

08/17/09

Table 1. Mosquito-borne Virus Risk Assessment.

WNV Surveillance Factor	Assessment Value	Benchmark	Assigned Value	
1. Environmental Conditions High-risk environmental conditions include above-normal temperatures with or without above-normal rainfall, runoff, or snowpack. Weather data link: http://ipm.ucdavis.edu	1	Avg daily temperature during prior 2 weeks $\leq 56^{\circ}\text{F}$		
	2	Avg daily temperature during prior 2 weeks $57 - 65^{\circ}\text{F}$		
	3	Avg daily temperature during prior 2 weeks $66 - 72^{\circ}\text{F}$		
	4	Avg daily temperature during prior 2 weeks $73 - 79^{\circ}\text{F}$	4	
	5	Avg daily temperature during prior 2 weeks $> 79^{\circ}\text{F}$		
			<i>Cx tars</i>	<i>Cx pip</i>
2. Adult <i>Culex tarsalis</i> and <i>Cx. pipiens</i> complex relative abundance* Determined by trapping adults, enumerating them by species, and comparing numbers to those previously documented for an area for the prior 2-week period.	1	Vector abundance well below average ($\leq 50\%$)		
	2	Vector abundance below average ($51 - 90\%$)		
	3	Vector abundance average ($91 - 150\%$)	3	3
	4	Vector abundance above average ($151 - 300\%$)		
	5	Vector abundance well above average ($> 300\%$)		
3. Virus infection rate in <i>Culex tarsalis</i> and <i>Cx. pipiens</i> complex mosquitoes* Tested in pools of 50. Test results expressed as minimum infection rate per 1,000 female mosquitoes tested (MIR) for the prior 2-week period.	1	MIR = 0		
	2	MIR = 0.1 - 1.0	2	2
	3	MIR = 1.1 - 2.0		
	4	MIR = 2.1 - 5.0		
	5	MIR > 5.0		
4. Sentinel chicken seroconversion Number of chickens in a flock that develop antibodies to WNV during the prior 2-week period. If more than one flock is present in a region, number of flocks with seropositive chickens is an additional consideration. Typically 10 chickens per flock.	1	No seroconversions in broad region		
	2	One or more seroconversions in broad region	2	
	3	One or two seroconversions in a single flock in specific region		
	4	More than two seroconversions in a single flock or two flocks with one or two seroconversions in specific region		
	5	More than two seroconversions per flock in multiple flocks in specific region		
5. Dead bird infection Number of birds that have tested positive for WNV during the prior 3-month period. This longer time period reduces the impact of zip code closures during periods of increased WNV transmission.	1	No positive dead birds in broad region		
	2	One or more positive dead birds in broad region		
	3	One positive dead bird in specific region		
	4	Two to five positive dead birds in specific region	4	
	5	More than five positive dead birds in specific region		
6. Human cases Do not include this factor in calculations if no cases are detected in region.	3	One or more human cases in broad region		
	4	One human case in specific region		
	5	More than one human case in specific region		
			<i>Cx tars</i>	<i>Cx pip</i>
Response Level / Average Rating:				
Normal Season (1.0 to 2.5)				
Emergency Planning (2.6 to 4.0)				
Epidemic (4.1 to 5.0)				
		TOTAL	15	15
		AVERAGE	3.0	3.0

* Calculation of separate risk values for *Cx. tarsalis* and the *Cx. pipiens* complex may be useful if their spatial distributions (e.g., rural vs. urban) differ within the assessment area.