

2020 Arboviral Surveillance Summary

Summary

The New Hampshire Department of Health and Human Services (NH DHHS) tested human, veterinary, and mosquito specimens for arboviruses in 2020. Testing performed at, or in coordination with, the NH Public Health Laboratories (PHL) identified:

- West Nile Virus in two mosquito batches (group of mosquitoes).
- Jamestown Canyon Virus in five humans.

Testing at the NH PHL during the 2020 season did not identify Eastern Equine Encephalitis virus or Powassan virus in any specimens submitted.

Three of these viruses are transmitted by mosquitoes: West Nile virus (WNV), Eastern Equine Encephalitis virus (EEEV), and Jamestown Canyon virus (JCV). Powassan virus (POW) is transmitted by the blacklegged tick.

Given the extensive arboviral activity detected in NH and our region during the 2020 season (July 1 – October 15), NH DHHS encourages individuals and communities to maintain heightened levels of mosquito-borne disease education, surveillance, and control during 2021.

Table 1: Specimens Tested and Arboviral Test Results by Year, 2016-2020*

Species	Mosquito Batches			Veterinary			Humans				
	Tested	WNV	EEEV	Tested	WNV	EEEV	Tested	WNV	EEEV	JCV [‡]	POW [‡]
2016	1,773	1	0	10	0	0	31	0	0	0	1
2017	4,176	9	0	7	0	0	31	1	0	4	1
2018	4,945	32	6	13	4	0	30	0	0	1 [€]	0
2019	5,610	1	16	19	1	2	35	0	0	3	2
2020	1,988	2	0	7	0	0	33	0	0	5	0

*Comparison between years must consider variations in surveillance criteria.

‡Testing completed by the Centers for Disease Control and Prevention (CDC).

€Infection likely acquired out of state.

Human Surveillance

Between January 1 and December 31, 2020, 33 patients were tested for EEEV at the NH PHL. Thirty-two of the patients tested for EEEV were also tested for WNV at the NH PHL.

- No human samples tested positive for WNV.
- No human samples tested positive for EEEV.

Additionally, between January 1 and December 31, 2020, 33 patients were tested for JCV at the CDC. Thirty-one of the patients tested for JCV were also tested for POW at the CDC.

- Five human samples tested positive for JCV.
- No human samples tested positive for POW.

Animal Surveillance

Between January 1 and December 31, 2020, seven veterinary specimens were tested for EEEV and WNV at the NH PHL.

- No animals tested positive for EEEV or WNV.

Mosquito Surveillance

Between January 1 and December 31, 2020, 1,988 mosquito batches were tested for EEEV and WNV at the NH PHL.

- Two batches tested positive for WNV in the cities of Manchester (1) and Nashua (1). The species testing positive were *Culex restuans* (1) and *Culex pipiens* (1).
- No batches tested positive for EEEV.
- Mosquito batches were submitted for testing from Cheshire, Hillsborough, Rockingham, and Strafford Counties.

Public Health Threat Declaration

A Public Health Threat Declaration was not in effect for the 2020 NH mosquito season.

Regional Risk Levels

- In 2020, the NH DHHS estimated human risk levels for defined “Focal Areas” in the State. “Focal Areas” may incorporate multiple municipalities and are based on integrating mosquito habitat, mosquito abundance, current and historic virus activity, and weather conditions needed to present risk of human disease.
- During the arboviral transmission season, estimated risk levels were announced to the public, local officials, and state partners through email, press releases, postings to the Bureau of Infectious Disease Control (BIDC) and Division of Public Health Services (DPHS) Twitter and Facebook webpages, and postings to the NH DHHS website.
- NH DHHS updated the Risk Map throughout the 2020 season to reflect changes in risk levels. For 2020, risk levels across the state ranged from “Baseline/No Data” to “High” depending on current and historical arbovirus detections.
- For more information on the arboviral test results and to view the final 2020 Risk Map, please visit: <http://www.dhhs.nh.gov/dphs/cdcs/arboviral/results.htm>.

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