

WEST NILE VIRUS AND OTHER MOSQUITO-BORNE DISEASE NATIONAL SURVEILLANCE REPORT

AUGUST 31 TO SEPTEMBER 6, 2014 – REPORT WEEK 36

CANADA

HUMANS:

During surveillance week 36 (August 31 to September 6, 2014), three human clinical cases of West Nile virus were reported in Ontario: Lambton (1), City of Ottawa (1) and City of Toronto (1). Of these, two (66.7%) are clinically classified as West Nile virus neurological syndrome and one (33.3%) as West Nile virus non-neurological syndrome.

As of surveillance week 36, six human clinical cases of West Nile virus have been reported in Canada: two in Manitoba [Prairie Mountain Health Region (1)* and Winnipeg Health Region (1)] and four in Ontario [Lambton (1), City of Ottawa (1), Simcoe-Muskoka District (1) and City of Toronto (1)]. Of these, three (50.0%) are clinically classified as West Nile virus neurological syndrome; two (33.3%) as West Nile virus non-neurological syndrome and one (16.7%) as unclassified/unspecified. In addition, one asymptomatic infection was reported in Ontario (Windsor-Essex County).

* This case was likely exposed prior to the 2014 West Nile virus season.

MOSQUITOES:

As of surveillance week 36, a reported 157 mosquito pools have tested positive for West Nile virus in Canada: 24 in Manitoba [Interlake-Eastern Health Region (7), Prairie Mountain Health Region (1), Southern Health Region (11) and Winnipeg Health Region (5)]; 43 in Ontario [Haliburton-Kawartha-Pine Ridge District (1), Halton Regional (2), City of Hamilton

(7), Lambton (1), Middlesex-London (4), Niagara Regional (2), City of Ottawa (1), Peel Regional (16), City of Toronto (6), Windsor-Essex County (1) and York Regional (2)]; 70 in Quebec [Laval (7), Montérégie (26) and Montreal (37)] and 20 in Saskatchewan.

DEAD BIRDS:

As of surveillance week 36, the [Canadian Wildlife Health Cooperative](#) has tested 92 dead birds for West Nile virus in Canada: Ontario (20), Quebec (13) and Saskatchewan (59). Of these, eight (8.7%) dead birds have tested positive for West Nile virus in Canada: Ontario (4), Quebec (2) and Saskatchewan (2).

DOMESTIC ANIMALS:

As of surveillance week 36, the [Canadian Food Inspection Agency](#) reported nine horses tested positive for West Nile virus in Canada: Alberta (5) and Saskatchewan (4).

UNITED STATES

As of September 2, 2014, the [Centers for Disease Control and Prevention \(CDC\)](#) reported 399 West Nile virus human disease cases:

Arizona (28), Arkansas (2), California (128), Colorado (19), District of Columbia (1), Georgia (6), Idaho (11), Illinois (2), Indiana (2), Iowa (7), Kansas (2), Louisiana (43), Maryland (1), Massachusetts (1), Minnesota (4), Mississippi (15), Missouri (1), Montana (2), Nebraska (17), New Jersey (2), New York (2), North Dakota (4), Ohio (3), Oklahoma (4), Pennsylvania (2), South Dakota (26), Tennessee (3), Texas (49), Utah (1), Washington (4), Wisconsin (3) and Wyoming (4).

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Public Health
Agency of Canada

Agence de la santé
publique du Canada

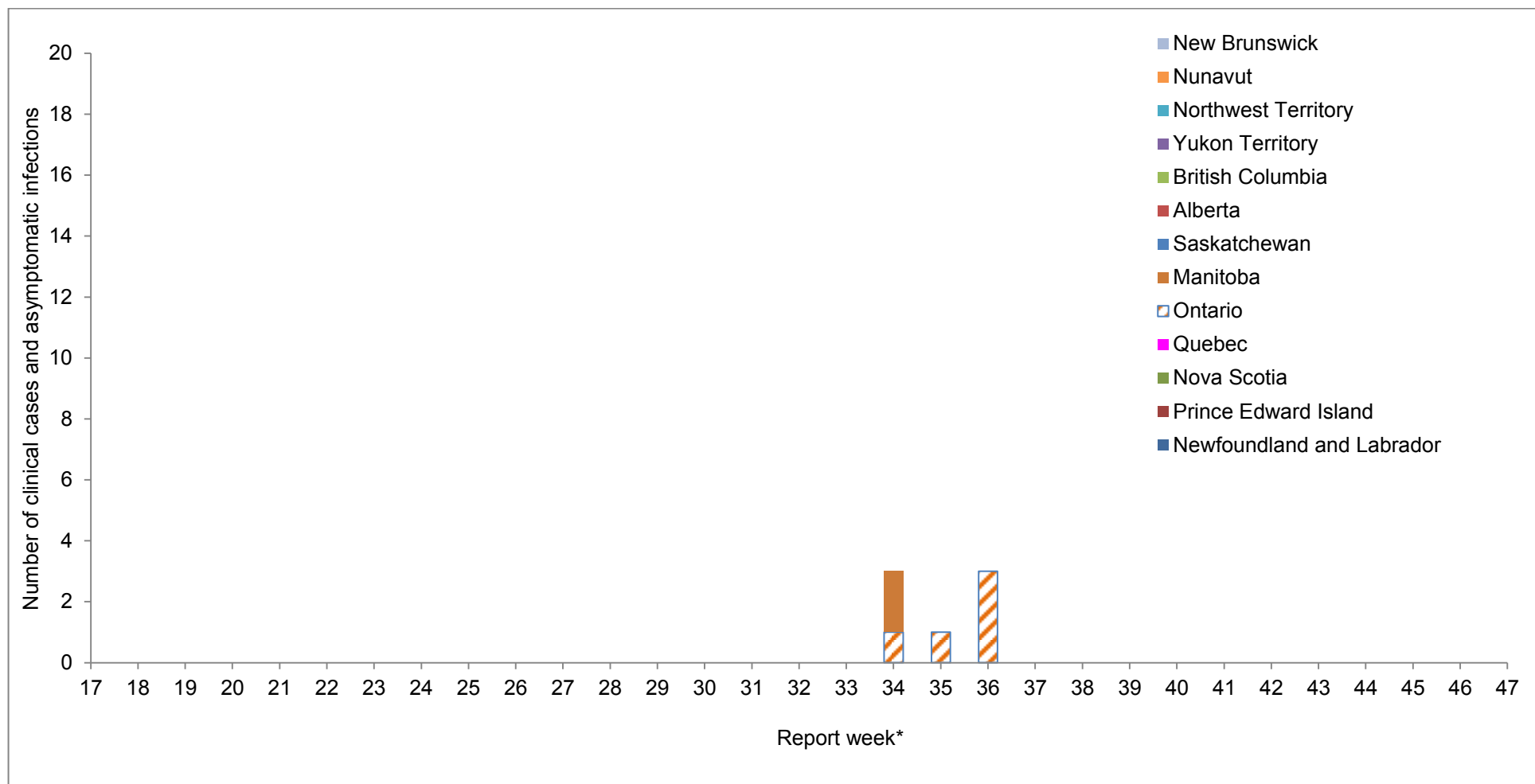
Canada

Of these, 214 (53.6%) were diagnosed as neuroinvasive disease cases and 185 (46.4%) as non-neuroinvasive disease cases. Sixteen fatal cases were reported. One hundred and one presumptive viremic blood donors have been identified.

EUROPEAN UNION, EUROPEAN ECONOMIC AREA AND NEIGHBOURING COUNTRIES

As of September 4, 2014, the [European Centre for Disease Prevention and Control \(ECDC\)](#) reported 10 new West Nile virus human cases in Europe: Hungary (2), Greece (5) and Romania (3). In the neighboring countries, Serbia reported 12 new cases.

As of September 4, 2014, 20 West Nile virus human cases have been reported in Europe: Austria (1), Greece (11), Hungary (2), Italy (1) and Romania (5). Forty-eight human cases have been reported in the neighbouring countries: Bosnia and Herzegovina (13), Israel, Russian Federation (7) and Serbia (26).

FIGURE 1: West Nile Virus clinical cases and asymptomatic infections, by Province/Territory and by report week, 2014 season

* 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 clinical cases and asymptomatic infections, by Province/Territory and by report week, 2014 season

	Report week of 2014																																	
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47			
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
New Brunswick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Ontario	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3														
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2*	0	0														
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Alberta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Yukon Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Northwest Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Nunavut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3*	1	3														

* One of these cases was likely exposed prior to the 2014 West Nile virus season.

TABLE 2: West Nile Virus human clinical cases and asymptomatic infections by Province/Territory for the current report week and year to date, 2014 season

	Week 36: August 31 to September 6, 2014					
	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	2	1	0	3	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	2	1	0	3	0	1

	Year to date: January 1 to September 6, 2014					
	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	2	1	1	4	0	1
Manitoba	1	1**	0	2*	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	3	2*	1	6*	0	1

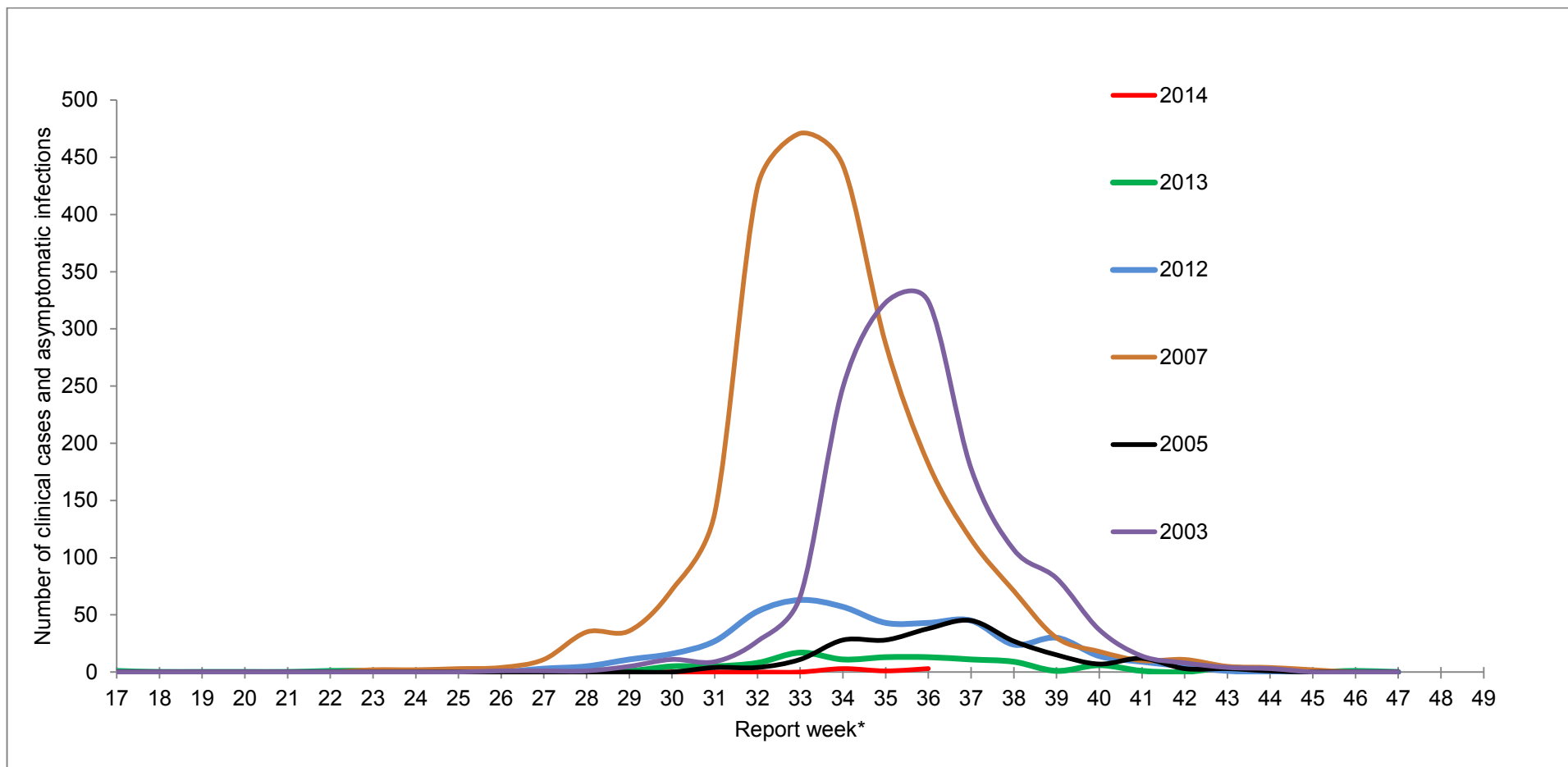
¹ Total clinical cases is the sum of both probable and confirmed: West Nile virus neurological and non-neurological syndromes, along with any unclassified or unspecified cases.

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 these cases was likely exposed prior to the 2014 West Nile virus season.

** This case was likely exposed prior to the 2014 West Nile virus season.

FIGURE 2: West Nile Virus clinical cases and asymptomatic infections by report week for selected years

* 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 3: West Nile Virus clinical cases and asymptomatic infections by report week for selected years

	Report week																															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3*	1	3												
2013	1	0	0	0	0	1	1	0	0	0	1	2	1	5	5	8	17	11	13	13	11	9	1	6	1	0	4	1	0	1	0	0
2012	1	0	0	0	0	0	0	0	0	0	3	5	11	16	27	53	63	57	43	43	45	24	30	14	9	5	1	0	0	0	0	0
2007	0	0	0	0	0	0	2	2	3	4	11	35	36	72	139	424	471	443	287	182	116	71	30	18	10	11	5	4	2	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	11	28	28	38	45	27	15	7	12	3	3	1	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	1	1	1	5	11	9	27	66	249	323	324	178	107	82	37	14	8	4	3	0	0	0	0

* One of these cases was likely exposed prior to the 2014 West Nile virus season.

TABLE 4.1: Reported cumulative number of West Nile Virus positive mosquito pools by Province/Territory and by report week, 2014 season*

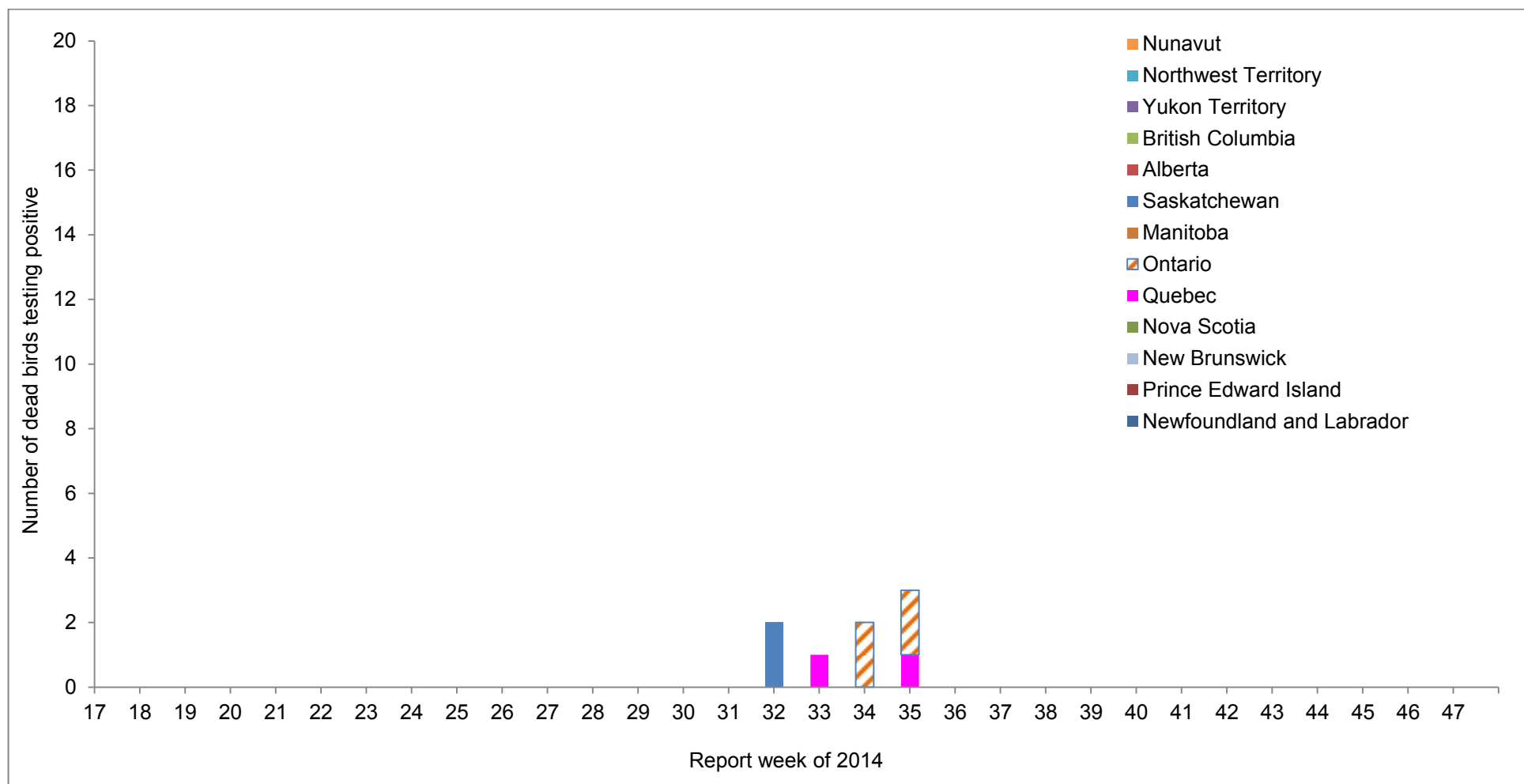
	Report week of 2014																														
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
New Brunswick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	1	4	9	10	19	19**	39	70											
Ontario	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	9	11	13	30	43											
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	14	19	22	24											
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	9	19	20	20											
Alberta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Yukon Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Northwest Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Nunavut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	7	22	28	53	70	111	157											

* Detailed West Nile virus mosquito surveillance data can be accessed through [Provincial/Territorial websites](#).

** Week 34 data was not available at the time of publication.

TABLE 4.2: Number of mosquito pools tested and number of positive mosquito pools by Province/Territory, 2014 season

	Year to date: January 1 to September 6, 2014		
	Number of mosquito pools tested	Number of positive mosquito pools	Percentage of positive mosquito pools (%)
Quebec	8,842	70	0.8
Ontario	11,887	43	0.4
Manitoba	1,489	24	1.6
Saskatchewan	813	20	2.5
British Columbia	220	0	0
Total	23,251	157	0.7

FIGURE 3: Reported number of dead birds testing positive for West Nile Virus by Province/Territory and by report week, 2014 season*

* Data from the [Canadian Wildlife Health Cooperative](#).

TABLE 5: Reported number of dead birds testing positive for West Nile Virus by Province/Territory and by report week, 2014 season*

	Report week of 2014																															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	Total
Newfoundland and Labrador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Prince Edward Island	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
New Brunswick	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Nova Scotia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0												2
Ontario	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0												4
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0												2
Alberta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
British Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Yukon Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Northwest Territory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Nunavut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	3	0												8

* Data from the [Canadian Wildlife Health Cooperative](#).

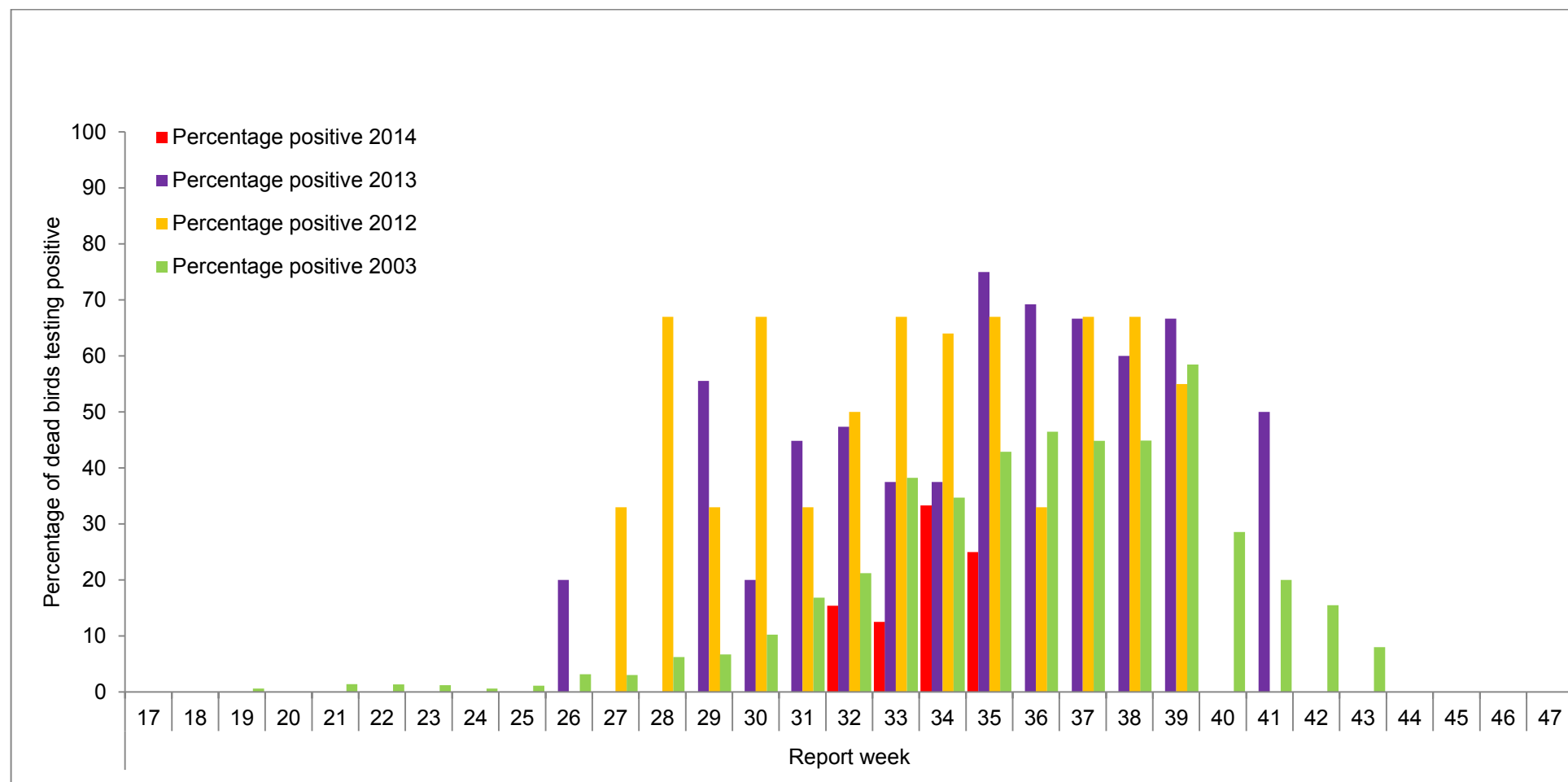
FIGURE 4: Percentage of dead birds testing positive for West Nile Virus in the 2014 season by report week, as compared to the 2003, 2012 and 2013 seasons

TABLE 6: Percentage of dead birds testing positive for West Nile Virus in the 2014 season by report week, as compared to the 2003, 2012 and 2013 seasons

		Report week																														
		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
Numbers positive	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	3	0											
Numbers tested	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	39*	10	13	8	6	12	3											
Percentage positive	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	13	33	25	0											
Numbers positive	2013	0	0	0	0	0	0	0	0	0	1	0	0	5	2	13	9	6	6	18	9	6	6	2	0	1	0	0	0	0	0	0
Numbers tested	2013	0	0	0	1	0	0	0	2	2	5	8	5	9	10	29	19	16	16	24	13	9	10	3	3	2	0	0	0	0	0	0
Percentage positive	2013	0	0	0	0	0	0	0	0	0	20	0	0	56	20	45	47	38	38	75	69	67	60	67	0	50	0	0	0	0	0	0
Percentage positive	2012	0	0	0	0	0	0	0	0	0	0	33	67	33	67	33	50	67	64	67	33	67	67	55	0	0	0	0	0	0	0	0
Percentage positive	2003	0	0	1	0	1	1	1	1	1	3	3	6	7	10	17	21	38	35	43	46	45	45	58	29	20	15	8	0	0	0	0

* Data became available during Week 30; this is a cumulative number of dead birds tested from Week 1 to Week 30.