

WEST NILE VIRUS

Frequently Asked Questions

General Questions

What is West Nile virus?

West Nile Virus (WNV) was first diagnosed in the Western Hemisphere in 1999 when it was introduced into the Eastern United States. It is a mosquito-borne disease that causes encephalomyelitis or inflammation of the brain and spinal cord in birds, animals, and people. Horses are the most commonly infected domestic animal. Since 1999, WNV has spread across the United States and is expected to remain active.

How is it spread?

Mosquitoes spread this virus after they feed on infected birds and then bite people, other birds, and animals. Mosquitoes do not become infected by feeding on sick animals or people, so horses and people are not involved in the spread of the disease. WNV is not spread by person-to-person contact, and there is no evidence that people can get the virus by handling infected animals. Surveillance for WNV was initiated in Wyoming in 2001 and currently involves the reporting and testing of dead birds and the testing of sick horses.

As a public land user, should I be concerned about this?

Yes. People who use public lands - campers, hikers, anglers and hunters - are outdoors and they may fish, hunt, camp or hike in areas that have mosquitoes, carrying WNV. The risk for mosquito bites and transmission of WNV increases with warm weather and with the amount of time spent outdoors. In addition, outdoor users may be in or near areas with standing water or areas with no mosquito control. These factors can greatly increase the risk for mosquito bites among public land users.

What can I do to reduce my risk of contracting WNV?

Limit time outdoors between dusk and dawn; wear shoes, socks, long pants, and long-sleeve shirts; and use insect repellent containing DEET.

Although carrier mosquitoes may also bite dogs, cats and horses, pets and other domestic animals should not be sprayed with DEET.

Who is most at risk?

Anyone age group can get the virus, however, people over 50 years of age have the highest risk of developing a severe illness. Additionally, anyone with a compromised immune system will also be at a greater risk.

What are the symptoms of West Nile Virus?

People with mild infections (West Nile fever) may experience fever, headache, body aches, skin rash, and swollen lymph glands. Mild infections generally improve on their own and do not require medical attention, although people may choose to see a health care provider.

People with more severe infections (West Nile encephalitis) may experience high fever, severe headache, neck stiffness, stupor, disorientation, coma, tremors, and convulsions. If you have any of these more serious symptoms, contact your health care provider immediately. Pregnant women and nursing mothers are encouraged to talk to their doctor if they develop symptoms that could be WNV.

Most infected people (4 in 5) never exhibit any symptoms.

In animals, reported signs include: weakness, stumbling, trembling, head tremors, inability to fly/walk, disorientation or erratic behavior, and lack of awareness that allows them to be easily approached and handled.

Can WNV cause illness in dogs or cats?

There has been confirmed death of one dog and one cat infected with WNV. However, the dog was already in poor health and its immune system was compromised, and therefore, is not representative of dogs in general. Experimentally infected dogs showed no symptoms after infection with WNV. Some infected cats exhibited mild, nonspecific symptoms during the first week after infection - for the most part only a slight fever and slight lethargy.

What is BLM doing to help monitor and manage WNV?

- Providing information to public land users.
- Coordinating with and assisting state departments of health and other local, state or federal agencies involved in WNV control, research, and public outreach efforts.
- Vaccinating all wild horses and burros in the BLM's Adopt-a-Horse or Burro program for WNV prior to adoption. Any animals removed from BLM long-term holding facilities for the purpose of adoption will also be vaccinated against WNV.
- Working with various partners in research areas so more information can be gathered about WNV and the long-term effects on wildlife.
- Authorizing the use pesticides to reduce localized populations of mosquitoes.

Wildlife Questions

What animals are affected?

Although most infections have been identified in birds and horses, the virus can also infect: cats, bats, chipmunks, skunks, squirrels and domestic rabbits. See the following USGS web site below for a list of wildlife species that have tested positive for West Nile virus. http://www.nwhc.usgs.gov/research/west_nile/wnvaffected.html

Can you get WNV directly from birds?

There is no evidence that a person can get the virus from handling live or dead infected birds. However, persons should avoid bare-handed contact when handling any dead animals and use gloves or plastic bags when handling carcasses. Dead birds should be placed in double plastic bags for disposal or when submitted for testing.

Can you get WNV from eating infected game birds or other animals?

There is currently no evidence that WNV can be transmitted to humans through consuming properly cooked meat from infected animals.

If I suspect that an animal has WNV, to whom do I report it?

Contact your local Game and Fish office, or your state or county health department.

What is BLM doing related to WNV in wildlife?

BLM is working with a variety of other agencies at the state and local levels to monitor wildlife impacts, particularly on sage-grouse populations.

How many sage-grouse are known to have died from WNV in 2003?

19 in Wyoming

3 in Montana

5 in Alberta (Canada)

How was it determined that the birds were positive for WNV?

Sage grouse in Montana and Wyoming were tested for WNV using three different methods on three different kinds of tissue (usually brain, heart, and kidney): virus isolation, polymerase chain reaction (PCR) and immunohistochemistry (IHC). Sage grouse in Alberta were tested using two methods: PCR and IHC.

Is there a link between WNV in sage grouse and coal-bed methane development?

We don't know. That is just one of many possible explanations for the pattern of sage grouse mortalities observed and needs additional research.

How did government agencies in the U.S. respond to the information that sage-grouse were dying of WNV?

The BLM and Wyoming Game and Fish Department immediately made this information public through press releases in August 2003. Those two agencies, along with Montana Fish, Wildlife & Parks and the U.S. Fish and Wildlife Service also immediately increased monitoring efforts of radio-collared birds in Montana and Wyoming and extended monitoring through the end of the mosquito season (typically early October).

How will WNV affect sage-grouse populations across their range?

This is a brand-new issue in sage-grouse conservation, and the effect that WNV will have on populations across their range is not yet known.

What is BLM doing to protect sage grouse in coal-bed natural gas development areas from WNV?

BLM is working closely with industry and local officials to treat CBNG areas, where necessary.

Are CBNG areas more likely to produce WNV?

No. Last year, the evidence indicated that areas that had a high degree of flood irrigation were the most likely breeding grounds rather than produced water associated with CBNG. Large areas of standing water seem to be the key to providing mosquito breeding habitat.

Wild Horses Questions

Is BLM vaccinating wild horses for WNV?

Yes. We are currently vaccinating all horses that are gathered and transported into BLM corrals. Every horse made available through the Adopt-a-Horse program will be vaccinated against WNV.

Are wild horses on the range vaccinated?

No. We will be working with APHIS and ARS to monitor horses on the range for WNV.

Will wild horses going to long-term facilities also get vaccinations?

Yes. All horses that are in BLM corrals will get vaccinations, whether they're going to a training facility, straight into the Adopt-A-Horse program or into long-term holding.

Are horses vaccinated after they're at long-term holding?

No. The wild horses only get vaccinations when they're in BLM corrals.

If my adopted horse has been vaccinated can it still get WNV?

Yes. Although the vaccines are very effective, protection is not 100%. A vaccinated horse may already carry the virus and could come down with the disease. Fortunately, if they become infected vaccinated horses don't get as sick and have a better chance of survival.

What are the chances that my horse will die?

There are no studies on wild horses, but approximately 30% of the domestic horses that become sick with WNV do succumb to the disease.

How do I know if my adopted horse has WNV?

Contact your local veterinarian. Symptoms are very similar to several other equine diseases, and a veterinary professional must make the diagnosis.

Can I get infected with WNV by caring for an infected horse?

There is no documented evidence of person-to-person or animal-to-person transmission of WNV. There is also no evidence that an infected animal can transmit the virus to animals in adjacent stalls or pens. Normal veterinary infection control precautions should be followed when caring for a horse suspected to have this or any viral infection.

How can I prevent my adopted horse from contracting WNV?

Work with your local veterinarian and make sure your horse is kept up-to-date on all vaccinations required in your area. Areas around barns and corals offer prime mosquito breeding sites. Cleaning up these areas and eliminating old tires, troughs, buckets or any other containers that can hold water for even a few days will reduce the risk of biting mosquitoes for your horse and your family.

What do I do if I find a dead wild horse?

Leave the horse alone. Without an autopsy shortly after death it is unlikely that the cause of death can be determined.

What if my adopted horse dies from WNV right after I adopt it?

West Nile Virus Response Plan

Contact your local BLM office to talk about replacing the horse through another adoption.

Mosquito Control Questions

Will the BLM be involved in mosquito control programs?

Yes, as requested by county/state government agencies or other mosquito control authorities, individual BLM Field Offices will authorize mosquito control programs on a case-by-case basis.

What process will the BLM use to approve pesticides for mosquito control?

As with any pesticide application on BLM administered land, there is a formal process that must be followed. The first step is submission of a Pesticide Use Proposal (PUP). The PUP includes, but is not limited to: information such as the type of product requested, location of application, rates of application, and special precautions. The second step requires the BLM to prepare an environmental assessment to evaluate the benefits and well as the potential negative impacts of the pesticide application. The third step would be approval, disapproval, or approval of the request with special conditions applied. If the pesticide is approved, the last step would be submission of a Pesticide Application Record (PAR) by the certified applicator, within 24 hours after completion of the pesticide treatment. The PAR includes on the specific information about the pesticide application (time of day, type of equipment used, weather information, etc.).

What pesticides will be considered for approval for use of BLM administered lands?

The two categories of pesticides that will be considered for approval are adulticides and larvicides. All pesticides considered for approval must be registered by the Environmental Protection Agency (EPA).

Larvicides specifically target mosquito larvae before they emerge as adults which can reduce or eliminate the need for the application of pesticides that kill adult mosquitoes. Two categories of larvicides typically used are the microbial and biochemical. Microbial larvicides utilize bacterial spores that are toxic to mosquito larvae. Methoprene is a biochemical larvicide containing an insect growth regulator that interferes with mosquito larval development.

As the names implies, adulticides are pesticides targeted at adult insects. The two categories of EPA approved adulticides include organophosphates and pyrethrins. The most typical organophosphates include malathion and naled. Pyrethrins are insecticides that are derived form the extract of chrysanthemum flowers.

Do adulticides (Malathion) pose a risk to human health?

When applied according to the label, Malathion does not pose unreasonable risks to humans. EPA has estimated the exposure and risks to both adults and children are based on Ultra Low Volume aerial and ground applications of Malathion. Because very small amount of active ingredient is used per acre, the estimates found that for all scenarios considered, exposures were hundreds, and in some cases, thousands of times below and amount that would pose a health concern. These estimates assumed several treatments

over a period of weeks and also assume a young child may ingest soil and grass, in addition to skin and inhalation exposure (*EPA, Malathion factsheet*).

Do larvicides pose a risk to human health?

Microbial larvicides have undergone extensive testing prior to EPA registration. They are essentially nontoxic to humans when used according to label requirements (*EPA Larvicide factsheet*).

Do adulticides (Malathion) pose a risk to wildlife or the environment?

Malathion does not pose unreasonable risks to wildlife or the environment when used according to the label. Malathion degrades rapidly in the environment, especially in moist soil and it displays low toxicity to birds and mammals. However, Malathion is highly toxic to bees and other insects (*EPA Malathion factsheet*).

Do larvicides pose a risk to wildlife

According to the EPA, extensive testing shows that microbial larvicides do not pose significant risks to wildlife, non-target species, or the environment, when used according to label requirements (*EPA larvicide factsheet*).

How are adulticides applied?

They are applied by aircraft or truck mounted sprayers. They are applied using an Ultra Low Volume (ULV) spray. ULV spray dispenses very fine droplets of pesticide that stay aloft and kill mosquitoes on contact. Typically, only 2.5 ounces of active ingredient is required for every acre of land treated.

How are larvicides applied?

Larvicides most commonly are in the form of granules or briquets that are directly placed in stagnant water bodies. Liquid forms are also available that can be dispensed in water by backpack equipment or aircraft/truck mounted sprayers.

If larvicides are used to control mosquito larva, does that mean the use of adulticides are not needed?

The use of larvicides can be a very effective first line defense against mosquitoes that potentially carry WNV. However, if human cases of WNV continue to pose a serious threat, one of the options available is the use of pesticides targeted to kill adult mosquitoes.

Other resources:

Centers for Disease Control & Prevention (CDC) WNV website:

www.cdc.gov/ncidod/dvbid/westnile/index.htm

CDC links to state/local health authorities:

http://www.cdc.gov/ncidod/dvbid/westnile/city_states.htm

CDC public response hotline:

(888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)

U.S. Geological Survey WNV maps:

<http://westnilemaps.usgs.gov/> (human cases)

http://sagemap.wr.usgs.gov/docs/Sage_Grouse-WNV_Fact_Sheet_10-24-03.doc (sage grouse)

USDA – Animal Plant Health Inspection Service:

www.aphis.usda.gov/lpa/issues/wnv/wnv.html

Wyoming BLM State Office:

www.wy.blm.gov/westnile.htm

Wyoming Department of Health

<http://www.badskeeter.org>