Bureau of Infectious Disease Control
Infectious Disease Surveillance Section

2022 Arboviral Surveillance Summary

Summary

The New Hampshire Department of Health and Human Services (NH DHHS) tested human, veterinary, and mosquito specimens for arboviruses in 2022. Testing performed at, or in coordination with, the NH Public Health Laboratories (PHL) identified:

- West Nile Virus (WNV) in 8 mosquito batches (group of mosquitoes).
- Jamestown Canyon Virus (JCV) in 2 mosquito batches.
- Eastern Equine Encephalitis virus (EEEV) was not identified.
- Powassan (POW) virus was not identified.

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 ticks.

Given the continued arboviral activity detected in NH and our region during the 2022 season (July 1 – October 15), NH DHHS encourages individuals and communities to maintain heightened levels of mosquito-borne disease education, surveillance, and control during 2023.

Table 1: Specimens Tested and Arboviral Test Results by Year, 2018-2022*

Species	Mosquito Batches				Veterinary			Humans				
	Tested	WNV+	EEEV+	JCV+	Tested	WNV+	EEEV+	Tested	WNV+	EEEV+	JCV+[¥]	POW+[¥]
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
2021	8,068	6	0	14	3	0	0	45	1[€,£]	0	5	1
2022	1,829	8	0	2	0	0	0	26	0	0	0	0

*Comparison between years must consider variations in surveillance criteria.
¥Testing completed by the Centers for Disease Control and Prevention (CDC).
£Testing performed by commercial laboratory.
€Infection likely acquired out of state.

Human Surveillance

Between January 1 and December 31, 2022, 25 patients were tested for EEEV and 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, 2022, 22 patients were tested for POW at the CDC. Twenty-Four (24) patients were also tested for JCV at the CDC.

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

Animal Surveillance

Between January 1 and December 31, 2022, 0 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, 2022, 1,829 mosquito batches were tested for EEEV, WNV and JCV at the NH PHL.

- Eight batches tested positive for WNV in the municipalities of Manchester (6) and Nashua (2). The species testing positive were *Culex pipiens* (5), *Culex restuans* (1), *Culex pipiens/restuans* (1), and *Coquillettidia perturbans* (1).
- Two batches tested positive for JCV in the municipalities of Atkinson (1) and Hampstead (1). The species testing positive were *Coquillettidia perturbans* (2).
- No batches tested positive for EEEV.
- Mosquito batches were submitted for EEEV, WNV, and JCV testing from Cheshire, Hillsborough, Merrimack, Rockingham, and Strafford Counties.

Public Health Threat Declaration

A Public Health Threat Declaration was not in effect for the 2022 NH mosquito season.

Regional Risk Levels

- In 2022, 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 2022 season to reflect changes in risk levels. For 2022, 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, please visit our website to view the final 2022 Risk Map.

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