



West Nile Virus and Ruffed Grouse Frequently Asked Questions - Wildlife Division August 5, 2019

What is West Nile Virus (WNV)?

WNV is a virus transmitted by mosquitoes that can cause inflammation of the brain and sometimes inflammation of the lining of the brain and spinal cord. Heart lesions can occur in infected birds and oftentimes these are not visible to the naked eye and are only seen on microscopic examination. The virus has been documented in over 250 species of birds and is spread mostly through the bite of an infected mosquito. Crows, blue jays, and ravens are the most susceptible to the disease while other birds may not develop the disease at all. More information can be found in the Wildlife Disease Manual, which can be found at Michigan.gov/WildlifeDiseaseManual.

How long has WNV been around?

WNV was first detected in the USA in 1999 in New York and quickly spread across the country. The virus has been present in Michigan, Minnesota, and Wisconsin for about 18 years.

When was WNV found in ruffed grouse?

- Michigan – 2002 (1 grouse), 2017 (13 grouse), 2018 (6 grouse)
 - Counties: Bay, Delta, Dickinson, Iosco, Iron, Missaukee, Ogemaw, Roscommon, and Schoolcraft
- Minnesota – early 2000s (1 grouse)
- Wisconsin – 2018 (3 grouse)

If WNV isn't new, why is it big topic today?

2017 was a higher than normal year for WNV positive animals. Many locations within the Great Lakes Region had increased production of the mosquito that is primarily responsible for spreading WNV, *Culex species*. Also, across the Region preliminary fall season hunting reports were mixed, with some hunters reporting lower harvest and fewer ruffed grouse seen. Pennsylvania recently reported WNV may have contributed to a population decline in low habitat or areas with scarce habitat.

What are the physical symptoms of WNV?

Not every animal that has WNV will show symptoms. Not all positive ruffed grouse show the typical signs, very thin or poor condition, flying erratically or acting abnormally. In many cases, a bird can be simply found dead and when tested it is WNV positive. Many times, WNV isn't what actually killed the bird, but the virus was present when tested.

Can someone contract WNV from eating a WNV positive animal?

Currently, there is no evidence of humans becoming infected by consuming properly cooked birds or by handling an infected bird. Hunters should wear gloves when cleaning wild game. It is recommended that if the bird acted abnormal or is in poor physical condition that it be considered a sick bird and not be consumed. WNV is spread mostly through a bite of an infected mosquito.

Can a dog contract WNV from handling a WNV positive animal?

While dogs have been experimentally infected with WNV, they have not shown symptoms and were unable to transmit the virus to other animals and people. They are considered an end host for the virus and aren't believed to play a role in its transmission.

What other game species have tested positive for WNV?

Woodcock, wild turkey, mallard ducks, eastern fox squirrel, white-tailed deer, moose, elk, Canada goose, long tailed duck, eastern grey squirrel

Do humans die of WNV?

Most people (about 80%) who become infected with WNV do not develop any symptoms. About 1 in 5 will develop a fever with other flu-like symptoms and recover, although fatigue can last weeks to months. Fewer than 1% of infected people can develop a serious illness that includes inflammation of the brain or the tissues surrounding the brain. People over 60 years of age or with certain medical conditions are at greater risk for serious illness. About 10 % of people who develop a serious WNV illness die.

If an animal is exposed to WNV, will it die?

Just like humans, many wild animals can be exposed to WNV and survive exposure. Crows, blue jays, and ravens that are fatally infected with WNV will die within 3 weeks of infection.

Was the decline in ruffed grouse harvested and seen in 2017 due to WNV?

WNV could be partially responsible for population shifts although, other factors could also contribute such as weather and the quality of habitat available. Some areas reported record level rainfall in months when nesting and brood rearing occurred. These conditions can have detrimental effects on grouse populations.

How will WNV be monitored in the future?

The Great Lakes Region will be testing ruffed grouse again during this fall hunting season. Monitoring birds at regional level will allow a better understanding of the prevalence and distribution of WNV in ruffed grouse. Michigan will be using hunters to aid in the collection of samples in four key WNV Surveillance Areas:

- Upper Peninsula: Dickinson, Iron, Marquette and Chippewa, Luce, Mackinaw
- Lower Peninsula: Alpena, Montmorency, Presque Isle and Missaukee, Ogemaw, Roscommon

What can I do to help?

- If you're hunting in one of the WNV Surveillance Areas, please consider submitting harvested birds for disease testing. To obtain sample test kits, contact Julie Melotti at the Wildlife Disease Lab at melottij@michigan.gov or 517-336-5042.
- If you find a sick or dead grouse, please record the location and date, and if you can get the bird to a DNR office near you. You can also report sick or dead wildlife at: <https://secure1.state.mi.us/ors/Survey/4>.

- Continue to create and support timber management in your state. Young forests are created through intensive land management techniques such as timber harvest. High quality habitat availability will limit the effect other stressors, like WNV and weather, can have on populations.

Should I continue to hunt ruffed grouse, or should I limit my harvest?

Ruffed grouse hunting is a key fall outdoor activity and is not documented to negatively impact the population. If you harvest a grouse in one of the WNV Surveillance Areas, please consider submitting the birds for disease testing.

For further questions please contact: Al Stewart at 517-284-6221 or the Wildlife Disease Lab at 517-336-5030.