Public Health Agency of Canada | Agence de la santé publique du Canada

Canada

West Nile virus and Other Mosquito-borne Diseases National Surveillance Report
October 22 to October 28, 2017 (Week 43)

West Nile Virus

Canada

Humans

During week 43, October 22 to October 28, 2017, one new case of West Nile Virus (WNV) was reported from Québec to the Public Health Agency of Canada (PHAC). Retrospectively, five additional cases were reported by two provinces: three in Québec and two in Ontario.

As of week 43, 179 clinical cases and six asymptomatic infections have been reported to the PHAC by five provinces (Québec [19], Ontario [154], Manitoba [4], Alberta [7], and British Columbia [1]). Of the 179 clinical cases, sixty-seven (37%) were classified as WNV neurological syndrome, sixty-eight (38%) as WNV Non-neurological syndrome, and forty-four (25%) as unclassified. A total of 23 travel-related cases were reported. As of October 28, six deaths associated with West Nile virus have been reported to the Public Health Agency of Canada during the 2017 season.

Mosquitoes

As of initial surveillance, 17,374 mosquito pools have been tested for WNV in Canada: Québec (1,849), Ontario (14,076), Manitoba (1,028), and Saskatchewan (421).

A total of 544 positive pools of WNV have been found in the following four provinces: 409 in Ontario [Brant County (2), Chatham-Kent (3), Durham Region (10), Eastern Ontario (5), Halton Region (36), Hamilton (31), Haliburton-Kwartha-Pine Ridge District (1), Hastings and Prince Edward Countries (13), Huron County (2), Kingston-Frontenac and Lennox and Addington (5), Lambton (2), Leeds, Grenville and Lanark District Health Unit (1), Middlesex-London (7), Niagara Region (15), Northwestern (1), Ottawa (35), Oxford County (1), Peel (114), Perth District (6), Peterborough County-City (2), Renfrew County and District (2), Simcoe Muskoka District (2), Toronto (62), Waterloo (3), Wellington-Dufferin-Guelph (3), Windsor-Essex County (29), and York Regional (16)]; forty-one in Manitoba[(Winnipeg (13), Southern (5), Interlake Eastern (7), and Prairie Mountain (16)]; eighty-four in Québec [Capitale-Nationale (9), Mauricie et du Centre-du-Québec (6), Montréal (10), Outaouais (3), Laval (5), Lanaudière (9), Laurentides (42)]; and ten in Saskatchewan.

Birds

As of week 43, the Canadian Wildlife Health Cooperative has tested 208 dead birds for WNV (Northwest Territories [1], Prince Edward Island [1], Quebec [111], Ontario [74], Saskatchewan [16], Manitoba [2], Alberta [1], and British Columbia [2]). Of these, 136 were positive: eighty-two in Quebec, two in Manitoba, forty-one in Ontario, and eleven in Saskatchewan.

Domestic Animals

The Canadian Food Inspection Agency has reported fifty-one horses with WNV infection in the following six provinces: Québec (7), Ontario (21), Manitoba (1), Saskatchewan (8), Alberta (10), and British Columbia (4).

United States and U.S. territories

As of October 31, 2017, 1,697 human cases of WNV have been reported by the Centers for Disease Control and Prevention. Of these, 1,121 (66%) were classified as neuroinvasive disease and 576 (34%) as non-neuroinvasive disease. Ninety-seven deaths have been reported during the season. In addition, 213 presumptive viremic blood donors have been identified.
https://www.cdc.gov/westnile/statsmaps/preliminarymapsdata2017/disease-cases-state.html

Europe and Neighbouring Countries

As of November 2, 2017, the European Centre for Disease Prevention and Control reported a total of 280 (confirmed and probable) cases of West Nile fever (Austria [4], Bulgaria [1], Croatia [5], France [1], Greece [48], Hungary [20], Israel [28], Italy [55], Romania [64, Serbia [49], and Turkey [5]). Twenty deaths due to West Nile fever have been reported since the start of the season.
http://ecdc.europa.eu/en/healthtopics/west_nile_fever/West-Nile-fever-maps/pages/index.aspx

Other Mosquito-borne Diseases

Canada

Eastern Equine Encephalitis virus

No human cases of eastern equine encephalitis virus (EEEV) have been reported to the Public Health Agency of Canada in 2017. As of October 30, there have been two horses that tested positive for EEEV in Ontario.

California Serogroup virus

Since January 1, 2017, forty-five human cases of laboratory-confirmed cases/exposures of California serogroup virus were diagnosed by the National Microbiology Laboratory in Canada: British Columbia (1), Alberta (5), Saskatchewan (5), Manitoba (1), Ontario (1), Quebec (27), New Brunswick (3), and Nova Scotia (2). Of these cases, twenty-seven were further classified as Jamestown Canyon virus and one Snowshoe hare virus.

FIGURE 1: Geographic distribution of WNV human cases in Canada, as of October 28, 2017

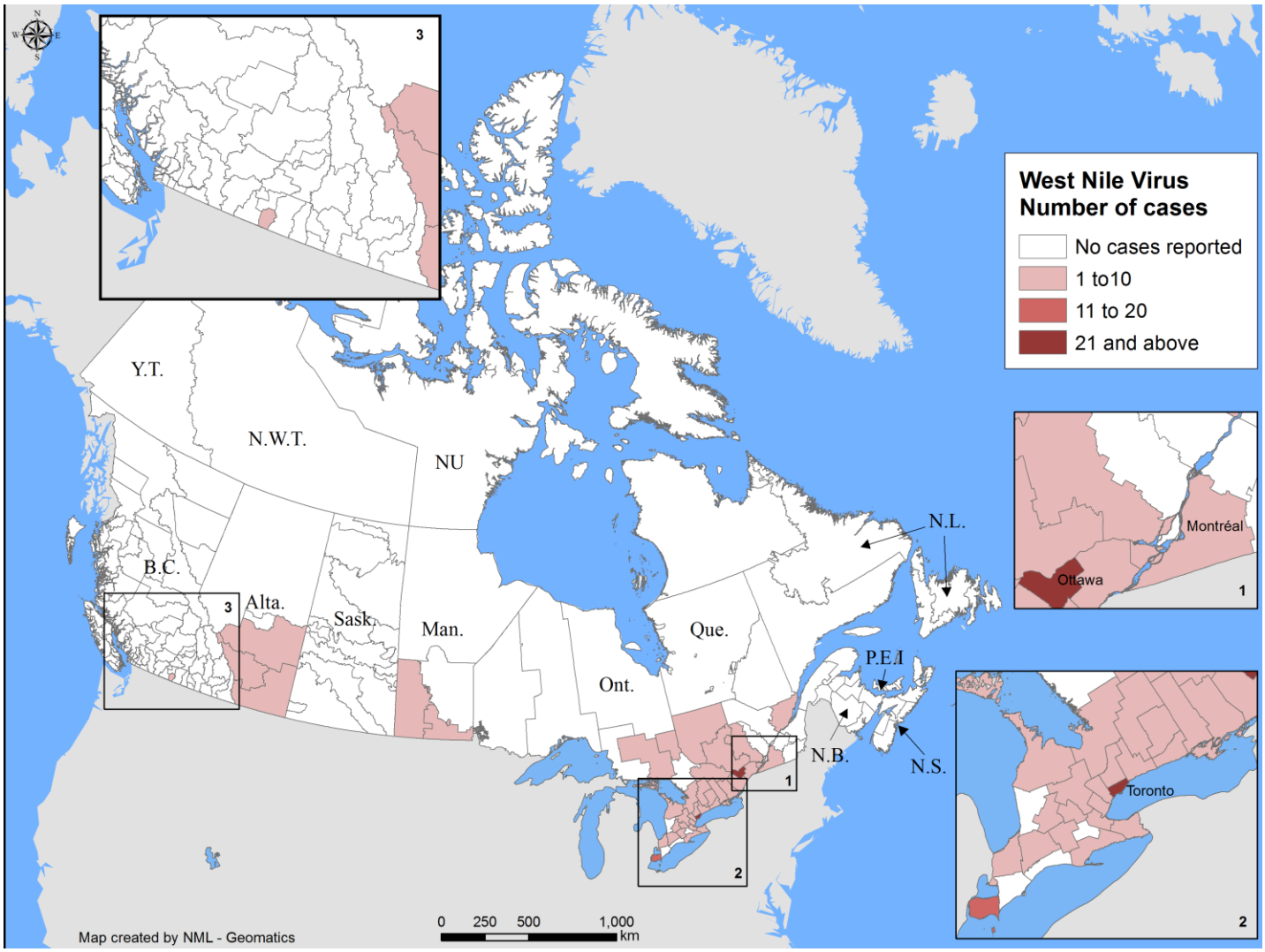
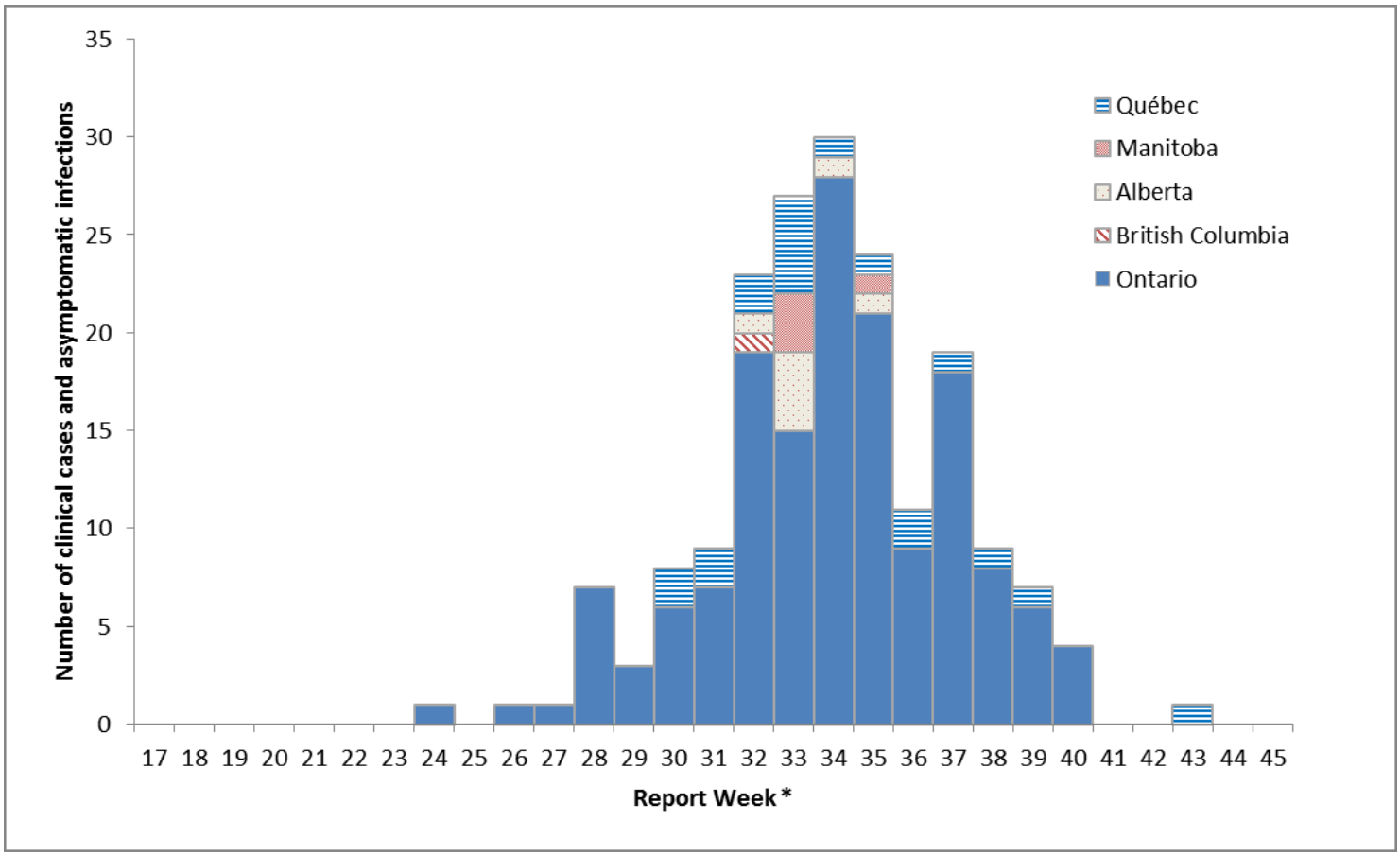
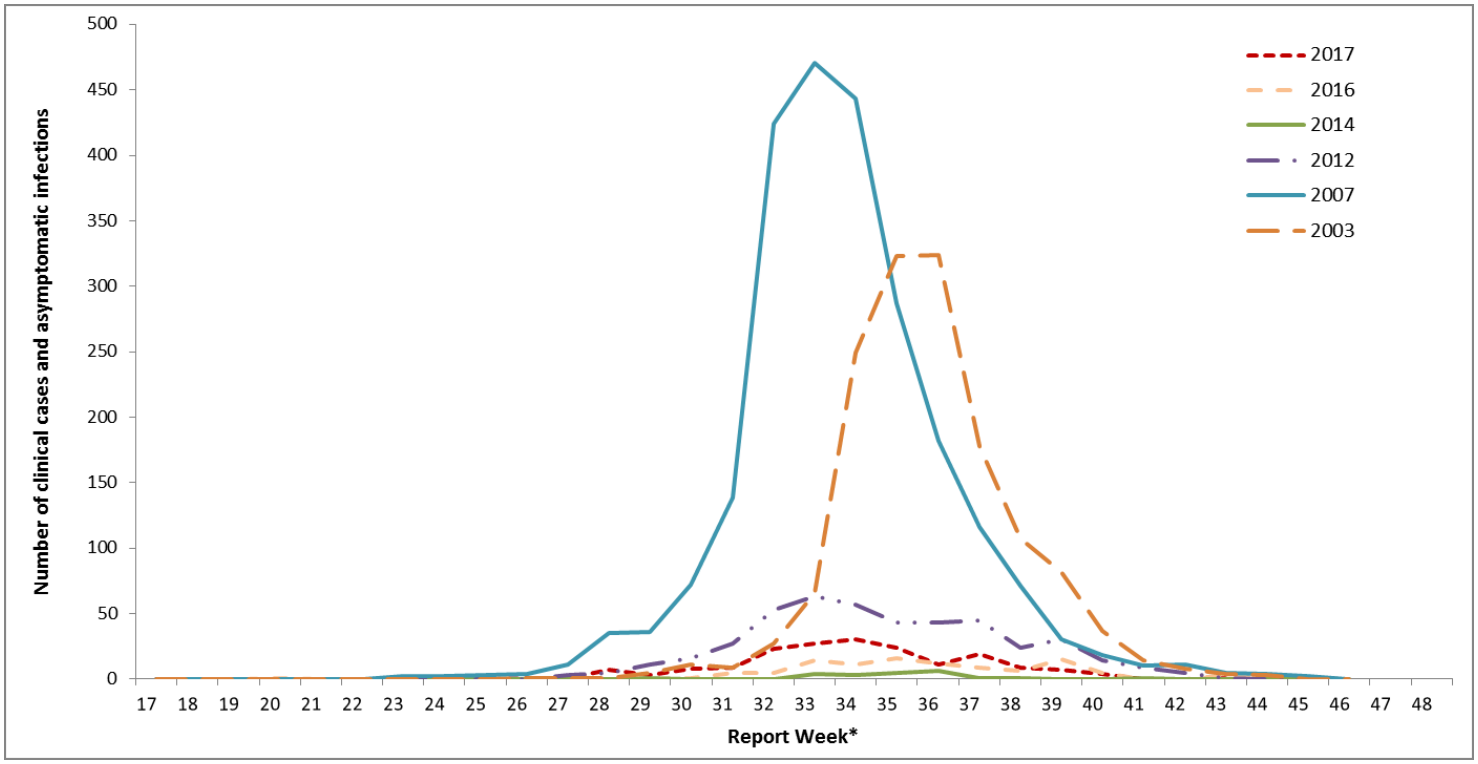


FIGURE 2: West Nile Virus human clinical cases and asymptomatic infections by province/territory as of October 28, 2017



*WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

FIGURE 3: West Nile Virus human clinical cases and asymptomatic infections for selected years, in Canada



*WNV clinical cases and asymptomatic infections are grouped by report week, based on episode date. Episode date could include one of the following: onset date, diagnosis date, lab sample date or reporting date.

TABLE 1:West Nile Virus human clinical cases and asymptomatic infections by province/territory for the current report week and year to date, 2017 season

Province/Territory	WNV clinical cases			Total clinical cases[1]	Number of travel-related WNV cases[2]	Number of asymptomatic WNV infection[3]
	Neurological syndrome	Non-neurological syndrome	Unclassified/ Unspecified			
Week 43: October 22 to October 28, 2017						
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Québec	1	0	0	1	0	0
Ontario	0	0	0	0	0	0
Manitoba	0	0	0	0	0	0
Saskatchewan[4]	0	-	-	-	-	-
Alberta	0	0	0	0	0	0
British Columbia	0	0	0	0	0	0
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	**1**	**0**	**0**	**1**	**0**	**0**
Year to date: January 1 to October 28, 2017						
Newfoundland and Labrador	0	0	0	0	0	0
Prince Edward Island	0	0	0	0	0	0
Nova Scotia	0	0	0	0	0	0
New Brunswick	0	0	0	0	0	0
Québec	15	3	0	18	0	1
Ontario	48	58	44	150	21	4
Manitoba	2	2	0	4	0	0
Saskatchewan[4]	0	-	-	-	-	-
Alberta	2	5	0	7	2	0
British Columbia	0	0	0	0	0	1
Yukon Territory	0	0	0	0	0	0
Northwest Territory	0	0	0	0	0	0
Nunavut	0	0	0	0	0	0
Total	**67**	**68**	**44**	**179**	**23**	**6**

[1] Total clinical cases are the sum of confirmed and probable: WNV neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

[2] Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or WNV asymptomatic infections.

[3] Satisfies WNV diagnostic test criteria in the absence of clinical criteria. This category could include asymptomatic blood donors whose blood is screened using a nucleic acid amplification test, by blood operators (i.e. Canadian Blood Services or Hema-Quebec) and is subsequently brought to the attention of public health officials. Blood operators in Canada perform a supplementary WNV specific nucleic acid amplification test following any positive donor screen test result.

[4] Saskatchewan provides counts of WNV neurological syndrome cases only.

TABLE 2: Number of mosquito pools tested for WNV and number of positive mosquito pools by province/territory, 2017 season

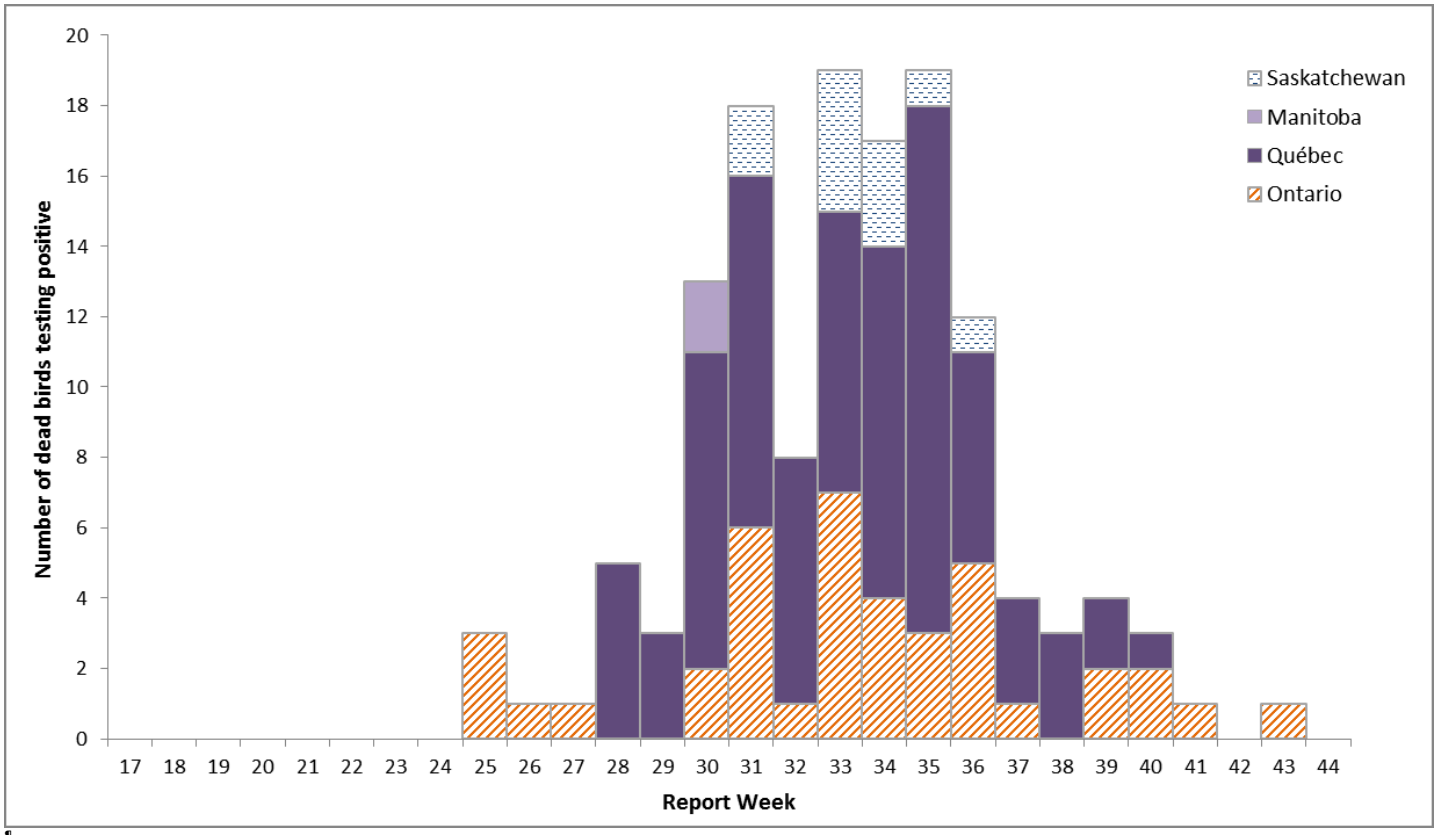
Province / Territory	Year to date: January 1 to October 21, 2017		
	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Québec	84	1,849	4.54
Ontario	409	14,076	2.91
Manitoba	41	1,028	3.99
Saskatchewan	10	421	2.38
Alberta	-	-	-
British Columbia	-	-	-
Newfoundland and Labrador	-	-	-
Prince Edward Island	-	-	-
Nova Scotia	-	-	-
New Brunswick	-	-	-
Yukon Territory	-	-	-
Northwest Territories	-	-	-
Nunavut	-	-	-
Total	**544**	**17,374**	**3.13**

TABLE 3: Total number of WNV mosquito pools tested by report week and by province/territory, 2017 season[‡]

Province / Territory	Report Week																								
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Total
Québec	-	-	-	-	-	-	-	-	147	147	147	147	147	147	147	146	147	147	147	111	122	0	0	0	**1,849**
Ontario	13	15	43	84	194	299	718	794	964	1,003	1,037	1,053	1,168	1,015	1,116	993	931	746	634	641	523	91	1	0	**14,075**
Manitoba	-	-	-	-	15	45	48	16	60	93	96	113	178	122	86	104	25	20	7	-	-	-	-	-	**1,028**
Saskatchewan	-	-	-	-	6	20	11	18	25	31	38	46	61	52	39	40	34	-	-	-	-	-	-	-	**421**
Alberta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
British Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Newfoundland and Labrador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Nova Scotia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
New Brunswick	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Yukon Territory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Nunavut	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
Total	**13**	**15**	**43**	**84**	**215**	**364**	**777**	**828**	**1,196**	**1,274**	**1,318**	**1,359**	**1,554**	**1,336**	**1,388**	**1,283**	**1,137**	**913**	**788**	**752**	**645**	**91**	**1**	**0**	**17,373**

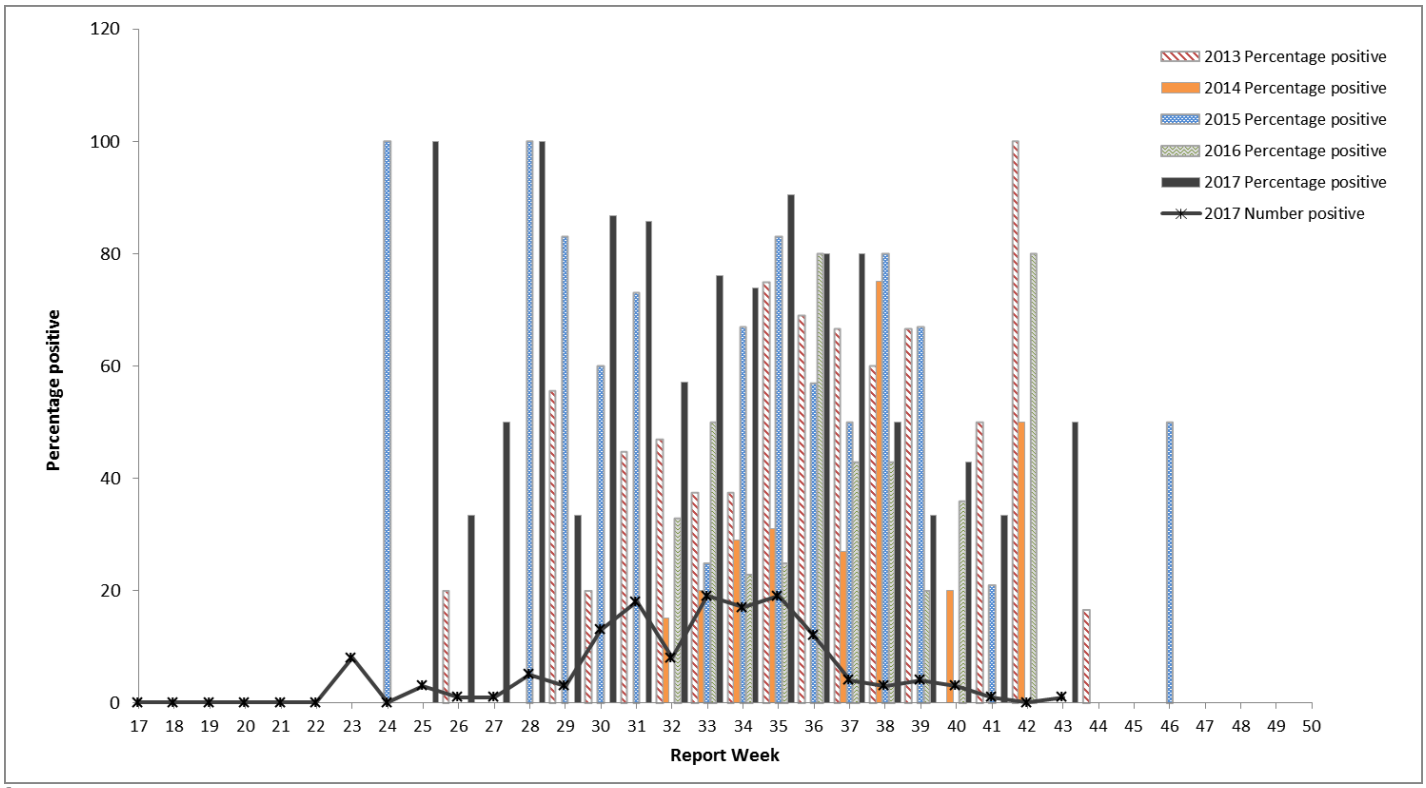
[‡] Detailed West Nile Virus mosquito surveillance data can be accessed through provincial/territorial websites

FIGURE 4: Reported number of dead birds tested positive for WNV by province/territory and by report week, 2017 season in Canada[¶]



[¶] Not all provinces are conducting dead bird surveillance as part of their own WNV surveillance program. However, WNV positive dead birds may be identified through the National Wildlife Disease Surveillance Program of the Canadian Wildlife Health Cooperative.

FIGURE 5: Percentage of dead birds tested positive for WNV by report week in 2012, 2015, 2016, 2017 and number of dead birds tested positive, by report week, 2017, in Canada[¶]



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