

Army Vector-borne Disease Report

11 September 2012

Data are preliminary and subject to change

Click on maps to enlarge.

- **West Nile Virus:** CDC reports 1,993 human cases; Army reports 7 cases (increase of 1 from last week) including 1 death.
- **WNV mosquito pools:** PHCR-North, PHCR-South, and PHCR-West reported an additional 14 positive pools since the last report.
- **Tick-borne diseases:** In 2012, the majority of Army Lyme disease case reports are for dependents in PHCR-Europe and PHCR-North; a recent publication urges health care providers to consider emerging tick-borne diseases when evaluating patients.

West Nile Virus (WNV)

United States

- 1,069 (54%) of WNV cases were neuroinvasive (i.e., meningitis or encephalitis).
- The number of states reporting neuroinvasive cases remained stable (n=40); the number of states reporting human WNV cases increased by 1 (DE) to 44.
- The 5 states reporting the most human WNV cases are TX, SD, OK, MS, and MI—combined they reported 67% (n=1328) of all cases.
- TX continues to report the largest number of cases (n=888) and deaths (n=35); TX total case counts increased by 21% (n=155) compared to the previous week.

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 reports 3 probable WNV cases (1 new case in an active duty (AD) Soldier under 50 years of age); confirmatory labs on all cases are pending, geographic areas of exposure are being investigated.
- Additional suspect WNV cases have been reported and are undergoing review.

DoD Mosquito Surveillance from Army Laboratories

Positive Mosquito Pools	PHC Region	Previous Week [¥]	Year to Date	No. positive locations
	North	7	54	6
	South	6	67	5
	West	1	5	3

Source: Official communication.

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

- Fort Riley, KS and Walter Reed Glen Haven housing area, MD have each reported their first WNV positive mosquito pools.

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 insect repellents.

Lyme Disease

- 63% (n=66) of all reported confirmed Lyme disease cases in 2012 occurred in non-AD Army beneficiaries.
- From 1 January to 10 September 2012, PHCR-Europe reported half of Army Lyme disease cases.
- The spring/summer peak of Lyme disease vector (*Ixodes scapularis*) abundance has passed, but adult ticks are active in winter months.
- From Oct 2011 through April 2012, 87 of 258 (34%) of *I. scapularis* adults submitted to the DoD Human Tick Test Kit Program were positive for Lyme disease.

2012 Lyme Disease Cases		
Population	Previous Week [¥]	Year to Date
United States ^β	601	16,349
Confirmed Army Cases		
Army Active Duty [‡]	1	38
Army Beneficiaries	5	66
Regional Case Distribution		
PHCR-Europe	4	52
PHCR-North	1	31
PHCR-South	0	11
Other/Unknown	1	10

Source: CDC and AIPH DRSI.

Note: Reporting location may differ from exposure location.

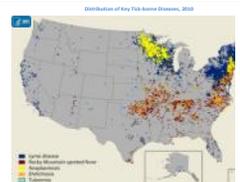
[¥] Difference between last published report and this week's year to date number.

^βProvisional cases, week ending 4 Sep.

[‡]Includes recruits and cadets.

Other Tick-borne Diseases

- In an article published this month in *Zoonoses and Public Health*, Stromdahl and Hickling emphasize that despite Lyme disease's reputation as the nation's most prevalent vector-borne zoonotic disease, recent publications and DoD tick-testing data indicate that individuals in the southeastern U.S. are primarily at risk from emerging tick-borne diseases (e.g., ehrlichiosis, tularemia, spotted fever rickettsioses, babesiosis, etc.), rather than Lyme disease.
- The risk of contracting these emerging tick-borne diseases varies greatly among states as a consequence of regional variation in the abundance of tick species. Moreover, disease risk is changing because tick distributions are in flux.
- To improve health outcomes, providers need better and more current information regarding which tick species bite humans in each state and which zoonotic pathogens are prevalent in these ticks.
- Effective diagnosis, treatment, control and reporting of tick-borne disease in the southeastern U.S. require providers to consider diseases other than Lyme and understand regional differences in tick species.



West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 4, 2012)



West Nile Virus Activity, by State and Army Public Health Command Region (PHCR), United States, 2012 (as of September 4, 2012)



2012 WNV Human Cases ^β		
Population	Previous Week [¥]	Year to Date
United States	403	1,993
Army Cases Confirmed and Probable		
Army Active Duty [‡]	1	3
Army Beneficiaries	0	4
2012 WNV Human Deaths		
United States	22	87
Army Retirees	0	1

Source: CDC, AIPH DRSI, and official communication.

Note: Reporting location may differ from exposure location.

^βConfirmed and probable neuroinvasive and nonneuroinvasive cases.

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

[‡]Includes recruits and cadets.

Additional Resources: CDC West Nile Virus • CDC US Tickborne Diseases • Human Tick Test Program • USAPHC WNV Fact Sheet
Previous Army Vector-borne Disease Reports

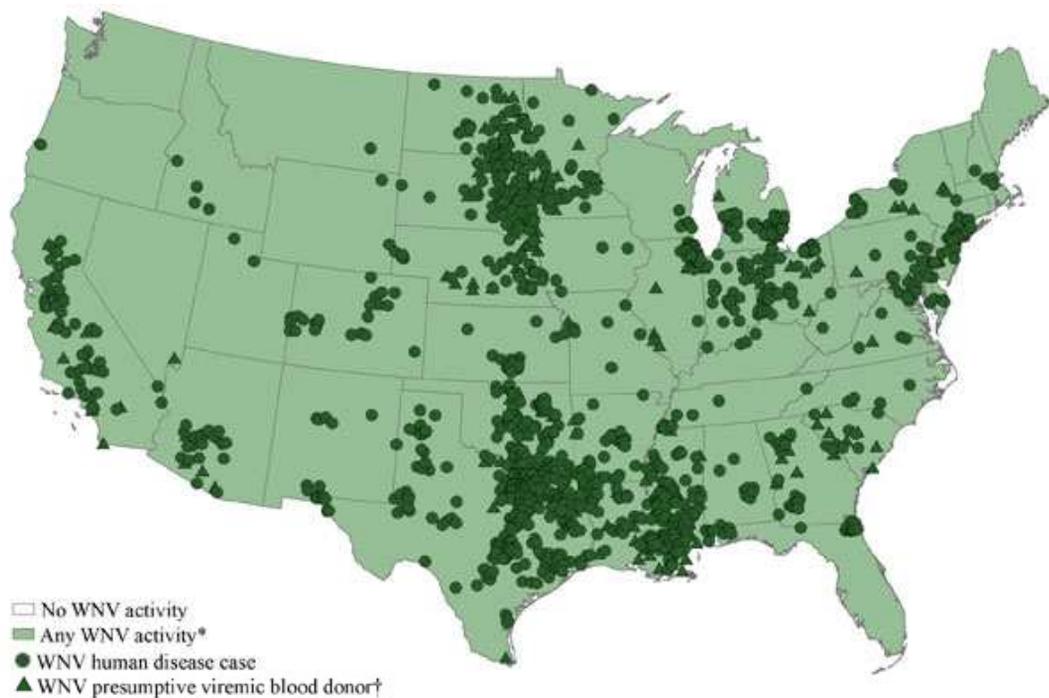
Key: CDC-Centers for Disease Control and Prevention; DRSI-Disease Reporting System Internet; Mosquito pool-1 to 50 mosquitoes

Contact us at: USAPHC Disease Epidemiology or 410-417-2377

Questions?

<http://phc.amedd.army.mil>

West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 4, 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.

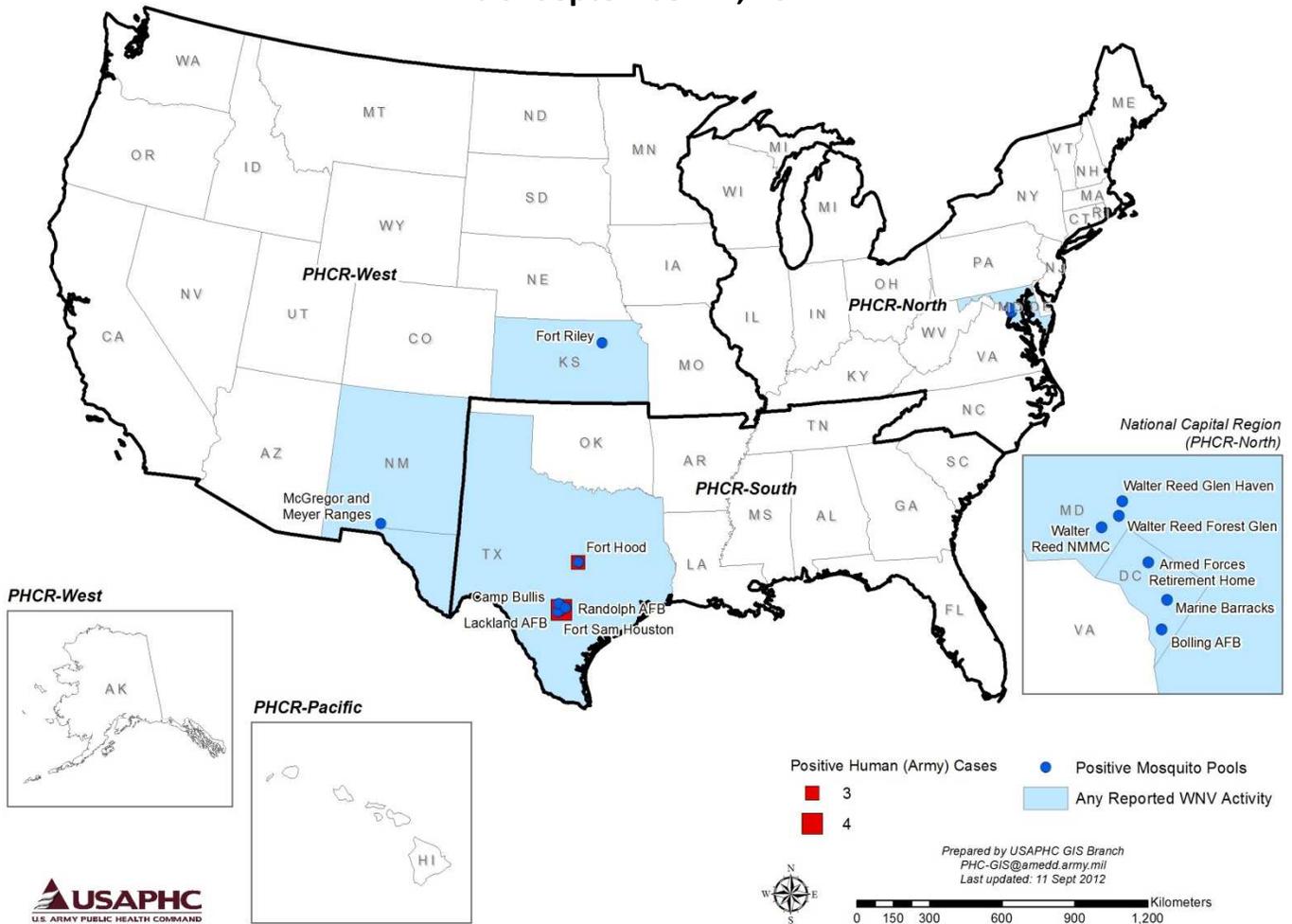
•† Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

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 11, 2012

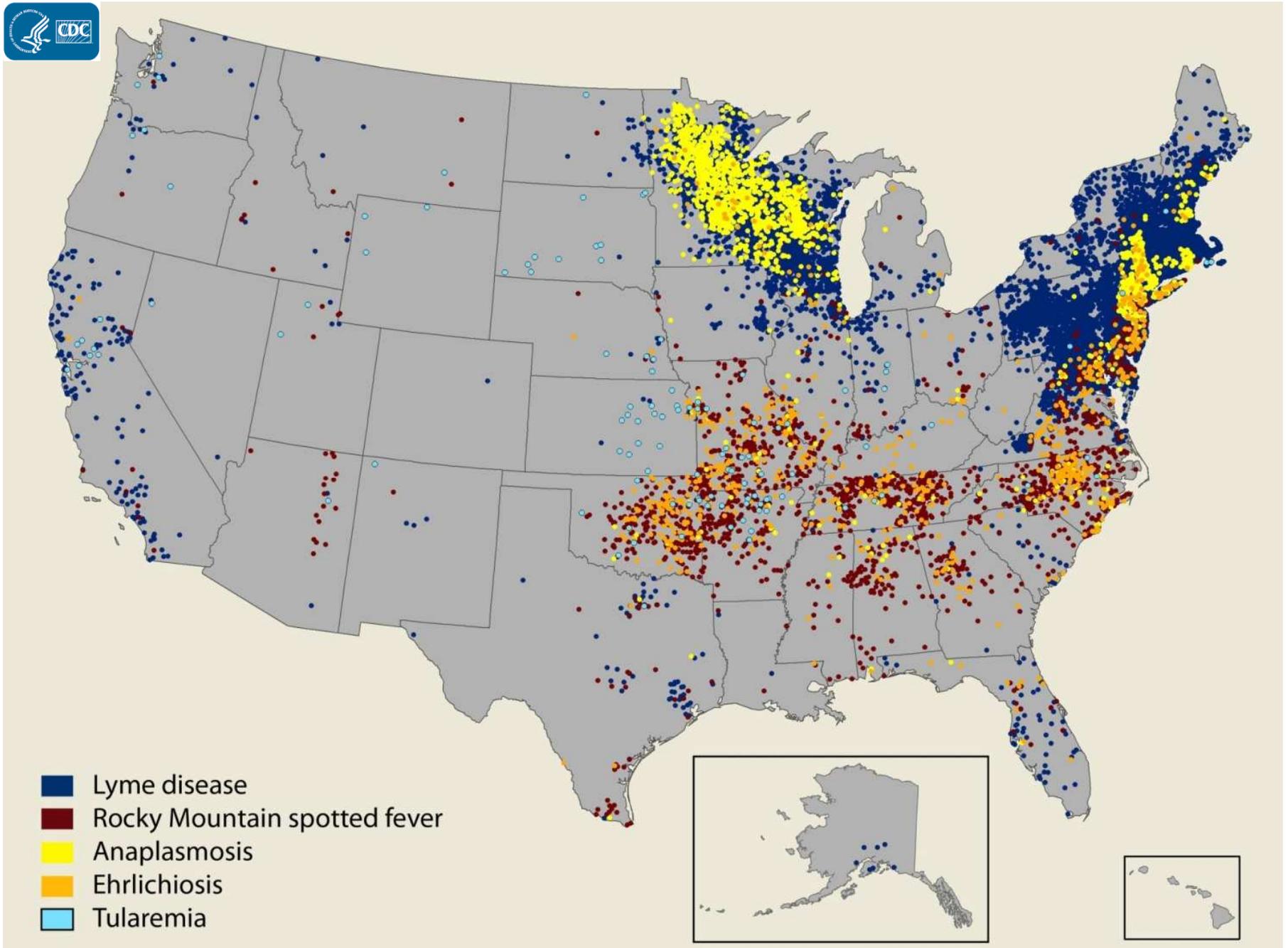


Footnote: The map displays white areas that indicate no reported West Nile virus (WNV) activity, light blue areas represent any reported WNV activity* within a state; dark blue circles represent WNV positive mosquito pools on military installations, and red squares represent the reporting location/installation 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.

Distribution of Key Tick-borne Diseases, 2010



Footnote: Diseases reported to CDC by state health departments. Each dot represents one case. The county where the disease was diagnosed is not necessarily the county where the disease was acquired.

Used with permission of the CDC.