

Army Vector-borne Disease Report

25 September 2012

Data are preliminary and subject to change

Click on maps to enlarge.

- **West Nile Virus:** CDC reports 506 additional human cases; Army reports no new confirmed cases (n=7) and no new deaths.
- **WNV mosquito pools:** PHCR-West and PHCR-North report 5 additional positive pools; PHCR-South reports no additional positive pools.
- **Lyme disease:** Four additional cases of Lyme disease were reported among Army beneficiaries since the previous report.
- **Eastern Equine Encephalitis:** Human and equine case counts in 2012 are higher than last year's; Army reports 0 human cases in 2012.

West Nile Virus (WNV)

United States

- Compared to last week, U.S. WNV case counts increased by 19% and deaths by 14%.
- CDC indicates the peak of the outbreak has passed, but expects case numbers to continue to increase as illness and death reports are lagging indicators.
- The number of neuroinvasive (i.e., meningitis or encephalitis) cases increased by 16% since last week; roughly half (52%, n=1630) of WNV cases are neuroinvasive.
- The number of states reporting neuroinvasive and non-neuroinvasive cases (n=42) remained stable.
- The 5 states reporting the most human WNV cases are TX, MS, MI, SD, and LA—combined they reported 59% (n=1861) of all cases.
- TX continues to report the most cases (n=1225) and deaths (n=50); compared to the previous week, TX total case counts increased by 16% (n=168) and deaths increased by 9% (n=4).

West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 18, 2012)



2012 WNV Human Cases[§]

Population	Previous Week [¶]	Year to Date
United States	506	3,142

Army Cases

Confirmed and Probable

Army Active Duty [‡]	0	3
Army Beneficiaries	0	4

2012 WNV Human Deaths

United States	16	134
Army Retirees	0	1

Sources: CDC, AIPH DRSI, and official communication.

Note: Reporting location may differ from exposure location.

[§]Confirmed and probable neuroinvasive and nonneuroinvasive cases.

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

[‡]Includes recruits and cadets.

[†]Case died 17 Aug., reported 21 Aug.

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 that have been reported previously are undergoing review and additional laboratory testing.

DoD Mosquito Surveillance from Army Laboratories

- PHCR-West: 1 new positive pool location (Yuma Proving Ground, AZ) and 1 additional positive from Fort Riley; PHCR-North reports 3 additional positive pools from locations that have previously reported positives.

Positive Mosquito Pools	PHC Region	Previous Week [¶]	Year to Date	No. Positive Locations
	North	3	57	6
	South	0	71	5
	West	2	7	4

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

Source: Official communication.



Prevention and Control Activities

- Expect mosquitoes to remain active until the first hard or killing frost.
- Preventive Medicine personnel should continue to stress the importance of eliminating mosquito breeding sites (standing water) around homes and workplaces, and using personal protective measures (use only EPA-registered insect repellents, preferably those containing DEET).

Lyme Disease

- The majority, 62% (n=67), of reported confirmed Lyme disease cases in 2012 occurred in non-AD Army beneficiaries.
- From 1 January to 24 September 2012, PHCR-Europe reported 51% of Army Lyme disease cases.
- Though the spring/summer peak of the Lyme disease vector (*Ixodes scapularis*) has passed, adult ticks are active (bite) in winter.
- Of 299 *I. scapularis* adults submitted to the DoD Human Tick Test Program this year, 26% (n=79) tested positive for Lyme disease.

2012 Lyme Disease Cases		
Population	Previous Week [¶]	Year to Date
United States [§]	940	17,678
Confirmed Army Cases		
Army Active Duty [‡]	3	41
Army Beneficiaries	1	67
Regional Case Distribution		
PHCR-Europe	3	55
PHCR-North	0	31
PHCR-South	1	12
Other/Unknown	0	10

Sources: 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.

[§]Provisional cases, week ending 15 Sep.

[‡]Includes recruits and cadets.

Eastern Equine Encephalitis (EEE)

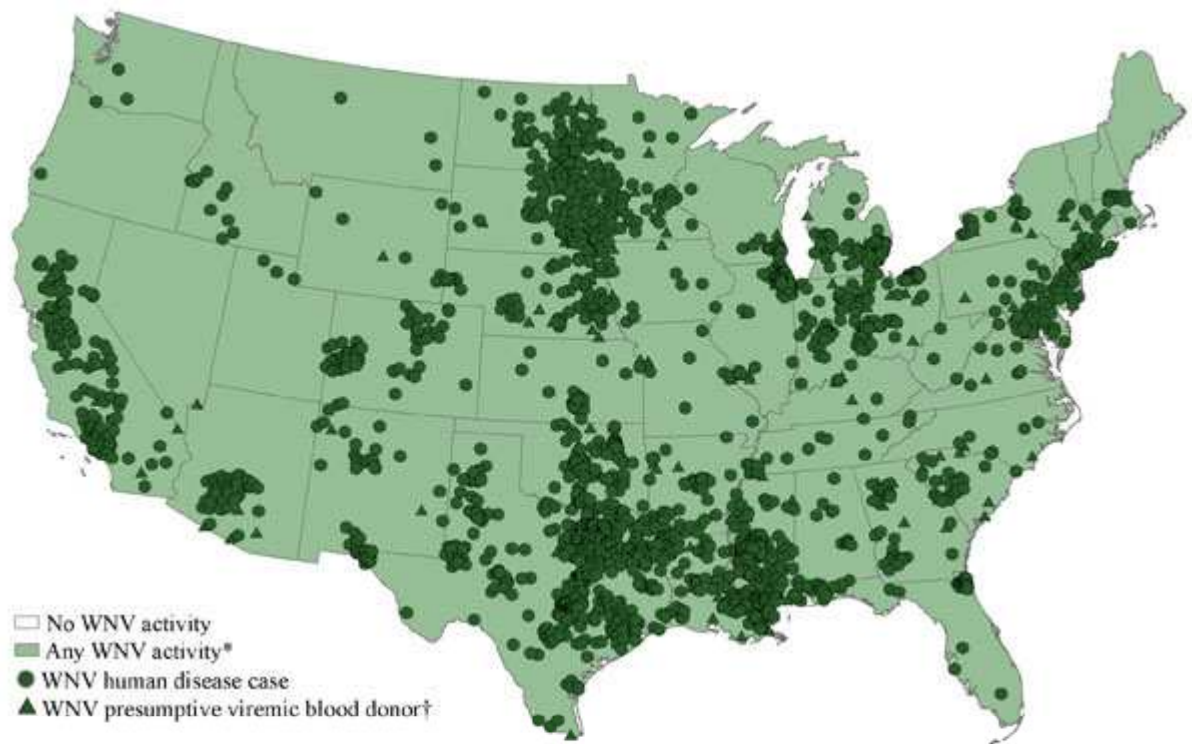
Click here for maps.

- EEE is a mosquito-borne disease that occasionally infects humans (approx. 6/year in the U.S.); most U.S. human cases occur in the Atlantic and Gulf Coast states.
- Similar to WNV, most persons infected with EEE are asymptomatic although severe cases can occur, producing neurological symptoms.
- EEE is one of the most severe mosquito-borne diseases in the U.S., with a 33% mortality rate—survivors often experience neurological sequelae.
- Infection confers no cross-immunity against other mosquito-borne viruses, like WNV or La Crosse virus.
- As of 15 September, 7 human cases of EEE have been reported to the CDC, compared to 4 cases the previous year.
- No cases of EEE have been reported in Army Beneficiaries in 2012 according to DRSI and the Defense Medical Surveillance System.
- Animals can be sentinel indicators of disease threats to humans; CDC tracks EEE cases in equines via ArboNET.
- As of 4 September, 112 equine EEE cases were reported to ArboNET, compared to 60 cases in 2011, an increase of 87%.
- EEE vaccinations are recommended annually for equines as EEE has an equine fatality rate of 75-95%; there is no vaccine for humans.

Resources: CDC WNV • CDC Tickborne Diseases • EEE • 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](#) or 410-417-2377

West Nile virus (WNV) activity reported to ArboNET, by state, United States, 2012 (as of September 18, 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.

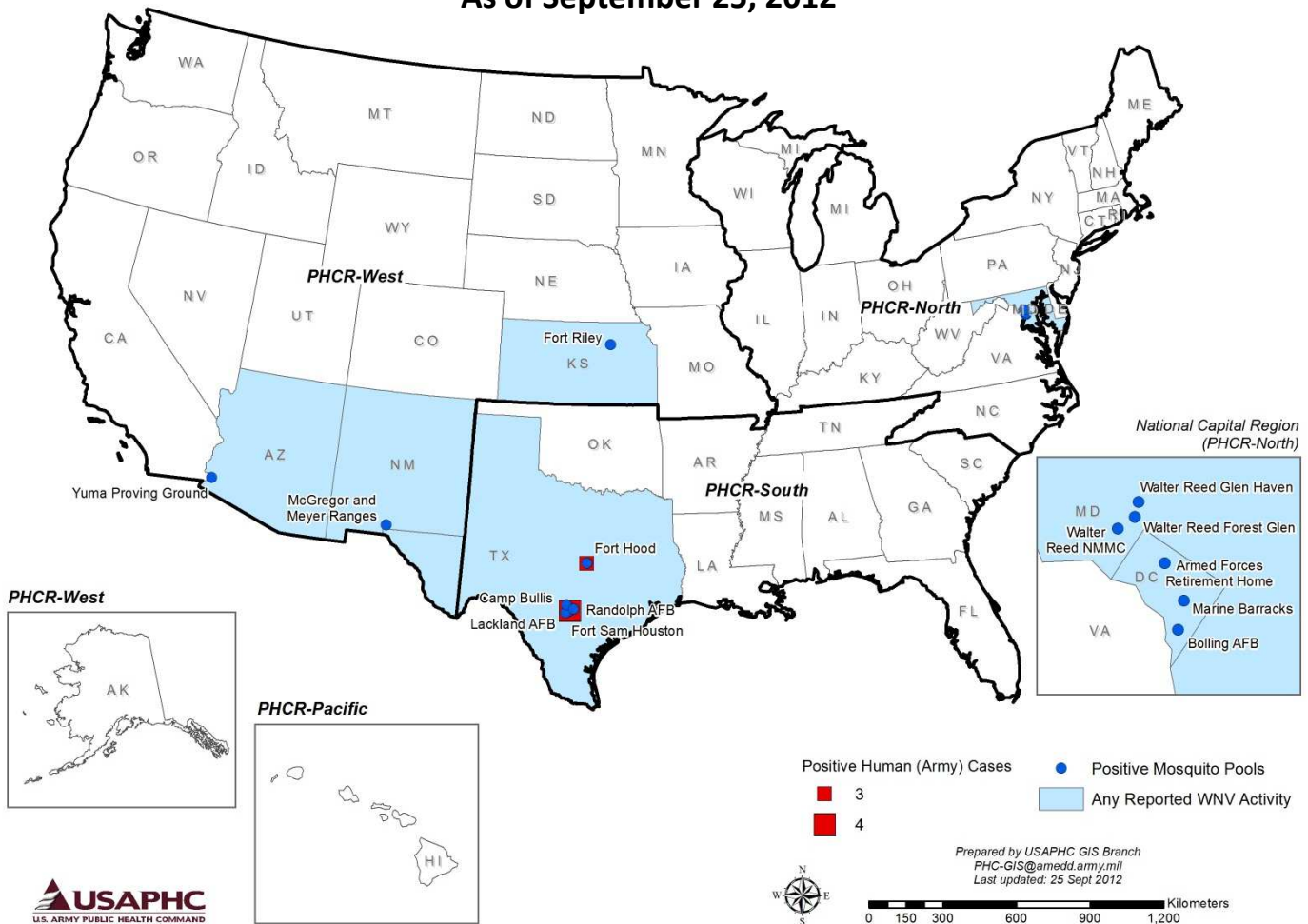
•† Presumptive viremic blood donors have a positive screening test which has not necessarily been confirmed.

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 25, 2012

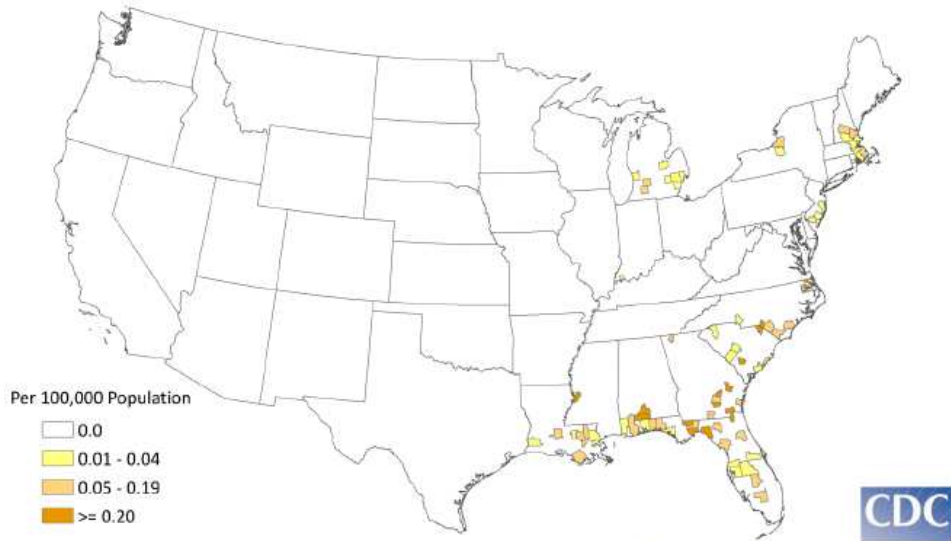


Footnote: The map displays white areas that indicate no reported West Nile virus (WNV) activity, light blue areas represent any reported WNV activity* within a state; dark blue circles represent WNV positive mosquito pools on military installations, and red squares represent the reporting location/installation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

**Eastern Equine Encephalitis Virus Neuroinvasive Disease*
Average Annual Incidence by County, 1996-2010**



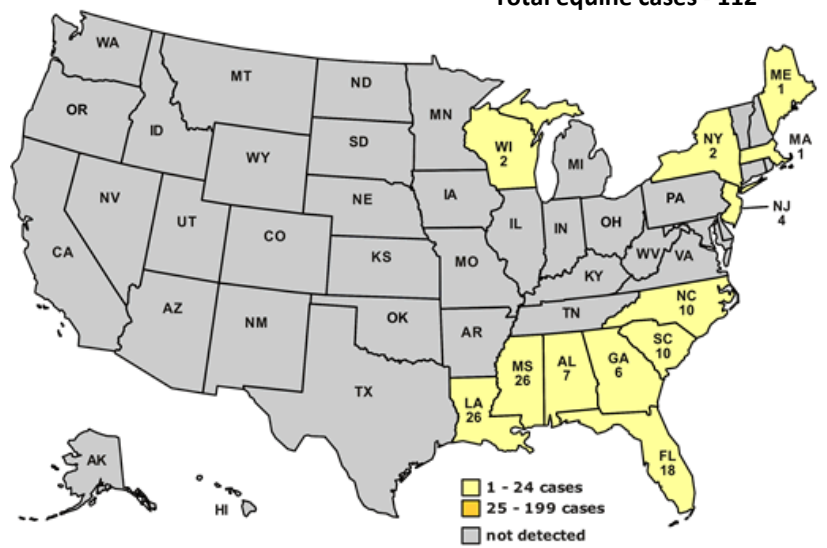
* Neuroinvasive disease includes cases reported as encephalitis, meningoencephalitis, or meningitis. Cases are reported by county of residence.

Data Table: This map shows the distribution of Eastern equine encephalitis virus neuroinvasive disease (encephalitis and/or meningitis) average annual incidence from 1996 through 2010. Counties are shaded according to incidences ranging from less than 0.05, 0.05 to 0.19, and greater than 0.2 per 100,000 population. Shaded counties are distributed along the Gulf Coast, Eastern seaboard, and the Great Lakes. Most of the highest incidence counties are in Florida, southeastern Georgia, southern Alabama, and the Carolinas.

U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

Source: [CDC](#). Accessed 24 September 2012.

**Eastern equine encephalitis, 2012- States with Equine Cases
(last updated 9/4/2012)**



Source: [USDA Animal Health Monitoring & Surveillance: Eastern Equine Encephalitis](#). Accessed 20 September 2012.