

Risk Assessment

Ontario Regulation 199/03 requires the local Medical Officer of Health (MOH) to conduct a risk assessment of the conditions pertaining to WNV in respective health units. The risk assessment offers guidance to the MOH regarding appropriate WNV reduction activities, including the need for additional mosquito reduction activities. The Region of Peel Public Health Department has an established risk assessment process that has been detailed in the Region of Peel Adulticiding Plan¹¹.

From May to October, Peel Public Health's West Nile Virus Working Group carried out a weekly risk assessment based on surveillance information collected during that week to identify the relative risk of human infection in Peel Region. The working group consisted of staff from various programs including environmental health, communications, epidemiology, and communicable disease. Various surveillance factors that influence the risk of WNV infection were evaluated. These factors included:

- Seasonal temperatures
- Adult mosquito vector abundance
- Virus isolation rate in vector mosquito species
- Human cases of WNV
- Local WNV activity (bird, equine, mosquito)
- Time of year
- WNV activity in proximal urban or suburban regions

Each surveillance factor was assigned a score based on the observations of the previous week. The WNV Mosquito Adulticiding Risk Assessment form was completed weekly (Appendix E) and when the risk assessment level exceeds a value of three, a decision tree process was invoked where by continued surveillance and the possibility of adulticiding were considered. Figure 28 presents the 2005 weekly risk assessment values and compares them with the values from 2004 (data on years prior to 2004 are unavailable). The 2005 risk level exceeded the corresponding 2004 risk level for all weeks except week 34. This observation, in any one week, might be due to a number of factors. An analysis of which surveillance factor(s) in the risk assessment evaluation had a greater influence on risk levels from week to week has not been conducted.

Figure 28 Weekly Risk Level Comparison - Region of Peel, 2004-2005

