

Mosquito Management Frequently Asked Questions

Why is a mosquito management plan necessary?

- Some mosquito species can spread disease.
- Mosquitoes must be controlled because of the risk to human health. A mosquito management plan is necessary to manage mosquito populations and prevent the spread of diseases.

What diseases can mosquitoes transmit?

In Australia, these include Murray Valley encephalitis virus, Ross River virus, Barmah Forest virus, Kunjin virus and, possibly, Dengue fever. Mosquitoes can also give your dog heartworm.

What are the most common mosquito borne diseases in Queensland?

Ross River virus (around 2000 cases per year), and Barmah Forest virus (400 cases per year) are the most common. These infections can cause pain, stiffness, lethargy and joint swelling. Symptoms can be debilitating and last for long periods.

What mosquito species spreads Dengue fever ?

Aedes aegypti carries Dengue fever. This virus is not endemic in Australia, which means it is not normally present unless someone brings it in to the country. Dengue fever outbreaks begin when someone is infected overseas and arrives with the virus in their blood. This is called an imported case. A local *Aedes aegypti* mosquito bites this person, becomes infected with the virus and then passes it on to other people by biting them. These are known as locally acquired cases.

What mosquito species spreads Ross River virus?

Ross River virus is spread from animals to humans by several different types of mosquitoes with *Culex annulirostris*, *Aedes vigilax* (salt marsh mosquito) and *Aedes notoscriptus* being most common. Mosquitoes that can spread Ross River virus are present in the Gladstone Region.

When are mosquitoes most active?

Mosquitoes are most active in the summer months during sunset and sunrise.

Where do mosquitoes live?

Mosquitoes can live in almost any environment except for extreme cold weather. They favour forests, marshes, saline wetlands, tall grasses and weeds and ground that is wet, at least part of the year. Mosquitoes also breed in stagnant, standing fresh water which is often found

around the home, such as in neglected swimming pools, clogged gutters, tin cans, buckets, discarded tyres and other containers.

What is their role in the environment?

There are many different mosquito species living naturally in the environment. Some do not live close to humans but prefer to live in natural wetland or mangrove environments. Here, the aquatic larval or “wiggler” stage can be an important food source for fish. Adult mosquitoes are eaten by birds, geckos and spiders. Mosquitoes also feed on nectar producing plants and are important plant pollinators.

What procedures does Gladstone Regional Council undertake to monitor mosquito activity?

Council undertakes larval surveys and trapping of adult mosquitoes to determine the level of activity. Identified breeding sites are monitored for larval activity during the mosquito season. A dipper is used to work out the number of larvae in the water and an assessment made to see if treatment is required

Adult trapping is used to monitor populations of adult mosquitoes. All mosquitoes caught are counted and their species identified. This is important to identify problem species and decide the appropriate control option.

What methods are used by Gladstone Regional Council to control mosquitoes?

Gladstone Regional Council uses several methods to control mosquitoes. The first measure will be larvicide. If the mosquito problem continues and is a public health risk, we will use residual or barrier treatment then fogging, if adult mosquito numbers remain high.

What are Larvicides and how do they work?

Larvicides are in pellet and briquette forms and are placed in known mosquito breeding water sources. They kill the larvae and/or stop the breeding cycle at the larval stage, so they can't transition into an adult mosquito to bite and spread diseases.

Are larvicides toxic to other species?

Larvicides are species specific so they do not kill any other species that ingests them.

What are residual/barrier treatments and how do they work?

Residual or barrier treatments involve using a residual sprayer to spray specific areas of vegetation or other matter with a chemical that remains present for about

Mosquito Management Frequently Asked Questions

two months. As mosquitoes land on the items, they absorb the chemical in their feet and die. This treatment can be used on small trees and shrubs.

Are residual or barrier treatments toxic to other animals?

These products are toxic to bees, fish and aquatic organisms. Sensitive aquatic habitats such as mud, sand, and mangrove areas should not be directly treated or exposed to spray drift.

What is fogging and how does it work?

The insecticide used in mosquito fogging is a synthetic pyrethroid very similar to the insecticides used in most domestic insect spray cans found on supermarket shelves. The 'fog' is created by blasting a mixture of insecticide and water into very fine droplets through the use of a fogging machine. This kills adult mosquitoes that come into direct contact with the spray. Fogging works quickly on adult mosquitoes, however it does nothing for larva or eggs and only lasts whilst in the air.

Is fogging toxic to other insects and animals?

Fogging is toxic to other insects such as butterflies and bees. Pesticides are also harmful to many other animals, including those that are natural predators of mosquitoes. Most pesticides used in fogging are toxic to fish, which are very important for the eradication of mosquito larvae. Frogs, geckos and birds, which also eat mosquitoes, can also be affected by pesticides.

What can I do to reduce mosquitoes breeding near my house?

- Whenever water stands for four to seven days, mosquitoes can multiply. Eliminating even small amounts of standing water eliminates mosquitoes.
- Dispose of empty flowerpots, buckets, cans, old tyres, trash cans, etc.
- Clear clogged roof gutters.
- Change water in fountains and bird baths at least once a week.
- Flush sump pump pits weekly.
- Empty plastic swimming pools when not in use.
- Ensure swimming pool covers are drained.
- Clean and chlorinate outdoor saunas, hot tubs and swimming pools.
- Drill holes in the bottoms of recycling containers that are kept outdoors.

- Use landscaping to eliminate stagnant water accumulating on your property.
- Clip tall weeds or grass near the house or where activities are undertaken in the yard.
- Clean debris and vegetation from pond edging.

Under Public Health Regulations, householders have a responsibility to prevent mosquitoes breeding on their property.

What can I do to avoid being bitten by mosquitoes?

- Install and maintain all window screens and screen doors in good condition.
- Between sunset and sunrise, minimise outdoor activities as mosquitoes are most active between these times.
- Avoid mosquito habitats such as areas with standing water or heavy underbrush.
- When outdoors, wear light coloured, loose fitting clothing that covers the skin, such as long pants and long-sleeve shirts.
- Consider spraying clothing with repellents containing permethrin, since mosquitoes can bite through thin material or clothing.
- On exposed skin, consider applying a repellent that contains picaridin, DEET or oil of lemon eucalyptus.

Mosquito Fast Facts

- All mosquitoes must have water to complete their life cycle.
- Mosquitoes have four distinctive life stages, with the first three stages being spent in the water. These life stages are the egg stage, larval stage, pupal stage and the adult stage.
- Mosquitoes do not develop in grass or shrubbery, although adults frequently rest in these areas during daylight hours.
- Only the female mosquito bites to obtain a blood meal. The male mosquito feeds only on plant juices.
- Female mosquitoes are attracted by heat and carbon dioxide to hosts such as humans, mammals and birds.
- The female mosquito may live as long as three weeks during the summer or several months over the winter in order to lay her eggs in the following spring.