

## **Mosquito Control FAQs**

### **What is "mosquito control"?**

Mosquito control is the process of actively reducing the number of mosquitoes in a certain area. Comprehensive mosquito control can use one or more approaches that target the different environments where mosquitoes live and life stages of the mosquito (egg, larva, pupa, and adult).

### **Why should mosquitoes be controlled?**

The most important reason to control mosquitoes is to reduce the likelihood of diseases being transmitted to people through mosquito bites. Mosquitoes can transmit viruses such as West Nile virus (WNV), dengue, and Zika, as well as the parasite that causes malaria.

Throughout history, no insect has been a more significant contributor to human discomfort, disease, and death than the mosquito. Even mosquitoes that do not transmit disease can be a significant nuisance because of their biting behavior. In severe instances, nuisance mosquitoes can be economically damaging to businesses and can reduce the quality of life for people living in areas affected by mosquitoes. Mosquitoes are common throughout California – several kinds of mosquito in California bite and attack humans, and some can spread WNV when they bite.

### **How are mosquitoes controlled?**

Most mosquito control programs reduce mosquito populations through an approach known as [Integrated Mosquito Management \(IMM\)](#), or sometimes referred to as Integrated Vector Management (<https://www.cdc.gov/mosquitoes/mosquito-control/professionals/integrated-mosquito-management.html>). An IMM program can target the different life stages of a mosquito, but IMM is primarily intended to prevent as many immature mosquitoes as possible from becoming biting adults.

More than 70 local mosquito and vector control agencies have been established in California. Together, these local agencies cover approximately 60,000 square miles and protect more than 90% of California residents. These agencies monitor and control larval (immature) and adult (mature) mosquito populations and conduct surveillance to detect mosquito-borne virus activity. Agencies provide information about mosquito control to the local communities they serve. The type of activities within each program vary according to their location, climate, and available resources. Some areas in California are not within the jurisdiction of an established mosquito control program.

### **How and where do mosquitoes develop?**

Mosquitoes require water for the immature life stages to develop. Any source of standing water, from something the size of a soda bottle cap to an untreated swimming pool, can produce mosquitoes. In their mature, adult stage, mosquitoes are often found in cooler, humid, shady areas, away from hot, dry air that makes it harder for them to survive. This means mosquitoes are often found in cooler, shady areas in people's yards and gardens – areas where people also like to spend time.

## **Do all mosquitoes bite?**

Only adult female mosquitoes bite. Female mosquitoes use the protein in blood to produce eggs. Not all species of mosquitoes bite humans – some species prefer birds, other large mammals, or even frogs and snakes. During the larval and pupal (immature) stages of life that develop in water, mosquitoes feed on algae and other small organic matter.

Remember that mosquitoes are not the only small, flying insects that bite! Other small and biting insects that are commonly mistaken for mosquitoes include midges (“no-see-ums”) and black flies.

## **How far do mosquitoes fly?**

Depending on the species of mosquito and environmental factors (such as temperature and wind), mosquitoes typically fly between a few hundred yards up to two miles from the water source where they developed. Some mosquitoes in California are known to fly 10 miles or more.

## **Can we eliminate mosquitoes completely?**

No, mosquitoes live in many different habitats, and it is impossible to find and treat all the places where they breed to eliminate them. Mosquito control is not intended to eliminate all mosquitoes. The goal of a mosquito control program is to reduce adult mosquito populations to a level that minimizes the risk of people and animals getting sick from diseases transmitted by mosquitoes. Mosquito control also aims to reduce mosquito biting within communities so that residents can enjoy being outside without the extreme nuisance of biting mosquitoes.

## **How can I help control mosquitoes in my yard and neighborhood?**

To reduce the number of mosquitoes in your neighborhood, it is important to remove any standing water (from rain or irrigation) from your home and yard. Cleaning rain gutters, turning over buckets, and draining wading pools are important actions, but there are other, less obvious places that mosquito larvae can develop. Flowerpots, covered and uncovered boats, bird baths, trash and recycle bins, old tires, and irrigation control boxes are all commonly overlooked as potential larval mosquito habitat in people's yards. Thinning shrubs and cutting down tall grass and weeds can also help reduce the number of mosquitoes in your yard.

## **Why am I getting mosquito bites during the daytime?**

Some species of mosquitoes actively seek a blood meal during the daytime; others will bite during the daytime if you disturb them. Daytime biting mosquitoes include invasive species that have recently been expanding their distribution in California. For more information, see the [California Department of Public Health \(CDPH\) \*Aedes aegypti\* and \*Aedes albopictus\* Mosquitoes webpage](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Aedes-aegypti-and-Aedes-albopictus-Mosquitoes.aspx) (<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Aedes-aegypti-and-Aedes-albopictus-mosquitoes.aspx>), and contact your local mosquito control agency to report daytime biting mosquitoes. However, the mosquitoes that currently transmit WNV in California are much more active and aggressive around dawn and dusk, especially the two hours immediately following sunset.

## **What can I do to reduce the chances of getting West Nile virus or another disease spread by mosquitoes?**

The best way to reduce your chances of getting a disease spread by mosquitoes is to personally protect yourself from mosquito bites. No amount of mosquito control can completely prevent diseases associated with mosquitoes, but taking simple precautions makes a big difference in the likelihood of getting WNV or other mosquito-borne diseases.

- Remove all sources of standing water on your property because standing water provides a place for mosquitoes to develop.
- Avoid spending time outside when mosquitoes that spread WNV are most active, especially at dawn and dusk.
- When you go outside (especially at dawn and dusk), apply a U.S. Environmental Protection Agency (EPA)-registered insect repellent containing DEET, picaridin, oil of lemon eucalyptus, or IR-3535 to your clothes and exposed skin.
- Make sure window screens on your home or living space are well-maintained and free of holes to keep mosquitoes outside.

These simple actions will help keep you and your family from getting bitten by mosquitoes that may be carrying WNV.

For more information on insect repellents, visit the [CDPH Insect Repellent Toolkit](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Dont-Give-Bugs-a-Biting-Chance.aspx) (<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Dont-Give-Bugs-a-Biting-Chance.aspx>) or the [EPA Repellents webpage](https://www.epa.gov/insect-repellents) (<https://www.epa.gov/insect-repellents>).

## **Who should I contact if I have a mosquito problem?**

Local mosquito and vector control agencies are the best place for most California residents to get help with a mosquito problem. To find the name and phone number of the local agency serving your region, go to the [California WNV website](http://westnile.ca.gov) (<http://westnile.ca.gov>) and click on the button "Look Up Local Vector Control Agency". In addition, the [Mosquito and Vector Control Association of California \(MVCAC\) website](https://www.mvcac.org/about/member-agencies/) provides links to many member agencies (<https://www.mvcac.org/about/member-agencies/>).

## **Where can I get more information about mosquitoes, mosquito control, and West Nile virus?**

More information about mosquitoes and mosquito-transmitted diseases is available from your local mosquito and vector control agency, local health department, and on the [California WNV website](http://westnile.ca.gov).

Information on mosquito control products is available on the [EPA Mosquito Control website](https://www.epa.gov/mosquitocontrol) (<https://www.epa.gov/mosquitocontrol>).

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