

## EXAMPLES OF SEPTICS WHERE MOSQUITOES ARE REPRODUCING



This is an example of a septic lid that is not sealed properly. Mosquitoes can easily enter through the gap.



This septic is beginning to cave in and is not only a safety hazard, it allows access for mosquitoes.



In this example the plastic does not cover the entire top of the septic. Additional sand should be used to cover the tarp as well.



This is an example of a makeshift lid. The plywood has become warped and doesn't allow for a proper seal. The lid should be replaced with the recommended cover for this style septic tank.

## FACTS ABOUT MOSQUITOES

1. All mosquitoes need water to complete their life cycle.
2. There are over **20** different types of mosquitoes in Marin and Sonoma counties.
3. Only the female mosquito bites to obtain a blood meal. The male mosquito feeds on plant juices.
4. The female mosquito may live as long as three weeks during the summer or many months over the winter in order to lay her eggs the following spring.



## OUR MISSION

The Marin/Sonoma Mosquito and Vector Control District, founded in 1915, protects the health and welfare of the communities it serves from mosquitoes and vector-borne diseases by utilizing cost-effective, environmentally responsible integrated vector management practices.

## OUR SERVICES

Our programs and services are funded through property taxes and benefit assessments and are provided at no additional cost to all residents of Marin and Sonoma counties.



**Marin/Sonoma Mosquito & Vector Control District**

595 Helman Lane  
Cotati, CA 94931

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# SEPTIC TANKS & MOSQUITOES



PROTECTING PUBLIC HEALTH SINCE 1915

## THE HOUSE MOSQUITO

*Culex pipiens* is commonly called “the house mosquito” because it enters homes and takes refuge in dark areas until nightfall, when it emerges to feed on humans.

*Culex pipiens* is a light brown, medium-sized mosquito with a blunt-tipped abdomen. There are narrow light-colored bands on the abdominal segment, but no bands on the legs or the proboscis.

The common trademarks of this mosquito are constant buzzing and the ability to virtually disappear after the lights are turned on.

At times this mosquito can make sleeping impossible. Babies and children are the most susceptible and are often covered in red welts for days after being bitten. While female *Culex pipiens* will feed on humans, other mammals and birds are considered its primary hosts.

*Culex pipiens* is a known vector of West Nile virus and St. Louis encephalitis. It is also the most widely distributed mosquito species in the world.

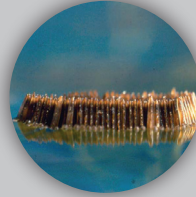


## THE MOSQUITO LIFE CYCLE

Mosquitoes have four distinct developmental stages: egg, larva, pupa and adult. The average time it takes a mosquito to develop from egg to adult is five to seven days. Mosquitoes require water to complete their life cycle.

### EGG RAFT

*Culex pipiens* lay egg rafts that float on the water. Each raft contains approximately 100 to 400 eggs. This mosquito prefers to lay eggs in polluted water such as septic tanks, catch basins, and a number of other residential and commercial sources. Within a few days the eggs hatch into larvae.



### LARVA

The larva, or “wiggler”, comes to the surface to breathe through a siphon tube. It feeds on micro-organisms and organic matter in the water. In a matter of days the larva will molt (shed its skin) four times. On the fourth molt it will change into a pupa.



### PUPA

The pupa, or “tumbler”, cannot eat. It breathes through two tubes on its back. The adult mosquito grows inside the pupal casing and within a few days, when fully developed, it will split the casing and emerge as an adult mosquito.



### ADULT

The newly emerged adult rests on the surface of the water until it is strong enough to fly away and feed.



## MOSQUITO-PROOF YOUR SEPTIC

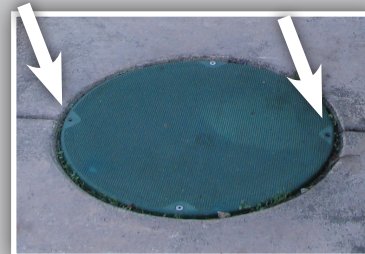
Septic tanks provide an ideal habitat for *Culex pipiens* because of the high organic content in the water, as well as the elevated temperature inside the tank. There are various types of septic tank designs ranging from engineered to traditional, all of which have the ability to produce mosquitoes.

Mosquitoes can enter septic tanks through vent pipes, or through cracked or improperly sealed lids.

Placing plywood or boards over a tank or man-hole cover will not provide adequate coverage.

### How to prevent mosquitoes from reproducing in your septic tank:

- Cover exposed septic tank lids with plastic and several inches of dirt or sand
- Check for cracks in septic tank lids and seal or replace to ensure a tight fit
- Be certain that lids are fastened and properly secured
- Screen vent pipes with a mosquito-proof screen (fine mesh that is 1/16th of an inch)
- Some septic tank lids have screws and gaskets which allow for a tight seal. These need to be inspected and replaced in order to maintain a proper seal.



**Missing screws on lid may cause a gap in the fit which could allow mosquitoes access to the septic tank.**

## VENT PIPES

Mosquitoes commonly gain access to septic systems through the vent pipes on your home. Be sure to properly screen all vent pipes that lead to your septic system. In some situations, leach field inspection ports may also need to be screened.

## EXAMPLES OF SCREENED VENT PIPES



This vent pipe was screened using a fine mesh (1/16th of an inch) and secured in place using electrical tape and zip-ties.



This vent pipe was screened using a fine mesh (1/16th of an inch) and secured in place with a hose clamp.

Mold the screen into a cylinder shape for vent pipes located under or near trees.