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

Canada

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

English Edition

September 4 to September 10, 2016 (Week 36)

Canada

Humans:
During surveillance week 36, ending on September 10, 2016, nine (9) human clinical cases of West Nile virus (WNV) have been reported to the Public Health Agency of Canada (PHAC). Of these, seven cases have been reported in Ontario [Toronto (6) and Niagara (1)] and two cases in Quebec [Montérégie (1), Lanaudière (1)].

As of surveillance week 36, a total of 40 human clinical cases have been reported to PHAC: Alberta (4) [Calgary zone (1) and South zone (3)], Manitoba (17) [Interlake-Eastern (3), Northern (1), Prairie Mountain (2), Southern (6) and Winnipeg (5)], Ontario (13) [Toronto (9), Niagara (3), York (1)], and Quebec (6) [Capitale-Nationale (1), Laurentides (1)*, Laval (2), Montérégie (1), Lanaudière (1)]. Of these, eighteen cases (45%) were classified as West Nile virus Neurological Syndrome, nine cases (22%) as West Nile virus Non-Neurological Syndrome, and thirteen cases (33%) were unclassified. One fatal case has been reported.
In addition, three West Nile virus asymptomatic infections have been reported: Saskatchewan [Mixed-Grass prairie ✕ (1)] and Ontario [Toronto (2)].

Mosquitoes:
As of surveillance week 36, 310 (2.40 %) out of 12,910 mosquito pools have tested positive for WNV in Canada: Saskatchewan (67), Manitoba (39), Ontario (182) and Quebec (22).

Birds:
As of September 10, 2016, the Canadian Wildlife Health Cooperative, the Québec Ministry of Agriculture, Fisheries and Food, and the Québec Centre for Wildlife Health have examined a total of 57 dead birds for WNV: British Columbia (2), Saskatchewan (2), Ontario (46), and Quebec (7), of which 12 (21%) dead birds have tested positive for WNV: British Columbia (2) [Cranbrook], Ontario (5) [Bradford (1), Hamilton (1), Sarnia (1), Thorold (1), Toronto (1)] and Quebec (5) [Estrie (1), Lanaudière (1), Montérégie (2), Saint-Jean-Baptiste (1)] . The positive birds were identified as American Crows (50%), Red- tailed Hawks (17%), Sharp-shinned Hawks (17%), Merlins (8%), and Northern Goshawks (8%).

Domestic Animals:
As of September 10, 2016, the Canadian Food Inspection Agency has reported a total of 29 horses that have tested positive for WNV: British Columbia (8), Alberta (4), Manitoba (9), Ontario (1) and Saskatchewan (7).
In addition, one horse from Berthierville, Québec, has tested positive for Eastern Equine Encephalitis.

United States and U.S. territories
As of September 10, 2016, the Centers for Disease Control and Prevention have reported a total of 662 human clinical cases of West Nile virus disease in 40 states in the US, including the following border states: Washington (3), Idaho (5), Montana (5), North Dakota (11), Minnesota (24), Michigan (11), and Vermont (2). Of these, 323 (49%) were classified as neuroinvasive disease and 339 (51%) were classified as non- neuroinvasive disease. Eighteen fatal cases have been reported. In addition, 120 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 September 10, 2016, a total of 109 human cases of WNV have been reported in the European Union and 145 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

*This case was acquired during WNV season in 2015

✕Sun Country, Regina Qu'Appelle, Five Hills, Cypress, Heartland Health Regions

FIGURE 1: Geographic distribution of WNV in Humans (clinical cases) in Canada, as of September 10, 2016

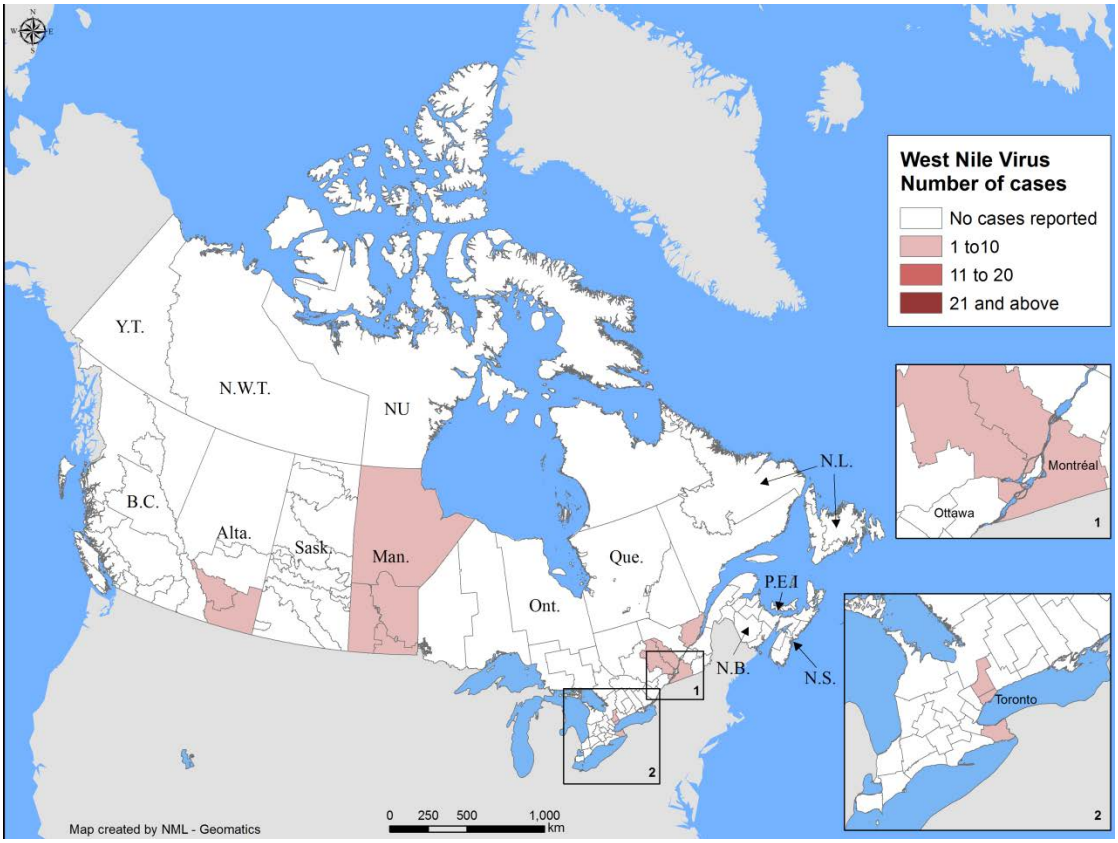


FIGURE 2: WNV Human Clinical cases and Asymptomatic Infections, by Province/ Territory and by Report week, as of September 10, 2016

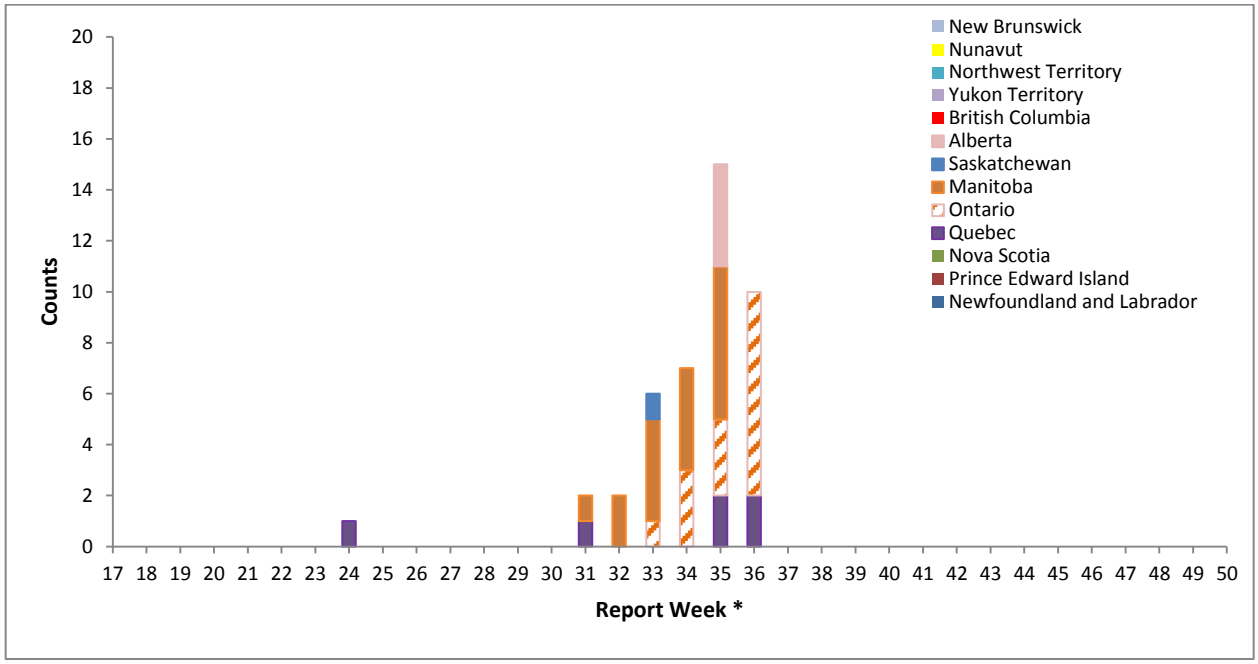
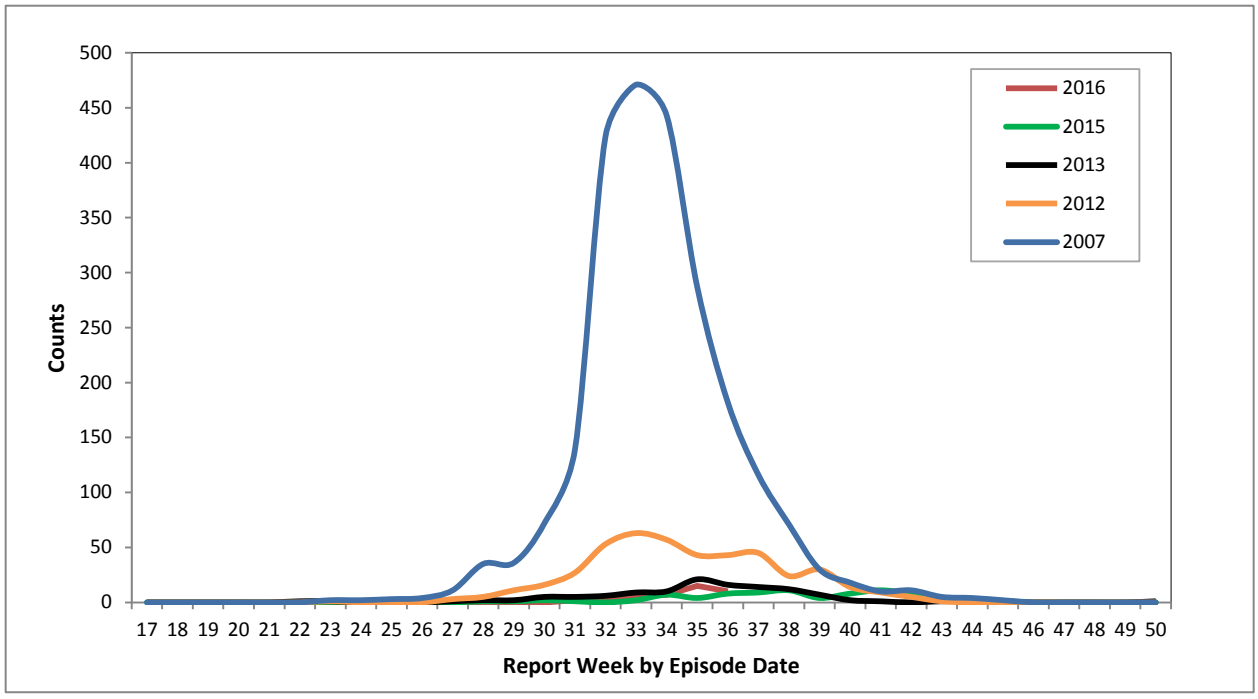


FIGURE 3: WNV Human Clinical cases and Asymptomatic Infections by Report week for selected years, in Canada



*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 36: September 4 to September 10, 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	1	0	2	0	0
Ontario	6	1	0	7	0	1
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	7	2	0	9	0	1

	Year to date: January 1 to September10, 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	5*	1	0	6*	0	0
Ontario	9	3	1	13	0	2
Manitoba	3	2	12	17	0	0
Saskatchewan	0	0	0	0	0	1
Alberta	1	3	0	4	1	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	18	9	13	40	1	3

[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.

* One of the cases was acquired in 2015.

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 September 10, 2016[≈]		
	Number of positive mosquito pools	Number of mosquito pools tested	Percentage of positive mosquito pools (%)
Quebec	22	699	3.15
Ontario	182	10234	1.78
Manitoba	39	1386	2.81
Saskatchewan	67	591	11.34
Total	310	12910	2.40

[≈]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 ǂ

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	38
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	6/76	4/67	2/78	0/61		
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	42/886	29/906	17/836		
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	1/65	1/42	0/29		
Saskatchewan	0	0	0	0	0	0	0/1	0/9	0/8	0/14	1/26	0/37	0/31	3/62	10/68	16/106	31/144	4/55	2/28	NA		
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	88/1245	51/1073	34/1054	17/926		

[ǂ]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

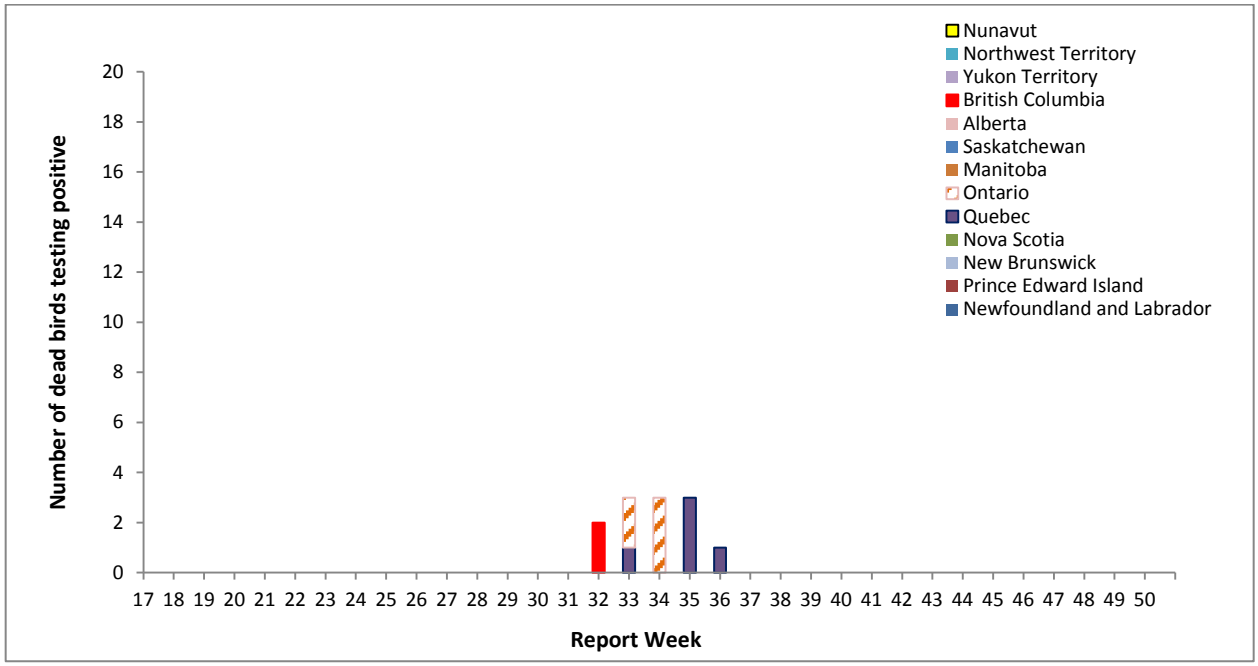
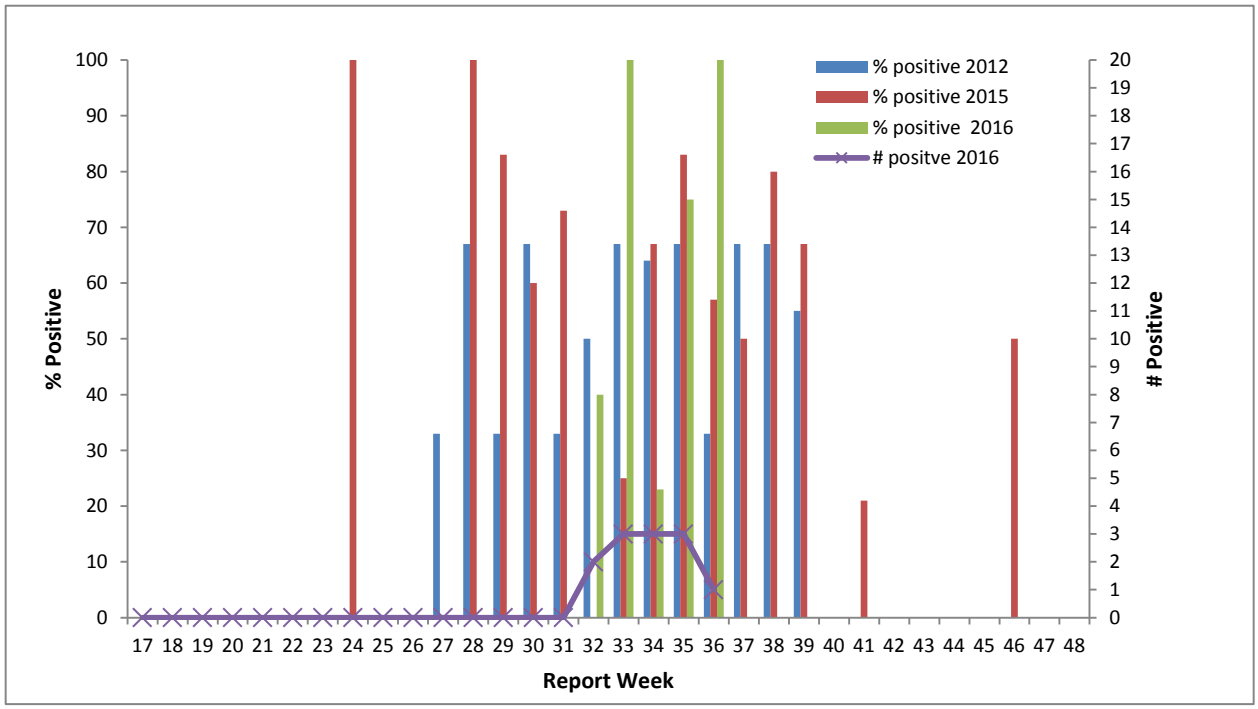


FIGURE 5: Percentage of dead birds tested positive for WNV by Report week in 2012, 2015 and 2016, and number of dead birds tested positive for WNV, by Report week, 2016, in Canada ¶



¶ 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)