



Haemorrhagic Disease (EHD) in Alberta

Common name

Epizootic haemorrhagic disease
EHD
Haemorrhagic disease

Scientific name

epizootic haemorrhagic disease virus

What's Bugging Wild Critters?

Fact sheet # 34:
EHD

Significance

EHD is a common viral disease associated with widespread mortality in wild ungulates, primarily white-tailed deer and to a lesser extent mule deer. Outbreaks in bighorn sheep have been documented.

What? Where? How?

EHD virus has a global distribution but haemorrhagic disease in free-ranging wildlife occurs only in the USA and Canada. The disease is enzootic in white-tails across much of the U.S. and occasionally extends into southern British Columbia, Alberta, or Saskatchewan. In the U.S. annual mortality in wild deer is a seasonal event in late summer/early fall across the virus range, but some years are worse than others.

The virus strikes rapidly in deer and often is associated with sudden death in 1-3 days. In many cases, carcasses are the first field indication, and sometimes the only indication, that the virus was active in a local deer population.

Infection is not always fatal and some individuals mount sufficient immune response to survive, and perhaps not be infected again. In prolonged infections, fever within 5-7 days after infection is one of the primary clinical

signs. These animals are a source of virus picked up by biting midges. In animals that ultimately survive, cracked and mis-shapen hooves can indicate previous infection.

Sick and dead deer often are found close to water as they try to avoid dehydration and bring their body temperature down. Visible swelling of the head, neck, and tongue also can occur, and blood may seep out of body openings. Because of the fever, carcasses decompose quickly and often are not suitable for lab tests.

Transmission Cycle

The virus is transmitted by tiny *Culicoides* midges (no-see-ums) and disease outbreaks occur when environmental conditions are suitable to sustain locally abundant midge populations.

Distribution in Alberta

The disease was first recognized in Alberta in 1962. Approximately 450 white-tails, 20 mule deer, and 15 antelope were found dead during the outbreak. At least 50 deer and three antelope may have died of EHD in 2013. Other minor mortality events may have gone undocumented.

EHD occurs somewhat more frequently in the Okanagan area of southern British Columbia and occasionally in southern Saskatchewan.

EHD in Alberta

EHD outbreaks in Canada are relatively rare, occur near the border with the USA, and are usually associated with strong wind events that blow infected midges northwards and thus carry the virus into local areas that then experience mortality in wild deer.

Importance for Wildlife Management

Recent outbreaks in the U.S. have been extensive, particularly in northwestern states including Montana and North Dakota. Since 2007 outbreaks in northern states seem to be on the increase in terms of repeated occurrence and severity of the mortality.

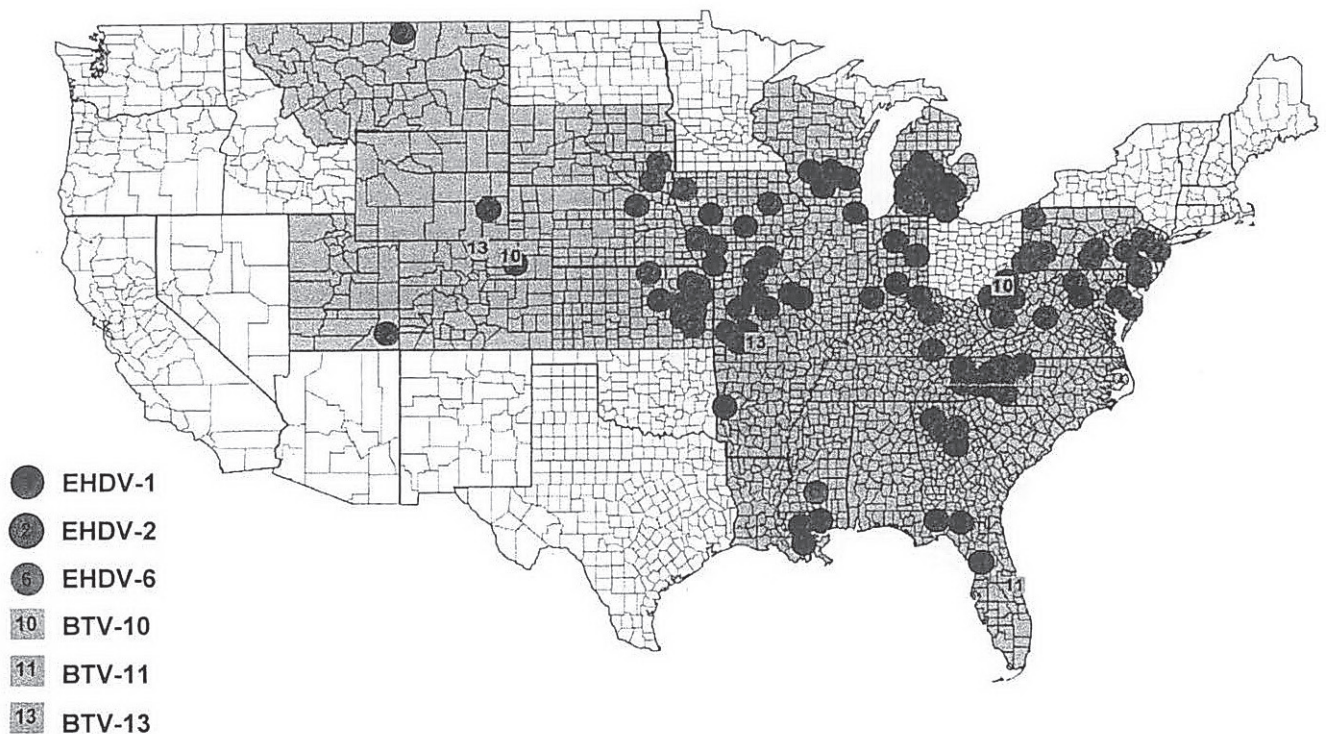
In 2012 a major flare-up of EHD, and its close relative bluetongue virus (BTV), occurred in a broad band of states extending from Florida to Montana (see Figure) and

was considered by wildlife managers to be 'one for the record books'. Many thousands of wild deer died during the outbreak.

EHD was active again in northern states in 2013 but to a much lesser degree. 'Hundreds' of deer may have died. However, mortality in North Dakota was sufficient to lead the wildlife agency to reduce the number of deer licences for fall 2013.

Hunters or landowners who find carcasses in southern Alberta should inform a local Fish and Wildlife office.

EHD/BT 2012 : VIRUSES GONE WILD



EHD in Alberta

Public Significance

The viruses associated with haemorrhagic disease are not known to cause human infections.

EHD can infect a broad range of ungulates and can pose risks to farmed cervids, cattle, bison, and alpacas. Livestock owners

should be aware of the risks and contact a licenced veterinarian if they suspect possible infections.

Prevention/Control

There is no known strategy or tool to manage haemorrhagic disease in wild species.



Summary

Epizootic haemorrhagic disease and bluetongue are perhaps the most significant viral diseases in white-tailed deer. While relatively rare in Canada, changing climates and environmental conditions may lead to more viral activity in southern Canada than in previous decades.

Additional Information

Trainer, D. O. 1964. Epizootic hemorrhagic disease of deer. *Journal of Wildlife Management* 28: 377-381.

Howerth, E. W., Stallknecht, D. E., & Kirkland, P. D. 2001. Bluetongue, epizootic hemorrhagic disease, and other orbivirus-related diseases. *Infectious Diseases of Wild Mammals*, eds. Williams ES and Barker IK. pp 77-97.