

# SAC-40LO RISK ASSESSMENT

AS OF 07/09/09

Table 1. Mosquito-borne Virus Risk Assessment.

| WNV Surveillance Factor   | Assessment Value | Benchmark  | Assigned Value |         |
|---|------------------|--|----------------|---------|
|   |                  |  | Cx tars        | Cx pip  |
| <b>1. Environmental Conditions</b><br>High-risk environmental conditions include above-normal temperatures with or without above-normal rainfall, runoff, or snowpack. Weather data link: <a href="http://ipm.ucdavis.edu">http://ipm.ucdavis.edu</a>   | 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 $> 79^{\circ}\text{F}$  |                |         |
|   |                  |  | Cx tars        | Cx pip  |
| <b>2. Adult <i>Culex tarsalis</i> and <i>Cx. pipiens</i> complex relative abundance*</b><br>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 ( $> 300\%$ )  |                |         |
| <b>3. Virus infection rate in <i>Culex tarsalis</i> and <i>Cx. pipiens</i> complex mosquitoes*</b><br>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  |                | 1       |
|   | 2                | MIR = 0.1 - 1.0  | 2              |         |
|   | 3                | MIR = 1.1 - 2.0  |                |         |
|   | 4                | MIR = 2.1 - 5.0  |                |         |
|   | 5                | MIR $> 5.0$  |                |         |
| <b>4. Sentinel chicken seroconversion</b><br>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                                    |                |         |
| <b>5. Dead bird infection</b><br>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  |                |         |
| <b>6. Human cases</b><br>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  |                |         |
|   |                  |  | Cx tars        | Cx pip  |
| <b>Response Level / Average Rating:</b>   |                  |  |                |         |
| Normal Season (1.0 to 2.5)  |                  |  | TOTAL          | 15 14   |
| Emergency Planning (2.6 to 4.0)   |                  |  | AVERAGE        | 3.0 2.8 |
| Epidemic (4.1 to 5.0)   |                  |  |                |         |

\* 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.