

California Arbovirus Surveillance Bulletin #41

Week 48 Friday, December 2, 2011



WEEKLY UPDATE

Human Cases

A total of 4 new human cases of West Nile virus (WNV) have been reported from Los Angeles (2), Riverside (1), and Tulare (1) counties. In 2011, 154 WNV cases have been reported from 22 counties; of the 154 cases, 110 (71%) developed neuroinvasive disease. The median age for all cases is 57 years (range: 14-87 years) and 95 (62%) are male. Eight fatalities have been reported from Kern (3), Los Angeles (4) and Tehama (1) counties. Additionally, 25 WNV-positive blood donors have been reported this year; 8 of the individuals subsequently developed symptoms and were reclassified as cases.

At this time last year, 102 WNV cases had been reported from 17 counties.

National Activity: As of December 29, 2011, 658 human cases of WNV had been reported nationwide in 42 states and the District of Columbia: Alabama (5), Arizona (58), Arkansas (1), California (151), Colorado (7), Connecticut (9), Delaware (1), District of Columbia (4), Florida (21), Georgia (12), Idaho (2), Illinois (33), Indiana (9), Iowa (9), Kansas (4), Kentucky (5), Louisiana (10), Maryland (20), Massachusetts (5), Michigan (33), Minnesota (2), Mississippi (51), Missouri (9), Montana (1), Nebraska (28), Nevada (16), New Jersey (7), New Mexico (4), New York (43), North Carolina (2), North Dakota (4), Ohio (21), Pennsylvania (6), Rhode Island (1), South Dakota (2), Tennessee (18), Texas (26), Utah (3), Vermont (1), Virginia (8), West Virginia (1), Wisconsin (2), and Wyoming (3). Of the 658 cases, 452 (69%) developed neuroinvasive disease and 40 WNV-related fatalities have been reported from Alabama (1), Arizona (4), California (8), Florida (2), Georgia (3), Illinois (3), Indiana (1), Kansas (1), Kentucky (1), Michigan (2), Minnesota (1), Mississippi (5), Nevada (1), New York (2), Ohio (1), Tennessee (1), Texas (2), and Virginia (1).

Horses

No new equine cases of WNV have been reported. In 2011, 15 horses from 7 counties have tested positive for WNV, and 4 fatalities have been reported. At this time last year, 19 cases of WNV had been reported among horses from 11 counties.

Dead Birds & Squirrels

Two WNV positive dead birds have been reported from Kern (1) and San Bernardino (1) counties. To date this year, 682 dead birds from 26 counties and 24 tree squirrels from 6 counties have tested positive for WNV. An additional 128 birds have tested positive for chronic* WNV infection from 28 counties.

At this time last year, 412 birds from 27 counties, and 24 tree squirrels from 8 counties had tested positive for WNV.

NOTE: The statewide dead bird testing program has been suspended until March, 2012. If your agency would like to continue local testing during the winter months, please contact Leslie Foss at 510-412-6255 so the appropriate zip codes can remain open. Otherwise, all zip codes will be closed until the 2012 season. The WNV hotline will continue to operate Monday-Friday (8am-5pm) to receive dead bird and squirrel reports and answer questions from the public.

**In 2010, The University of California, Center for Vectorborne Diseases (CVEC) and the California Department of Public Health, Vector-Borne Disease Section began differentiating between chronic and acute infections in WNV 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

Four new WNV positive mosquito pools have been reported from Los Angeles (2) and San Bernardino (2) counties. In 2011, 2,087 mosquito pools from 26 counties have tested positive for WNV.

At this time last year, 1,305 mosquito pools from 24 counties had tested positive for WNV.

Sentinel Chickens

Seven new WNV seroconversions have been reported from Los Angeles (1), Merced (3), Riverside (2), and San Bernardino (1) counties. To date this year, 388 WNV positive chickens have been detected among 69 flocks in 15 counties.

At this time last year, 280 chickens (62 flocks) had tested positive for WNV from 21 counties.

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

California Arbovirus Surveillance Bulletin #41

Week 48 Friday, December 2, 2011

2010 & 2011 YTD West Nile Virus Comparisons		
	2010	2011
Total # Dead Bird Reports	10,328	9,838
# Positive Counties	35	35
# Human Cases	102	154
# Horse Cases	19	15
# Positive Dead Birds / # Tested	412 / 2,113	682 / 2,448
# Positive Mosquito Pools / # Tested	1,305 / 30,528	2,087 / 32,640
# Seroconversions / # Tested	280 / 26,219	388 / 22,591
# Positive Squirrels / # Tested	24 / 108	24 / 108

YTD WNV Activity by Element and County, 2011

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda						1
Amador	1					
Butte	3			1	20	
Contra Costa	3		38	7		
El Dorado	1		2			
Fresno	9	5	15	123		
Glenn	1		2		5	
Imperial				3	3	
Inyo				2		
Kern	18	1	4	389	140	
Kings			9	63		
Lake			1	3		
Los Angeles	58	1	225	467	83	15
Madera	2		3	5		
Merced	1	3	9	11	15	
Nevada			1			
Orange	10		48	91		1
Placer	1	2	10	48	6	
Riverside	7		7	56	40	
Sacramento	4		134	381	7	3
San Bernardino	4		33	150	42	
San Diego				1		
San Joaquin	5		27	51		
Santa Barbara	1					
Santa Clara	1		33	16		1
Shasta				1		
Solano			1		1	
Sonoma				2		
Stanislaus	11		24	100	7	
Sutter			2	26	8	
Tehama	1		1			
Tulare	11	1	42	82	7	
Ventura			1			
Yolo		2	9	7		3
Yuba	1		1	1	4	
Totals	154	15	682	2,087	388	24

California Arbovirus Surveillance Bulletin #41

Week 48 Friday, December 2, 2011

TESTING SUMMARIES

Humans and Horses

		WNV		WEEV		SLEV	
		Local	Imported	Local	Imported	Local	Imported
Human Cases	Week	4	0	0	0	0	0
	YTD	154	0	0	0	0	0
Horse Cases	Week	0	0	0	0	0	0
	YTD	15	0	0	0	0	0

Dead Birds & Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	57	2
	YTD	2,448	682
Tree Squirrels	Week	2	0
	YTD	108	24

Chickens & Mosquitoes

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	387	7	0	0
	YTD	22,591	388	0	0
Mosquito Pools: RT-PCR	Week	156	4	0	0
	YTD	32,324	2,068	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	316	19	N/A	N/A

NEW POSITIVES

Humans

WNV Cases							
ID	Report Date	County	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
11-0151	11/21/11	Riverside	22	M	WNF	10/31/11	No
11-0152	11/22/11	Tulare	46	M	WNND	09/08/11	No
11-0153	12/01/11	Los Angeles	83	F	WNND	09/15/11	No
11-0154	12/01/11	Los Angeles	63	M	WNF	10/02/11	No

Dead Birds

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Kern	Kern MVCD	Bakersfield	93308	Western Scrub-Jay	11/15/2011	WNV	Recent	RTPCR
San Bernardino	San Bernardino VCP	Highland	92346	American Crow	10/27/2011	WNV	Recent	RTPCR

Mosquito Pools

County	Site Code	Pool #	Species	# in Pool	City	Collected	Virus	Method
Los Angeles	GRLA2355	1758	Cx. quinquefasciatus	50	Pico Rivera	11/22/2011	WNV	RTPCR
Los Angeles	GRLA2592	6519	Cx. quinquefasciatus	31	San Marino	11/17/2011	WNV	RTPCR
San Bernardino	SANB0002	866	Cx. quinquefasciatus	50	Redlands	7/20/2011	WNV	RTPCR
San Bernardino	WVAL2022	1163	Cx. quinquefasciatus	27	Fwy CA 60	11/30/2011	WNV	RTPCR

California Arbovirus Surveillance Bulletin #41
Week 48 Friday, December 2, 2011

Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01
Los Angeles	LACW1049	Inglewood	11/15/2011	WNV	1888
Merced	MERC0001	Merced	11/22/2011	WNV	1978
Merced	MERC0501	El Nido	11/22/2011	WNV	2009
Merced	MERC0502	Hilmar	11/22/2011	WNV	2012
Riverside	COAV0201	Thermal	11/14/2011	WNV	1328
Riverside	COAV0035	Mecca	11/14/2011	WNV	1341
San Bernardino	SANB0003	Colton	11/14/2011	WNV	2626

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.

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.

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 (WEEV), and St. Louis encephalitis (SLEV) 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 WEEV, SLEV, 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.