

# Army Vector-borne Disease Report

18 September 2012

Data are preliminary and subject to change

Click on maps to enlarge.

- **West Nile Virus:** CDC reports 2,636 human cases; Army reports no new confirmed cases (n=7) and no new deaths.
- **WNV mosquito pools:** PHCR-North and PHCR-West report no new positive pools; PHCR-South reports 4 additional positive pools.
- **Tick-borne diseases:** Of ticks submitted to the DoD Human Tick Test Program in 2012, 26% of ticks tested for the causative agent of Lyme disease were positive and 19% of ticks tested for an emerging Spotted Fever Group pathogen (*Rickettsia parkerii*) were positive.

## West Nile Virus (WNV)

### United States

- The total number of U.S. WNV cases increased by more than 30% since last week.
- CDC indicates the peak of the outbreak has passed, but expects case numbers to continue to increase since illness and death reports are lagging indicators.
- The number of neuroinvasive (i.e., meningitis or encephalitis) cases increased by 31% since last week; 53% (1405/2636) of all WNV cases are neuroinvasive.
- UT and WA reported their first neuroinvasive cases last week; 42 states have reported neuroinvasive cases.
- The 5 states reporting the most human WNV cases are TX, LA, SD, MS, and MI—combined they reported 62% (n=1626) of all cases.
- TX continues to report the most cases (n=1057) and deaths (n=46); TX total case counts increased by 19% (n=155) and deaths increased by 19% (n=11) compared to the previous week.

West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 11, 2012)



2012 WNV Human Cases <sup>§</sup>		
Population	Previous Week <sup>¥</sup>	Year to Date
United States	643	2,636
Army Cases		
Confirmed and Probable		
Army Active Duty <sup>‡</sup>	0	3
Army Beneficiaries	0	4
2012 WNV Human Deaths		
United States	31	118
Army Retirees	0	1

### Cases in Army Personnel

- No additional fatalities have been reported among Army beneficiaries since the 23 August report.
- Joint Base San Antonio-Fort Sam Houston (JBSA-FSH) still reports 2 confirmed and 2 probable Army cases (including the previously reported fatality in a retiree); Fort Hood still reports 3 probable WNV cases.
- Confirmatory labs on all cases are pending; additional suspect WNV cases have been reported and are undergoing review and additional laboratory testing.

### DoD Mosquito Surveillance from Army Laboratories

- PHCR-South: 4 additional positive pools, all from JBSA-FSH, a location that has previously reported positives.

Positive Mosquito Pools	PHC Region	Previous Week <sup>¥</sup>	Year to Date	No. Positive Locations
	North	0	54	6
South	4	71	5	
West	0	5	3	

West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2012 (as of September 18, 2012)



Source: Official communication.

¥Absolute difference between last published report and this week's year to date number.

### Prevention and Control Activities

- PHC regions continue to stress the importance of eliminating mosquito breeding sites (standing water) around the home and workplace, and using personal protective measures, such as DEET-containing insect repellents.

## Tick-borne Diseases

• The DoD Human Tick Test Program is a free service available to DoD health care facilities, provided by USAPHC.

• The Program tests ticks for the presence of human pathogens in order to aid clinical decision-making.

Note: 18 ticks were infected with two or more pathogens: 3-*B. burgdorferi* & *A. phagocytophilum*, 2-*B. burgdorferi* & *B. microti*, 1-*B. burgdorferi* & Ehrlichia muris-like, 1-*B. burgdorferi* & *A. phagocytophilum* & Ehrlichia muris-like, and 11-*E. chaffeensis* & *E. ewingii*.

Human Disease	Reported Cases <sup>†</sup>		DoD Human Tick Test Program 2012				Clinical Information	
	U.S. YTD	Army YTD	Pathogen	No. Tested	No. Positive	% Positive	Clinical Symptoms	Treatments
<b>Lyme Disease</b>	16,738	104	<i>B. burgdorferi</i>	299	79	26%	Malaise, fatigue, fever, headache, myalgia, arthralgia, expanding rash	Doxycycline, amoxicillin, cefuroxime axetil
<b>Babesiosis</b>	281	0 <sup>‡</sup>	<i>B. microti</i>	299	4	1%	Fever, flu-like symptoms, hemolytic anemia, jaundice	Clindamycin plus quinine, atovaquone plus azithromycin
<b>RMSF</b>	131	4	<i>R. rickettsii</i>	446	0	0%	Fever, headache, abdominal pain, maculopapular rash progressing into papular or petechial rash (generally originating on extremities)	Doxycycline
Other Spotted Fever <i>Rickettsia (emerging)</i>			<i>R. parkerii</i>	68	13	19%	Fever, headache, eschar(s), variable rash	
<b>Ehrlichiosis</b>	695	3	<i>E. chaffeensis</i>	1906	40	2%	Fever, headache, muscle pain, malaise, chills, nausea, cough, confusion, rash (rare), severe presentation may include hemorrhage or renal failure	
•human monocytic			<i>E. ewingii</i>	1906	75	4%		
• <i>ewingii</i>			<i>E. muris-like</i>	299	3	1%		
<b>Anaplasmosis</b>	528	1	<i>A. phagocytophilum</i>	299	10	3%		

Sources: National data: CDC, Other Tick-borne Spotted Fever Rickettsial Infections, updated 15 Feb. 2012; CDC, Ticks, Updated 26 July 2012; CDC MMWR Notifiable Diseases and Mortality Tables, Tables I and II Provisional Cases, Week Ending 8 Sep. 2012. Army data: AIPH DRSI, accessed 17 Sep. 2012; official communication.

Note: U.S. ehrlichiosis/anaplasmosis cases do not include cases of undetermined type (n=88).

Note: Reported Army cases may not have had a tick submitted to the DoD Human Tick Test Program, and infected ticks may not have resulted in a human infection.

† Only cases that are reported as Confirmed.

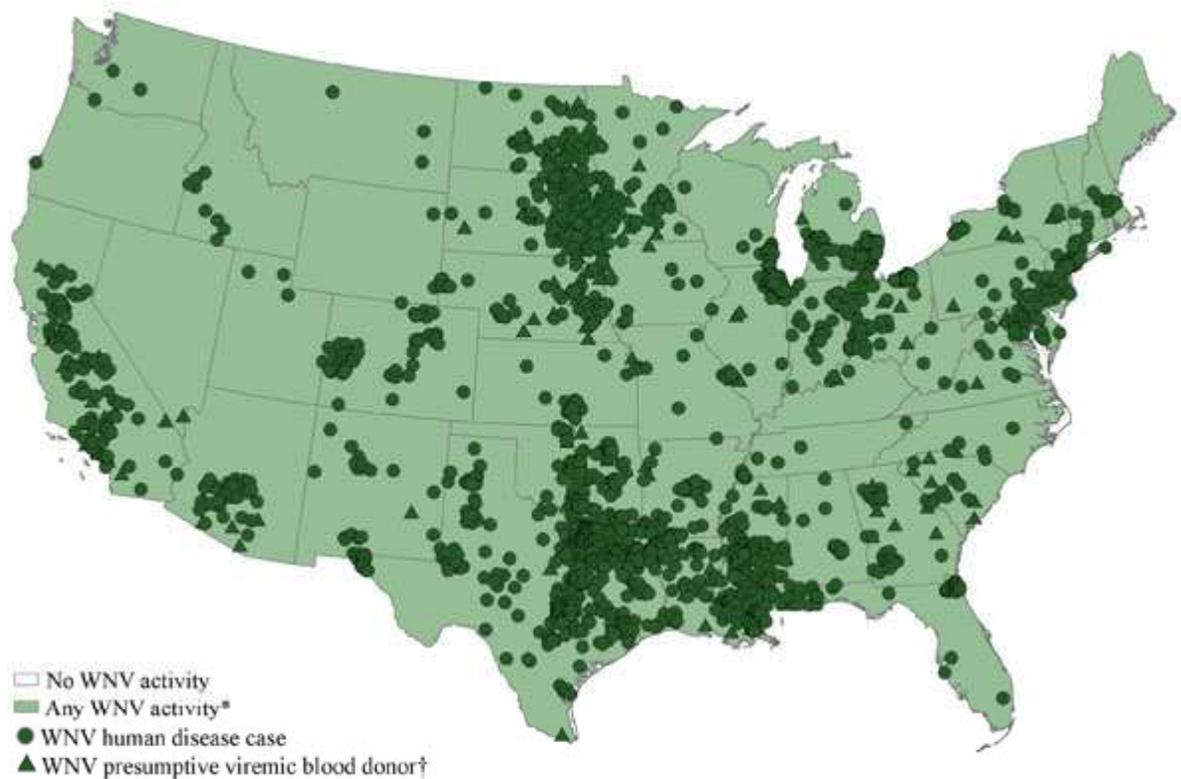
‡ Not a reportable medical event. No ambulatory or hospitalized Army cases in DMSS, accessed via DMED on 17 Sep. 2012.

**Resources:** CDC WNV • CDC Tickborne Diseases • Human Tick Test Program • USAPHC WNV Fact Sheet • Army Vector-borne Disease Reports • USAPHC  
**Key:** CDC-Centers for Disease Control and Prevention; DRSI-Disease Reporting System Internet; Mosquito pool-1 to 50 mosquitoes

Contact us at: [USAPHC Disease Epidemiology](http://USAPHC Disease Epidemiology) or 410-417-2377

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## West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 11, 2012)



Footnote: The map displays white areas that represent no WNV activity reported, light green areas that represent any WNV activity\* , dark green circles that represent disease cases, and dark green triangles that represent presumptive viremic blood donors.

•Includes WNV human disease cases, presumptive viremic blood donors, veterinary disease cases and infections in mosquitoes, birds, and sentinel animals.

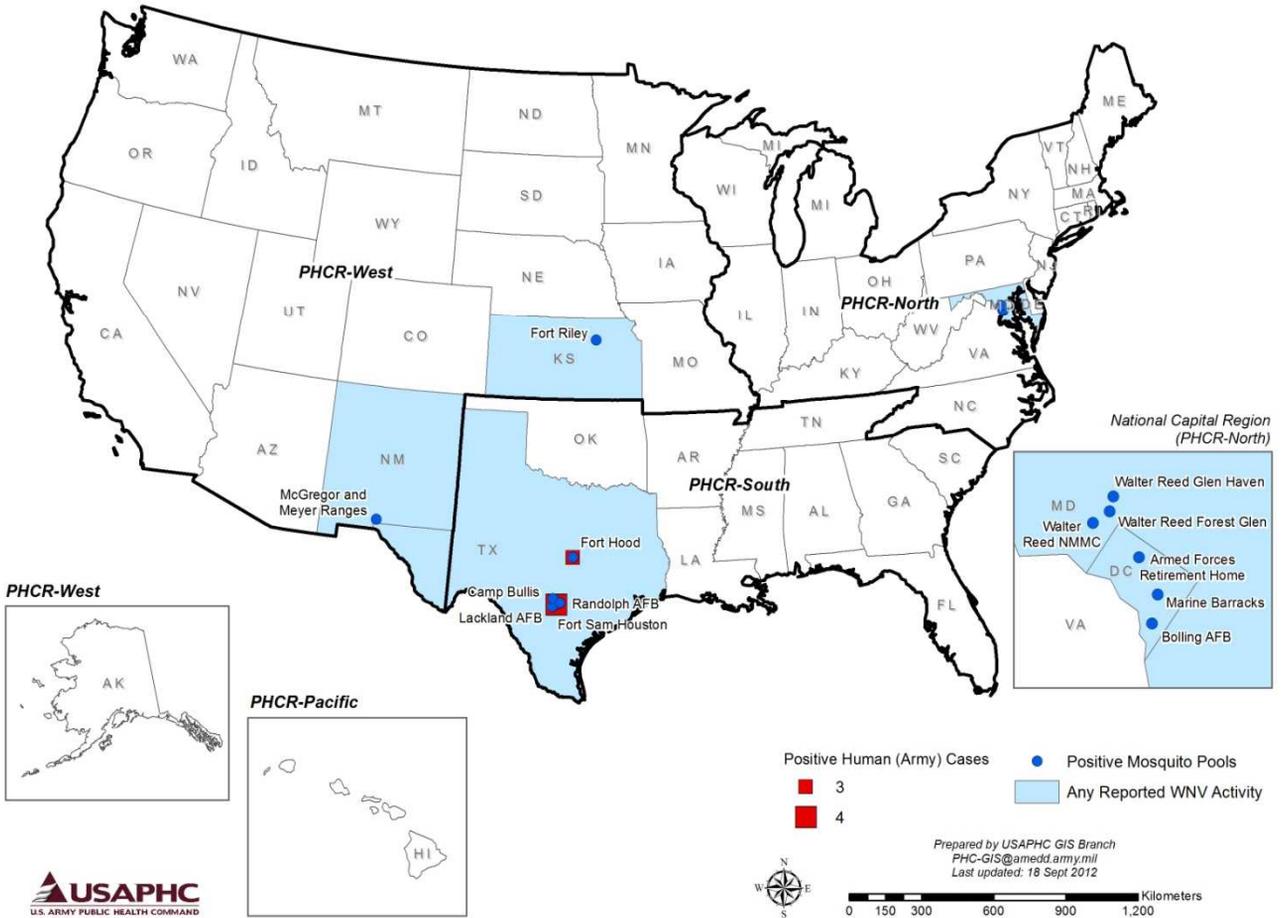
•† Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

Map shows the distribution of WNV activity\* (shaded in light green), human infections (dark green circles), and presumptive viremic blood donors (dark green triangles) occurring during 2012 by state. If West Nile virus infection is reported from any area of a state, that entire state is shaded.

Source: <http://www.cdc.gov/ncidod/dvbid/westnile/Mapsactivity/surv&control12MapsAnybyState.htm>

# West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2012

As of September 18, 2012



Footnote: The map displays white areas that indicate no reported West Nile virus (WNV) activity, light blue areas represent any reported WNV activity\* within a state; dark blue circles represent WNV positive mosquito pools on military installations, and red squares represent the reporting location/installation of Army human cases (probable and/or confirmed). If West Nile virus infection is reported from any area of a state, that entire state is shaded light blue.

\*Includes WNV Army human disease cases (probable and/or confirmed) and infections in mosquito pools on military installations.

Prepared by: US Army Public Health Command Geographic Information Systems Branch.