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

SEPTEMBER 21 TO SEPTEMBER 27, 2014 – REPORT WEEK 39

CANADA

HUMANS

During surveillance week 39 (September 21 to September 27, 2014), no human cases of West Nile virus were reported to the Public Health Agency of Canada.

As of surveillance week 39, 18 human clinical cases of West Nile virus have been reported in Canada: three in Manitoba [Interlake-Eastern Health Region (1), Prairie Mountain Health Region (1)* and Winnipeg Health Region (1)], 10 in Ontario [Chatham-Kent (1), Halton Region (2), Lambton County (1), City of Ottawa (2), Simcoe-Muskoka District (1) and City of Toronto (3)] and five in Quebec [Lanaudière (1), Montérégie (2) and Montreal (2)].

Of the 18 human clinical cases, seven (38.9%) are classified as West Nile virus neurological syndrome, seven (38.9%) as West Nile virus non-neurological syndrome and four (22.2%) as unclassified/unspecified.

One asymptomatic infection has been reported in Ontario: Windsor-Essex County.

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

MOSQUITOES

As of surveillance week 39, a reported 219 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)]; 56 in Ontario [Haliburton-Kawartha-Pine Ridge District (1), Halton Regional (3), City of Hamilton (7), Lambton (1), Middlesex-London (4), Niagara Regional (2), City of Ottawa (3), Peel Regional (22), City of Toronto (10), Windsor-Essex County (1) and York Regional (2)]; 119 in Quebec [Laval (13), Montérégie (42) and Montreal (64)] and 20 in Saskatchewan.

DEAD BIRDS

As of surveillance week 39, the Canadian Wildlife Health Cooperative tested 105 dead birds for West Nile virus in Canada: Ontario (24), Quebec (17) and Saskatchewan (64). Of these, 14 (13.3%) dead birds have tested positive for West Nile virus in Canada: Ontario (6), Quebec (6) and Saskatchewan (2).

DOMESTIC ANIMALS

As of surveillance week 39, the Canadian Food Inspection Agency reported 14 horses have tested positive for West Nile virus in Canada: Alberta (6), Ontario (1), Quebec (1) and Saskatchewan (6).

UNITED STATES

As of September 23, 2014, the Centers for Disease Control and Prevention (CDC) has reported 979 West Nile virus human disease cases:

Alabama (1), Arizona (31), Arkansas (4), California (310), Colorado (79), Connecticut (3), District of Columbia (2), Florida (5), Georgia (8), Idaho (16), Illinois (13), Indiana (3), Iowa (11), Kansas (16),

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Louisiana (87), Maryland (2), Massachusetts (2), Michigan (1), Minnesota (6), Mississippi (38), Missouri (4), Montana (4), Nebraska (69), Nevada (2), New Jersey (3), New Mexico (7), New York (13), North Dakota (17), Ohio (6), Oklahoma (12), Pennsylvania (5), South Carolina (2), South Dakota (45), Tennessee (6), Texas (124), Utah (1), Virginia (3), Washington (8), Wisconsin (5) and Wyoming (5).

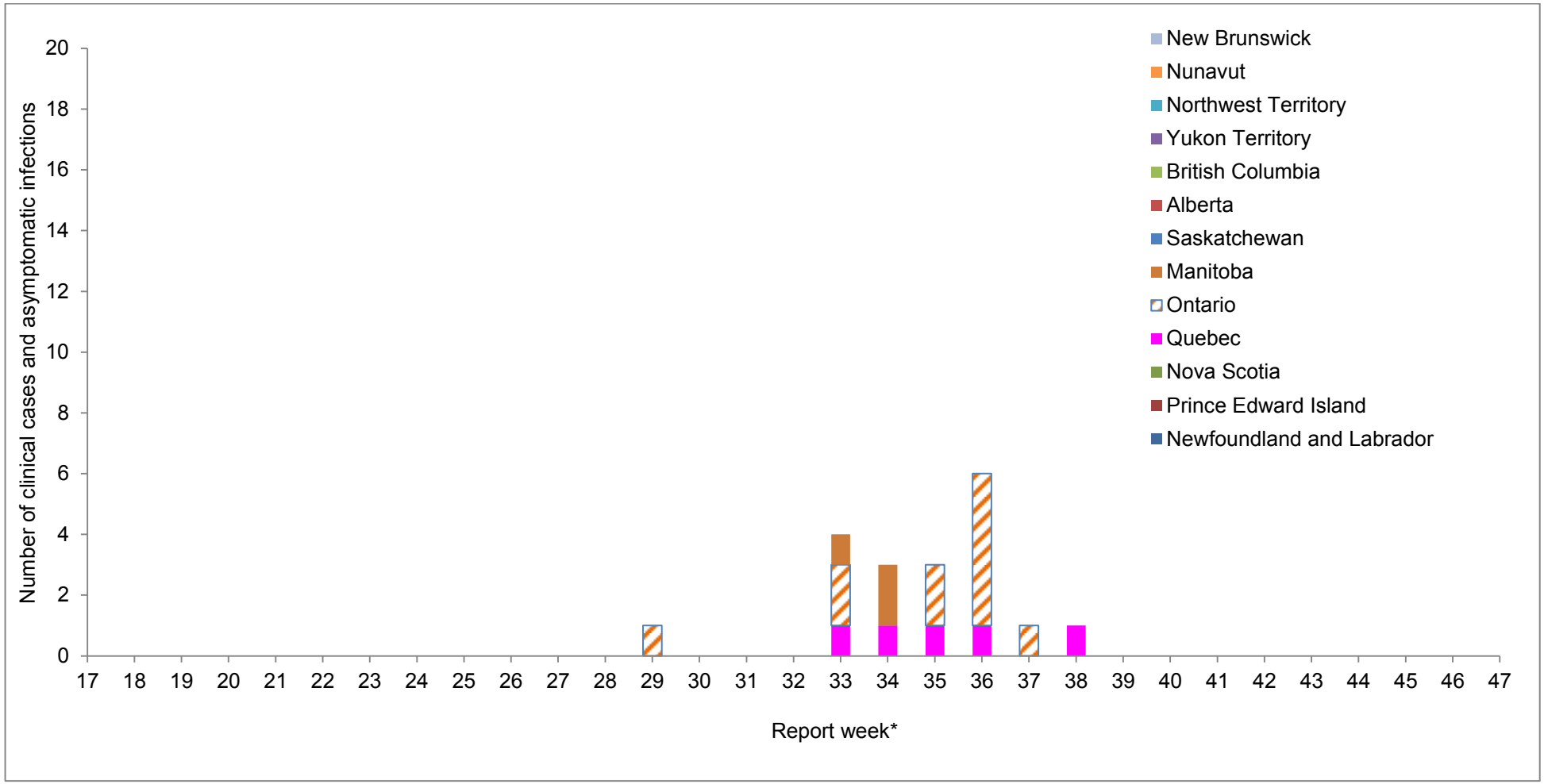
Of these, 544 (55.6%) were diagnosed as neuroinvasive disease cases and 435 (44.4%) as non-neuroinvasive disease cases. Thirty-four fatal cases were reported. Two hundred and two presumptive viremic blood donors have been identified.

EUROPEAN UNION, EUROPEAN ECONOMIC AREA AND NEIGHBOURING COUNTRIES

During surveillance week 39, the European Centre for Disease Prevention and Control (ECDC) reported 13 human cases of West Nile fever in Europe: Hungary (6), Italy (5) and Romania (2). In the neighbouring countries, eight human cases were reported: Russia (1) and Serbia (7).

As of September 25, 2014, 55 human cases of West Nile fever have been reported in Europe: Austria (1), Greece (15), Hungary (8), Italy (14) and Romania (17). In the neighbouring countries, 102 human cases were reported: Bosnia and Herzegovina (13), Israel (2), Russian Federation (29) and Serbia (58).

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	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	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	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	0	0								
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0								
Ontario	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	2	5	1	0	0								
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1**	2	0	0	0	0	0								
Saskatchewan	0	0	0	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	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	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	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	0	0								
Nunavut	0	0	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	1	0	0	0	4*	3	3	6	1	1	0								

* 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.

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 39: September 21 to September 27, 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	0	0	0	0	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	0	0	0	0

	Year to date: January 1 to September 27, 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	4	1	0	5	0	0
Ontario	2	5	3	10	2	1
Manitoba	1	1**	1	3*	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	7*	4	18*	2	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.

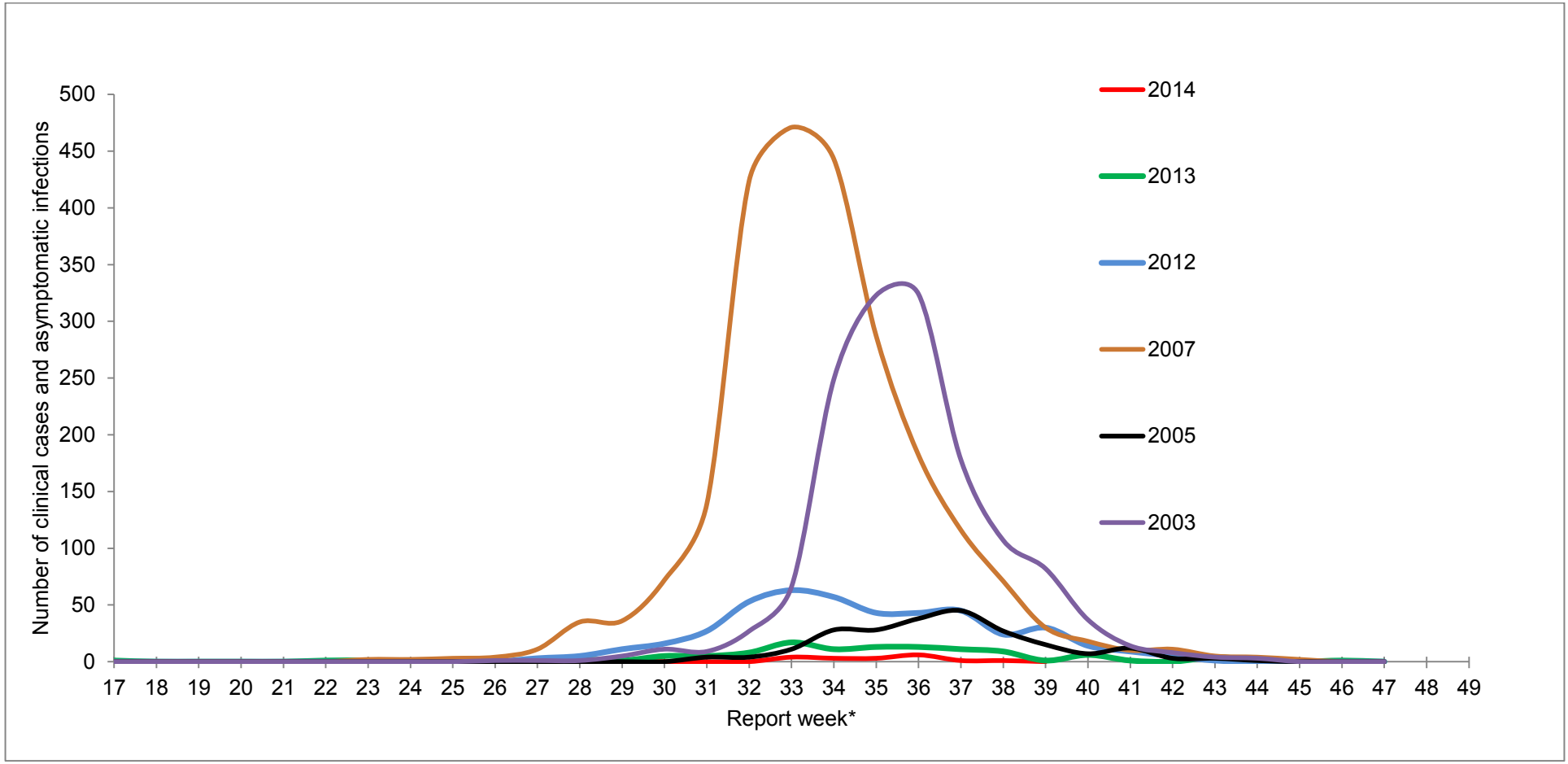
2 Likely related to travel outside the Province/Territory. These cases are included in either the total clinical cases or West Nile virus asymptomatic infections.

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	1	0	0	0	4*	3	3	6	1	1	0								
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
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
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
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
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

* 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	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	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	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	0	0								
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	1	4	9	10	19	19**	39	70	99	112	119								
Ontario	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	9	11	13	30	43	52	56	56								
Manitoba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	14	19	22	24	24	24	24								
Saskatchewan	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	9	19	20	20	20	20	20								
Alberta	0	0	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	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	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	0	0								
Nunavut	0	0	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	1	7	22	28	53	70	111	157	195	212	219								

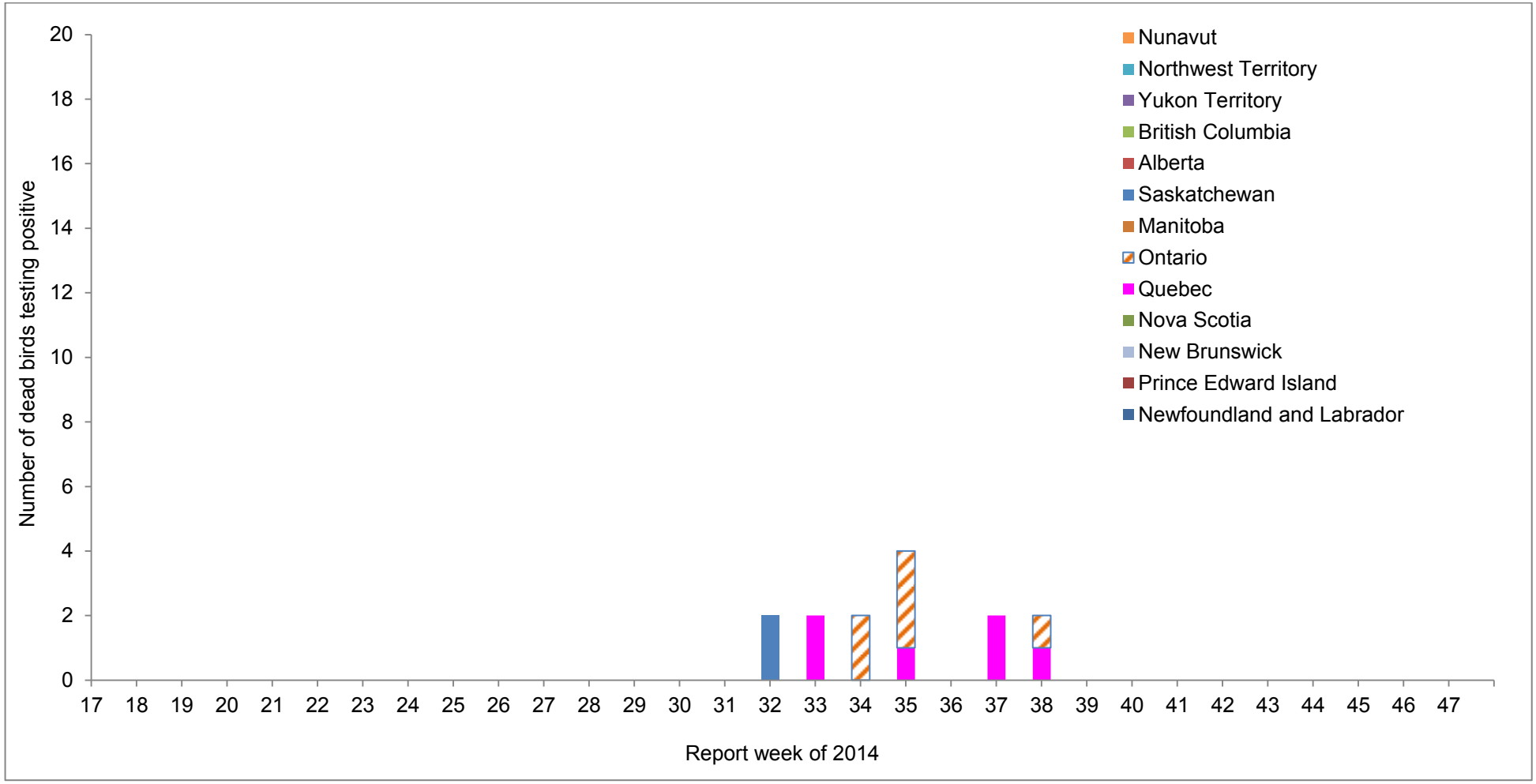
* Detailed West Nile virus mosquito surveillance data can be accessed through Provincial/Territorial websites.

** 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 27, 2014		
	Number of mosquito pools tested	Number of positive mosquito pools	Percentage of positive mosquito pools (%)
Quebec	10,555	119	1.1
Ontario	13,740	56	0.4
Manitoba	1,505	24	1.6
Saskatchewan	824	20	2.4
British Columbia	236	0	0
Total	26,860	219	0.8

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	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	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	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	0	0									0
Quebec	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	2	1	0									6
Ontario	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	1	0									6
Manitoba	0	0	0	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	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	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	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	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	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	0	0									0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	4	0	2	2	0									14

* 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

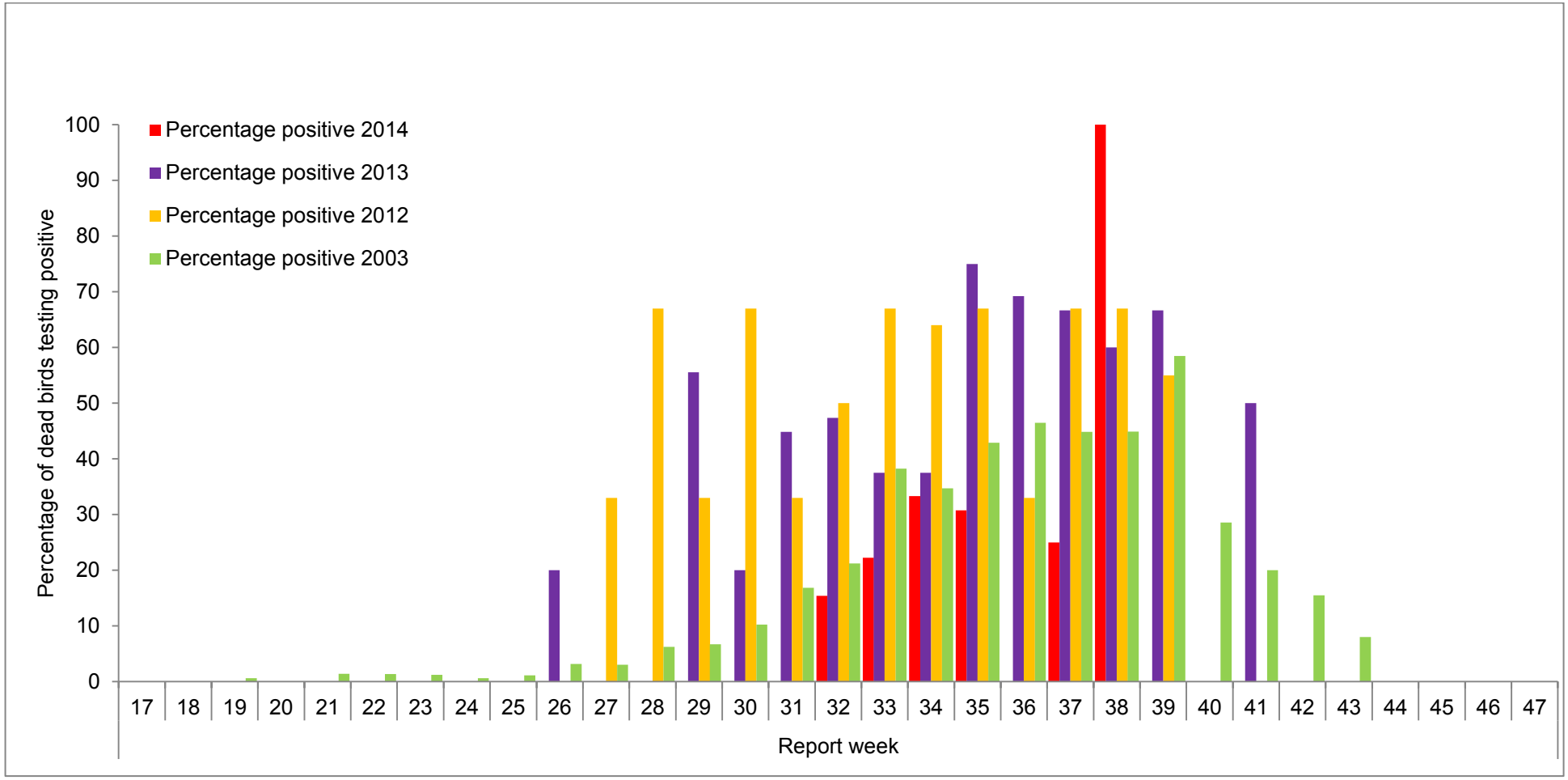


TABLE 6: Percentage of dead birds testing positive for West Nile Virus in the 2014 season by report week, as compared to the 2003, 2012 and 2013 seasons

		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	2	2	4	0	2	2	0								
Numbers tested	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	41*	10	13	9	6	13	3	8	2	0								
Percentage positive	2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	22	33	31	0	25	100	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.