

# OCWD Controls Midge Flies Along the Santa Ana River



Orange County Water District (OCWD; the District) is responsible for managing the vast groundwater basin that provides 77 percent of northern and central Orange County's drinking water. As part of its groundwater management, OCWD manages a six-mile stretch of the Santa Ana River and maintains one of the world's most advanced aquifer recharge systems located primarily in the cities of Anaheim and Orange.

## What is a midge fly?

Orange County residents living near ponds, lakes, flood channels and the Santa Ana River are frequently annoyed by swarms of small flies that resemble mosquitoes, but do not bite. These non-biting flies, called midges, belong to the family Chironomidae. Unlike mosquitoes, midges are incapable of biting and do not transmit bloodborne pathogens. Other characteristics that separate midges from mosquitoes are their overall smaller size, shorter scale-free wings that do not cover the bottom segments of their abdomen and elongated front legs. In addition, many midge species rest with their front legs extended and wings spread in a "V" pattern.



## Control methods

Because midge flies are not vectors of disease and do not pose any health risks, they are outside the jurisdiction of the Orange County Mosquito and Vector Control District. Recognizing that no-action is not an acceptable alternative when considering the nuisance of these bugs, OCWD developed a program to control midge flies that include the following elements:

- When possible, the river bottom is scraped clear of vegetation, eliminating the breeding sites for the flies. While this method provides short-term relief, it is not an option during nesting season because of a need to preserve vegetative habitat for bird species that occupy trees, plants and shrubs near the

running river. OCWD, like any responsible agency in charge of a vast natural environment operates under considerable environmental restrictions that limit actions relative to the destruction of riparian plants.

## Control methods (cont.)

- ◆ The establishment of “runners” in the river bottom is employed when possible. District heavy equipment operators channelize the flow in the river to one side and later redirect it to the other. This occasional back and forth redirection of the flow can alternatively “dry up” the midge fly larva and control them to some degree.
- ◆ The most promising approach has been the adoption of a natural biological control using Tree Swallows. Along the river OCWD installed hundreds of nest boxes for the Tree Swallows that are mounted atop fences, in trees and on metal poles. These birds are voracious eaters of midge flies. Each bird box family is responsible for consuming hundreds of thousands of flying insects each season. While it is not reasonable to expect that these birds can completely control the problem, it has been estimated that they are at least as effective as the historic use of pesticides.

OCWD does not use chemical insecticides to control midge flies. Chemical insecticides do not attach to the breeding sites on aquatic plants and have limited effect on the flies. In addition, the use of waterborne chemical insecticides in Santa Ana River water is unacceptable from a water quality perspective. Virtually all Santa Ana River water is captured before reaching the ocean and percolated into the underlying drinking water aquifers.

## What you can do

Although residents and businesses cannot completely control midges coming from other areas there are a number of ways to make your property less desirable to these nuisance insects.

- ◆ Install tightly woven screens onto windows to help prevent entry
- ◆ Locate external lighting sources away from doors and windows to draw midges away from these areas, or use yellow colored outdoor lights



Midge flies will always be an issue near flood control facilities, the Santa Ana River and other water bodies. The District understands this nuisance and is committed to control the flies to the best of our abilities while working within the water quality and environmental constraints presented to us. For additional information, please contact OCWD at (714) 378-8244 or [info@ocwd.com](mailto:info@ocwd.com).

### Additional resources

Orange County Vector Control District - [www.ocvector.org](http://www.ocvector.org)

Animal Diversity Web - [animaldiversity.org/accounts/Chironomidae](http://animaldiversity.org/accounts/Chironomidae)