



West Nile virus and Other Mosquito-borne Diseases National Surveillance Report English Edition

July 16 to July 22, 2017 (Week 29)

West Nile Virus

Canada

Humans

As of surveillance week 29, ending on July 22, 2017, the Public Health Agency of Canada (PHAC) has been officially informed of two human clinical cases of West Nile virus (WNV). Both were reported by the province of Ontario [Timiskaming (1) and Windsor-Essex (1)].

Mosquitoes

As of week 29, there have been 4 provinces (Ontario, Manitoba, Quebec and Saskatchewan) with reports of positive mosquito pools of West Nile Virus.

A total of 47 positive pools of WNV have been found: 33 from Ontario [Peel Regional (5), Toronto (6), Halton(5), Haliburton-Kawartha-Pine Ridge District(1), Simcoe Muskoka District (1), Windsor-Essex County (6), Eastern Ontario (1), Durham Regional (1), Hamilton (1), Haliburton-Kawartha-Pine Ridge district (1), Hastings and Prince Edward Countries (2), and York Regional (3)]; 11 from Manitoba [(Winnipeg (3), Southern (2), Interlake eastern (1), and Prairie Mountain(5)]; 2 from Quebec [Montérégie (1), Laval (1)], and 1 from Saskatchewan.

As of initial surveillance, PHAC has received 5 992 mosquito pools tested for WNV in Canada: Quebec (294), Ontario (5164), Manitoba (387), and Saskatchewan (147).

Birds

The Canadian Wildlife Health Cooperative has tested 16 dead birds for West Nile virus: six in Quebec, nine in Ontario and one in Saskatchewan. Of these, 9 were positive for WNV: 4 in Quebec [St Lambert (2), Sherbrooke (1) and Montréal (1)], and 5 in Ontario [Campbellsville (3), Trenton Lakes (1) and Guelph (1)].

Domestic Animals

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

United States and U.S. territories

As of July 22, 2017, forty five (45) human cases of WNV have been reported by the Centers for Disease Control and Prevention in the United States. Of these, 26 (57.77%) were classified as neuroinvasive disease and 19 (42.22%) as non-neuroinvasive disease. In addition, 8 presumptive viremic blood donors have been identified.

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

Europe and Neighbouring Countries

As of July 22, 2017, the European Union Member States have reported one human case of West Nile fever in Southern Greece. In the neighbouring countries, one confirmed case and three probable cases have been reported by Israel.

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 since the 2017 season.

California Serogroup virus:

Since January 1, 2017, 9 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 Quebec (6). Of these cases, four were further classified as Jamestown Canyon virus and the rest as unknown.

FIGURE 1: Geographic distribution of West Nile virus human clinical cases in Canada, as of July 22, 2017



FIGURE 2: West Nile virus human clinical cases and asymptomatic infections by province/ territory and by report week, as of July 22, 2017

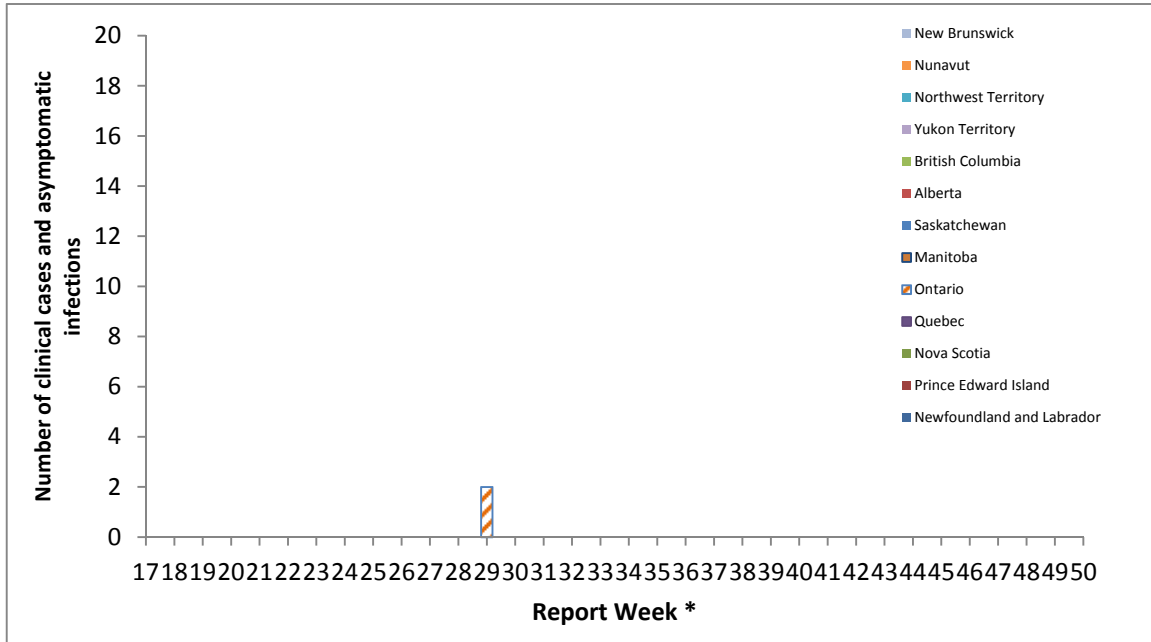
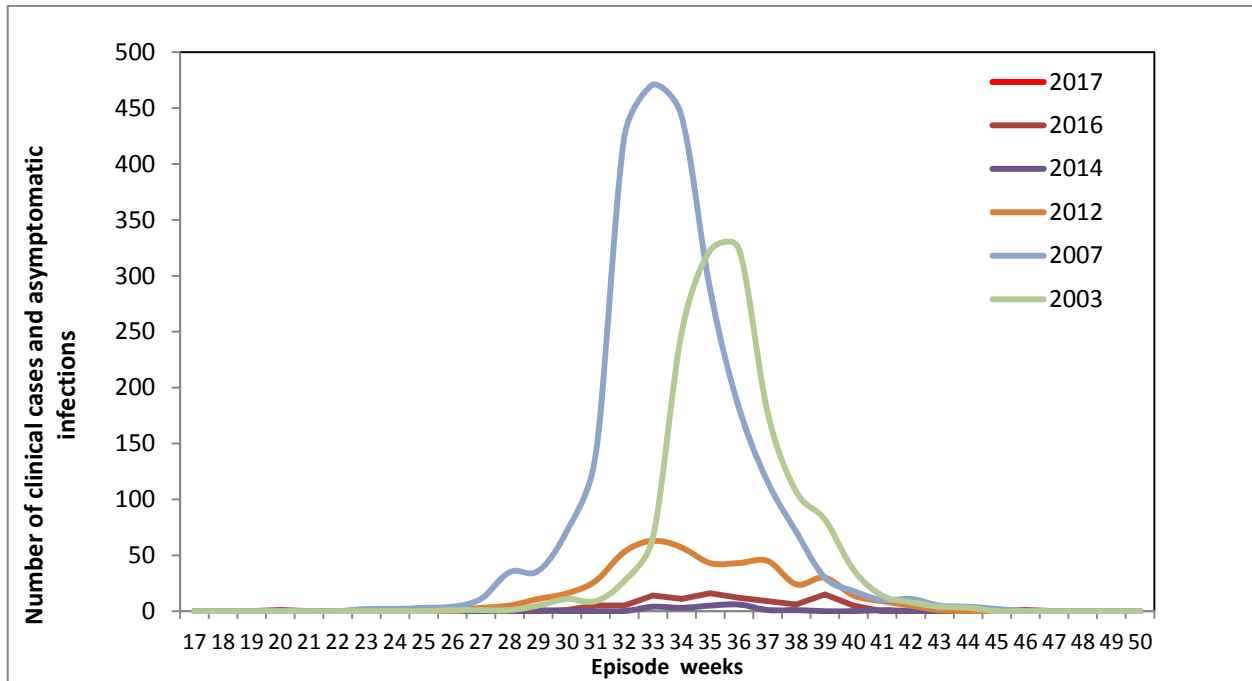


FIGURE 3: West Nile virus human clinical cases and asymptomatic infections by report week for selected years, in Canada



*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

| | Week 29: July 16 to July 22, 2017 | | | | | |
|---------------------------|---------------------------------------|---|---------------------------|-----------------------------------|---|---|
| | West Nile virus neurological syndrome | West Nile virus non-neurological syndrome | Unclassified/ unspecified | Total clinical cases ¹ | Number of travel-related cases ² | West Nile virus asymptomatic infection ³ |
| 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 |
| Quebec | 0 | 0 | 0 | 0 | 0 | 0 |
| Ontario | 0 | 0 | 2 | 2 | 0 | 0 |
| Manitoba | 0 | 0 | 0 | 0 | 0 | 0 |
| Saskatchewan | 0 | 0 | 0 | 0 | 0 | 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 July 22, 2017 | | | | | |
|---------------------------|--|---|---------------------------|-----------------------------------|---|---|
| | West Nile virus neurological syndrome | West Nile virus non-neurological syndrome | Unclassified/ unspecified | Total clinical cases ¹ | Number of travel-related cases ² | West Nile virus asymptomatic infection ³ |
| 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 |
| Quebec | 0 | 0 | 0 | 0 | 0 | 0 |
| Ontario | 0 | 0 | 2 | 2 | 0 | 0 |
| Manitoba | 0 | 0 | 0 | 0 | 0 | 0 |
| Saskatchewan | 0 | 0 | 0 | 0 | 0 | 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 |

¹ 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.

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

³ 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 | Year to date: January 1 to July 22, 2017 | | |
|---------------------------|--|---------------------------------|---|
| | Number of positive mosquito pools | Number of mosquito pools tested | Percentage of positive mosquito pools (%) |
| Quebec | 2 | 294 | 0.68 |
| Ontario | 33 | 5 164 | 0.64 |
| Manitoba | 11 | 387 | 2.84 |
| Saskatchewan | 1 | 147 | 0.68 |
| Alberta | - | - | - |
| British Columbia | - | - | - |
| Newfoundland and Labrador | - | - | - |
| Prince Edward Island | - | - | - |
| Nova Scotia | - | - | - |
| New Brunswick | - | - | - |
| Yukon Territory | - | - | - |
| Northwest Territory | - | - | - |
| Nunavut | - | - | - |
| Total | 47 | 5 992 | 0.78 |

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

| Province / Territory | Report week 29, 2017 | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|----------------------|-----------|-----------|-----------|------------|------------|------------|------------|--------------|--------------|--------------|----|----|----|----|----|----|----|----|----|----|----|
| | 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 | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | |
| Quebec | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 147 | n/a | 147 | | | | | | | | | | | |
| Ontario | 13 | 15 | 43 | 84 | 194 | 299 | 718 | 794 | 964 | 1003 | 1037 | | | | | | | | | | | |
| Manitoba | 0 | 0 | 0 | 0 | 15 | 45 | 48 | 16 | 74 | 93 | 96 | | | | | | | | | | | |
| Saskatchewan | 0 | 0 | 0 | 0 | 6 | 20 | 11 | 18 | 25 | 30 | 147 | | | | | | | | | | | |
| Alberta | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | |
| British Columbia | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | |
| Yukon Territory | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | |
| Northwest Territory | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | |
| Nunavut | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | |
| Total | 13 | 15 | 43 | 84 | 215 | 364 | 777 | 828 | 1 210 | 1 126 | 1 317 | | | | | | | | | | | |

† 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

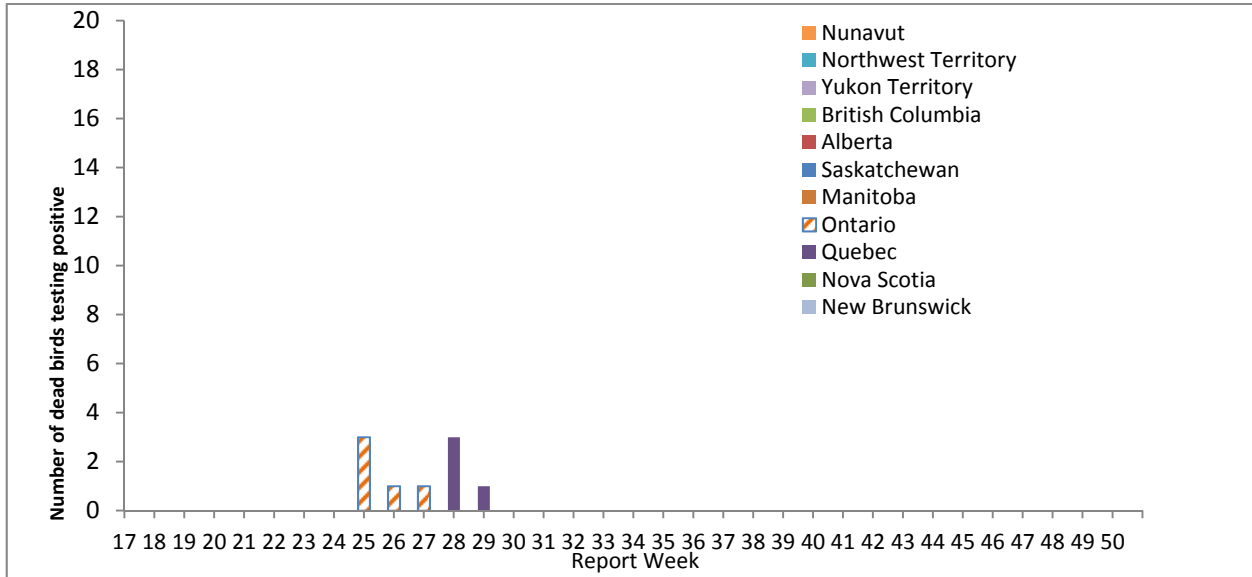
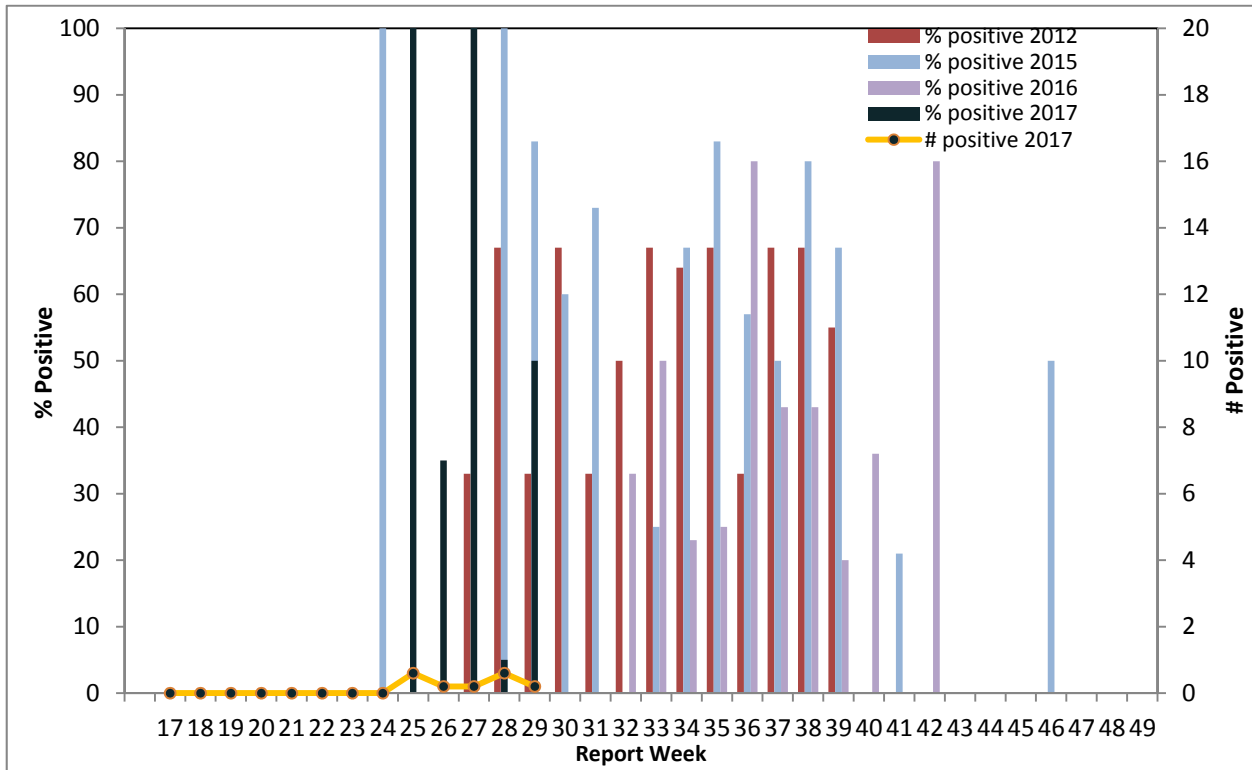


FIGURE 5: Percentage of dead birds tested positive for West Nile virus by report week in 2012, 2015, 2016, 2017 and number of dead birds tested positive, by report week, 2017, in Canada ¶



¶ 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.