

California Arbovirus Surveillance Bulletin # 15

Week 22 Monday, June 7, 2010

Weekly Summary

WEEKLY COMMENTS



Humans

No human cases have been reported in 2010.

Horses

No equine cases have been reported in 2010.

Dead Birds & Tree Squirrels

Five dead birds from Los Angeles (1), Orange (1), and Santa Clara (3) counties were reported positive for West Nile virus (WNV) last week; all were recently infected with the virus. This is the first detection of WNV activity in Orange County in 2010. To date this year, 11 recently-infected* WNV positive dead birds have been reported from 3 counties: Los Angeles, Orange, and Santa Clara. In addition, 5 other birds from Butte (2), Los Angeles (1), Sacramento (1) and San Joaquin (1) have tested positive for chronic infection with WNV. No positive tree squirrels have been reported this year.

At this time last year, 23 birds from 6 counties (Fresno, Los Angeles, Orange, San Diego, San Joaquin, and Santa Clara) had tested positive for WNV. Year-to-date totals from last year and previous years include both recent and chronic infections.

**In 2010, The University of California, Center for Vectorborne Diseases (CVEC) and the California Department of Public Health, Vector-Borne Disease Section has begun differentiating between chronic and acute infections in West Nile virus positive dead birds. Birds considered to have chronic infection with WNV are unlikely to have been infected recently with WNV and have limited surveillance utility.*

Mosquito Pools

One WNV positive mosquito pool was reported last week from San Bernardino County. To date this year, 3 mosquito pools from Riverside (1) and San Bernardino (2) counties have tested positive for WNV. At this time last year, 49 WNV positive mosquito pools had been reported from 6 counties (Contra Costa, Fresno, Los Angeles, Orange, Riverside, and Santa Clara).

Sentinel Chickens

No seroconversions have been reported in 2010. At this time last year, 3 WNV positive chickens from Los Angeles County had been reported.

YTD WNV Activity by Element and County, 2010

County	Humans	Horses	Dead Birds [^]	Mosquito Pools	Sentinel Chickens	Squirrels
Los Angeles			3			
Orange			1			
Riverside				1		
San Bernardino				2		
Santa Clara			7			
Totals	0	0	11	3	0	0

[^] Chronic infections are not included in county totals.

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC website, www.cdc.gov, and the USGS website, www.westnilemaps.usgs.gov.

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2009 & 2010 YTD West Nile Virus Comparisons		
	2009	2010
Total # Dead Bird Reports	5,533	3,219
# Positive Counties	8	5
# Human Cases	0	0
# Horse Cases	0	0
# Positive Dead Birds / # Tested	23 / 849	11 / 562
# Positive Mosquito Pools / # Tested	49 / 5,197	3 / 4,324
# Seroconversions / # Tested	3 / 6,693	0 / 6,435
# Positive Squirrels / # Tested	0 / 26	0 / 24

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	12	0	0	0	0	0	0	0	0
	YTD	303	0	0	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	63	0	0	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	105	5
	YTD	562	11
Tree Squirrels	Week	6	0
	YTD	24	0

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	694	0	0	0
	YTD	6,435	0	0	0
Mosquito Pools: RT-PCR	Week	593	1	0	0
	YTD	4,246	3	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	78	0	N/A	N/A

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POSITIVES

Dead Birds

County	Submitting Agency	City	Zip Code	Species	Reported	Virus	Type of Infection	Test Method
Los Angeles	Los Angeles Co Veterinarian	Culver City	90230	Common Raven	5/20/2010	WNV	Recent	RT-PCR
Orange	Orange Co VCD	Garden Grove	92683	American Crow	5/18/2010	WNV	Recent	RT-PCR
Santa Clara	Santa Clara Co VCD	San Jose	95129	American Crow	5/23/2010	WNV	Recent	VecTest
Santa Clara	Santa Clara Co VCD	Los Altos	94024	American Crow	5/24/2010	WNV	Recent	VecTest
Santa Clara	Santa Clara Co VCD	Saratoga	95070	American Crow	5/24/2010	WNV	Recent	VecTest

Mosquito Pools

County	Site Code	Pool #	# in Pool	Species	Collected	City	Virus	Test Method
San Bernardino	WVAL2012	185	43	Cx quinquefasciatus	5/10/10	Chino	WNV	RT-PCR

TEST PROTOCOLS

Humans:

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing or confirmation by plaque reduction neutralization test (PRNT).

*Human denominator data only includes specimens tested at VRDL and does not include additional negative specimens that are tested by local agencies only.

Horses:

Serum or brain tissue specimens from horses displaying neurological symptoms are submitted to the California Animal Health and Safety Laboratory (CAHFS) and tested by EIA and PRNT.

Dead Birds and Tree Squirrels:

Dead birds and tree squirrels are necropsied at CAHFS laboratory at University of California, Davis. Oral swabs from American Crows and kidney tissue from all other dead birds and squirrels are forwarded to the UC Davis Center for Vectorborne Diseases (CVEC) for West Nile virus testing using the singleplex RT-PCR Taqman assay and confirmed with a second primer set. The WNV Dead Bird Surveillance Coordinator, Erin Parker, can be reached directly at (510) 412-6254.

Sentinel Chickens:

Dried blood spot specimens from sentinel chickens are submitted to the California Department of Public Health Vector-Borne Disease Laboratory and tested for the presence of antibodies to West Nile, western equine encephalomyelitis (WEE), and St. Louis encephalitis (SLE) viruses by EIA and IFA. Positive samples are confirmed by western-blot or PRNT.

Mosquito Pools:

Mosquito pools are submitted to CVEC and screened for WEE, SLE, and WNV viral RNA using a Taqman multiplex RT-PCR. CVEC will cease confirmation testing on PCR-positive pools of *Cx. tarsalis* and *Cx. quinquefasciatus* but will continue to confirm multiplex PCR-positive results for other mosquito species using singleplex RT-PCR.

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