

California Arbovirus Surveillance Bulletin # 1

Week 4 Friday, January 25, 2008

Weekly and Year-To-Date Summaries

WEEKLY COMMENTS



Humans

No human cases have been reported in 2008.

2007 Summary

As of January 25, 2008, 378 human cases of West Nile virus (WNV) were reported from 30 counties: Butte (16), Colusa (2), Contra Costa (3), Fresno (17), Glenn (7), Imperial (3), Kern (138), Kings (7), Los Angeles (36), Madera (2), Mendocino (2), Merced (4), Napa (1), Orange (9), Placer (4), Riverside (17), Sacramento (25), San Bernardino (4), San Diego (15), San Joaquin (10), Santa Clara (4), Shasta (9), Solano (1), Sonoma (1), Stanislaus (21), Sutter (3), Tehama (4), Tulare (10), Ventura (1), and Yolo (2). The statewide incidence of reported WNV illness was 1.0 case per 100,000 people. Of the 378 cases, 155 (41%) were classified as West Nile neuroinvasive disease, and 219 (58%) as West Nile fever. The clinical presentation of 4 (1%) cases is unknown. The median age of all cases was 55 years (range: 2-96 years), and 210 (56%) were male. Seventeen WNV-related fatalities were reported from Colusa (1), Fresno (1), Kern (4), Kings (1), Los Angeles (3), Riverside (3), Sacramento (1), San Bernardino (1), San Joaquin (1), and Tulare (1) counties. A total of 48 WNV-positive blood donation samples were reported; 19 of the individuals reported symptoms and were reclassified as cases.

Horses

No equine cases have been reported in 2008.

2007 Summary

In 2007, 28 WNV equine cases were reported from 14 counties: Fresno (1), Kern (4), Kings (2), Placer (1), Sacramento (2), San Diego (4), San Joaquin (1), San Luis Obispo (1), Shasta (3), Siskiyou (2), Solano (1), Sonoma (2), Tehama (2), and Tulare (2). Fourteen were euthanized or died as a result of their infection.

Dead Birds & Tree Squirrels

No birds or tree squirrels have tested positive for WNV in 2008. **Dead bird testing has been suspended for the winter season and will resume on March 1, 2008.

2007 Summary

In 2007, the CDPH WNV and Dead Bird Hotline received 31,950 dead bird reports. Of these, 5,986 were deemed suitable for testing and 1,396 (23.2%) tested positive for WNV from 51 counties. The hotline also received 730 reports of dead tree squirrels; 26/224 (11.3%) tested positive for WNV from 10 counties.

Mosquito Pools

No positive mosquito pools have been reported in 2008.

2007 Summary

In 2007, 1,008 mosquito pools from 30 counties tested positive for WNV. Sixteen mosquito pools tested positive for western equine encephalomyelitis virus (WEE) from 2 counties: Fresno (1) and Kern (15).

Sentinel Chickens

No sentinel chickens have been tested in 2008.

2007 Summary

In 2007, 510 sentinel chickens from 117 flocks in 27 counties tested positive for WNV antibodies. In addition, there were 13 WEE seroconversions detected in chickens from Kern (10) and Los Angeles (3) 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.

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YTD WNV Activity by Element and County, 2007

County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			19	1		1
Amador			1	1		
Butte	16		27	5	32	
Calaveras			3			
Colusa	2		4	1	2	
Contra Costa	3		28	28	5	5
El Dorado			7			2
Fresno	17	1	114	61	46	4
Glenn	7		36	1	8	
Humboldt			2			
Imperial	3			4	17	
Inyo			1			
Kern	138	4	124	206	82	
Kings	7	2	9	30	22	
Lake			3	8	2	
Lassen			2			
Los Angeles	36		165	93	27	3
Madera	2		6	8	4	
Marin			4			
Mendocino	2		3			1
Merced	4		34	2	11	
Modoc			1			
Napa	1		2			
Nevada			5			
Orange	9		43	27		
Placer	4	1	16	25	13	
Plumas			1			
Riverside	17		6	30	44	
Sacramento	25	2	142	135	19	2
San Bernardino	4		26	6	35	
San Diego	15	4	108	6	1	
San Francisco			1			
San Joaquin	10	1	46	154	24	1
San Luis Obispo		1	9			
San Mateo			2			1
Santa Barbara			1			
Santa Clara	4		83	10		6
Santa Cruz			6			
Shasta	9	3	48	17	7	
Siskiyou		2	4			
Solano	1	1	3		7	
Sonoma	1	2	19	1		
Stanislaus	21		130	88	35	
Sutter	3		1	23	17	
Tehama	4	2	20	2	8	
Trinity			1			
Tulare	10	2	38	23	27	
Tuolumne			1			
Ventura	1		15		1	
Yolo	2		25	10	4	
Yuba			1	2	10	
Totals	378	28	1,396	1,008	510	26

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2007 & 2006 YTD West Nile Virus Comparisons		
	2007	2006
Total # Dead Bird Reports	31,950	46,345
# Positive Counties	51	54
# Human Cases/ # Tested	378 / 1,326	278 / 1,538
# Horse Cases/ # Tested	28 / 332	58 / 622
# Positive Dead Birds/ # Tested	1,396 / 5,986	1,446 / 6,535
# Positive Mosquito Pools/ # Tested	1,008 / 27,595	832 / 25,613
# Positive Chicken Sera/ # Tested	510 / 28,874	640 / 33,001
# Positive Squirrels/ # Tested	26 / 224	32 / 138

2008 TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE		Other	
			Imported	Local	Imported	Local	Imported	Local	Imported	Local
Humans Tested*	Week	15	0	0	0	0	0	0	0	0
	YTD	15	0	0	0	0	0	0	0	0
Horses Tested	Week	0	0	0	0	0	0	0	0	0
	YTD	0	0	0	0	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive
Dead Birds	Week	51	0
	YTD	51	0
Tree Squirrels	Week	0	0
	YTD	0	0

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	WEE Positive	SLE Positive
Chicken Sera	Week	0	0	0	0
	YTD	0	0	0	0
Mosquito Pools: RT-PCR	Week	9	0	0	0
	YTD	9	0	0	0
Mosquito Pools: RAMP	Week	0	0	N/A	N/A
	YTD	0	0	N/A	N/A

NATIONAL COMMENTS

2007 Update

As of January 8, 2008, a total of 3,510 human cases had been reported nationwide in 2007 in the following 43 states: Alabama (24), Arizona (94), Arkansas (20), California (379), Colorado (555), Connecticut (4), Delaware (1), Florida (3), Georgia (49), Idaho (131), Illinois (98), Indiana (24), Iowa (30), Kansas (39), Kentucky (4), Louisiana (40), Maryland (10), Massachusetts (6), Michigan (13), Minnesota (101), Mississippi (129), Missouri (76), Montana (201), Nebraska (144), Nevada (12), New Jersey (1), New Mexico (60), New York (21), North Carolina (6), North Dakota (369), Ohio (23), Oklahoma (101), Oregon (26), Pennsylvania (9), Rhode Island (1), South Carolina (5), South Dakota (207), Tennessee (10), Texas (219), Utah (68), Virginia (5), Wisconsin (11), and Wyoming (181). Of the 3,510 cases reported, 1,167 (33%) had West Nile neuroinvasive disease (i.e. encephalitis or meningitis). The median age of the 3,505 cases where data was available was 51 years (range: 1 month-97 years), and 55% were male. A total of 109 human fatalities had been reported from Alabama (3), Arizona (5), Arkansas (1), California (17), Colorado (6), Florida (1), Georgia (2), Idaho (1), Iowa (2), Illinois (4), Indiana (1), Kansas (2), Louisiana (2), Michigan (2), Minnesota (2), Mississippi (3), Missouri (3), Montana (4), Nebraska (3), New Mexico (3), New York (3), North Dakota (3), Ohio (2), Oklahoma (8), South Dakota (6), Tennessee (1), Texas (16), Utah (2), and Wyoming (1). For the latest updates about WNV activity in the United States, please visit the CDC WNV website at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm>.

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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:

All bird and tree squirrel species from all zip codes are currently being accepted for testing unless otherwise requested by a local agency. Additionally, once WNV has been detected within a county, doves, pigeons, and chickens will no longer be accepted for testing from that county. Corvids that test positive via RAMP or VecTest are no longer confirmed. Dead birds and 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 WNV 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 VRDL and tested for the presence of antibodies to West Nile virus (WNV), 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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