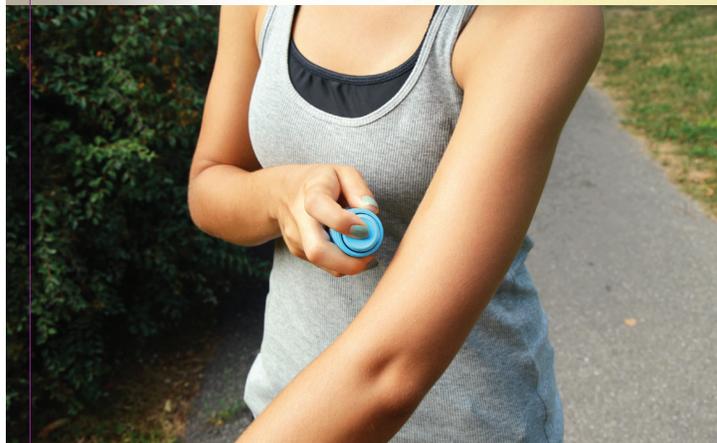


DISEASE CONCERNS

The following serious mosquito-borne diseases may be transmitted to mammals by mosquitoes found in our service areas: West Nile Encephalitis, Eastern Equine Encephalitis and St. Louis Encephalitis. Mosquito-transmitted viruses live in nature in an infected host-mosquito cycle. When mosquitoes feed on infected hosts they can be successful at passing along a variety of arboviruses. These infected mosquitoes may feed on other mammals, including humans, which can lead to successful transmission.

Canine heartworm is also transmitted by mosquitoes to dogs. The worms live in the heart and can severely weaken or kill the dog. Veterinarians can prescribe preventative medication.

* Dead birds can be indicators of whether mosquito-borne disease is present in an area. If you see a dead crow or blue jay between the months of May and October, please help our surveillance program by reporting the bird to our office. We collect and test crows and blue jays that have been dead less than 24 hours and show no signs of decomposition.



"Apply repellents only to exposed skin and/or clothing, as directed by the product label."

Centers for Disease Control and Prevention

HOMEOWNER TIPS

Mosquitoes breed in standing water in many different backyard habitats. Follow these tips to limit the number of mosquitoes living in your own backyard.

- Store cans, pails and buckets upside down.
- Get rid of old tires.
- Keep ditches, drains and culverts clear of weeds and trash.
- Drain water from tarps that cover wood piles, boats, etc.
- Keep eaves clean of leaves and debris.
- Empty plastic wading pools when not in use.
- Keep grass cut short and shrubbery well-trimmed so adult mosquitoes won't rest there in the daytime.
- **Store containers upside down.**



CONTACT INFORMATION

Flint: [877] 276-4714

Gladwin: [989] 426-2420

advancedmosquito.com



MOSQUITO CONTROL SERVICES

Services provided by APM Mosquito Control include field operations [controlling mosquito larvae and adults], surveillance, education and source reduction [removing breeding sources].



MOSQUITO LIFE CYCLE



Mosquitoes undergo four stages of development: egg, larva, pupa and adult. Eggs are laid any place where standing water accumulates after rain or flooding. Once eggs hatch, larvae emerge and undergo four larval stages or instars before they change into pupae. Pupae do not feed and are often found at the surface of water [like larvae] where they breathe. Larvae develop in 7-10 days and pupae develop in 24-48 hours in the summer when water temperatures are warm. Inside the pupa's protective shell, the mosquito transforms into the winged adult.

Female adult mosquitoes bite a variety of hosts - people, horses, dogs, cattle and birds. Only the female mosquito bites because she needs blood to produce eggs. Mosquitoes develop from egg to adult in 7-10 days; adult mosquitoes can live as long as a month during the summer. In general, mosquitoes have about a one mile flight radius.

LARVAL CONTROL



Mosquitoes are managed using an Integrated Mosquito Management [IMM] approach. This means that we use a variety of techniques to control mosquitoes such as source reduction, the usage of microbial or chemical control methods, and educating citizens about ways to reduce mosquitoes in backyards.

Efforts are geared toward limiting habitat available to mosquitoes but it is sometimes necessary to manage mosquitoes in other ways. Larviciding is the term used to describe controlling mosquitoes in their larval habitat. This includes Source reduction, Biological or Chemical control methods and educating citizens. Virtually any natural or man-made container that holds water for a few days can breed mosquitoes. Technicians inspect a wide variety of habitats including ponds, flooded fields and woodlots, drains, ditches, catch basins, idle swimming pools, etc. Depending on rainfall, water temperature, organic content of the water, and a variety of other factors, technicians may repeat applications at a particular site several times over the course of the summer. A majority of our time is spent larviciding.

ADULT MOSQUITO CONTROL



Adulticiding is an aerosol application of insecticide designed to control adult mosquitoes in flight. Materials are applied in very small amounts [about 1-2 ounces of active ingredient per acre] using Ultra Low Volume [ULV] equipment. Control materials do not persist in the environment and are quickly broken down in sunlight. Mosquito fogging is performed by technicians certified by the State of Michigan in pesticide laws and regulations. Applications are conducted at night when target mosquitoes are most active. Products used to control adult mosquitoes are applied in strict conformance with label requirements. Truck-mounted spray units are sent to areas where there is evidence of high mosquito populations or noted disease activity. ULV applications are only performed when appropriate weather conditions are present.



Mechanical traps like this New Jersey Light Trap are utilized for adult surveillance. A handful of traps are utilized in each municipality serviced by APM throughout the season.

SURVEILLANCE

APM Mosquito Control uses several collection methods to determine the abundance, location and species of both larval stages and adult mosquitoes before any insecticides are applied. There are approximately 60 species of mosquitoes in the state of Michigan. Some carry diseases, while others are only a nuisance.

When monitoring larvae, technicians use a tool called a dipper, which is a cup attached to a handle that skims bodies of water to sample larvae. Adult mosquitoes are captured in a variety of mechanical traps: New Jersey Light Traps, CDC Traps and Gravid Traps.



SOURCE REDUCTION

Source reduction is the physical or permanent removal of mosquito breeding sources from the environment. It can be as simple as dumping water from containers or as complex as installing a catch basin drain in a field to prevent standing water from developing. It is not uncommon for residents to grow their own mosquitoes. We have responded to several calls where this is the case, [please store containers upside down.](#)