



Chapter 8: Vector-borne and Zoonotic Diseases
November 2023

Corrections to the information from the original document have been highlighted in green and marked with a single asterisk(*) in the information below.

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Table 29. West Nile virus human cases and mosquito pool testing, Waterloo Region, 2008-2018

Year	Case Count	Age-standardized Rate (per 100,000)	# of Positive Pools
2008	0*	0.00*	0
2009	0*	0.00*	0
2010	0	0.00	3*
2011	2*	0.37*	2*
2012	3	0.58*	6*
2013	0*	0.00*	2*
2014	0*	0.00*	0*
2015	1*	0.19*	1*
2016	0*	0.00*	1*
2017	3*	0.59*	3*
2018	5*	0.93*	9*

Source: Statistics Canada 2019 iPHIS Annual Population Estimates, West Nile Virus

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Population-level exposure

- West Nile virus is typically present in the summer and fall across most of Ontario, including southwestern Ontario and the study area. Human case counts for the study area appear generally low, ranging from 0 to 5 cases for each Public Health unit jurisdiction annually.*



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Baseline health impacts

- Between 2008-2018, ROWPH had a cumulative 51* cases of Lyme disease, the most of which were recorded in 2018. WDGPH had 33 identified cases of Lyme disease in the same period, with 2017 and 2018 having among their highest incidence rates. Current data collection may not accurately reflect where cases were exposed to the vector and exposure may have occurred outside of the study area.

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In the study area, human cases of WNV are low for both health units* (see Table 29 and 30). ROWPH surveillance indicates a cumulative case count of WNV of 14* from 2008-2018, with five* of those cases appearing in 2018 resulting in an age-standardized incidence rate of 0.93* cases per 100,000 people. WDGPH had a cumulative case count of seven* cases between 2008-2018, with case counts ranging between zero to two each year*.



**Table 30. West Nile virus human cases and mosquito pool testing, Wellington-Dufferin-Guelph, 2008-2018**

Year	Case Count	Age-standardized Rate (per 100,000)	# of Positive Pools
2008	0	0.00	0
2009	0	0.00	0
2010	0	0.00	0
2011	1*	0.40*	0*
2012	2*	0.70*	2
2013	0	0.00	5*
2014	1*	0.30*	0*
2015	0*	0.00*	0*
2016	1*	0.30*	0*
2017	2*	0.70*	3*
2018	0*	0.00*	2*

Source: Statistics Canada 2019 iPHIS Annual Population Estimates, West Nile Virus

There are no recorded human cases of EEE in Canada, but equine and mosquito infection dates back as early as the 1930s across eastern North America. (279)* In Ontario, 14 equine cases of EEE* were reported in six Public Health Unit jurisdictions (two of which border the study area, Grey Bruce Health Unit and Simcoe Muskoka District Health Unit) during a three-year enhanced surveillance program run by Public Health Ontario between 2012-2014. (280)



Table 31. Case counts of Lyme disease in humans and tick submission records, Region of Waterloo Public Health, 2008-2018

Year	Case Count	Age-standardized rate (per 100,000)	# Ticks Submitted	# Black Legged Ticks (BLT)	# BLT with <i>Borrelia burgdorferi</i>
2008	3	0.68	No Data	No Data	No Data
2009	1	0.18	No Data	No Data	No Data
2010	0	0	No Data	No Data	No Data
2011	4	0.72	No Data	No Data	No Data
2012	3	0.61	48	5	1
2013	3	0.58	53	8	0
2014	1	0.20*	47	15	4
2015	10	1.89*	99	19	5
2016	4	0.70*	85	7	1
2017	10*	1.76*	112	46	7
2018	12	2.12	203	59	7**

**Ticks not acquired locally

Source: Statistics Canada iPHIS Annual Population Estimates and ROWPH tracking system



- Between 2008-2018, ROWPH had a cumulative 51* cases of Lyme disease, and the highest incidence rate of 2.12* age-standardized cases per 100,000 people occurred in 2018 (see Table 31).

Table 32. Case counts of Lyme disease in humans and tick submission records, Wellington-Dufferin-Guelph Public Health, 2008-2018

Year	Case Counts	Age-standardized rate (per 100,000)	# Ticks Submitted	# Blacklegged ticks (BLT)	# BLT with <i>Borrelia burgdorferi</i> and acquired locally
2008	0	0	No Data	No Data	No Data
2009	0	0	No Data	No Data	No Data
2010	1	0.3	No Data*	No Data*	No Data*
2011	3	1.0*	11*	3*	0*
2012	1	0.4	7*	3*	0*
2013	3	1.0	13*	8*	0*
2014	2	0.7	16*	14*	1*
2015	1	0.3	85*	28*	0*
2016	5	1.7	72*	26*	2*
2017	9	3.0	234*	94*	3*
2018	8	2.3	192*	82*	1*

Source: Statistics Canada iPHIS Annual Population Estimates