

## Cover Sheet

**DATE:** September 4, 2013

**SUBJECT:** West Nile Virus in Peak Season: Montana's 1<sup>st</sup> 2013 Case of West Nile Fever

### INSTRUCTIONS:

***DISTRIBUTE*** to your local HAN contacts. This HAN is intended for general sharing of information. **Remove this cover sheet before redistributing and replace it with your own.**

The attached DPHHS Press release will be released later this afternoon.

**For LOCAL HEALTH DEPARTMENT reference only**

DPHHS Subject Matter Resource for more information regarding this HAN, contact:

**DPHHS CDCP  
Epidemiology Section  
1-406-444-0273**

**DPHHS Health Alert Hotline:  
1-800-701-5769**

**DPHHS HAN Website:  
[www.han.mt.gov](http://www.han.mt.gov)**

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AND REPLACE IT WITH YOUR OWN**

**Please ensure that DPHHS is included on your HAN distribution list.**

### Categories of Health Alert Messages:

**Health Alert:** conveys the highest level of importance; warrants immediate action or attention.

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action.

**Health Update:** provides updated information regarding an incident or situation; unlikely to require immediate action.

**Information Service:** passes along low level priority messages that do not fit other HAN categories and are for informational purposes only.

**Please call DPHHS to update contact information at 444-0919 or 444-6906**

## Information Sheet

**Date:** 4 September 2013

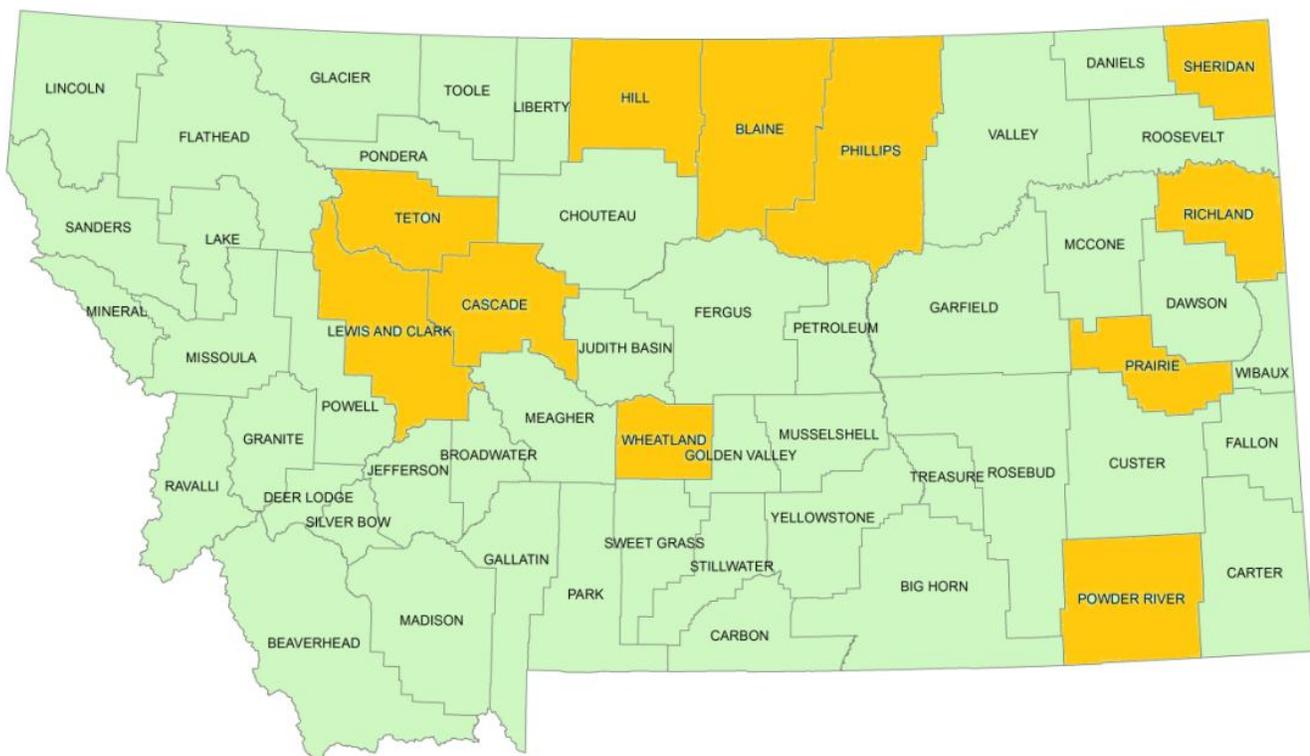
**Subject:** West Nile Virus in Peak Season: Montana's 1<sup>st</sup> 2013 Case of West Nile Fever

### Background:

The first human case of West Nile Fever has been reported in Yellowstone County. The resident is expected to fully recover. In Montana, there is a wide range in the number of cases reported each year. Since 2007, number of reported cases of WNV neuroinvasive disease ranged from 0-38 cases. The number of reported cases of West Nile fever ranged from 0-164 cases. Human WNV cases are typically preceded by reports of positive tests in mosquitoes, birds, and horses. Here is this year's history of WNV surveillance in Montana:

- Testing began in mid-June and will continue until the end of September.
- 1<sup>st</sup> positive mosquitoes sampled July 16
- 1<sup>st</sup> positive mosquitoes reported July 23
- As of August 28, mosquitoes in 11 counties have tested positive for West Nile virus.
- 1<sup>st</sup> positive bird WNV case reported July 17
- 1<sup>st</sup> positive horse WNV cases reported August 23
- As of August 28, horses in 9 counties have tested positive for West Nile virus.
- 1<sup>st</sup> positive human WNV case reported August 28

Counties with positive *C. tarsalis* mosquitoes —Montana, 8/28/2013



Reported human cases of West Nile fever and neuroinvasive disease by year —Montana, 2007- 8/28/2013

Number of Cases	2007	2008	2009	2010	2011	2012	2013
WNV neuroinvasive disease (meningitis/encephalitis)	38	0	0	0	1	1	0
West Nile Fever	164	5	6	0	0	5	1
Year Total	202	5	6	0	1	6	1

Data Source: Montana Infectious Disease Information System (MIDIS)

Nationally, on August 27, 2013 the Centers for Disease Control and Prevention (CDC) reported 421 cases of West Nile virus disease and 13 WNV-related deaths in the United States. The significance of this is:

- CDC reports 35 states with reported WNV human infections.
- About 47% of cases were reported as neuroinvasive WNV disease.
- North Dakota and South Dakota currently have the highest WNV infection rates in the county.

**Information:**

Providers should be aware that now is a key time for individuals infected with West Nile to present at provider offices. The next four weeks will be a critical time to monitor for WNV signs and symptoms in humans, as well as advising patients on recommended WNV precautions. Many people who become infected with WNV experience no symptoms. Some individuals may develop a mild illness called WNV fever, which may last for three to six days. Generally, no treatment is needed. Fewer than 1 out of 150 individuals may be come severely infected and develop symptoms of encephalitis or meningitis. Symptoms of this disease may include headache, rash, high fever, stiff neck, mental confusion, muscle weakness, tremors, convulsions, coma and/or paralysis.

**Recommendations:**

1. Serologic testing for WNV can be done by the Montana Public Health Laboratory. Clinicians should send suspected specimens to MT PHL for confirmation. WNV IgM should be ordered. The MT PHL “Guide to Interpretation of West Nile Virus Serology Results” has been attached.
2. Providers should test for WNV in persons with clinically compatible WNV presentation – mosquito exposure, fever, chills, rash, malaise, and even meningitis and/or encephalitis.
3. If WNV is suspected, additional WNV Clinical Evaluation and Disease information is available at CDC: <http://www.cdc.gov/westnile/healthCareProviders/healthCareProviders-ClinLabEval.html>
4. Suspect, probable and confirmed cases should be reported through local public health.
5. While consulting patients, remind them that the best protection against WNV transmission is to follow the 5 Ds of WNV Prevention:

DUSK/DAWN: Mosquitoes are most active during this time. If possible, stay indoors during the early morning and evening hours.

**DRESS:** If you must be outdoors when mosquitoes are most active, dress in long sleeves and pants.

**DEET:** Before going outdoors, remember to apply an insect repellent containing DEET (N, N-diethyl-mtoluamide). DEET is recommended by the Centers for Disease Control and Prevention (CDC) and is the most effective and best studied insect repellent available. Use a repellent containing 25 percent to 35 percent DEET when it is necessary to be outdoors. Children ages 2-12 should use repellent with 10 percent DEET or less. Products containing picaridin and permethrin have also been found to be effective in repelling mosquitoes, as has oil of lemon eucalyptus.

**DRAIN:** To keep the mosquito population at bay around your home, drain standing water in old tires, barrels, buckets, cans, clogged rain gutters, and other items that collect water. Change water in pet bowls, flowerpots, and birdbaths at least twice a week.

## **Resources:**

- Montana WNV DPHHS Information
- CDC WNV Fact Sheet Online
- CDC WNV Prevention: Training and Health Education Materials
- EPA Active Ingredients Found in Insect Repellents
- National data on WNV infections
- CDC Statistics, Surveillance, and Control Archive

These resources are available at the DPHHS WNV website:

<http://www.dphhs.mt.gov/publichealth/cdepi/surveillance/westnilevirus.shtml>

For more information on WNV, contact your local public health department, or DPHHS Subject Matter Expert Contact: MT Communicable Disease Epidemiology Program | 406.444.0274

## Guide to Interpretation of West Nile Virus Serology Results

Serology is the recommended method of testing for WNV in both serum and Cerebral Spinal Fluid (CSF), as viremia (as detected by PCR) is very transient. To aid in interpretation of test results, the most important piece of information to obtain is the DATE OF ONSET of illness. Laboratory results are then used in conjunction with the patient's clinical information to determine the presence or absence of disease.

### ACUTE SERUM SPECIMEN

Defined as a serum specimen drawn 8 days or less from the Date of Onset of illness.

#### IgM Serology

- ✓ IgM Antibodies have been detected as early as day 1 post onset
- ✓ A **Positive** result is consistent with recent West Nile Virus infection if the patient has a clinically compatible illness.
- ✓ A **Negative** result provides no serologic evidence for infection with WNV, however the specimen may have been drawn prior to the production of significant antibodies, and a second (convalescent) specimen should be submitted if active disease is suspected
- ✓ An **Equivocal** result is a borderline reactive result, and may be suggestive of infection. However, IgM serum antibodies can persist for more than 1 year, so this may also indicate an infection from last year. A second (convalescent) serum specimen may be indicated, and both IgM and IgG testing performed to resolve the infection status of the patient

#### IgG Serology

- ✓ Acute IgG antibody testing alone has limited value. Although testing can be performed, the results will include a comment about being drawn too soon, with recommendations for the submission of a second specimen.

### CONVALESCENT SERUM SPECIMEN

Defined as a serum specimen drawn 9 or more days post Date of Onset of illness

#### IgM Serology

- ✓ A **Negative** result provides no serologic evidence for infection with WNV
- ✓ A **Positive** result is consistent with recent West Nile Virus infection if the patient has a clinically compatible illness.
- ✓ An **Equivocal** result is a borderline reactive result, suggestive of infection. However, IgM serum antibodies can persist for more than 1 year, so this may also indicate an infection from last year. It also may signal cross reactivity with another arbovirus such as St Louis Encephalitis (SLE). Contact the MTPHL if you are interested in having the specimen tested for other arboviruses.

#### IgG Serology

- ✓ Paired acute and convalescent specimens are recommended
- ✓ Negative results on both acute and convalescent specimens provide no serologic evidence for infection with WNV
- ✓ A Negative acute IgG result with a Positive convalescent IgG result is consistent with recent infection with WNV if the patient has a clinically compatible illness.
- ✓ On a single specimen, a Negative IgM result and a Positive IgG result is consistent with previous infection with WNV at an undetermined time.

### CEREBRAL SPINAL FLUID (CSF)

Usually collected during the acute phase of illness

#### IgM Serology

- ✓ IgM does not persist in CSF as it does in serum. Detection of IgM in CSF is an indicator of a recent infection with West Nile Virus.

#### IgG Serology

- ✓ Not indicated

Results obtained from commercial laboratories may be difficult to interpret. A specimen submitted to the MTPHL with date of onset may be tested to help resolve infection status.

Feel free to contact the MT Public Health Laboratory at 800-821-7284 for assistance in test interpretation.

# NEWS

*“Improving and Protecting the  
Health, Well-Being and Self-  
Reliance of All Montanans.”*



Department of Public Health and Human Services

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## FOR IMMEDIATE RELEASE

September 4, 2013

Contact: Jon Ebelt, Public Information Officer, DPHHS, (406) 444-0936  
Chuck Council, Communications Specialist, DPHHS, (406) 444-4391

# First human case of West Nile Virus confirmed in Yellowstone County

The Yellowstone City-County Health Department and the Montana Department of Public Health and Human Services are reporting the first human case of West Nile Virus (WNV) in Yellowstone County and in Montana for 2013.

The case was diagnosed at a Billings hospital and confirmed last week. The patient, a Yellowstone County female resident in her fifties, did not require hospitalization and is expected to fully recover. The individual had no history of travel outside the state within the past month.

“West Nile Virus is most commonly found in people over 50 years old, but every Montanan should be taking precautionary measures to help prevent WNV infection,” said DPHHS Director Richard Opper.

In the U.S. this year, 497 human cases of WNV have been reported to the Centers for Disease Control and Prevention. Of these cases, twenty have died.

The first indication of the presence of WNV in Montana this year occurred in mid-July when mosquitoes with WNV were found in Prairie County. The first WNV positive bird was also detected at that time in Sheridan County. Horses with WNV infection were reported in late August from counties in central and eastern parts of the state.

Most people who become infected with WNV experience no symptoms. Some individuals may develop a mild illness, called West Nile fever, which may last for three to six days. Other individuals, fewer than 1 out of 150, may become severely infected with West Nile encephalitis or West Nile meningitis. Symptoms of this disease may include headache, rash, high fever, stiff neck, mental confusion, muscle weakness, tremors, convulsions, coma and paralysis. There is no available treatment for WNV infection other than supportive care. Individuals who develop any of these symptoms should see their healthcare provider.

DPHHS reminds Montanans to take precautions and protect against West Nile Virus by following the 5 Ds of WNV prevention. The 5 Ds include:

- **DUSK/DAWN** - mosquitoes are most active during this time. If possible, stay indoors during the early morning and evening hours.
- If you must be outdoors when mosquitoes are most active, **DRESS** in long sleeves and pants.

- Before going outdoors, remember to apply an insect repellent containing 25 to 35 % **DEET** when outdoors. Children ages 2-12 should use repellent with 10 percent DEET or less. DEET is recommended by the Centers for Disease Control and Prevention and is the most effective and best studied insect repellent available. Products containing picaridin and permethrin have also been found to be effective in repelling mosquitoes, as has oil of lemon eucalyptus.
- To keep the mosquito population at bay around your home, **DRAIN** standing water in old tires, barrels, buckets, cans, clogged rain gutters, and other items that collect water. Change water in pet bowls, flowerpots, and birdbaths at least twice a week.

For more information about WNV protection and detection efforts, contact the Yellowstone City-County Health Department, 247-3200, or the state Department of Public Health and Human Services, 444-0273.