

California Arbovirus Surveillance Bulletin # 34

Week 41 Monday, October 18, 2010

Weekly Summary

WEEKLY COMMENTS



Humans

Two new human cases of West Nile virus (WNV) were reported last week from San Joaquin County. To date this year, 68 WNV cases have been reported from 12 counties. Of the 68 individuals, 44 (65%) developed neuroinvasive disease. The median age for all cases for which data are available is 56 years (range: 17-89 years); 37 (54%) are male. One fatality has been reported from Fresno County. At this time last year, 81 human cases had been reported from 16 counties.

Horses

No new cases were reported last week. In 2010, 18 horses from 11 counties have tested positive for WNV infection and 5 fatalities have been reported. At this time last year, 15 horse cases of WNV had been reported from 11 counties.

Dead Birds & Squirrels

As of October 14th, the statewide dead bird testing program has been suspended until March, 2011. The WNV hotline will continue to operate Monday-Friday (8am-5pm) to receive dead bird and squirrel reports and answer questions from the public. Please contact Erin Parker at 510-412-6254 for questions concerning the program.

Five recently-infected* WNV positive dead birds were reported last week from the following 5 counties: Contra Costa (1), Los Angeles (1), Sacramento (1), San Bernardino (1), and Solano (1). This is the first WNV positive dead bird detected in Solano County this year. Twelve additional birds from seven counties tested positive for chronic infection with WNV. There were no positive tree squirrels reported this week.

In 2010, 390 recently-infected* WNV positive dead birds have been reported from 27 counties, and 20 WNV positive squirrels have been reported from 8 counties. An additional 177 chronic WNV infections have been detected in birds from 29 counties (see www.westnile.ca.gov for more details). At this time last year, 498 birds from 36 counties and 10 tree squirrels from 7 counties 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 began 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

Seventeen WNV positive mosquito pools were reported last week from the following 9 counties: Fresno (1), Kern (4), Orange (2), Placer (2), Riverside (1), Sacramento (2), San Joaquin (1), Stanislaus (3), and Yolo (1). In 2010, 1,284 mosquito pools from 24 counties have tested positive for WNV. At this time last year, 1,047 WNV positive mosquito pools had been reported from 27 counties.

Sentinel Chickens

Eleven WNV seroconversions were reported last week from 8 flocks within the following 5 counties: Madera (1), Merced (1), Placer (1), Riverside (7), and Tulare (1). In 2010, 264 WNV positive chickens have been detected among 59 flocks within 20 counties. At this time last year, 406 WNV positive chickens from 22 counties had been reported.

California Arbovirus Surveillance Bulletin # 34

Week 41 Monday, October 18, 2010

2009 & 2010 YTD West Nile Virus Comparisons		
	2009	2010
Total # Dead Bird Reports	14,486	9,710
# Positive Counties	42	35
# Human Cases	81	68
# Horse Cases	15	18
# Positive Dead Birds / # Tested	498 / 2,594	390 / 2,017
# Positive Mosquito Pools / # Tested	1,047 / 24,371	1,284 / 28,734
# Seroconversions / # Tested	406 / 21,958	264 / 23,305
# Positive Squirrels / # Tested	10 / 97	20 / 98

YTD WNV Activity by Element and County, 2010

County	Humans	Horses	Dead Birds [^]	Mosquito Pools	Sentinel Chickens	Squirrels
Alameda			1			
Amador		1				
Butte	1	1	6	7	6	1
Colusa			1		5	
Contra Costa	3		8	4	2	
El Dorado			2			
Fresno	21	3	22	130	7	2
Glenn	2		3			
Imperial				10	14	
Kern	7	1	11	276	80	
Kings				65		
Lake				2		
Lassen		1				
Los Angeles			33	49	2	1
Madera	5	5	13	9	9	
Merced			14	9	8	
Mono			1			
Orange			12	19		1
Placer	3		7	36	4	
Riverside			1	70	42	
Sacramento	5	2	114	205	7	2
San Bernardino	1		10	37	10	2
San Diego			2	1		
San Joaquin	6	1	26	51	1	
San Mateo						5
Santa Clara			30	10		6
Santa Cruz			4			
Shasta			3			
Solano		1	1	1	2	
Stanislaus	9	1	32	86	20	
Sutter			1	26	13	
Tehama					1	
Tulare	5	1	21	168	26	
Yolo			11	11		
Yuba				2	5	
Totals	68	18	390	1,284	264	20

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

California Arbovirus Surveillance Bulletin # 34

Week 41 Monday, October 18, 2010

TEST SUMMARIES

Human & Horse Cases

		Number Tested	WNV		WEE		SLE	
			Local	Imported	Local	Imported	Local	Imported
Humans Tested*	Week	19	2	0	0	0	0	0
	YTD	607	68	0	0	0	0	0
Horses Tested	Week	6	0	0	0	0	0	0
	YTD	169	18	0	0	0	0	0

Dead Birds & Tree Squirrels

		Number Tested	WNV Positive (recent only)
Dead Birds	Week	60	5
	YTD	2,017	390
Tree Squirrels	Week	6	0
	YTD	98	20

Sentinel Chickens & Mosquito Pools

		Number Tested	WNV Positive	SLE Positive	WEE Positive
Chicken Sera	Week	765	11	0	0
	YTD	23,305	264	0	0
Mosquito Pools: RT-PCR	Week	785	17	0	0
	YTD	27,701	1,265	0	0
Mosquito Pools: RAMP	Week	5	0	N/A	N/A
	YTD	1,033	19	N/A	N/A

NEW POSITIVES

Humans

WNV Cases							
ID	Report Date	County ¹	Age	Sex	Clin Pres	Onset Date	WNV Fatality?
10-0068	10/07/10	San Joaquin	62	M	WNF	08/03/10	No
10-0069	10/12/10	San Joaquin	48	M	WNF	08/21/10	No

¹County of residence

California Arbovirus Surveillance Bulletin # 34

Week 41 Monday, October 18, 2010

Dead Birds & Squirrels

County	Agency	City	Zip	Species	Reported	Virus	Type of Infection	Method
Alameda	Alameda Co MAD	Pleasanton	94588	Western Tanager	9/26/2010	WNV	Chronic	RT-PCR
Alameda	Alameda Co MAD	Alameda	94501	Fox Sparrow	9/30/2010	WNV	Chronic	RT-PCR
Contra Costa	Contra Costa MVCD	Walnut Creek	94596	American Crow	10/8/2010	WNV	Recent	RAMP
Los Angeles	Greater LA Co VCD-Sylmar	Tarzana	91356	Sharp-shinned Hawk	10/4/2010	WNV	Chronic	RT-PCR
Los Angeles	Los Angeles Co Vet	La Puente	91744	American Crow	9/23/2010	WNV	Recent	RT-PCR
Los Angeles	Los Angeles Co Vet	Los Angeles	90077	Chickadee	9/26/2010	WNV	Chronic	RT-PCR
Los Angeles	Los Angeles Co Vet	Los Angeles	90035	Cooper's Hawk	9/27/2010	WNV	Chronic	RT-PCR
Los Angeles	Los Angeles Co Vet	Malibu	90265	Cooper's Hawk	9/29/2010	WNV	Chronic	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Folsom	95630	American Crow	9/30/2010	WNV	Recent	RT-PCR
Sacramento	Sacramento-Yolo MVCD	Galt	95632	Great Egret	10/5/2010	WNV	Chronic	RT-PCR
San Bernardino	San Bernardino VCP	Redlands	92373	Cooper's Hawk	10/5/2010	WNV	Recent	RT-PCR
San Bernardino	West Valley MVCD	Rancho Cucamonga	91739	Great Horned Owl	9/28/2010	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Escalon	95320	Budgie	9/29/2010	WNV	Chronic	RT-PCR
San Joaquin	San Joaquin Co MVCD	Escalon	95320	Budgie	9/29/2010	WNV	Chronic	RT-PCR
Santa Cruz	Santa Cruz MVCD	Aptos	95003	American Robin	10/5/2010	WNV	Chronic	RT-PCR
Solano	Solano Co MAD	Vacaville	95687	Western Scrub-Jay	10/4/2010	WNV	Recent	RT-PCR
Stanislaus	Turlock MAD	Turlock	95380	European Starling	10/4/2010	WNV	Chronic	RT-PCR

Mosquitoes

County	Site Code	Pool #	Species	# in pool	City	Collected	Virus	Method
Fresno	CNSL1118	596	Culex quinquefasciatus	14	Fresno	10/12/2010	WNV	RTPCR
Kern	KERN2030	1392	Culex quinquefasciatus	50	Bakersfield	10/6/2010	WNV	RTPCR
Kern	KERN3014	1376	Culex tarsalis	50	Bakersfield	10/5/2010	WNV	RTPCR
Kern	KERN40	1379	Culex tarsalis	50	Lost Hills	10/5/2010	WNV	RTPCR
Kern	KERN60	1377	Culex quinquefasciatus	50	Bakersfield	10/5/2010	WNV	RTPCR
Orange	ORCO33	1554	Culex quinquefasciatus	11	Westminster	10/5/2010	WNV	RTPCR
Orange	ORCO82	1534	Culex quinquefasciatus	53	Cypress	9/28/2010	WNV	RTPCR
Placer	PLCR1023	1408	Culex tarsalis	5	Roseville	10/12/2010	WNV	RTPCR
Placer	PLCR117	1323	Culex stigmatosoma	1	Newcastle	10/6/2010	WNV	RTPCR
Riverside	COAV130	2891	Culex tarsalis	50	Mecca	10/13/2010	WNV	RTPCR
Sacramento	SAYO233009	5973	Culex pipiens	10	Elk Grove	10/13/2010	WNV	RTPCR
Sacramento	SAYO253004	5989	Culex tarsalis	32	Thornton	10/13/2010	WNV	RTPCR
San Joaquin	SJCM8010	996	Culex tarsalis	14	Ripon	10/14/2010	WNV	RTPCR
Stanislaus	TRLK525	1297	Culex pipiens	11	Hughson	10/12/2010	WNV	RTPCR
Stanislaus	TRLK526	1286	Culex pipiens	50	Denair	10/12/2010	WNV	RTPCR
Stanislaus	TRLK536	1280	Culex pipiens	41	Turlock	10/12/2010	WNV	RTPCR
Yolo	SAYO146002	6010	Culex tarsalis	50	Davis	10/13/2010	WNV	RTPCR

Sentinel Chickens

County	Site Code	City	Date Bled**	Virus	Band 01	Band 02	Band 03
Madera	MADR4132	Chowchilla	10/5/2010	WNV	2115		
Merced	MERC0002	Dos Palos	10/1/2010	WNV	2246		
Placer	PLCR0095	Lincoln	10/4/2010	WNV	2486		
Riverside	COAV0122	Mecca	10/4/2010	WNV	1324		
Riverside	COAV0131	Oasis	10/4/2010	WNV	1351	1377	1378
Riverside	COAV0035	Mecca	10/4/2010	WNV	1326		
Riverside	NWST9227	High Grove	9/22/2010	WNV	2382	2383	
Tulare	DLTA6309	Reedley	10/4/2010	WNV	1549		

**Date bled is equivalent to the probable date of seroconversion. The filter paper bleed date is reported as the date bled when whole blood is requested & tested for confirmation.

California Arbovirus Surveillance Bulletin # 34

Week 41 Monday, October 18, 2010

NATIONAL COMMENTS

As of October 12, 2010, 713 human cases of WNV had been reported nationwide in 35 states: Alabama (3), Arizona (125), Arkansas (6), California (65), Colorado (66), Connecticut (7), Florida (7), Georgia (11), Idaho (1), Illinois (25), Indiana (7), Iowa (5), Kansas (6), Kentucky (3), Louisiana (20), Maryland (10), Massachusetts (4), Michigan (23), Minnesota (5), Mississippi (6), Missouri (3), Nebraska (37), Nevada (2), New Hampshire (1), New Jersey (24), New Mexico (16), New York (114), North Dakota (8), Ohio (2), Pennsylvania (17), South Dakota (20), Tennessee (2), Texas (52), Virginia (2), Wisconsin (2), and Wyoming (6). Of the 713 cases, 429 (60%) had neuroinvasive disease. A total of 29 WNV-related fatalities have been reported in Arizona (7), California (1), Colorado (4), Florida (2), Illinois (2), Kentucky (1), Michigan (2), Nebraska (1), New Jersey (2), New York (3), Texas (3), and Virginia (1).

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.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6253 or email: tina.feiszli@cdph.ca.gov

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
