



Canine Distemper Virus in the Northeast

In 2016-2017, two fishers, two gray foxes, and a striped skunk, found in Vermont and New Hampshire, were submitted by VT F&G and NH F&G and diagnosed with canine distemper virus (CDV) by pathologists at the NHVDL. NWDC participants, New Hampshire Veterinary Diagnostic Lab and Cornell University in collaboration with biologists from Vermont Department of Fish and Wildlife and New Hampshire Fish and Game Department, and researchers Rebecca Wilkes and Eman Anis (University of Georgia) determined that all isolates from these animals were part of a distinct clade of CDV that has been reported only in this study and in one single raccoon not associated with any other publication or report. This work was published in the **Journal of Veterinary Diagnostic Investigation** (<https://journals.sagepub.com/doi/10.1177/1040638719847510>).

Fishers, which appear affected by the epizootic in this paper, are a valuable furbearer species with populations that are increasing in some areas (NY) and declining in others (NH). CDV can also infect domestic species, but as of this point strains from this distinct clade have not been diagnosed in dogs, to our knowledge. Sporadic mortality was also reported in a variety of mammals in various locations in the two states, suggesting that CDV may have affected these animals as well. CDV can reduce local population sizes, but is not known to significantly affect populations on a larger geographic scale. However, the magnitude, frequency, and distribution of CDV epizootics are often unknown because of limited response capacity, and because rabies is often the diagnostic end point. These factors make it likely that CDV is underreported and that its impacts on populations are incompletely understood. To this end a small investigation of 5 animals from Berlin NH that were rabies negative but noted to be ill / neurologic were submitted by NH F&G and all

were found to be infected by the same distinct clade of CDV. At the same time samples of tissue from 40 carcasses from the 2018 VT fisher harvest were tested for CDV with 1 animals having the virus, again in this distinct clade. Ongoing efforts to characterize the virus in the population and to perform diagnostics in any overtly ill animals appears a significant priority.

Participating Organizations

New Hampshire Fish & Game Department, Wildlife Division

(<http://www.wildlife.state.nh.us/>)

New York State Animal Health Diagnostic Center

(<http://ahdc.vet.cornell.edu>)

Vermont Fish and Wildlife Department

(<http://www.vtfishandwildlife.com/>)

New Hampshire Veterinary Diagnostic Laboratory

(<https://nhvdl.unh.edu/>)

The NWDC mission is bring together regional stakeholders for the protection of wildlife as well as domestic animals and humans, because the health of all species is inextricably linked.

Additional Wildlife Health Resources

Cornell Wildlife Health Lab (<https://cwhl.vet.cornell.edu/>)

Canadian Wildlife Health Cooperative (<http://www.cwhc-rcsf.ca/>)

Southeastern Cooperative Wildlife Disease Study (<http://www.vet.uga.edu/scwds>)

USGS National Wildlife Health Center (<http://www.nwhc.usgs.gov/>)

([https://www.facebook.com/Northeast-Wildlife-Disease-Cooperative-](https://www.facebook.com/Northeast-Wildlife-Disease-Cooperative-331283736927124/)

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