nile virus in 2024. Of the 63 human cases of WNV, six were fatal. There were an additional 10 asymptomatic blood donors. More than half of the 474 WNV-positive dead birds in California were collected in Santa Clara County. Twenty-six mosquito pools from five counties have tested positive for SLE; at this time last year there were 615 positive SLE samples across 15 counties. There have been no detections of WEE.



<https://westnile.ca.gov>

Update on Invasive *Aedes* Mosquito in California

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.

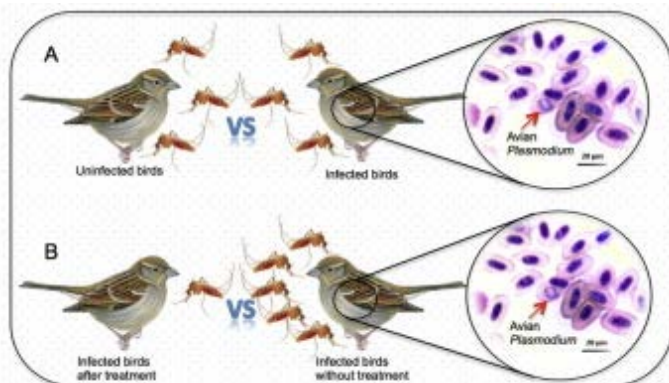
Less than a year after two human cases of dengue virus in Long Beach and Pasadena were determined to be locally transmitted, three locally transmitted cases have been discovered in Baldwin Park, Los Angeles County. (Press release: <http://publichealth.lacounty.gov/phcommon/public/media/mediapubhpdetail.cfm?prid=4822>) Non-native *Aedes* mosquitoes, capable of vectoring dengue, Zika, chikungunya, and yellow fever are common in the LA area. As of September 1, 2024, there have been 147 travel-related human dengue cases in California; there have been five travel-related cases of chikungunya virus and two travel-related cases of Zika virus. This year in California, 976 mosquito pools have tested negative for DENV, CHIKV, and ZIKA.



A *Culex* mosquito lands near the eye of an `T'iwi bird in Hawaii. Photo: Chris Johns/National Geographic Creative

Avian Malaria *Plasmodium relictum*

WNV, SLE, and WEE aren't the only vector-borne bird diseases. Avian malaria is a bird disease caused by a single-cell protozoan parasite that is transmitted from bird to bird by mosquitoes in the genus *Culex*. It does not infect humans. Human malaria parasites are a different species of *Plasmodium*, vectored only by *Anopheles* mosquitoes. Symptoms for infected birds include lethargy, weight loss, a fluffed-up appearance, difficulty breathing, anemia, incoordination, seizures, and vomiting. Depending on the bird species and local immunity, the disease is not usually fatal, but chronic symptoms in recovered birds can reduce their lifespan. Penguins (common in zoos), quail, ducks, pigeons, falcons, and sparrows are the most vulnerable to avian malaria. Hawaiians have been working to prevent extinction of birds such as the honey-catcher since the pathogen and vector were accidentally introduced to the islands. Illegally traded pet birds are often infected.



A similar protozoan bird parasite, called *Leukocytozoon*, is vectored by blood-feeding black flies in the family *Simuliidae*. Mosquitoes can also mechanically carry avian pox virus from one bird to another. Avian influenza A (H5N1) has been found in mosquitoes, but it cannot be transmitted to another animal through a mosquito bite.

Mosquitoes preferably bit infected sparrows rather than anti-malaria treated infected sparrows.

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