# West Nile Virus Summary Guidance for Veterinarians

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BC Centre for Disease Control
An agency of the Provincial Health Services Authority

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| **Agent** | West Nile virus is an arbovirus in the Flavivirus genus (family Flaviviridae) |
| **Susceptible species** | • Multiple species including birds, mammals, reptiles and amphibians<br>• Birds are main reservoir hosts; WNV-infections have been documented in more than 320 species of North American birds since 1999. |
| **Occurrence in BC and the world** | • Until 1999, WNV was commonly found in Africa, Eastern Europe, West Asia and the northern Mediterranean area<br>• In 1999, the first N. American cases occurred in New York City. It has since established itself in the lower 48 States and much of Canada.<br>• In BC, small numbers of cases have been detected, primarily in the Okanagan:<br>  • Mosquito pools tested positive in south Okanagan in 2009 and 2013<br>  • 5 birds tested positive (4 crows, 1 magpie) in central Okanagan in 2010, and 1 in 2013<br>  • 5 horses have tested positive : in 2009 (3), 2011 (1) and 2013 (1)<br>  • 2 locally acquired humans cases in central Okanagan in 2009; 1 in central Okanagan in 2010 |
| **Transmission** | • Vector borne (primarily mosquito ). In BC the two primary competent vector species are Culex tarsalis, and Culex pipiens.<br>• Humans and horses considered dead-end hosts |
| **Diagnosis**<br><br>***Clinical*** | • Incubation period: 3-15 days in horses<br><br>• Horses: Infection often subclinical. In clinical cases, the signs and course of disease are highly variable. Symptoms include inability to stand, colic, anorexia, muscle fasciculation, weakness, lameness, staggering and fever.<br>• West-Nile encephalitis is fatal in 30-40% of cases that develop neurological signs<br>*Differential diagnoses in horses include: rabies; equine protozoal myeloencephalitis (EPM); neurological equine herpesvirus-1; botulism; eastern, western and Venezuelan encephalomyelitis (EEE,WEE,VEE); heat stress; trauma; bacterial meningitis; cervical vertebral myelopathy (wobbler syndrome); myeloencephalopathy; and equine degenerative myelopathy.* |
| ***Laboratory*** | • Virus isolation, serology (single IgM preferred), IHC, PCR |
| **Prevention and control** | • Prevention: prevention of mosquito bites, controlling the mosquito population, vaccines are available for horses<br>• Treatment is symptomatic |
| **Zoonotic implications** | • Only about 1 in 5 persons bitten by an infected mosquito will develop symptoms. Of those who develop symptoms, most experience West Nile non-Neurological Syndrome; about 1/150 cases will develop the more severe WE Neurological syndrome |
| **Reporting** | • West Nile virus is a notifiable disease to the Chief Veterinary Officer (CVO) in BC<br>  ○All <u>laboratory-confirmed</u> cases should be reported within 24 hours (604-556-3013)<br>  ○Veterinarians may be contacted by public health authorities for follow-up<br>• West Nile virus is immediately notifiable to the CFIA<br>  ○ Private veterinarians are **not** required to notify the CFIA of West Nile virus<br>  ○ Only **laboratories** are required to notify the CFIA of suspect or confirmed cases of West Nile virus |