

City of St. Charles Mosquito Program

For over thirty-five years, the City has provided services related to mosquito control throughout the community. The program is administered by Clarke Environmental. Clarke utilizes an extensive mapping system and information database to execute a program that includes larvicide treatments, adult traps, lab analysis, and, if necessary, community-wide adult treatment.

The primary focus of the program is on monitoring and larval treatment.

Surveillance and Monitoring

Floodwater Mosquito Migration Model: Clarke uses weather data and a computer model to predict the arrival of *Aedes vexans* brood (hatch) and peak annoyance periods.

Within the City, Clarke operates five traps. One trap, the Gravid Trap, collects *Culex* mosquitoes. The mosquitoes are collected, identified to species, and pooled for disease assay. Samples are tested at Clarke laboratories utilizing P.C.R. technology for West Nile Virus.

In addition to the Gravid Trap, Clarke utilizes four New Jersey Light Traps (one in each quadrant of the City) to monitor and evaluate adult mosquito activity.

Larval Control

Clarke uses the Targeted Mosquito Management System (TMMS) computer database and site management to identify and inspect potential mosquito breeding areas throughout the City. These sites are inspected a minimum of three times per season. In addition to sites identified through the TMMS, Clarke inspects sites called in by residents through the Mosquito Hotline.

Prescription Larval Control treatments are performed with *Bacillus sphaericus*, *Bacillus thuringiensis israelensis* – Bti, methoprene, temephos, and/or Natular (Spinosad) mosquito larvicide as described below.

- Larval Control: The program provides all sites found breeding a single brood or 30-day residual product with backpack or hand equipment.
- Helicopter Pre-hatch: Three treatments using a 30-day residual product of all acres for floodwater mosquito control.
- Catch Basins: One treatment of all catch basins, inlets and manholes using an extended residual slow-release insecticide for up to 150-day control.

Adult Control

Adult mosquito control is not part of the base scope of services that Clarke performs for the City. Generally, adult control is only performed as a result of West Nile Virus detected in/around the City and is performed in conjunction with adult treatments in neighboring jurisdictions.

Adult mosquito control is performed using Biomist mosquito adulticides.

Clarke also maintains the Mosquito Hotline to offer a comprehensive customer service portal to the City's residents. Residents can reach out directly to Clarke through the hotline at 800-942-2555. This line can be used to report high mosquito activity, report standing water, or sign up to receive advance notification calls before Clarke conducts mosquito treatment in the community.