

Keep your yard safe for people, pets, and pollinators

Say no to mosquito spraying and chemical tick control!

Use these **safe and effective methods** instead

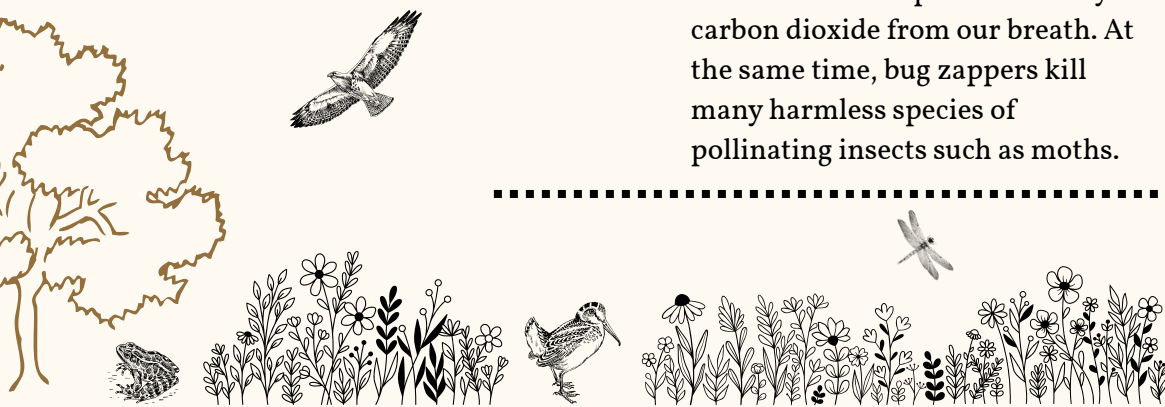
Mosquito Control

Mosquitoes can be annoying to humans, but they're crucial members of both terrestrial and aquatic ecosystems, not only as food for birds, bats, dragonflies and other creatures, but also as pollinators. With a few simple measures, you can protect yourself from bites.

- One of the most effective ways to keep mosquitoes away while sitting outside is to **blow them away!** Direct a fan to your seating area—even a light breeze means that mosquitoes can't land and bite you.

- Remove all **sources of standing water**—which is where mosquitoes breed—from your yard. Check trays underneath pots, eavestroughs, empty containers, wheelbarrows—everywhere that water can accumulate, even in small amounts. This simple measure goes a long way to preventing mosquito infestations.
- If you have a pond, ensure good water circulation to prevent mosquitoes from breeding. Install a bubbler or pump that keeps water moving.
- Bug zappers are ineffective at controlling mosquitoes, since mosquitoes are attracted to the smells mammals produce and by carbon dioxide from our breath. At the same time, bug zappers kill many harmless species of pollinating insects such as moths.

- If you want to take more action close to home, you can set up a **mosquito bucket** containing the larvicide Bti. Instructions are available on the Homegrown National Park website (QR code below). Bti is lethal to butterflies and moths, so should be used as a last resort.



Native plant gardens increase biodiversity, which is protective!

Tick Control

Populations of ticks are increasing and moving to new areas in response to climate change and biodiversity loss. Blacklegged ticks can transmit Lyme disease and other pathogens, so it's important to protect yourself.

After spending time outside, **do a tick check** of your clothes and body.

Wearing light-coloured clothing will help you spot ticks. Tuck your pants into your socks to prevent ticks from getting under your clothes.

Ticks cannot fly. Instead, they live on vegetation and clasp onto a passing host brushing against the vegetation. This is called "questing." **Mow paths through tall vegetation** so you are not brushing against plants when you walk.

Remove invasive plant species from your yard.

Studies show that invasive species such as Japanese barberry, common buckthorn and Amur honeysuckle are associated with higher tick abundance. The Invasive Species Centre is a good source of information on identifying invasive plants and the best methods for removal.

Lawns are simplified environments that favour white-footed mice, which are key carriers of the bacteria that causes Lyme disease. Biodiversity, on the other hand, is protective!

By replacing lawns with native plant gardens, you can disrupt tick-host interactions and reduce tick-borne disease risk.



What's the problem with pesticides used for mosquito and tick control?



They're harmful to pollinators:

- Pyrethroids are highly toxic to all insects, including pollinators. Most mosquito and tick control services spray pyrethroids such as permethrin.
- Residential mosquito sprays can cause insecticide contamination at levels high enough to kill bees and butterflies, and these sprays travel easily into neighbouring yards.

They're harmful to pets:

- Pets are sensitive to pyrethroids, particularly cats, who may be seriously poisoned by contact with those chemicals.

They're harmful to humans:

- Studies have shown that there is a probable association between pyrethroid exposure and neurodevelopmental issues, including behaviour and cognitive development, and that pyrethroid exposure is of particular concern for pregnant women and children.
- When mosquito and tick control services fog an area with insecticide, the majority of the spray goes into the air, creating harmful air pollution that can be inhaled by anyone nearby or downwind, including children playing in neighbouring yards. Open windows and doors allow the polluted air to enter nearby homes.
- Permethrin-treated clothing, intended for tick protection, is sold with warnings about potential health impacts. As well, when washed, some of the permethrin goes into the water, with potential adverse effects on aquatic ecosystems.

They're harmful to ecosystems:

- Repeated spraying can result in accumulation of pyrethroids in the environment.
- As well as being toxic, the pesticide formulation itself is highly polluting. Compounds in the solvent can act as greenhouse gases and also are a major precursor in the formation of smog.
- Contaminated runoff from pyrethroid application near bodies of water poses a significant risk to aquatic species, and the risk is exacerbated by bio-accumulation of pyrethroids in sediment.
- Tick tubes (cardboard tubes filled with permethrin-treated cotton, which mice use for nest-building) target immature ticks on mice, but research into the impact of the insecticide on species such as owls that consume mice has not been published.

They're ineffective:

- A 2016 study found that spraying a pyrethroid insecticide on the lawn around a home and 20 feet into the woodland edge of the property did not reduce the incidence of tick-borne disease in humans.
- A 2021 study of tick tube effectivity suggests that vegetation removal is just as effective, without any potential adverse effects. As well, tick tubes are ineffective against tick host species such as deer and many other animals.
- Mosquitoes can quickly and easily fly from one area to another, moving into a yard soon after it is sprayed.

To print the information sheet and view peer-reviewed research papers on mosquito and tick control, scan the QR code below.



Visit the Canadian Wildlife Federation's website for habitat gardening resources:
cwf-fcf.org/en/explore/gardening-for-wildlife