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

Canada

West Nile virus and Other Mosquito-borne Diseases National Surveillance Report
September 24 to September 30, 2017 (Week 39)

West Nile Virus

Canada

Humans

During week 39, September 24 to September 30, 2017, two confirmed clinical cases of West Nile Virus (WNV) from Ontario were reported to the Public Health Agency of Canada (PHAC). Retrospectively, twelve additional cases were reported: one in Québec and eleven in Ontario.

As of week 39, 152 clinical cases and six asymptomatic infections have been reported to the PHAC by five provinces (Québec [13], Ontario [136], Manitoba [3], Alberta [5], and British Columbia [1]. Of the 152 clinical cases, fifty-two (34%) were classified as WNV neurological syndrome. As of September 30, 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, 17,282 mosquito pools have been tested for WNV in Canada: Québec (1,849), Ontario (13,984), 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 39, the Canadian Wildlife Health Cooperative has tested 180 dead birds for WNV [Quebec (102), Ontario (60), Saskatchewan (14), Manitoba (2) and British Columbia (2)]. Of these, 127 were positive: seventy-nine in Quebec, two in Manitoba, thirty-seven in Ontario, and nine in Saskatchewan.

Domestic Animals

As of week 39, forty-one horses with WNV infection were reported to the Canadian Food Inspection Agency (CFIA): five in Québec, seventeen in Ontario, one in Manitoba, eight in Saskatchewan, six in Alberta, and four in British Columbia.

United States and U.S. territories

As of October 3, 2017, 1,157 human cases of WNV have been reported by the Centers for Disease Control and Prevention (CDC). Of these, 741 (63%) were classified as neuroinvasive disease and 434 (37%) as non-neuroinvasive disease. In addition, 174 presumptive viremic blood donors have been identified.
https://www.cdc.gov/westnile/statsmaps/preliminarymapsdata2017/disease-cases-state.html

Europe and Neighbouring Countries

As of September 29, 2017, the European Centre for Disease Prevention and Control (ECDC) reported a total of 197 (confirmed and probable) cases of West Nile fever [Austria (4), Greece (47), Hungary (16), Israel (9), Italy (49), Romania (45), and Serbia (36)].
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 have been reported to the Public Health Agency of Canada in 2017.

California Serogroup virus

Since January 1, 2017, fifteen human cases of laboratory-confirmed cases/exposures of California serogroup virus were diagnosed by the National Microbiology Laboratory in Canada: Alberta (2), Saskatchewan (2), Manitoba (1), Ontario (1), Quebec (8), and Nova Scotia (1). Of these cases, eleven cases were further classified as Jamestown Canyon virus and one Snowshoe hare virus.

FIGURE 1: Geographic distribution of WNV human cases in Canada, as of September 30, 2017

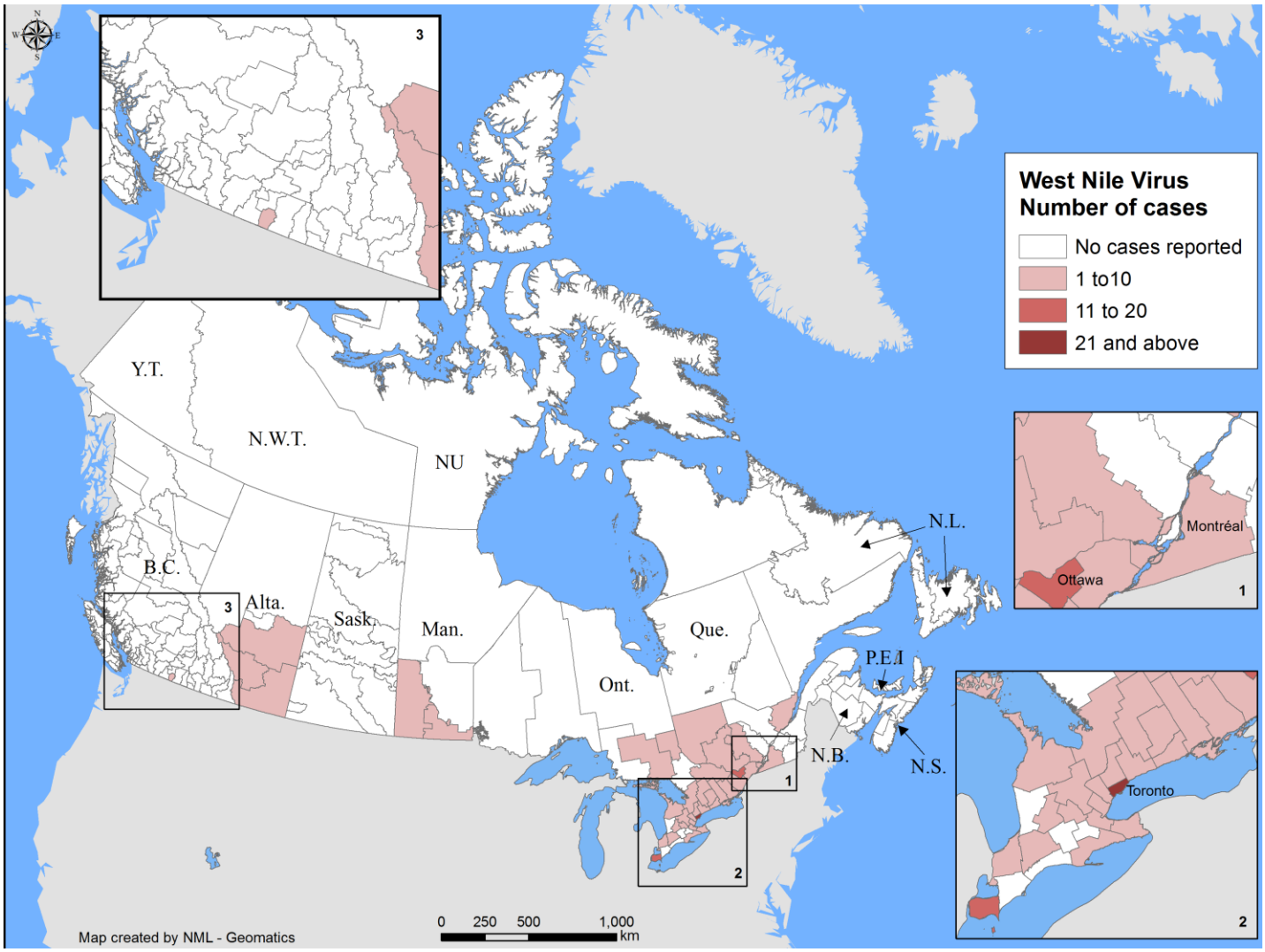
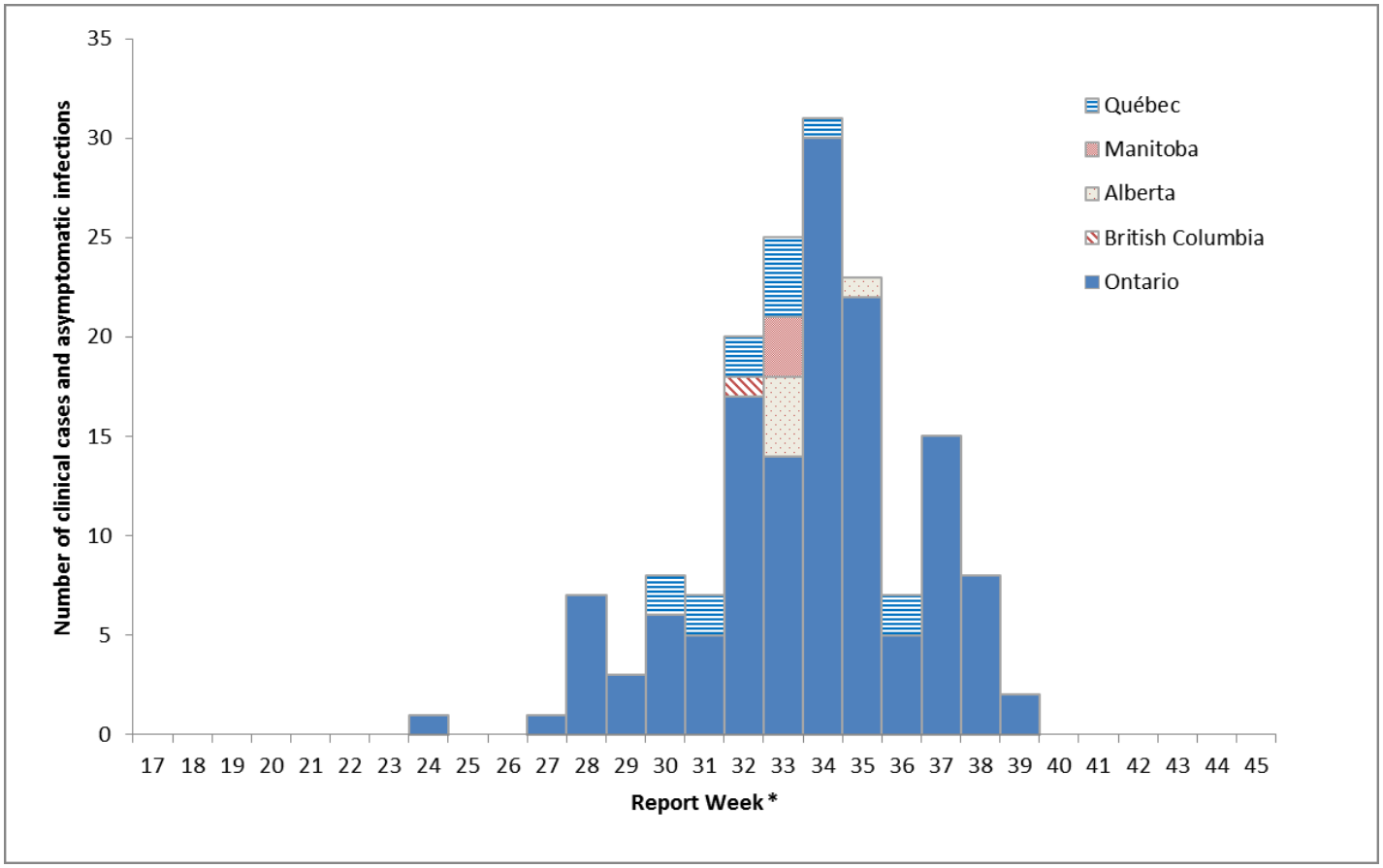
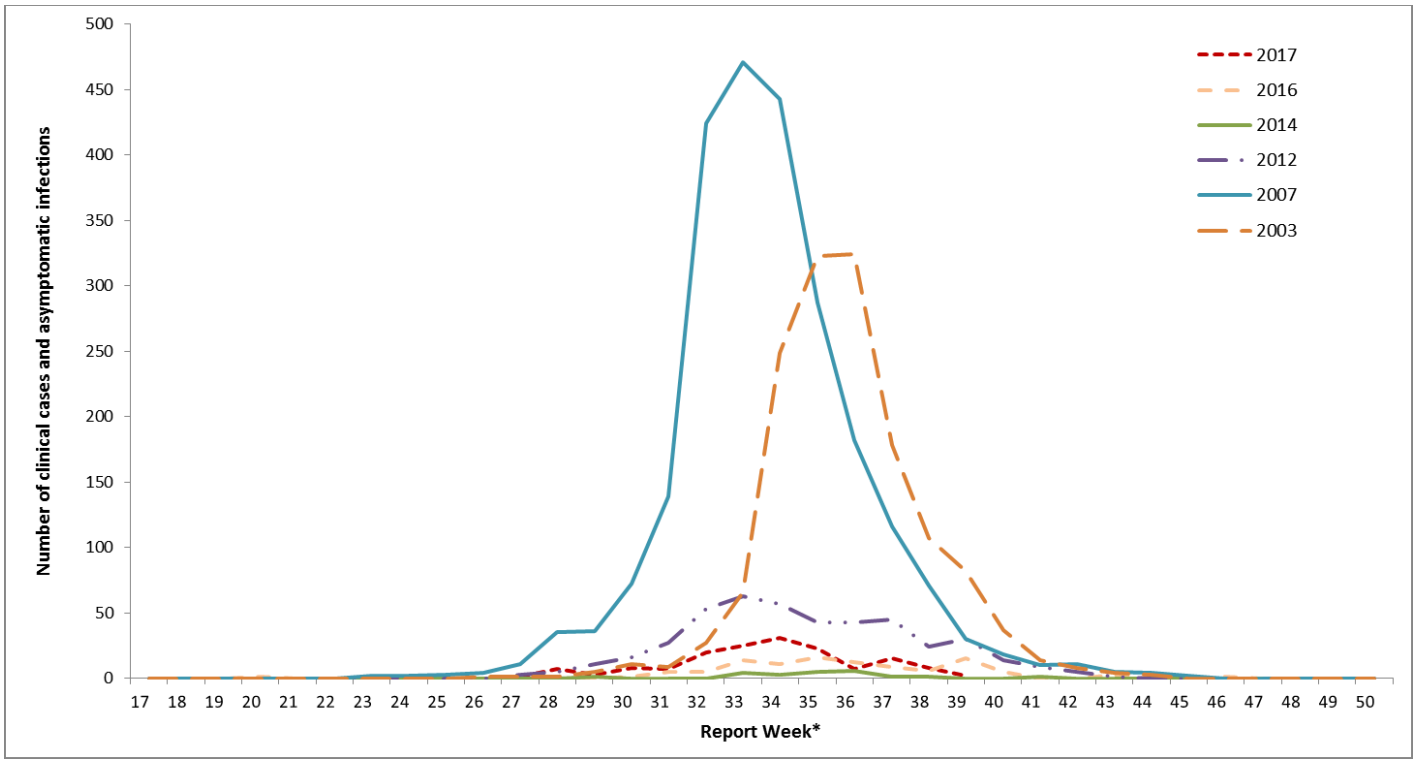


FIGURE 2: West Nile Virus human clinical cases and asymptomatic infections by province/territory as of September 30, 2017



*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 39: September 23 to September 30, 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	0	0	0	0	0	0
Ontario	0	0	2	2	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	**0**	**0**	**2**	**2**	**0**	**0**
Year to date: January 1 to September 30, 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	10	2	0	12	0	1
Ontario	38	44	50	132	19	4
Manitoba	2	1	0	3	0	0
Saskatchewan[4]	0	-	-	-	-	-
Alberta	2	3	0	5	1	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	**52**	**50**	**50**	**152**	**20**	**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

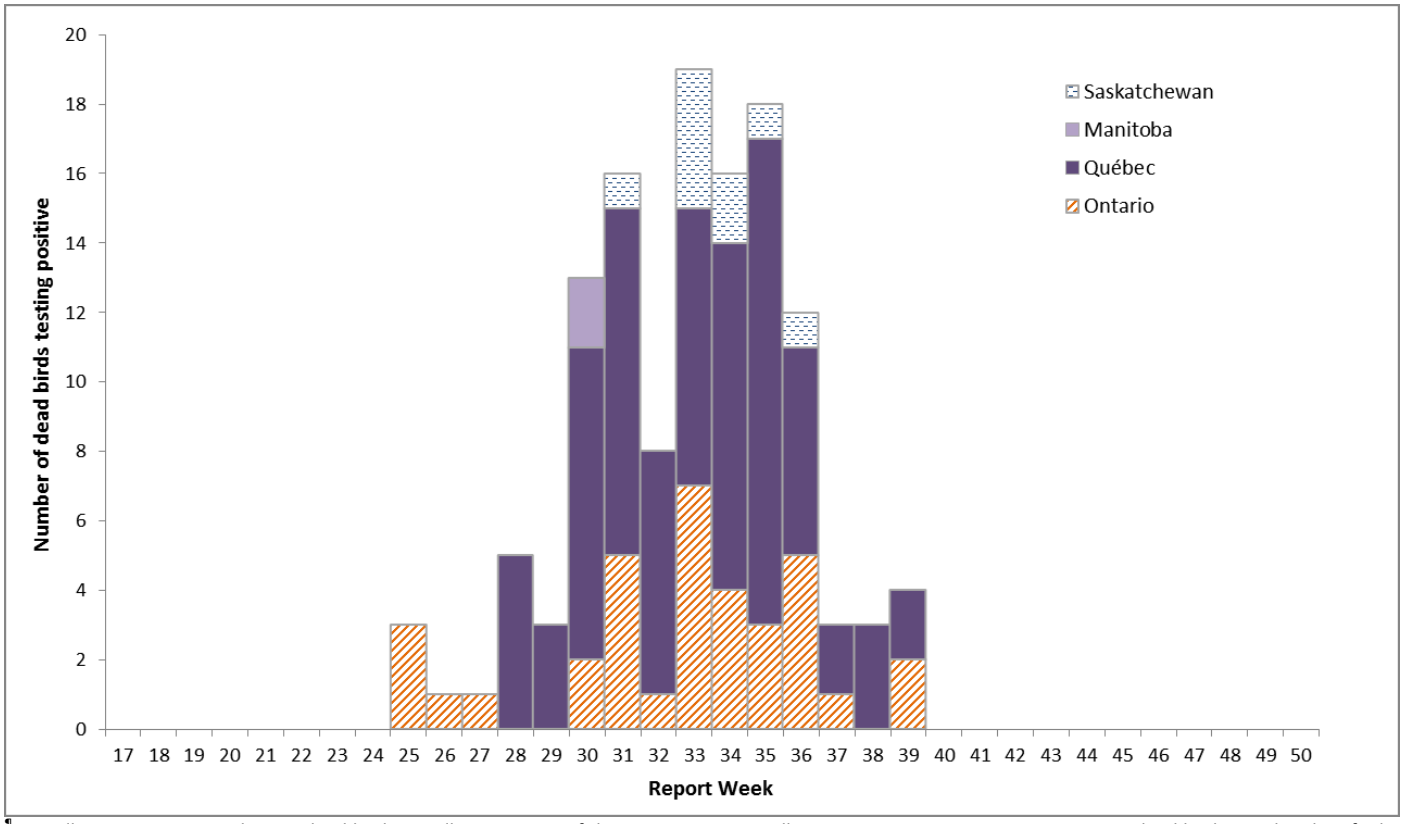
Province / Territory	Year to date: January 1 to September 30, 2017		
	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Québec	84	1,849	4.54
Ontario	409	13,984	2.92
Manitoba	41	1,028	3.99
Saskatchewan	10	421	2.38
Alberta	-	-	-
British Columbia	-	-	-
Newfoundland and Labrador	-	-	-
Prince Edward Island	-	-	-
Nova Scotia	-	-	-
New Brunswick	-	-	-
Yukon Territory	-	-	-
Northwest Territories	-	-	-
Nunavut	-	-	-
Total	**544**	**17,282**	**3.15**

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	Total
Québec	-	-	-	-	-	-	-	-	147	147	147	147	147	147	147	146	147	147	147	111	122		**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		**13,984**
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**	**0**	**17,282**

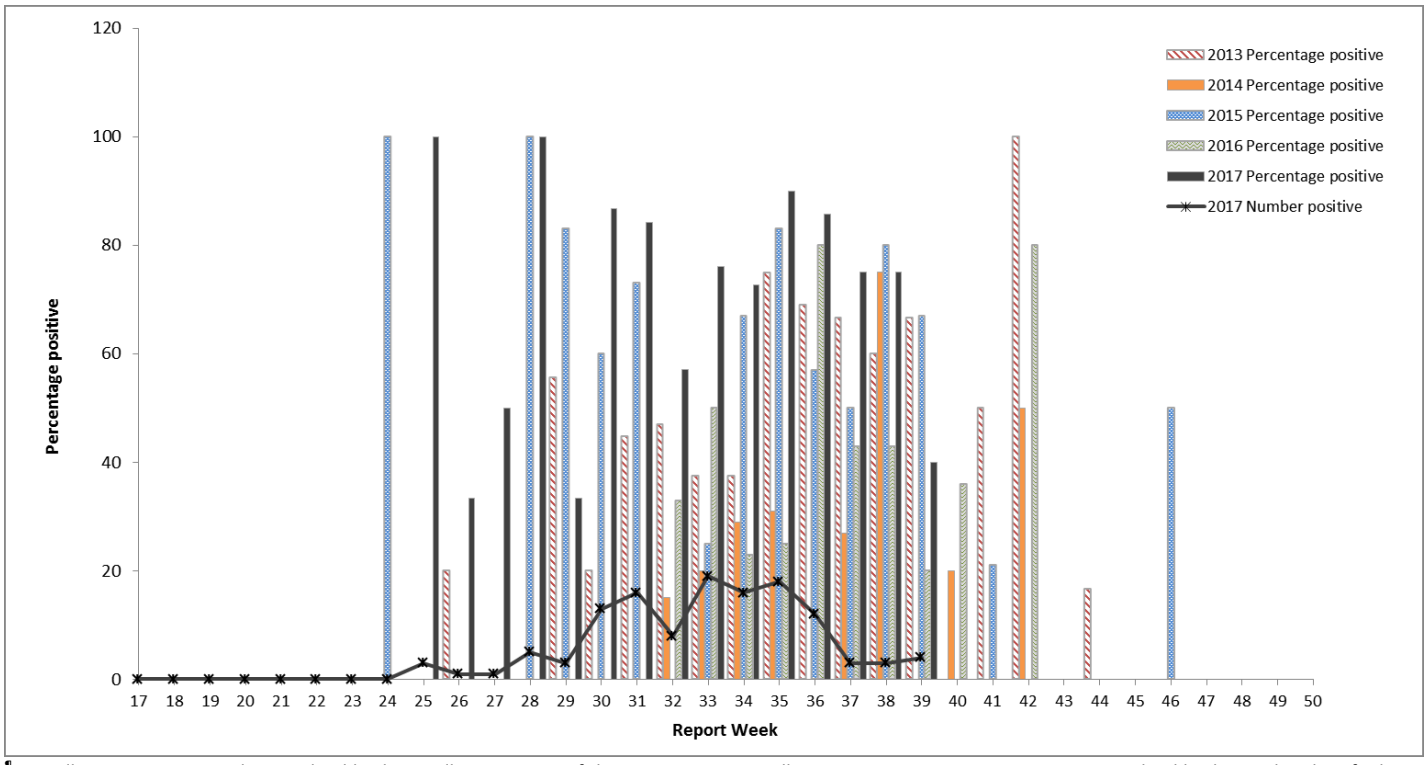
[‡] Detailed West Nile Virus mosquito surveillance data can be accessed through provincial/territorial websites

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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