



## West Nile virus and Other Mosquito-borne Diseases National Surveillance Report July 30 to August 5, 2017 (Week 31)

### West Nile Virus

#### Canada

##### Humans

During week 31, July 30 to August 5, 2017, the Public Health Agency of Canada (PHAC) was officially informed of three additional human clinical cases of West Nile virus (WNV). This brings the total confirmed WNV cases to six since the beginning of the 2017 season. All were unclassified, and reported by the province of Ontario. One of the cases was travel-related.

##### Mosquitoes

As of initial surveillance, 8,653 mosquito pools have been tested for WNV in Canada: Québec (588), Ontario (7,385), Manitoba (486), and Saskatchewan (194).

A total of 155 positive pools of WNV have been found in the following four provinces:

- 113 in Ontario [Brant County (1), Chatham-Kent (3), Durham Region (2), Eastern Ontario (2), Halton Region (10), Hamilton (4), Haliburton-Kawartha-Pine Ridge District (1), Hastings and Prince Edward Counties (5), Lambton (1), Middlesex-London (3), Niagara Region (2), Ottawa (7), Peel (22), Perth District (1), Peterborough (1), Renfrew County and District (2), Simcoe Muskoka District (1), Toronto (24), Wellington-Dufferin-Guelph (2), Windsor-Essex County (16), and York Regional (3)];
- Thirty in Manitoba [(Winnipeg (10), Southern (3), Interlake Eastern (5), and Prairie Mountain (12));
- Nine in Québec [Montréal (6), Laval (1), and Mauricie-centre-du-Québec(2)]; and
- Three in Saskatchewan.

##### Birds

As of week 31, the Canadian Wildlife Health Cooperative has tested fifty-nine dead birds for WNV [Québec (31), Ontario (23), Saskatchewan (1), Manitoba (2) and British Columbia (2)]. Of these, forty were positive: Twenty-five in Québec [Drummondville (1), Lachine (1), Lac-Supérieur (1), Mascouche (2), Montréal (1), Mont-Royal (1), Repentigny (1), Rivière-Rouge (2), Saint-Ambroise (1), Saint-Côme (1), Sainte-Madeleine (1), Sainte-Mélanie (1), Saint-Félix-de-Valois (1), Saint-Hippolyte (1), Saint-Hyacinthe (1), Saint-Jean-de-Matha (1), Saint-Jérôme (1), Saint-Lambert (2), Saint-Ours (1), Sherbrooke (1), Terrebonne (1), and Trois-Rivières (1)]; two in Manitoba [Winnipeg (2)]; and thirteen in Ontario [Campbellsville (6), Dryden (1), Guelph (1), Pickerel (1), Sarnia (1), Sudbury (1), and Thunder Bay (2)].

##### Domestic Animals

The Canadian Food Inspection Agency has not reported any domestic animals tested positive for WNV since the beginning of the 2017 season.

#### United States and U.S. territories

As of August 8, 2017, 159 human cases of WNV have been reported by the Centers for Disease Control and Prevention (CDC). Of these, ninety-one (57%) were classified as neuroinvasive disease and sixty-eight (43%) as non-neuroinvasive disease. In addition, forty presumptive viremic blood donors have been identified.

<https://www.cdc.gov/westnile/statsmaps/preliminarymapsdata2017/disease-cases-state.html>

#### Europe and Neighbouring Countries

As of August 4, 2017, the European Centre for Disease Prevention and Control (ECDC) reported ten human cases (confirmed and probable) of West Nile fever [Greece (5), Italy (1) and Israel (4)]

[http://ecdc.europa.eu/en/healthtopics/west\\_nile\\_fever/West-Nile-fever-maps/pages/index.aspx](http://ecdc.europa.eu/en/healthtopics/west_nile_fever/West-Nile-fever-maps/pages/index.aspx)

### Other Mosquito-borne Diseases

#### Canada

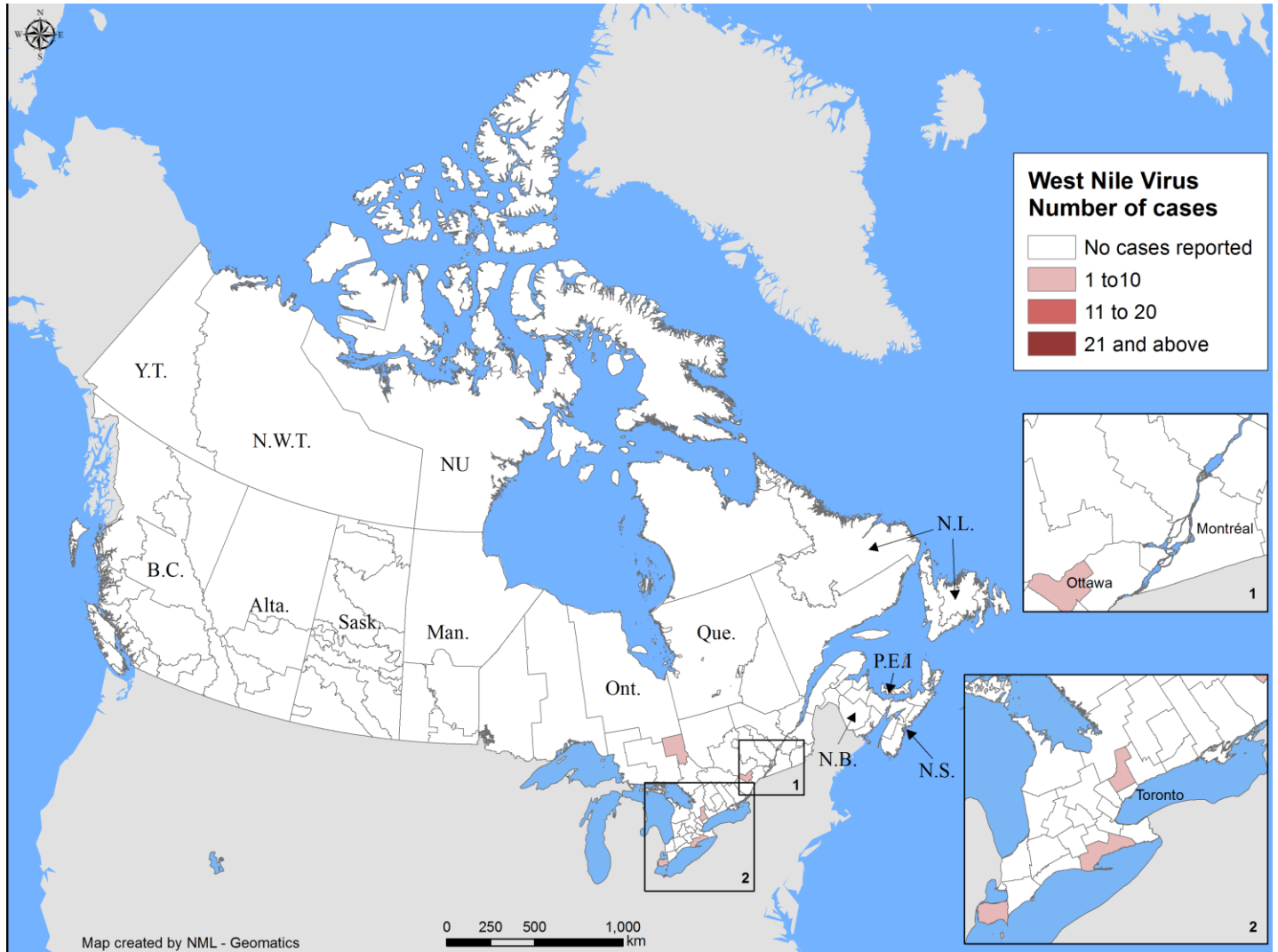
##### Eastern Equine Encephalitis virus

No human cases of eastern equine encephalitis virus have been reported to the Public Health Agency of Canada in 2017.

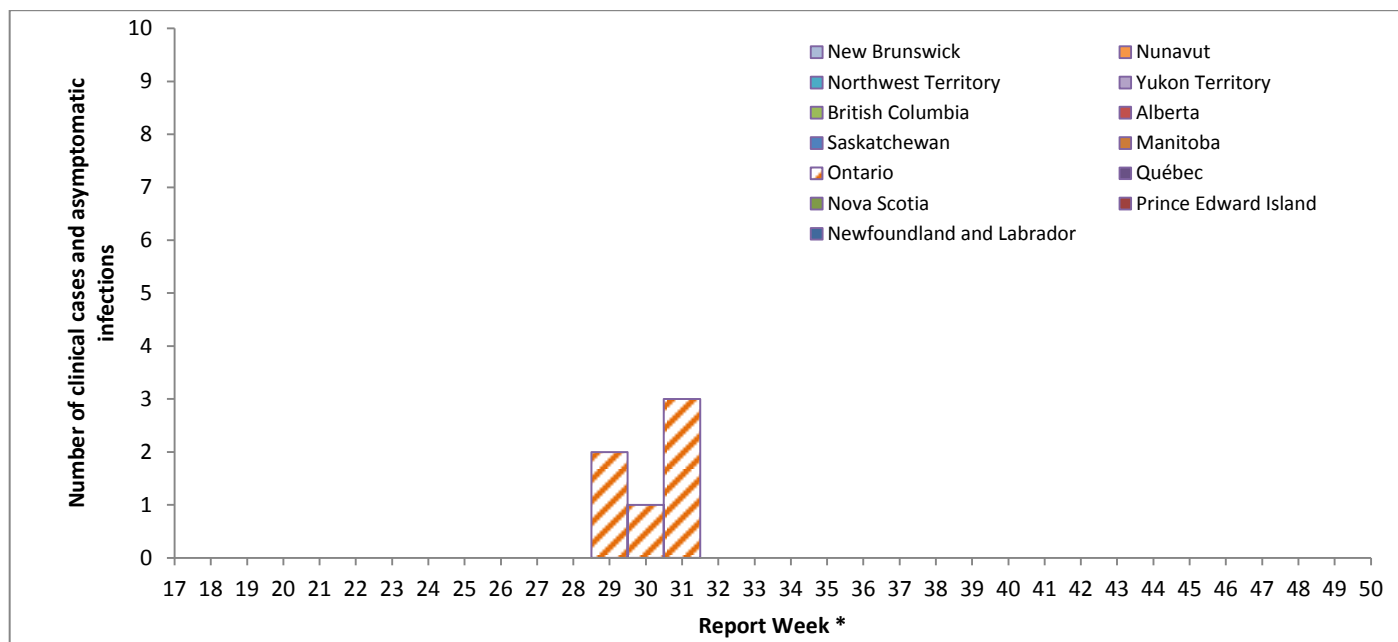
##### California Serogroup virus

Since January 1, 2017, nine human cases of laboratory-confirmed cases/exposures of California serogroup virus were diagnosed by the National Microbiology Laboratory in Canada: Alberta (2), Saskatchewan (1), and Québec (6). Of these cases, four cases were further classified as Jamestown Canyon virus.

FIGURE 1: Geographic distribution of West Nile virus human clinical cases in Canada, as of August 5, 2017

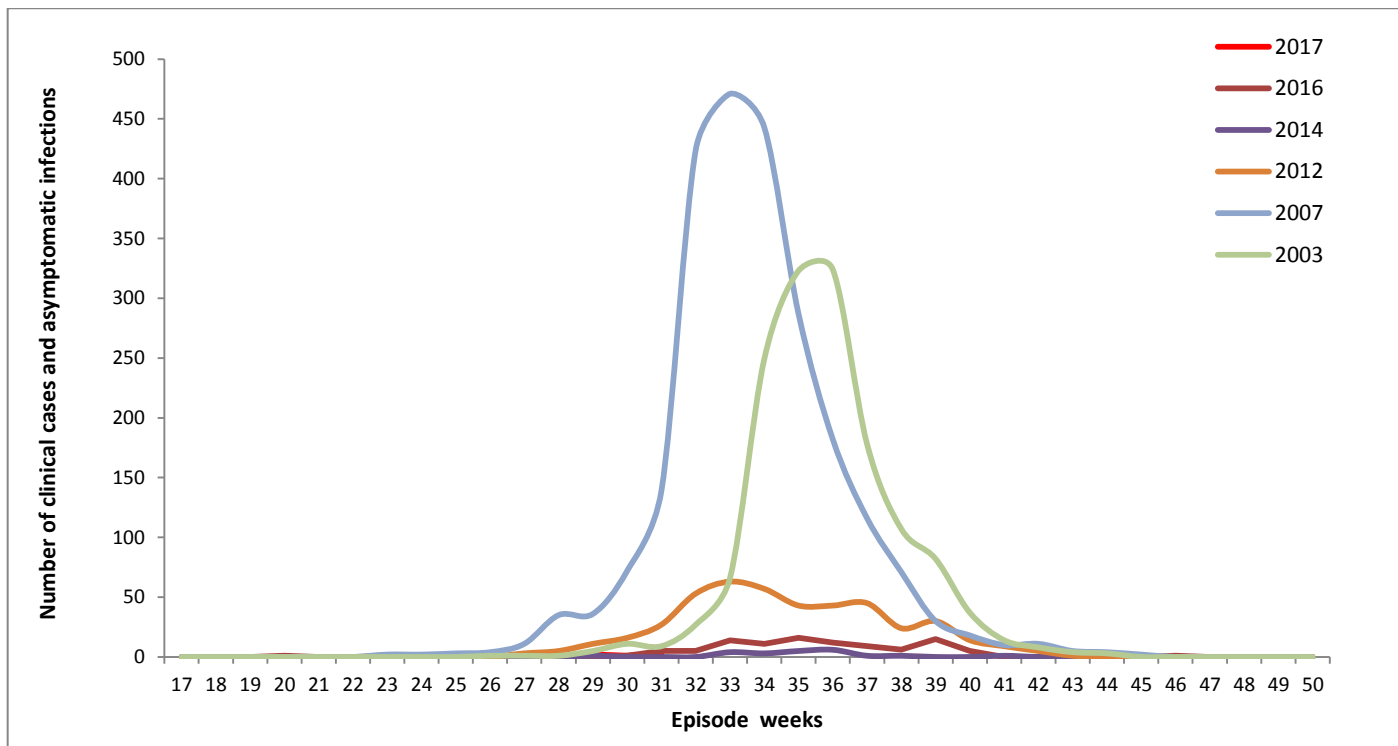


**FIGURE 2: West Nile virus human clinical cases and asymptomatic infections by province/territory and by report week, as of August 5, 2017**



\*West Nile virus 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 by report week for selected years, in Canada**



\*West Nile virus 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	Week 31: July 30 to August 5, 2017					
	WNV clinical cases			Total clinical cases <sup>1</sup>	Number of travel-related WNV cases <sup>2</sup>	Number of asymptomatic WNV infection <sup>3</sup>
	Neurological syndrome	Non-neurological syndrome	Unclassified/unspecified			
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	3	3	0	0
Manitoba	0	0	0	0	0	0
Saskatchewan	-	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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>

Province/Territory	Year to date: January 1 to August 5, 2017					
	WNV Clinical Cases			Total clinical cases <sup>1</sup>	# of travel related WNV cases <sup>2</sup>	# of asymptomatic WNV infections <sup>3</sup>
	Neurological syndrome	Non-Neurological syndrome	Unclassified / Unspecified			
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	6	6	1	0
Manitoba	0	0	0	0	0	0
Saskatchewan	-	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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>0</b>

<sup>1</sup> Total clinical cases is the sum of both probable and confirmed: West Nile virus neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

<sup>2</sup> Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or West Nile virus asymptomatic infections.

<sup>3</sup> Satisfies West Nile virus 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 West Nile virus specific nucleic acid amplification test following any positive donor screen test result.

**TABLE 2: Number of mosquito pools tested for West Nile virus and number of positive mosquito pools by province/territory, 2017 season**

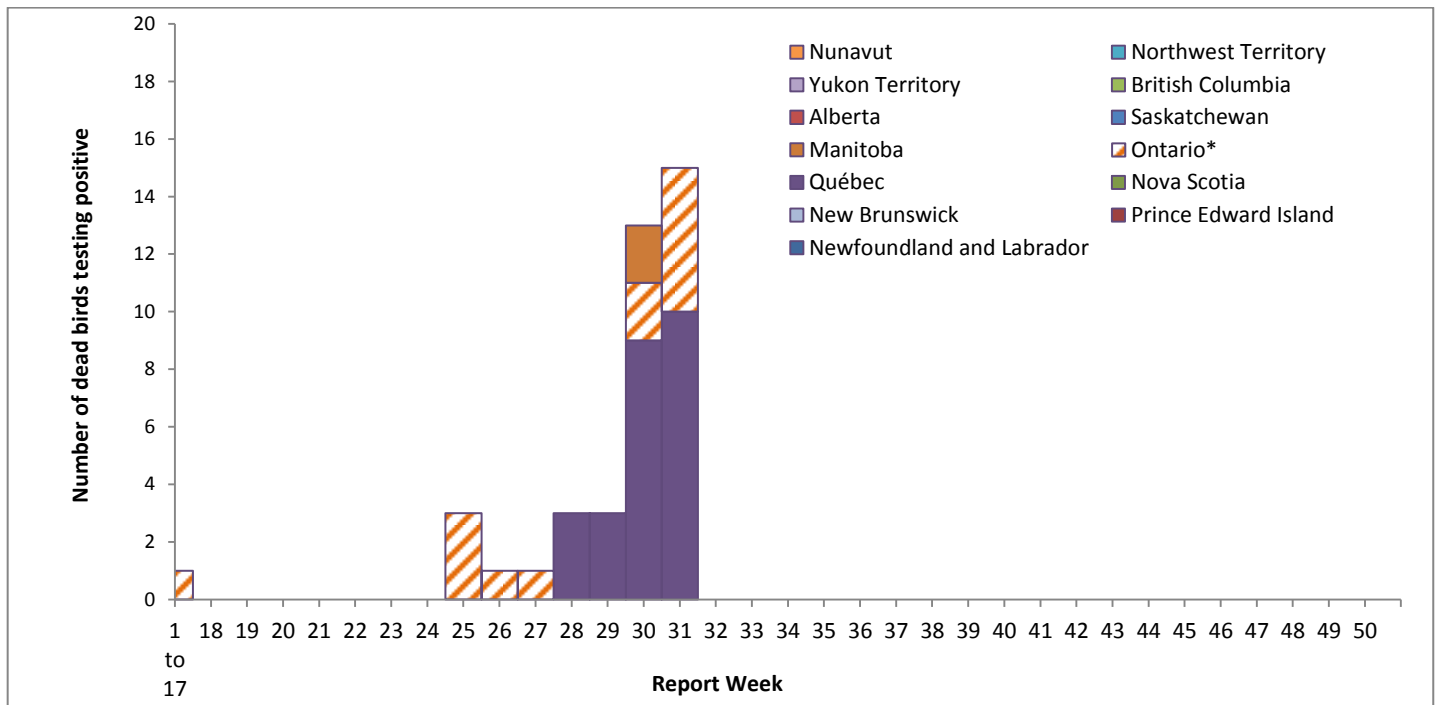
Province/Territory	Year to date: January 1 to August 5, 2017		
	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Québec	9	588	1.53
Ontario	113	7,385	1.53
Manitoba	30	664	4.51
Saskatchewan	3	247	1.21
Alberta	-	-	-
British Columbia	-	-	-
Newfoundland and Labrador	-	-	-
Prince Edward Island	-	-	-
Nova Scotia	-	-	-
New Brunswick	-	-	-
Yukon Territory	-	-	-
Northwest Territory	-	-	-
Nunavut	-	-	-
<b>Total</b>	<b>155</b>	<b>8,884</b>	<b>1.74</b>

**TABLE 3: Total number of WNV mosquito pools tested by report week and by province/territory, 2017 season<sup>‡</sup>**

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
Newfoundland and Labrador	-	-	-	-	-	-	-	-	-	-	-	-	-									
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-									
New Brunswick	-	-	-	-	-	-	-	-	-	-	-	-	-									
Nova Scotia	-	-	-	-	-	-	-	-	-	-	-	-	-									
Québec	0	0	0	0	0	0	0	0	147	147	147	147										
Ontario	13	15	43	84	194	299	718	794	964	1003	1037	1053	1168									
Manitoba	0	0	0	0	15	45	48	16	60	93	96	113	178									
Saskatchewan	0	0	0	0	6	20	11	18	25	31	38	45	53									
Alberta	-	-	-	-	-	-	-	-	-	-	-	-	-									
British Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-									
Yukon Territory	-	-	-	-	-	-	-	-	-	-	-	-	-									
Northwest Territory	-	-	-	-	-	-	-	-	-	-	-	-	-									
Nunavut	-	-	-	-	-	-	-	-	-	-	-	-	-									
<b>Total</b>	<b>13</b>	<b>15</b>	<b>43</b>	<b>84</b>	<b>215</b>	<b>364</b>	<b>777</b>	<b>828</b>	<b>1196</b>	<b>1274</b>	<b>1318</b>	<b>1358</b>	<b>1399</b>									

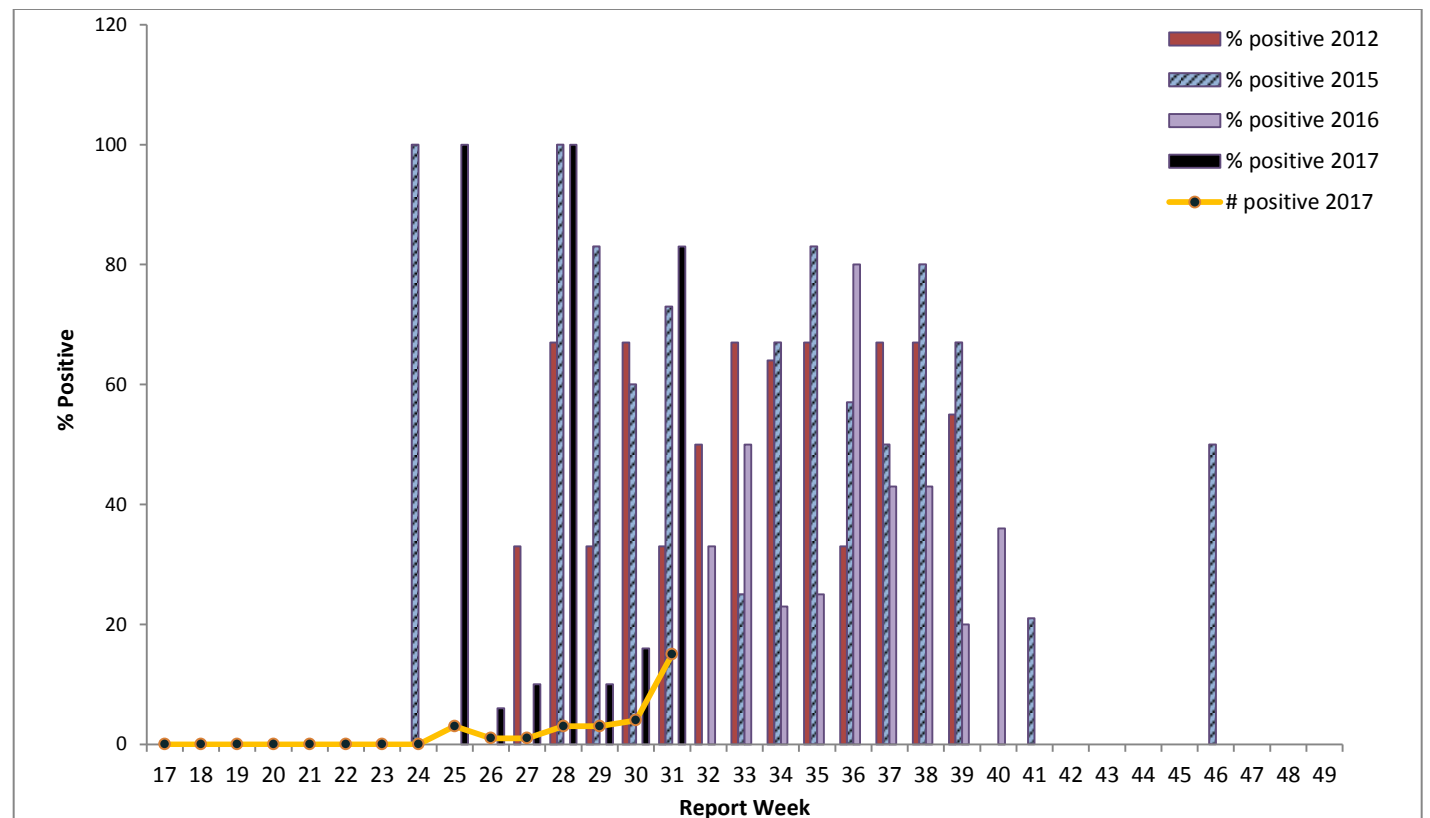
<sup>‡</sup> Detailed West Nile virus mosquito surveillance data can be accessed through provincial/territorial websites

**FIGURE 4: Reported number of dead birds tested positive for West Nile virus by province/territory and by report week, 2017 season in Canada<sup>1</sup>**



<sup>1</sup> 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 West Nile virus by report week in 2012, 2015, 2016, 2017 and number of dead birds tested positive, by report week, 2017, in Canada<sup>1</sup>**



<sup>1</sup> 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.