



West Nile Virus and Other Mosquito-borne Diseases National Surveillance Report

English Edition

August 14 to August 20, 2016 (Week 33)

Canada

Humans:

During surveillance week 33, ending on August 20, 2016, seven (7) human clinical cases of West Nile virus (WNV) were reported to the Public Health Agency of Canada (PHAC). Of these, four cases were reported in Manitoba, one case in Ontario, one case in Quebec, and one case in Saskatchewan.

As of surveillance week 33, a total of ten (10) human clinical cases have been reported to PHAC: Manitoba (7) [Interlake-Eastern (1), Prairie Mountain (1), Southern (2) and Winnipeg (3)], Ontario (1) [Toronto], Quebec (1) [Capitale-Nationale], and Saskatchewan (1) [Mixed-Grass Prairie*]. Of these, three cases were classified as West Nile virus Neurological Syndrome (30%), and seven as Unclassified (70%).

Mosquitoes:

As of surveillance week 33, 181 (1.84 %) out of 9,814 mosquito pools have tested positive for WNV in Canada: Manitoba (37), Ontario (94), Quebec (10), and Saskatchewan (40).

Birds:

As of August 20, 2016, the Canadian Wildlife Health Cooperative has examined a total of 36 dead birds for WNV: Ontario (32), Quebec (2), and Saskatchewan (2), of which 2 dead birds have tested positive for WNV in Ontario. One of the birds that tested positive for WNV was a Red-tailed Hawk (Toronto) and the other an American Crow (Sarnia). In addition, the Québec Ministry of Agriculture, Fisheries and Food, and the Québec Centre for Wildlife Health have reported one bird, a Merlin that tested positive for WNV.

Domestic Animals:

As of Aug 20, 2016, the Canadian Food Inspection Agency has reported a total of 2 horses that have tested positive for WNV: Manitoba (2) [Brandon (1) and Winnipeg (1)].

United States and U.S. territories

As of August 20, 2016, the Centers for Disease Control and Prevention have reported 213 human clinical cases of West Nile virus disease from 28 states in the USA, including Idaho (1), Minnesota (2), Michigan (1), North Dakota (4), Vermont (2) and Wisconsin (1). Of these, 101 (47%) were diagnosed as neuroinvasive disease cases and 112 (53%) as non-neuroinvasive disease cases. Five fatal cases have been reported. In addition, 55 presumptive viremic blood donors have been identified.

Detailed information can be accessed via the CDC web site: <http://www.cdc.gov/westnile/statsmaps/preliminarymapsdata/histatedate.html>

Europe and Neighbouring Countries

As of August 20, 2016, 22 human cases of WNV have been reported in the European Union and 43 cases have been reported in the neighbouring countries.

Detailed information can be accessed via the ECDC web site:

http://ecdc.europa.eu/en/healthtopics/west_nile_fever/West-Nile-fever-maps/pages/index.aspx

*Mixed-Grass Prairie (Sun Country, Regina Qu'Appelle, Five Hills, Cypress, Heartland Health Regions)

FIGURE 1: Geographic distribution of Human Clinical cases of WNV in Canada, as of August 20, 2016

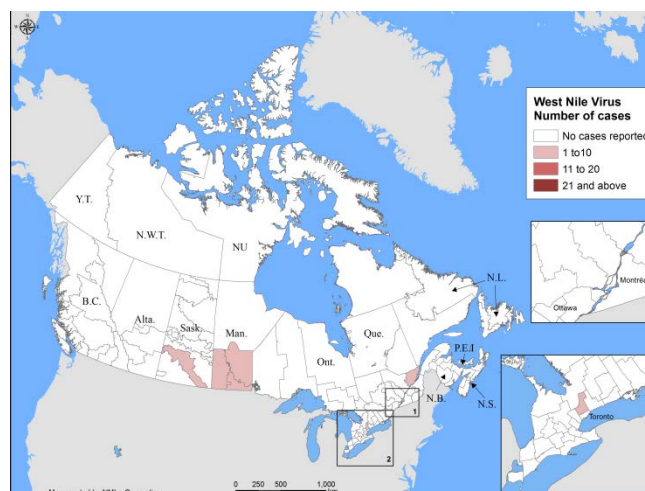


FIGURE 2: WNV Human Clinical cases and Asymptomatic Infections, by Province/ Territory and by Report week, as of August 20, 2016

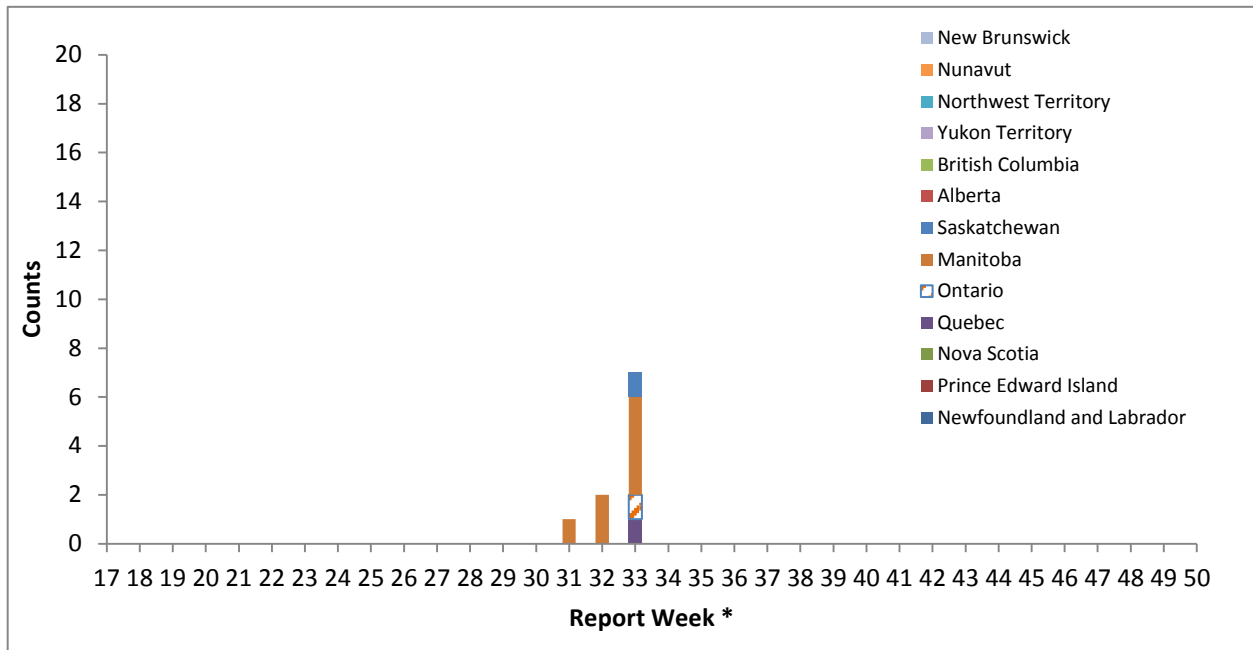
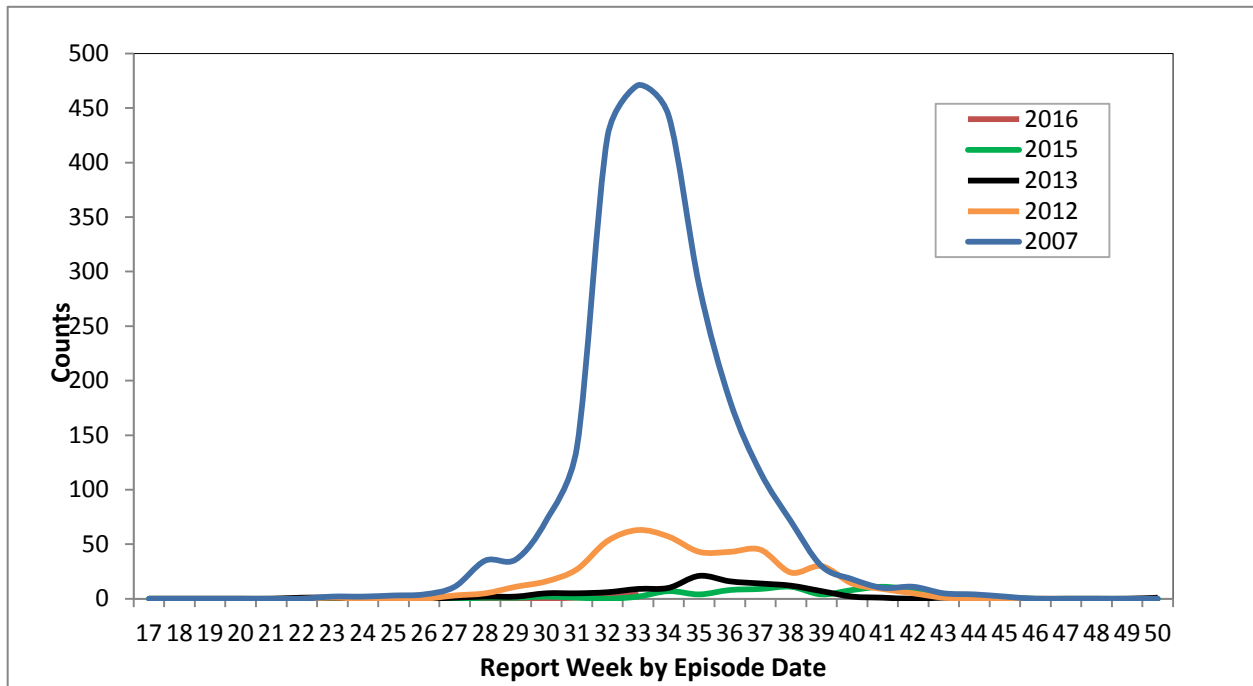


FIGURE 3: WNV Human Clinical cases and Asymptomatic Infections by Report week for selected years, in Canada



*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, 2016 season

	Week 33: August 14 to August 20, 2016					
	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	1	0	0	1	0	0
Ontario	1	0	0	1	0	0
Manitoba	0	0	4	4	0	0
Saskatchewan	0	0	1	1	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	2	0	5	7	0	0

	Year to date: January 1 to August 20, 2016					
	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	1	0	0	1	0	0
Ontario	1	0	0	1	0	0
Manitoba	1	0	6	7	0	0
Saskatchewan	0	0	1	1	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	3	0	7	10	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 and number of positive mosquito pools by Province/Territory, 2016 season

Province	Year to date: January 1 to August 20, 2016 [§]		
	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Quebec	10	477	2.10
Ontario	94	7606	1.24
Manitoba	37	1250	2.96
Saskatchewan	40	481	8.32
Total	181	9814	1.84

[§] In 2016, mosquito surveillance is conducted by the following provinces only: Quebec, Ontario, Manitoba and Saskatchewan

TABLE 3: Number of WNV positive mosquito pools/ Total number of WNV mosquito pools tested by Report week and by Province/ Territory, 2016 season †

Province / Territory	Report week of 2016																				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Newfoundland and Labrador	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Brunswick	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quebec	0	0	0	0	0	0	0	0	0	0	2/59	0/67	0/65	2/78	4/69	2/79	0/60	-	-	-	-
Ontario	0	0/6	0/5	0/12	0/49	0/90	0/190	0/460	0/542	0/562	0/802	1/795	2/688	5/649	20/927	30/947	36/882	-	-	-	-
Manitoba	0	0	0	0	0/4	0/8	0/3	0/17	0/56	0/58	0/69	0/100	4/113	7/192	5/241	6/246	15/143	-	-	-	-
Saskatchewan	0	0	0	0	0	0	0/1	0/9	0/8	0/14	1/26	0/37	0/31	3/62	10/67	16/106	10/117	-	-	-	-
Alberta	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
British Columbia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yukon Territory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northwest Territory	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nunavut	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	0	0/6	0/5	0/12	0/53	0/98	0/194	0/486	0/606	0/634	3/956	1/999	6/897	17/983	39/1305	54/1378	61/1202	-	-	-	-

[†] Detailed West Nile virus mosquito surveillance data can be accessed through Provincial/ Territorial websites.

- These jurisdictions do not maintain regular mosquito surveillance.

FIGURE 4: Reported number of dead birds tested positive for WNV by Province/ Territory and by Report week, 2016 season in Canada

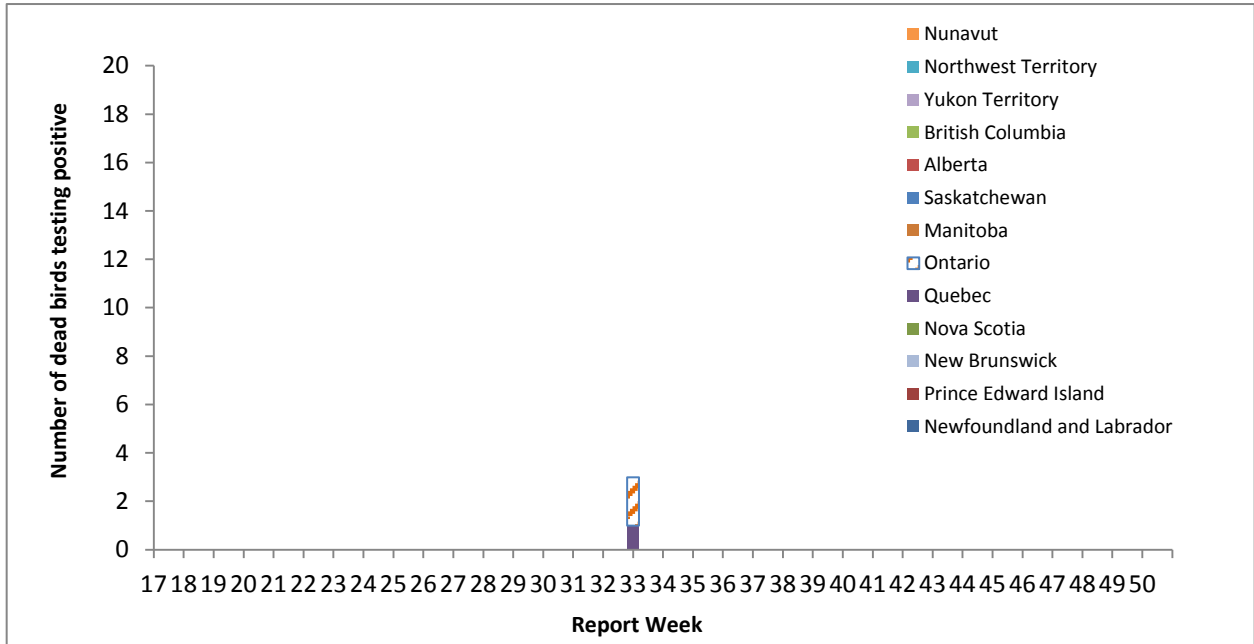
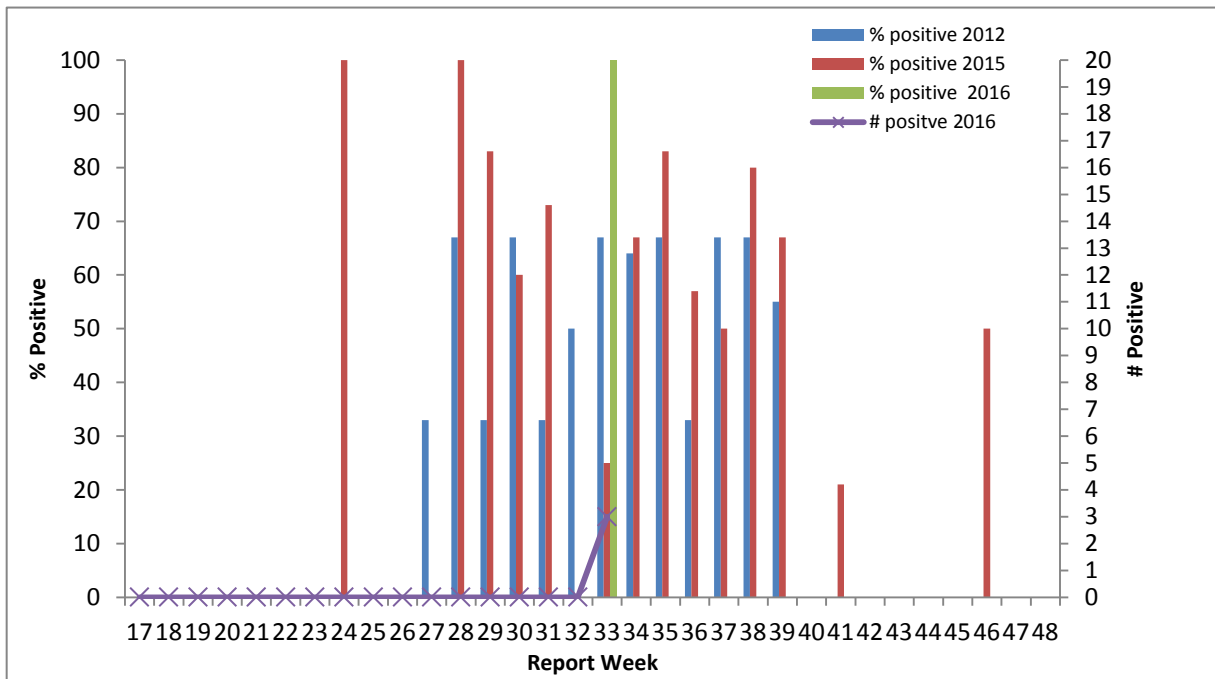


FIGURE 5: Percentage of dead birds tested positive for WNV by Report week in 2012, 2015 and 2016, and number of dead birds tested positive for WNV, by Report week, 2016, in Canada ¶



¶ 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 (CWHC)