



Mosquitoes Surveillance and Control



(510) 567-6800 • www.acvcgsd.org

Alameda County Department of Environmental Health

Larvae and adults

Regular surveillance of both immature and adult mosquitoes is important because it provides us with information that is crucial to an effective control program. Our surveillance program determines where, when, how many, and which species of mosquito we are likely to encounter.

We routinely conduct larval surveillance within the City of Albany boundaries. This is accomplished with a dipper, a plastic cup attached to the end of a thin pole. Larval breeding areas are sampled by dipping the cup into the water and inspecting it for mosquito larvae. Inspections are performed on several types of sources, including marshes, ditches, creeks, canals, catch basins, neglected fish ponds or hot tubs. For adult mosquitoes, a specialized trap called an EVS (encephalitis vector surveillance) trap is used. These battery powered devices use dry ice (frozen carbon dioxide) as an attractant, and operate a fan that collects live adult mosquitoes into a bag. The District currently has 11 regular locations throughout Albany where adult surveillance occurs. Each location is trapped every two weeks, from March through October. The most commonly encountered mosquito species in Albany are *Culiseta incidens*, *Culex tarsalis*, and *Culex pipiens*.



Invasive mosquitoes

Our District participates with other State mosquito and vector control districts in implementing a surveillance program for two invasive (nonnative) mosquitoes, *Aedes aegypti* and *Aedes albopictus*. Because of their unique behavior, these two species require specialized traps, which are strategically placed within City boundaries. These traps either collect the live eggs produced by an adult, or trap a water-seeking adult onto a sticky band.

Dead birds

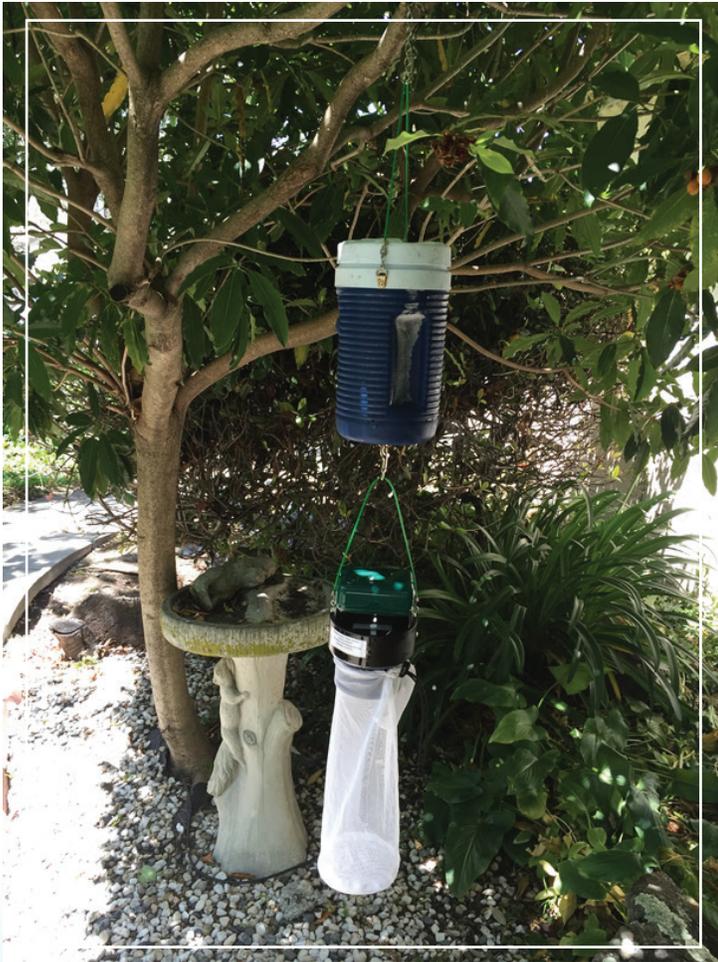
Mosquito control is accomplished using an integrated approach. This means that least toxic methods are always utilized first. When appropriate, education of home owners and the dumping and draining of stagnant water are employed. For back yard fish ponds, we may deliver mosquito fish (*Gambusia affinis*) to control larval mosquitoes.



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For those sources that require a treatment, products that specifically target the mosquito biology in the immature stages are used. These are naturally-based substances and have minimal environmental impact. One group is derived from a type of bacteria called Bacillus, and include Bacillus thuringiensis israelensis and Bacillus sphaericus. These materials act as stomach poisons on feeding larvae. Another type of product that may be used is an insect growth regulator, called methoprene. This mimics a specific mosquito hormone and prevents the pupating mosquito from emerging as a normal functional adult. Methoprene is absorbed directly into the body of the mosquito, and must be applied during the correct larval stage in order to be effective. Any of these materials may be applied in a liquid, granular, or “briquette” form.



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