EXCLUSIVE TO MEMBERS

Insect and Animal Pests:
When and How to Take Action
Discover more great reference documents created by our Residential Advisory Services

**RESHINGLING YOUR ROOF**
*Reshingling Your Roof* will help you compare estimates from contractors and prevent all kinds of problems before, during, and even after the work!

**THE HEALTHY-HOME HANDBOOK**
*The Healthy-Home Handbook* is your source of information on 15 or so threats of various kinds. The goal: to help you control the related risks and stay healthy!

**NEW OCCUPANT’S HANDBOOK**

**HOMEOWNER’S HANDBOOK**
*The Homeowner’s Handbook* helps you track the condition of your property’s systems and equipment, and plan eventual renovations. An invaluable checklist for your peace of mind!

These practical tools contain expert advice from our staff and will help you make informed decisions.

DOWNLOAD YOUR PUBLICATIONS OR CONTACT A RESIDENTIAL ADVISOR TODAY!

1 888 627-6666
caaquebec.com/tools
Table of contents

INTRODUCTION .................................................. 4
   Wild animals and urban areas ................................ 4

MAMMALS .......................................................... 6
   Squirrels ....................................................... 7
   Raccoons ...................................................... 10
   Skunks ......................................................... 12
   Cats ............................................................ 14
   Rats and mice ................................................ 16

INSECTS .......................................................... 18
   Cockroaches .................................................. 20
   Bedbugs ........................................................ 22
   Carpenter ants ............................................... 24
   Asian lady beetles ......................................... 26
   Spiders ......................................................... 28
   Earwigs ........................................................ 30
   White grubs ................................................... 32
   Wasps ............................................................ 34
   Mosquitoes ..................................................... 36
   Flies ............................................................. 38

CONCLUSION .................................................... 40

FIND OUT MORE ................................................ 41
   List of products with low health and environmental impact ........................................... 41
   How to choose an exterminator .......................................................... 42

To consult this guide, please use the free Adobe Reader software.

Follow us on Facebook: www.facebook.com/caaQc.

QUESTIONS? CALL CAA-QUEBEC RESIDENTIAL ADVISORY SERVICES! 1 888 627-6666
Introduction

Humans and animals: an increasingly complex co-existence

As humans, we are quite used to sharing our “territory” with animal species. We’ve domesticated many animals, of course: keeping dogs and cats as pets, for example. But other mammals, as well as many insects, are less pleasant to have around, so we prefer to keep them at a distance. This handbook is about exactly that: what to do when certain species present in or around our homes become a nuisance.

What behaviour we should adopt toward these unwanted visitors depends on such factors as their nature, their number, how dangerous they are to humans, and whether they cause serious property damage—in short, the problems must be treated on a case-by-case basis. While especially bothersome pests like bedbugs must be exterminated promptly, most homeowners will tolerate, say, smaller mammals occasionally roaming their yard, unless they are causing excessive harm.

WILD ANIMALS AND URBAN AREAS

Increasingly, animals who until recently had plenty of forest to roam around in—e.g., raccoons, skunks and groundhogs—are taking up residence in and near our urban areas. They are encroaching on our residential neighbourhoods due to urban sprawl as well as farm and forestry operations. Faced with the gradual loss of their habitats, some species have had no choice but to look for new places to live, which just happen to be near the places where we live.

Specific conditions – By living in areas populated by humans, some animals evade their natural predators. When populations grow too large, pest control measures may be taken pursuant to legislation.
In Quebec at the provincial and local government levels, measures have been enacted to ensure biodiversity protection in natural habitats—including those in urban green spaces. Land planning projects stipulate that green corridors linking parks, woodlands, brownfields, wetlands and watercourses must be maintained. The goal is to ensure animal populations don’t become isolated and thus prevented from reproducing. “Deporting” wildlife from cities is therefore not part of the solution.

It’s up to us to learn to put up with these new neighbours and, where the situation requires it, take preventive action.

**Alien invasive species: a risk to be taken seriously**

Increasing urbanization is not the only threat to local flora and fauna. Environmental experts are also concerned about alien invasive species.

An alien invasive species may sound like something from a sci-fi horror film, but in this case it refers to a plant, animal or micro-organism (for example, a virus) introduced into a new habitat where it becomes a nuisance. Also called exotic pests, these species can pose a danger to the local environment, economy or society.

The causes of this type of invasion are many: international trade, tourism, hunting and fishing, livestock breeding, agriculture and climate change are among the factors that combine to drive species beyond their normal natural confines.

**Examples:**

- Because of warmer temperatures due to climate change, the white-footed mouse (which is a host for the bacteria that cause Lyme disease) is increasingly moving northward from the U.S. into Canada.
- The emerald ash borer, an insect that has destroyed millions of trees in North America, was carried here on cargo ships from Asia.

Unfortunately, regulations enacted and monitoring conducted by public authorities are not enough to contain these invasions. We must all take care not to move plants, insects, fish or land animals from one region to another—and the same goes for firewood or other materials that can contain larvae, pupae or adult insects (this is what led to the propagation of the emerald ash borer, for example).

---

1. The Green and Blue Belt of Greater Montreal is a good example (in French).
Mammals

This first section covers a variety of animals that can cause problems around your property—or even inside.

UNDERSTAND

Before reading the various information pages on individual species, it’s important to note that almost all small mammals are subject to provincial regulations as well as municipal by-laws.

The Quebec Act Respecting the Conservation and Development of Wildlife protects wild animals, their habitats and their offspring. The law states, among other things:

“No person nor anyone lending him assistance may kill or capture an animal attacking him or causing damage to his property or property under his care or maintenance unless he is unable to frighten the animal away or prevent it from causing damage. No person may kill or capture an animal that causes damage to property or must be moved in the public interest, except on the conditions determined by regulation of the Minister.” (Section 67)

The idea is to encourage nuisance animals to go somewhere else, rather than opting for more drastic direct interventions such as extermination or capture and relocation.3

Conservation doesn’t apply to all – Along with most types of insects, vermin are not covered by regulations applicable to other mammals. In other words, rats and mice aren’t “protected” by law.

Check your local listings!

Depending on the types of wild animals in their areas, municipalities adopt various by-laws to restrict the presence of species deemed undesirable. Some, for example, ban the feeding of squirrels and raccoons.

To learn how to deter these intruders while complying with local regulatory standards, read your municipality’s by-laws.

3. See the insert on capture and relocation on p. 11.
**SQUIRRELS**

With its bushy tail, the eastern grey squirrel is easily recognizable—and a frequent sight around our homes. Despite the name, some specimens can have a black coat, but they belong to the same species: *Scurius carolinensis*.

**Understand**

Common in southwestern portions of Quebec, the eastern grey squirrel lives in hardwood forests as well as green spaces in cities. Its cousin, the red squirrel, is smaller and prefers the coniferous forests farther to the north and east.

In summer, the eastern grey squirrel often builds nests of twigs and leaves in the higher branches of trees. It spends the winter in a spot better protected from inclement weather, most often in the hollow of a tree (this small mammal does not hibernate).

Squirrels eat a little bit of everything: seeds, nuts, maple keys, bulbs, flowers, fruit, insects, eggs, etc. In the fall, they bury food underground or in tree hollows in preparation for winter.

| ! | Keep a healthy distance – Although this cute rodent often approaches humans looking for food, it’s best to stay away: like any wild animal, a squirrel may bite. |
| + | Eastern grey squirrels contribute to forest regeneration because they bury so many nuts—and then forget to dig them up and eat them. + They are very active and visible in the daytime, bringing our parks and woodlands to life. |
| — | Common nuisance behaviours of squirrels include: — Getting into attics and sheds, sometimes making their nests there. — Chewing through electric wires, which can result in a fire hazard. — Stealing birdseed and/or destroying bird feeders. — Rummaging through poorly secured garbage bins. — Raiding gardens to dig up and eat seeds, bulbs, flowers and fruit. — Gnawing the bark of various shrubs and chewing on their buds. |
| ! | Safe from enemies – Eastern grey squirrels that live in the city evade most of their natural predators (lynx, foxes, birds of prey, and so on). If you have a dog or cat, though, you can count on them to scare off squirrels. |

QUESTIONS? CALL CAA-QUEBEC RESIDENTIAL ADVISORY SERVICES! 1 888 627-6666
Prevent
Keep this pest at a distance

Vegetable garden/flower beds

- When you plant bulbs, sprinkle blood meal into the planting hole (you can find this natural fertilizer at any gardening centre).
- Spread repellents around plants: Cayenne pepper, human hair, cat or dog hair all work. Re-apply after every rainfall.
- Spread hen manure fertilizer in the garden: squirrels hate it!
- Grow aromatic plants (geraniums, mint, rosemary, etc.) around bulbs.
- Choose bulb plants that don’t attract squirrels: narcissus, snowdrops (Galanthus), hyacinth, etc.
- Lay chicken wire above seeds and bulbs, a few centimetres beneath the surface of the soil.

⚠️ When drastic means are required – To prevent squirrel damage, some people put up gates around their vegetable garden and cover it with a lift-away grille.

Shrubs and fruit trees

- Wrap the trunks of shrubs in plastic sheathing.
- Wrap sufficiently tall strips of PVC (designed for fences) around the trunks of fruit trees to keep squirrels from climbing them.
- If squirrels are leaping into a shrub or tree from some “perch,” block their access by putting up a net on thin poles.

Bird feeders

- Install feeders out of squirrels’ reach: at least 1.5 m above the ground and at least 3 m from any jumping-off point.
- Hang feeders from long metal wires or tall poles. To further complicate things for squirrels, install a cone or dome designed for this purpose.
- Sprinkle Cayenne pepper on the birdseed. The birds won’t mind it, but the squirrels will quickly turn up their noses!

House or shed

- Strengthen and/or repair all roof edges and block any holes or gaps where squirrels may be getting underneath your garden shed.
- Trim back tree branches that are within 3 m of buildings.
- Block openings using wire mesh with openings of 1 cm or less. First make sure there are no squirrels already inside: otherwise, they will do serious damage trying to get out!

⚠️ Angry mama! – Things get problematic if a female is raising her young: she will defend her nest from any intruder. If disturbed, she will carry the babies one by one to a new shelter.
**Take Action**

If a squirrel is nesting in your shed or attic

- To expel the squirrel without a confrontation, shine a light into the shed or attic constantly, or turn a radio on.
- Spread flour near the exit to check whether the squirrel has left (you will see its paw prints).
- Last resort: trap the squirrel in a cage (which you can buy from a hardware store, garden centre, pest management retailer or humane society) and release it outside.

**Find out more**

- CANADIAN FEDERATION OF HUMANE SOCIETIES: [Squirrels](#)
- SPACE FOR LIFE: [Squirrels and bulbs](#)
- SPACE FOR LIFE: [Scat! How to keep animals out of your flower and vegetable gardens](#)
RACCOONS

With its black, mask-like markings that give it the air of a bandit, and its ringed tail, the raccoon quickly attracts the attention of anyone crossing its path!

Understand

Raccoons are hefty omnivores: larger males can weigh up to 28 kg. These mammals adapt well to urban areas, because they eat just about anything: worms, spiders, frogs, eggs, fruit, nuts, corn... And they aren’t at all shy about going through garbage to get their paws on a meal.

Raccoons retire to their dens for the winter around mid-November. Males leave the den in late January; females follow in mid-March. They sometimes use spaces under porches, garden sheds and similar structures as living quarters. And since they are excellent climbers, they’re also attracted to hollow trees and roof structures.

- A raccoon’s diet includes small rodents and insect pests.

- Raccoons wreak havoc in garbage.
- They lurk around homes and can become aggressive if you get in their way.
- Like skunks, they can do damage to lawns while digging for white grubs.
- Raccoons can get into attics, disturbing insulation and leaving droppings behind.

Take great care – Cases are infrequent, but raccoons can carry rabies. It’s therefore important to keep your distance, especially if the animal doesn’t seem at all timid.

Prevent

Keep this pest at a distance

Take care of your lawn and garden

• Make sure your lawn has been treated for white grubs, which raccoons regard as a delicacy! (See White grubs section for more information.)

Secure garbage bags and bins

• Use a garbage bin with a lid that is difficult to remove.
• Clean the bin often to eliminate “attractive” odours.
• Leave garbage bags in a bin equipped with a hinged lid that locks.
• Another strategy is to wait until the morning on garbage day to take out the garbage.

Block entry passages

• Trim back any branches that could help a raccoon get at your house.
• Make sure your roof soffits are secured, and screw metal screens over roof vent and chimney openings.
• Block off any routes leading underneath the porch, deck or shed (using chicken wire, sheets of tin or cement). First make sure no adult or young raccoons (or other animals) are already inside.

A tight-knit family – Raccoons are born in the spring and spend the next three seasons with their mother.
Take Action
Eviction, capture and relocation

Evicting a raccoon is no easy task, and it can even be dangerous. If one has invaded your attic, for example, it’s best to hire an expert to capture it and relocate it far away from your home.

Is it a good idea to relocate small animals like raccoons?
If, despite your efforts to deter them, raccoons (or other animals) are causing damage to your property, you can consider capturing and relocating them.

The Ministry of Forests, Wildlife and Parks tolerates this practice... but strongly advises against it. Why?

• First, because it doesn't solve the problem. Sooner or later, a displaced animal will be replaced by another if you do not prevent its access to food and shelter. Unless you address the root of the problem, you risk having to start all over again.

• Furthermore, capture and relocation involves risk. Even if an animal appears to be healthy, moving it may transfer disease or parasites to new areas. Such disturbances can endanger public health, agriculture and protection of endangered species, for example.

If you still think this action is the only solution, here are the steps to follow:

• Call your municipality to find out what the by-laws say and whether there is a municipal wildlife capture and removal service.

• Call a pest management company. Many of them provide these kinds of services; others will sell or rent you cages or traps.

• Contact a wild animal shelter or rehabilitation centre, or a local humane society.

Find out more
• CANADIAN FEDERATION OF HUMANE SOCIETIES: Raccoons
• CANADIAN MUSEUM OF NATURE: Natural History Notebooks
SKUNKS

At the sight of this small black critter with the distinctive white stripe on its back, our first reflex is to move away quickly—because we all know just how dissuasive its natural defence mechanism is!

Understand

The striped skunk is another animal that adapts well to urban areas and has a varied diet, including insects, worms, eggs, fruit, nuts, and so on. Garbage provides a ready source of nourishment.

For shelter, skunks dig burrows (sometimes under porches and decks) where they raise their young in summer and den together in semi-hibernation during the winter months.

<table>
<thead>
<tr>
<th>+</th>
<th>Skunks can serve a useful purpose: 70% of their diet consists of insects and small rodents that are a nuisance to humans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>−</td>
<td>They tear apart garbage bags and knock over bins.</td>
</tr>
<tr>
<td>−</td>
<td>When a skunk feels threatened, it lifts its tail and sprays a foul-smelling liquid at its enemy—as far as 6 m if necessary! People and their pets who encroach on a skunk’s territory are therefore at risk of getting a smelly shower they won’t soon forget...</td>
</tr>
<tr>
<td>−</td>
<td>Like raccoons, skunks will turn up sod in yards looking for white grubs; this leaves cone-shaped holes between 7 and 10 cm wide.</td>
</tr>
</tbody>
</table>

Possible danger – The striped skunk has other things in common with the raccoon: it is mostly active at night, and can carry the rabies virus. If you see a skunk displaying aggressive behaviour or ranging far from its den in broad daylight, move away immediately.

Prevent

Keep this pest at a distance

Take care of your lawn and garden

- Make sure your lawn has been treated for white grubs. (See White grubs section for more information.)
- If a skunk is feeding in your vegetable garden, spray a commercially available pepper-based repellent, or one that you’ve prepared yourself.
- If necessary, fence in your garden. The Ministry of Forests, Wildlife and Parks recommends using wire mesh with openings of 5 cm or less, and stakes between 1.5 and 1.8 m high.

Secure garbage bags and bins

- Put plastic garbage bags in a hinged wooden or metal bin.
- Use a garbage bin with a lid that is difficult to remove.

No more mess – In practice, a metal garbage bin is more resistant to claws and teeth. To keep it from being knocked over, you can attach the bin to a nearby fence with a length of wire.

- Clean your garbage bin often to eliminate the odours that attract skunks.
- Another strategy is to wait until the morning on garbage day to take out the garbage.
Take Action

To remove a skunk from its den underneath a shed or porch, here are two effective methods:

• Shine a work lamp into the den. If possible, put a radio on the floor above, with the speaker pointed toward the ground.

• Follow this advice from the SPCA (Society for the Prevention of Cruelty to Animals):
  • Block the opening to the den with rags soaked in an animal-repellent liquid. Do this during the day while the intruder is asleep; after nightfall, it will push them to the outside and get out.
  • Repeat this operation patiently for ten days or so. By that time, the skunk should have relocated to another den. If, early in the morning, you see that the rags have not been disturbed, this means the “tenant” has left.

A down-to-earth mammal – Skunks are not good climbers, so when they're outside their dens, they're unlikely to be found on a roof or other high place.

• Block the access hole to the den using chicken wire, sheet metal, etc.

As a last resort, it is also possible to capture a skunk outside its den using a cage trap that is low enough to keep it from lifting its tail once it is trapped. It can then be transported to a remote location and released.

How to get rid of “skunk smell”

There are many solutions for eliminating this unpleasant, persistent odour. The traditional tomato-juice recipe is not the most effective! Instead, use a mixture of 1 part vinegar to 10 parts water.

To wash a pet that has been sprayed, prepare the following solution:

• 1 litre (4 cups) hydrogen peroxide
• 60 mL (¼ cup) sodium bicarbonate (baking soda)
• 5 mL (1 tsp) liquid soap

Wash the animal, taking care to avoid getting liquid in its eyes, and rinse thoroughly.

To rid a car or garage of skunk odour, place an odour-absorbing sponge, which can be found in pet stores, in the space.

Find out more

• CANADIAN FEDERATION OF HUMANE SOCIETIES: Skunks
• CANADIAN MUSEUM OF NATURE: Natural History Notebooks
CATS

Both pet cats and strays can become bothersome if they spend too much time in your yard and do damage there.

Understand

Quebec has more than 3,000,000 cats, the majority of which are strays—and unsterilized. That is no trivial detail when one considers that a single cat can be responsible for 20,000 descendants in just four years!

Do the math! Theoretically, a female and male pair of cats can produce an average litter of 12 kittens in one year; that population could then grow to 144 the second year, 1,728 the third year, and 20,736 the fourth year!

- Feline overpopulation—meaning an abundance of stray and feral cats—has become a serious problem in several municipalities and for various organizations such as the Society for the Protection of Animals (SPA) and the Society for the Prevention of Cruelty to Animals (SPCA).
- Stray cats have a significant impact on populations of birds and animals (squirrels, bats, etc.), which they attack.

Double harm – When cats attack avian species, small rodents, etc., the impact extends beyond them. The felines become competitors for wild predators (birds of prey, foxes, raccoons) by raiding their natural sources of food.

- Stray and feral cats are vectors for transmission of diseases such as rabies, Lyme disease and toxoplasmosis (an infection).
- Urine spraying by male cats during breeding season causes unpleasant odours, often in urban areas.

If you are a cat lover...

- Spay or neuter all pet cats before they reach the age of 6 months; this also helps keep them from running away.
- Keep your cat inside the house (or build a pen for it outside).
- Register your cat and put the ID tag collar around its neck (99% of stray animals with tags are returned to their owners, versus only 15% of those that aren’t).
- If you must part with your cat, find a foster home or contact an organization such as the SPA or SPCA.
Prevent

Keep this pest at a distance

- Do not feed stray or abandoned cats.
- Block any holes in fences around your property and plant shrubs with thorny branches (rose bushes, raspberry, etc.).
- Spray water at cats that come onto your property; for example, you can use a motion-activated sprinkler (similar to automatic lawn watering systems).

Find out more

- MINISTRY OF FORESTS, WILDLIFE AND PARKS: Gros plan sur la faune (in French)
- CANADIAN WILDLIFE FEDERATION: Keeping cats indoors is for the birds... and the cats
**RATS AND MICE**

The brown rat or Norway rat (*Rattus norvegicus*) and the house mouse (*Mus musculus*) have long lived in proximity to humans. But that’s no reason to tolerate their presence if they get too close to us!

**Understand**

Rats and mice both belong to the family *Muridae*. They are believed to have originated in Central Asia, and have spread to nearly every part of the world. They were introduced (involuntarily) to North America by European colonists.

The brown rat, often called the sewer rat, has a stocky body and can weigh up to 450 g (1 lb), while the house mouse is much smaller (not exceeding 30 g in Québec). The latter is recognizable by its large ears, long tail, brown back and grey belly.

In the fall, mice and rats seeking warmth and food are attracted to buildings occupied by humans: barns and other farm buildings, warehouses, landfills, houses, etc. These rodents will then be active in those locations all winter long, as they do not hibernate.

Brown rats dig burrows consisting of extensive tunnels. Mice, meanwhile, are content to stay in wall or floor cavities, in cupboards and in boxes.

Both are omnivores. Rats eat meat, fruit and much more, including waste and carrion. Mice are particularly fond of grains and cereals, but will eat just about anything—even glue and soap!

---

**+** Laboratory rats, which are selected from specially bred strains of brown rats, have long been used for research. They have also become popular as domestic animals, and are sold in most pet stores.

+ Similarly, the white mice used in lab experiments are actually albino house mice.

+ In the wild, both types of rodent are prey for several species of mammals and raptors.

---

**−** Rats and mice soil buildings with their urine and feces.

− Both types of rodent actively search for food stored or thrown away by humans, which leads to serious food safety and contamination issues.

− They can chew through wiring, construction materials and (in the case of mice) books, cardboard, plastic and wood.

− They can transmit a variety of diseases to humans.

− Rats can attack animals that are larger than them—even people.
Prevent
Keep this pest at a distance

Indoors
• Install metal weatherstripping under doors, and make sure windows are well caulked.
• Seal cracks in foundations.
• Caulk around pipes.
• Cover dryer vents and roof vents with wire mesh.
• Keep your kitchen clean. Store dry foods (including pet food) in metal or glass containers.

Outdoors
• Cut back tall grass around the house so you don’t provide nesting sites for rodents. For the same reason, don’t let the yard get needlessly cluttered with various items.
• Keep garbage in bins with tight-fitting lids.
• If you have wood stacked outside, make sure it is around 30 cm (1 ft) off the ground and away from the house.
• Don’t put fatty or oily table scraps, eggs or dairy products in the compost bin, unless it is a sealed model.
• Eliminate sources of water around the house: leaky taps, flower pots, etc.

Take Action
Get rid of this pest for good
Rats and mice are deemed to be pests, so exterminating them is permitted. To that end, various kinds of trap, including glue traps (with or without bait), the classic snap trap, and electronic devices, can be effective if laid in the right locations.
• If you opt for a baited trap, use strong-smelling foods like peanut butter or bacon drippings, mixed with oat flakes, raisins or gumdrops.
• Reset traps 2 to 3 weeks after the most recent captures, to catch newly matured young.
• Check the traps every day, regardless of which model you use.

Protection is a must – When cleaning areas soiled by rodents, always wear rubber gloves and a HEPA-filter mask.
• If you are dealing with a colony, or need to eliminate one or more brown rats, hire a professional.
• If you suspect that rats are living beneath your home’s foundation slab, camera inspection of the drains may be necessary. Drain-inspection specialists and some plumbers offer this service.

Find out more
• CANADIAN FEDERATION OF HUMANE SOCIETIES: Mice and rats
• HEALTHY CANADIANS: Rats and Mice
• PUBLIC HEALTH AGENCY OF CANADA: Hantavirus
• CAA-QUEBEC: The Healthy-Home Handbook
Insects

This second section of the handbook covers a group of much smaller animals that rarely show up alone: insects.

Sometimes, their presence is disturbing both indoors and out. In other cases, co-existing with them outside causes few problems—as long as they respect your territory!

UNDERSTAND

Preventing and controlling the presence of insects requires a wide range of methods. It’s important to realize that “battling” these invaders (as with rodents) often implies using controversial products: in this case, pesticides. In Canada, these substances are subject to tough regulations, because many of them are extremely toxic.

A question of public health – Dangerous pesticides have direct impacts on public health and welfare, especially that of children, who are more vulnerable than adults. But they are also a threat to the environment, which includes living organisms as well as resources like drinking water.
Strict legislation to deal with a serious threat!
The main laws governing pesticides are:

- The Pest Control Products Act (Canada)
- The Pesticides Act and the related management code (Quebec)
- The Environment Quality Act (Quebec)

There are also numerous municipal by-laws.

Control of pest control products
All pesticides imported into, sold or used in Canada must be registered for use by the Pest Management Regulatory Agency (PMRA), a division of Health Canada. Before buying a pesticide, make sure it has a PMRA registration number.

Beware of foreign products! If you buy a pesticide on the Web or while travelling abroad, it might be a substance that is banned here—and that would be very damaging to health and the environment if used.

In Quebec, the sale and use of products approved at the federal level is regulated by the Pesticides Management Code, which defines five classes of pesticides:

- The most dangerous products, classes 1 to 3, are reserved for use by certified technicians.
- Class 4 includes pesticides available to the public but that must be stored in a location out of customers' reach; e.g., behind the counter or behind locked glass doors.
- Class 5 comprises pesticides and biopesticides that are freely accessible to consumers.

If you do decide to use pesticides or biopesticides to control nuisance insects (or rodents), remember to take these precautions, at a minimum:

- Follow manufacturer instructions.
- Use only the required quantity.
- Avoid spraying non-target organisms, plants or animals.

Another essential piece of advice: minimize the environmental impact of any pesticide treatment, for example, by spraying on a day with no wind.

4. A table listing several of these products is provided at the end of this handbook for information purposes.
COCKROACHES

There are about 30 species of cockroach that live near humans, but only four types that are recognized as pests. Good thing, because there are more than 3,500 species in all!

Understand

Cockroaches live on every continent. All species in Quebec (except for one native species that lives in wooded areas rather than houses) were introduced here by humans.

The German cockroach is the most common variety. It is brown with an oval-shaped body, and typically about 1.5 cm long. Its head is very mobile and sports two long, flexible antennae. Though many people are afraid of cockroaches—which, admittedly, are creepy-looking—they do not sting or bite.

⚠️ Team players – Cockroaches secrete a pheromone (a fragrant chemical) that helps them form groups and work together. They also reproduce quickly.

Cockroaches seek heat and humidity in homes, businesses and the like. Their presence does not necessarily mean that the premises are unclean. Their “favourite” locations are in kitchens, bathrooms, basements and pipes.

⚠️ Night crawlers – Most types of cockroach flee light sources. So if you see one or more during the day, this is a clue that there is a large infestation.

Cockroaches feed on table scraps, among other things, and are particularly fond of foods rich in sugar and starch.

+ In nature, cockroaches are important decomposers, contributing to rapid recycling of organic materials; they even feed on dead, decaying animals.

− When cockroaches visit kitchens, as they often do, they soil foods, producing an unpleasant odour and taste.
− Because cockroaches spend so much time in garbage and sewers, they can transmit disease.
− People can be allergic to cockroaches, and for some, proximity to the insects triggers asthma attacks.

QUESTIONS? CALL CAA-QUEBEC RESIDENTIAL ADVISORY SERVICES!
1 888 627-6666
Take Action

Keep this pest at a distance

- Before bringing furniture, empty bottles or boxes into your home, inspect them. They may be harbouring insects and/or eggs.
- Lay fine-mesh screens across air-duct, pipe and drain openings in your house to limit entry points.
- Seal cracks and gaps around pipes to reduce the number of hiding places available.
- Keep food in sealed containers, rather than paper bags or cardboard boxes.
- Regularly clean spills and other food residue from stoves and other appliances.
- Do not leave food or food waste on countertops, in sink drains, etc.

Free buffet – Pets’ food and water bowls are also attractive to cockroaches, so they shouldn’t be left out all day long.

- Vacuum often to rid the house of food particles as well as cockroach eggs.
- Put garbage in sealed plastic bags.
- Make sure the bathroom is well ventilated, and dry out humid areas.
- If you don’t wash the dishes right away, at least make sure to soak them in soapy water (especially at night).

Get rid of this pest for good

- If furniture, toys or other items seem to be infested, steam-clean them, or use a shop vacuum with a fine-particle filter (0.3 micron) to prevent airborne cockroach-related allergens.
- Another option is to freeze infested items at minus 8°C or colder for at least 24 hours.
- Set glue traps to pinpoint where cockroaches are. After treating the area, reset traps to check whether any insects remain.

More drastic measures, if necessary

As a last resort, if other methods aren’t effective, you can consider using pesticides authorized for sale in stores. Active ingredients typically used to control cockroaches are pyrethins, boric acid and diatomaceous earth (silicon dioxide). This last substance is effective as long as it remains dry.

In the event of a full-blown infestation, it is best to call in a pest management expert who holds a permit from the Ministry of Sustainable Development, Environment and the Fight against Climate Change.

Find out more

- SPACE FOR LIFE: Cockroaches
- HEALTHY CANADIANS: Cockroaches
BEDBUGS
The common bedbug, or *Cimex lectularius*, finds all that it needs to survive close to humans—very close. Although they do not transmit any diseases, bedbugs tend to become very uncomfortable, very fast!

**Understand**
Bedbugs are visible to the naked eye. They are brown, flat and measure from 4 to 7 mm in length.

This insect species got the name “bedbug” because they feed on human blood in the middle of the night, while we sleep, most often hiding in mattresses or elsewhere in the bedroom. Bites are often clustered in the areas of the body that are most exposed during sleep, such as the arms and legs.

![Bedbug image]

**Target: humans** – Bedbugs are attracted to the vibrations, heat, odours and CO₂ that we give off.

After feeding for about fifteen minutes, a bedbug will retreat into hiding for about a week. Bedbugs are extremely resilient and can survive (in a dormant) for months on end without food.

Females lay from 2 to 4 eggs per day, depositing them inside objects, cracks in furniture and floors, crevices along baseboards, etc. As the infestation intensifies, the colony grows beyond the bedroom to other rooms in the house and, potentially, to neighbouring houses. The bedbugs travel inside wall and floor cavities, inside ducts, and along pipes and electrical wires.

Like many other invaders, nowadays this species propagates because of widespread international travel and exchanges of goods. Bedbugs can be found in suitcases, fabric, furniture, cargo vehicles, etc.

- Bedbug bites itch, and the ensuing scratching can lead to skin infections.
- Victims can suffer from insomnia and even despair.
- Bedbugs leave stains on bedding and mattresses (brown stains are from blood after bites; black stains are the insects’ fecal matter).

**Prevent**
Keep this pest at a distance
- Keep your house in order; any clutter can serve as a refuge for bedbugs.
- Thoroughly inspect and clean any used furniture, clothing or books before bringing them into your house.
- If you are moving, place mattresses and box springs in plastic covers with zip closures. For even more protection, seal the zipper with duct tape.
- When travelling, inspect your room, including the headboard and furniture next to the bed; leave your personal effects in your luggage, and leave the latter in plastic bags on a shelf at some distance from the floor.
- When returning from travel, examine luggage carefully and clean it; wash clothes in hot water and dry them at high temperature.
Take Action

Get rid of this pest for good

Do not try to combat a bedbug infestation yourself: it is really best to entrust the job to a pest control specialist, who should:

- Treat mattresses with hot steam;
- Apply a low-toxicity contact insecticide (pyrethrin or diatomaceous earth) along baseboards and in cracks in floors, etc.;
- Lay glue traps in cavities in the building or furniture.

⚠️ A procedure to be taken seriously – To ensure effective extermination and for your safety, follow the pest controller’s instructions before, during and after the treatment.

Contact insecticides won't kill the eggs, so the pest controller must return at least twice in the following weeks to eliminate newly hatched insects.

If you leave in a multiple-unit building, the pest controller must inspect the other units and proceed to treat them if necessary.

Bedbugs are serious business!

Within the City of Montreal, declaration of bedbug infestations has been mandatory since 2011. The pest control specialist (exterminator) is responsible for completing the declaration form. If you live elsewhere in Quebec, contact your municipality to find out what the requirements are: as this is an evolving situation, other administrations may follow Montreal's lead and make declaration mandatory.

If you rent your dwelling and you discover bedbugs, tell the building owner immediately. As soon as he or she is notified of or observes the problem, the owner must call a pest control specialist certified by the Ministry of Sustainable Development, Environment and the Fight against Climate Change. If your building owner fails to take action, contact your municipality's building inspection department.

Find out more

- MONTREAL HEALTH PORTAL: Bedbugs
- PORTAIL SANTÉ MIEUX-ÊTRE: Recognising Bed Bugs and Preventing Infestation
CARPENTER ANTS
Sharing living quarters with carpenter ants is out of the question, especially considering that an invasion by this insect can cause structural damage to a building.

Understand
Carpenter ants are usually black, with hints of red or brown, and measure from 7 to 10 mm in length—in fact, they are the largest ants found here. A large colony includes one main nest, and can have up to ten or so “satellite” colonies, with a total population of more than 10,000 ants.

Unlike termites, carpenter ants don’t eat wood; they chew it, hollowing out galleries in moist wood to build their nests. Their natural habitat is forested areas, but some colonies live near houses: they are usually noticed in stacks of firewood and rotting structures of fences, porches or decks.

They can even nest inside houses, attracted by damp wood and food in some areas (e.g., crumbs, sugar, sources of protein).

Is it true that they only chew decaying wood? Carpenter ants sometimes vary their habits: a colony may nest in wall cavities, attic spaces or insulation. When a colony is expanding, the ants may attack sound wood as well.

Trigger factors – Infestations in houses are often due to establishment of a satellite colony, with no queen ant. A “disturbance” (e.g., felling of a tree or repairs to a porch) may be enough to explain the appearance of such a colony.

+ In the forest, carpenter ants are a source of food for various birds and animals.
+ They contribute to the decomposition of trees and stumps, and stir up soil by tunnelling.
+ Carpenter ants may be a sign of a moisture problem in the house, and/or a weakening of its structure. Observing where the ants gather can help pinpoint the problem.

− A carpenter ant colony can cause structural damage to a house or impair the quality of its insulation.
− Coming across a group of ants searching for food in the kitchen or pantry is an unpleasant experience, to say the least!
Prevent
Keep this pest at a distance
Outdoors
• Get rid of any waste wood on your property, and store firewood away from the house.
• Cut back any tree branches that are touching the house.
• Repair any cracks and crevices.
Indoors
• Repair all door and window screens.
• Keep food in sealed containers.
• Keep the kitchen counter and floor clean.
• Inspect high-moisture areas of the house, wood structural elements that are exposed to the outside, and areas where wood contacts the ground.

Sign of a bigger problem? If you see an ant in the kitchen, especially in the spring, it may simply be a scout checking for food. But individual ants seen in the winter, or winged ants (which means they are in reproductive mode) probably mean there is a colony inside the house.

Take Action
Get rid of this pest for good
If the nest (anthill) is outside:
• Repeatedly flood with nest with boiling or soapy water.
• Sprinkle the area with red pepper, eggshells, bone meal, wood ash or diatomaceous earth (a low-impact powdered pesticide).
• If need be, use a registered insecticide.

If the nest is inside:
• Use borax-based liquid or powdered ant killer.
• Place a mix of two equal parts icing sugar and borax powder near the nest and in areas where the ants are foraging.

Be careful with borax – This is a toxic substance, so keep it well out of reach of children and pets.

• Replace rotting or infested wood structures with sound material.
• Fix humidity and ventilation issues in your house.

Calling in the pros
A carpenter ant infestation is a problem to be taken very seriously. Sometimes, the situation requires action by a pest control professional, who will use restricted insecticides if necessary. Make sure the job is complete; your agreement with the contractor must stipulate that the main colony as well as any satellites must be destroyed.

Find out more
• SPACE FOR LIFE: Carpenter ants
• HEALTHY CANADIANS: Carpenter ants
ASIAN LADY BEETLES

They may look cute, but they can be a major inconvenience!
The Asian lady beetle is an invasive species, and is even a threat
to its more benign indigenous cousin, the ladybug.

Understand

The multicoloured Asian lady beetle (*Harmonia axyridis* Pallas) is recognizable by the
two white markings near its head and, just behind the head, an M-shaped marking.
As for the wing covers, they may be yellow, orange, red or black, with up to 20 spots or
none at all.

The Asian lady beetle is larger (5 to 8 mm), more voracious, and reproduces faster
than the varieties of ladybugs native to Quebec.

This species has become increasingly common in the province over the past 15 years
or so. It wasn't long before these new arrivals began to be noticed, because of their
unusual behaviour: in the autumn, Asian lady beetles cluster by the thousands on the
outside walls of houses, looking for a way inside.

Taking after lizards – In its native Asia, when colder temperatures arrive in the fall,
this insect gathers on rock faces heated by the sun. In our climate, warm building
façades provide the same shelter!

The Asian lady beetle is found on both shores of the St. Lawrence River, and in regions as
far north as Abitibi and Lac-Saint-Jean.

How did this invasion start? The Asian lady beetle was massively introduced into
parts of the U.S. during the 1980s, as a means of protecting crops from destructive
insects. Some may also have “hitchhiked” on cargo ships. At any rate, they
eventually moved north into Canada.

+ Asian lady beetles, like all varieties of ladybug, are good for your garden.
  They feed on many insects (aphids, for example) that attack plants.
+ They are themselves a source of food for several insects and animals.
+ They do not sting, do not transmit any diseases, and do not infest
  food supplies.

– They invade homes in large numbers (often getting in through cracks)
to find warm places to spend the winter.
– When threatened, they can secrete an orange-ISH fluid that has
  an unpleasant odour and can stain fabrics and surfaces.
– In the spring, they attempt to go outdoors to reproduce, and can be seen
  congregating against windows and patio doors.
– The spread of the Asian lady beetle is apparently causing populations
  of native ladybugs to decline.5
– It is responsible for a deterioration of the quality of wine, due to insects
  contaminating harvested grapes.

5. This has prompted the Ministry of Forests, Wildlife and Parks to add the Asian lady beetle to its list of
Worrisome (or potentially worrisome) exotic species present in Quebec (in French).

QUESTIONS? CALL CAA-QUEBEC RESIDENTIAL ADVISORY SERVICES! 1 888 627-6666
Prevent
Keep this pest at a distance
• Seal any holes and cracks in sun-facing exterior walls.
• Make sure window and door screens are in good condition.
• Install appropriate caps or mesh screens on exterior duct and vent openings.
• Make sure door frames are properly sealed.

Take Action
Get rid of this pest for good
A vacuum cleaner is the most effective tool for eliminating lady beetles from the house. Seal the vacuum bag immediately afterward and throw it out with the garbage.

Inappropriate solution – Pesticides are not recommended against an Asian lady beetle infestation, because the decaying bodies will attract other nuisance insects.

Find out more
• SPACE FOR LIFE: Asian lady beetle
• HEALTHY CANADIANS: Ladybugs
• AGRI-RÉSEAU: Comment différencier les principales espèces de coccinelles retrouvées au Québec (PDF file, in French)
SPIDERS

People are often afraid of spiders, yet most are far less fearsome than we think—and, more important, far more useful.

Understand

Some species of spiders only appear in summer; others take refuge in our homes and are active almost all year long.

They are fond of insects of all kinds, and prey on them in all sorts of places: in gardens, near bodies of water, in woodlands, etc.

+ Because they eat such large quantities of insects, spiders help limit the destructive harm done by nuisance insects such as caterpillars, plant bugs and aphids in both natural and agricultural ecosystems.

At your service – Inside homes, especially in basements, spiders also help get rid of unwanted guests like earwigs, ants, etc.—indeed, Health Canada recommends tolerating their presence.

− Spider webs (in the basement or garage, in far corners, etc.) are associated with neglect, uncleanliness and humidity, which are all conditions that attract the insects spiders feed on.
− Some people fear spiders to such an extent that they suffer from arachnophobia (a condition that can become debilitating).

A bad reputation: is it deserved?

Are spiders dangerous to humans? Montreal’s Insectarium has carefully studied the issue. Some highlights of their findings:

• Spiders don’t sting, because they have no stingers.
• Spiders tend to flee danger. But they can bite, using their chelicerae, the appendages resembling fangs that they normally use to pierce their prey.

Does a spider bite hurt? The chelicerae on spiders found in Quebec are usually too small to pierce human skin. A bite is unlikely, and will probably only happen if the spider is stuck between your skin and some object; any pain is generally fleeting.

• Almost all spiders secrete venom, which paralyses their prey. Only about thirty of the 40,000 species of spiders worldwide produce venom that is dangerous to human health. None of those species is found in Quebec.
• Spiders do not transmit disease. Some people develop allergic reactions when they come into contact with spiders, but such reactions have nothing to do with the spiders’ venom.
Prevent

Keep this pest at a distance

- Fix any humidity issues in the basement, and use a dehumidifier if necessary.
- Sweep or vacuum often.

No free lunch – A clean house attracts fewer nuisance insects, which means a more limited menu for spiders!

- Make sure the house is airtight: among other things, check seals around doors and windows and repair them if necessary.
- Repair door and window screens if necessary; also, install screens over exhaust and air vents.
- Inspect items that have been left outside before bringing them in the house, so as not to bring more insects inside.
- Remove clutter from around the walls of the house: don't leave items lying on the ground; they can trap moisture, which attracts wood lice, earwigs, etc.
- Limit outdoor lighting, or connect lamps to motion detectors.

Take Action

Get rid of this pest for good

- Remove spider webs inside the house every day. Their owners will no longer be able to capture prey, and will move out.

Limited effectiveness – Some spiders “hunt” without webs, so removing webs won’t chase away all eight-legged visitors.

- If you see a spider near a door or window, use a soft brush to chase it outside.

If you have a large infestation that justifies use of a pesticide, you can find products registered for use on spiders in hardware stores and garden centres. Some repellents can be applied to the outside of doors and windows to keep spiders from entering.

Other products can be applied or sprayed indoors, on door and window frames, along baseboards, under furniture, in closets and in crevices.

Lastly, you can also hire a pest management specialist.

Find out more

- SPACE FOR LIFE: Controlling spiders
- HEALTH CANADA: Spiders – Pest Note (PDF file)
- HEALTHY CANADIANS: Spiders
**EARWIGS**

With their predatory appearance and pincers on their abdomens, earwigs are the subject of some macabre myths, but are actually inoffensive to humans.

**Understand**

Earwigs hide in cool, dark and moist places; e.g., under stones, amid garden waste, inside the tubular frames of garden furniture, as well as in cracks and crevices. They emerge after sunset to search for food. When they are found in houses and other buildings, their presence is usually accidental.

- Earwigs play a beneficial role in the garden, feeding on decaying organic matter and insect larvae, including those of slugs and aphids.

- They may chew on the tender shoots, leaves and blossoms of ornamental plants and vegetables.

  **Unjustly accused** – Earwigs are often incorrectly blamed for damage actually caused by slugs, aphids and other nocturnal insects. Take a tour of your garden at night, armed with a flashlight, to find the real culprits.

- Earwigs sometimes gather in large numbers in the garden and near the house.

- Although earwigs don’t do any damage in homes, they do make their way inside occasionally.

**About those myths** – Earwigs got their name because of a persistent myth that they crawl into people’s ears to gnaw on their eardrums or lay eggs in their brains! Since these insects do look for hiding places in narrow cavities, perhaps one did wind up in someone’s ear by accident, giving rise to the superstition.
Prevent
Keep this pest at a distance
Earwigs are useful, so it's best to try to control their numbers rather than eradicate them.

• Start gardening as early as possible in the spring, to give your plants a head start before the earwig larvae emerge in June.
• Clear the soil around the house foundation: pick up dead leaves, wood, mulch and debris, for example.
• Spread diatomaceous earth in cracks and crevices around the house.
• Repair any outside taps that are leaking.
• Make sure downspouts direct water away from the foundation.

Take Action
It's rarely necessary, but it's possible to capture earwigs. Set out small bowls or saucers containing a little fish oil, which they are attracted to. Then drown them in soapy water.

Find out more
• SPACE FOR LIFE: Earwigs
• HEALTHY CANADIANS: Earwigs
WHITE GRUBS

They say the grass is always greener on the other side… But that won’t be true if your neighbour’s lawn is prey to white grubs, which are among the most difficult lawn pests to get rid of.

Understand

White grubs are in fact the larvae of three different insects:

- **The European chafer**, common in the Montreal, Laval, Basses-Laurentides, Lanaudière, Montérégie and Outaouais regions.
- **The Japanese beetle**, well established in southern Quebec.
- **The June beetle** (also called the June bug) is concentrated mainly in the Greater Quebec City area, including parts of the Centre-du-Québec and Est-du-Québec regions.

The grubs are white or yellowish, with wrinkled C-shaped bodies. When they hatch, they are small, but eventually reach up to 4 cm in length depending on the species.

| + White grubs are a source of food for many animals and birds: skunks, groundhogs, moles, raccoons, blackbirds, starlings, etc. |
| $-$ The larvae damage lawns by eating grass roots. The grass wilts, turning yellow and detaching from the soil, like a carpet. |
| $-$ Turf eaten by the grubs is often assaulted by birds and small mammals looking for the larvae. |
| $-$ If more than half of your lawn has been affected, you may need to replace all of the turf, which can be very expensive. |

**Signs of an invasion** – An invasion is diagnosed if the soil underneath 0.1 m² (one square foot) of lawn contains:

- 7 or more European chafer larvae
- 12 or more Japanese beetle larvae
- 3 to 5 June beetle larvae

QUESTIONS? CALL CAA-QUEBEC RESIDENTIAL ADVISORY SERVICES! 1 888 627-6666
Prevent
To combat white grubs, preventive maintenance and biological control methods seem to be the most effective weapons.

Test of strength – A healthy lawn is more resistant to attacking grubs.

Help your lawn hold out
• Keep the grass mowed high, to around 8 cm (3 in.), so that the soil underneath stays fresh and moist.
• Fertilize the lawn using slow-release fertilizer, with a dosage properly suited to the soil and turf type.

The right dose – You can confirm the necessary product dose using one of the many calculators available on the Web.

• Limit outdoor lighting, especially in summer: this is egg-laying season for beetles and chaferis, which are attracted to light. It’s best to use lamps connected to motion detectors.

Insecticide in preventive mode?
Imidaclopride, an insecticide sold under the brand name Merit, curbs proliferation of white grubs. It has been banned by several municipalities, and its use is restricted to lawn-care companies. This product is dangerous to bees and birds, so its use is criticized by environmentalists.

Take Action
Heavy artillery
If the damage is in a limited area, you can try this solution:
• Remove all of the dead turf and turn the soil, removing all of the white grubs by hand.
• Add quality compost to the soil.
• Reseed or lay sod.

Biological offensive
The best time to attack white grubs is mid-August. A biological control method consists in using an “army” of nematodes (e.g., *Heterorhabditis bacteriophora*), which are microscopic worms that will kill the young larvae.

Control with nematodes is targeted and not dangerous to humans, animals and the environment. You can buy them in any good garden centre.
• For best results, water the lawn abundantly.
• Mix the nematodes with water, following the instructions for use, and then apply them to the lawn.
• Apply the treatment late in the day, or on a cloudy or rainy day.
• Keep your lawn moist for up to a week after the treatment.

Find out more
• FÉDÉRATION INTERDISCIPLINAIRE DE L’HORTICULTURE ORNEMENTALE DU QUÉBEC: Implantation et entretien d’une pelouse durable (PDF file, in French)
• SPACE FOR LIFE: White grubs
• SPACE FOR LIFE: European chafers
WASPS

If wasps are about, we are on our guard: the memory of a painful sting is usually enough to make us wary!

Understand

There are three main types of wasp nest in Quebec:

- The smallest is about the size of a hand and looks like an umbrella. It houses between 15 and 200 paper wasps (genus Polistes), which are not particularly quick to sting.
- Hidden nests (underground or in dark places), which are home to much nastier wasps: yellow jackets, or Vespula.
- The largest nest, with room for up to 5,000 wasps. Common sites are roof overhangs, porches and trees. It may contain yellow jackets, but may also contain hornets (Dolichovespula), which are not very aggressive.

Bees and wasps, what’s the difference? Wasps are less hairy and slimmer than bees, and their stripes are more distinct, often a bright yellow. The other significant difference is that wasps are much more likely to attack humans. Unlike a bee, which can sting only once and then dies, a wasp can be a repeat offender if it so chooses!

The main reason wasps come and go is to find food. They consume sugary foods, like nectar and honeydew, a substance produced by aphids. Wasps also feed on ripe fruit and berries (like raspberries) as well as meat. They help themselves to sources of food in recycling and garbage bins.

+ Wasps help to pollinate flowers.
+ They eliminate nuisance insects.

− As the summer progresses, wasps are increasingly likely to be uninvited guests at outdoor tables, attracted by the various products available: juices, soft drinks, etc.

It's nothing personal – Wasps, unlike mosquitoes, don’t feed on human blood. If they sting, it is merely in self-defence.

− In addition to pain, a wasp sting can provoke a reaction (or even anaphylactic shock) in people who are allergic or especially sensitive to wasp venom.
Prevent

Keep this pest at a distance

- When eating outdoors, keep food in covered containers, and quickly put table scraps in a reclosable garbage bin.
- Don't buy funnel-shaped wasp traps: they contain bait that tends to attract a lot of wasps!
- If a wasp is circling around you or lands on you, don't make any sudden movements.

**Chain reaction** – Gently wave away the wasp: if it is attacked, it will fight back. And a crushed wasp even releases a chemical alarm that “calls in reinforcements”—other wasps.

- Never go near a wasp's nest if you can help it, especially in late summer.
- Take particular care around recycling bins where discarded wine, juice or soft drink bottles that haven't been rinsed can attract wasps; the bins should also be placed well away from high-traffic areas—especially where children play.

Take Action

Get rid of this pest for good

- If you find a nest in an area where it poses no risk, leave it where it is until it has been abandoned (usually by November or December).
- If the nest does pose a threat, call in a professional exterminator.

If you want to do the job yourself

- Earliest is best: spring is the least dangerous time. As the summer progresses, the nest gets bigger.
- Wait until dusk (when all of the wasps will be back in the nest).
- Wear protective gear including a net covering your head.
- If you need light, use a low-intensity flashlight and use a red filter over the bulb to avoid alerting the wasps.
- Completely enclose the nest in a plastic bag, detach the nest, and seal the bag. Strengthen the bag by placing it in a second bag to make sure no wasps escape, then plunge the bags into a bucket of water. Lastly, pierce small holes in the bags to drown the wasps.

Find out more

- SPACE FOR LIFE: Wasp and bee stings
- HEALTHY CANADIANS: Wasps
MOSQUITOES

As pests go, mosquitoes have an uncanny ability to truly bother us—and sting to their hearts’ content! They can also transmit West Nile virus, which doesn’t help their popularity...

Understand

Mosquitoes thrive wherever there is shallow, stagnant water, whether in the country, in the suburbs or in the city. Ponds, swamps and ditches are excellent incubators for their larvae, as is water lying dormant in tires, gutters or birdbaths.

Why do they attack?

Although mosquitoes draw energy from flower nectar, for females, blood is an indispensable food supplement for egg formation. They are attracted by people’s movements and the carbon dioxide (CO₂), heat and odour that they give off.

+ Mosquito eggs, larvae and nymphs are a source of food for many aquatic organisms, while adult mosquitoes are eaten by many other insects as well as birds and bats.
+ Mosquito larvae filter food (algae, fungus and debris) in ponds, helping keep these bodies of water clean.

— Mosquitoes can disrupt outdoor meals and other activities.
— Their stings cause itching.

Soothe the irritation — To alleviate itching, simply rub ice on the site of the sting. Another option is to rub it with a washcloth soaked in water and baking soda.

— Mosquitoes can carry West Nile virus, which in some instances (less than 1% of cases) can lead to a more severe condition, such as meningitis or encephalitis.
Prevent
Keep this pest at a distance

Stagnant water is a no-no! – The more you eliminate sources of standing water around the house, the greater your chances of keeping the mosquito population down.

- Make sure water doesn't pool in your roof gutters (or around the drain, if you have a flat roof).
- Empty wading pools, and flip over wheelbarrows and watercraft.
- Remove water accumulating on pool covers, in saucers under flowerpots, etc.
- Cover garbage cans, recycling bins and other containers, or drill holes in the bottoms of containers that cannot be covered.
- Replace water in birdbaths and pet bowls at least twice a week.
- Cut back dense vegetation (e.g., hedges, stands of brush) where mosquitoes congregate.
- Put your garden furniture etc. in open areas.
- Check the condition of mosquito screens.
- If you have a water garden, add fish that eat mosquito larvae.
- Make sure outside doors close hermetically.
- Limit outdoor lighting.

Are bugs attracted to light at night? Yes and no. They rely on diffuse moonlight to orient themselves. Insects are drawn to a bright light source such as an exterior lamp because it resembles the moon—but it disorients them so much that they hover around it to the point of exhaustion!

- Buy low-intensity, narrow-beam bulbs (LED bulbs are a good choice) or yellow bulbs, which attract fewer insects. A light connected to a motion detector is another good option.

Take Action
Get rid of this pest for good

High tech, but not necessarily high efficiency – Some devices (e.g., ultrasound) that are claimed to eliminate insects aren't particularly effective against mosquitoes. This is true of ultraviolet lamps surrounded by electrified grates. According to studies conducted by the Montreal Insectarium, only 3% to 5% of “zapped” insects are mosquitoes!

There are forty or so Quebec municipalities that spread biological larvicides to reduce mosquito and blackfly populations. These treatments, applied directly to the bodies of water where larvae develop, are supervised by the Ministry of Sustainable Development, Environment and the Fight against Climate Change.

Note that using this type of treatment on private property won't eliminate mosquitoes there, because they fly wherever they want. Measures taken on a municipal scale are therefore much more effective.

Find out more
- PORTAIL SANTÉ MIEUX-ÊTRE: Protecting Yourself from Mosquito Bites
- PORTAIL SANTÉ MIEUX-ÊTRE: Reducing the Number of Mosquitoes in your Surroundings
- HEALTH CANADA: West Nile Virus (WNV)
FLIES
The common housefly (Musca domestica) is certainly one of the most annoying pests, and it sure is common! Unfortunately, they are very much at home in our homes, because they find everything they need to survive there.

Understand
Houseflies have sponge-like mouthparts instead of teeth, so they can only ingest liquids—sweet liquids, preferably. They can liquefy the surface of solid foods by coating with their saliva and then sucking up the resulting mixture.

Females lay their eggs in decaying organic matter—household waste being a perfect example. The larvae, which look like tiny white worms, are called maggots.

“Country cousins” – Flesh flies are blue or green in colour, and different from houseflies. They are less attracted to food, and develop in manure or animal carcasses, for example.

Houseflies are disease carriers, mostly because they come and go on all kinds of surfaces. They can be vectors for more than a hundred pathogens (viruses, bacteria, parasites), among them salmonella, because of their fondness for organic matter, waste, and the like.

Prevent
• Check all door and window screens and make repairs if necessary.
• Keep kitchen surfaces clean and wash dishes promptly.
• Store food in sealed containers.
• Put household waste in sealed garbage bins.
• Clean garbage bins often.
• Rinse packaging before putting it in the recycling bin.

Take Action
Prevention and cleanliness are enough to keep flies at bay. If any happen to get in the house, you can open a door or window and wait for them to fly out—or go after them with a fly swatter.
Fruit flies: a particularly pesky pest

Despite their small size, *Drosophila* (more familiarly known as fruit flies) can quickly invade a kitchen. Not surprising, considering that each female can lay up to 35 eggs a day!

**Where do they come from?** When you buy fruits at the grocery store and bring them home, some of them are already carrying fruit flies and their eggs. In summer, fruit flies sometimes get into the house from outside as well.

These intruders won’t live very long, however, if you promptly put over-ripe fruit or tomatoes in the garbage outside. For the same reason, you should quickly store any unused portions in the refrigerator or a sealed container.

It’s also a good idea to rinse out alcoholic-beverage bottles and glasses as you serve them; the same goes for empty jam jars awaiting recycling, etc.

**How to eliminate them**

Once you’ve cleaned and removed all sources that can attract flies, you need to trap and dispose of the intruders. Here are two ways to do this.

- Pour about 2 to 3 cm of cider vinegar or balsamic vinegar into the bottom of a glass. Add a few drops of dishwashing detergent and stir well until it is dissolved. The detergent softens the liquid, so the flies will slip into it and drown more easily. Set the glass in the infested area.
- Put a piece of overripe fruit without the peel, a bit of wine or a bit of balsamic vinegar in a bowl. Cover it with plastic film and pierce holes in the film with a fork. The fruit flies will make their way in, but they won’t be able to get back out (as long as the holes aren’t too big).

Put the trap in the freezer for 10 minutes to kill the captured flies. You can then reset the trap without cleaning it, and throw it out after a few days (or sooner if you used an especially overripe piece of fruit...).

**Find out more**

- **SPACE FOR LIFE**: [Flies and mosquitoes](#)
- **HEALTHY CANADIANS**: [Clustering Flies](#)
Conclusion

Adaptability is sometimes the key

Living in harmony with nature is all very well—but some species simply aren’t welcome in our homes. With that in mind, this handbook has outlined various methods for minimizing their presence.

Of course, it is up to you to conclude, depending on the animal or insect involved, whether taking action is essential (as in the case of carpenter ants and the destruction they can wreak, for example) or not really worth the effort (as with house spiders, which are inoffensive).

Whatever you do, whether over the short or long term, to repel the pests that are bothering you, remember that there is always a regulatory framework in place: you can’t do whatever you please, even in the privacy of your home or garden! Wildlife management is a complicated business: any intervention must be well thought out, because some actions can have grave consequences for plant and animal life—even humans.

Now that many toxic (and often carcinogenic) pesticides have been banned and replaced by less dangerous products, pest management specialists have an array of increasingly acceptable methods for controlling undesirable animals and insects. And their approach to the problem has changed accordingly. Like them, we should prefer preventive methods to getting out the heavy artillery. And if drastic methods do prove to be indispensable, we must ensure that their impacts on health and the environment are minimal. The planet will be better for it!
List of products with low health and environmental impact

When preventive methods aren't sufficient to keep nuisance species away, you can choose the methods outlined below, which have low health and environmental impact.

These products aren't necessarily harmless, so it's important to employ them sparingly and follow the directions for use (if applicable).

### EXAMPLES OF NATURAL PRODUCTS THAT CAN BE USED AS REPELLENTS

<table>
<thead>
<tr>
<th>Product</th>
<th>Target species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chili peppers, black pepper</td>
<td>Animals (cats, dogs, squirrels, etc.)</td>
</tr>
<tr>
<td>Cloves, lavender, camphor, perfumed soaps</td>
<td>Clothes moths</td>
</tr>
<tr>
<td>White vinegar</td>
<td>Spiders and houseflies</td>
</tr>
<tr>
<td>Hen manure, dried blood meal</td>
<td>Squirrels</td>
</tr>
</tbody>
</table>

| EXAMPLES OF ACTIVE INGREDIENTS IN OVER-THE-COUNTER PESTICIDES

#### Biopesticide

<table>
<thead>
<tr>
<th>Product</th>
<th>Target species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citronella oil¹</td>
<td>Mosquitoes and other biting insects</td>
</tr>
<tr>
<td>Capsaicin (active component of chilli peppers)</td>
<td>Animals (cats, dogs, squirrels, skunks, etc.)</td>
</tr>
<tr>
<td>Piperine (active component of black pepper)</td>
<td>Animals (cats, dogs, squirrels, skunks, etc.)</td>
</tr>
<tr>
<td>Black pepper oil</td>
<td></td>
</tr>
<tr>
<td>Diatomaceous earth (silicon dioxide)</td>
<td>Ants, cockroaches, earwigs, etc.</td>
</tr>
<tr>
<td>Insecticidal soap</td>
<td>Plants infested with mites, aphids, whitefly, thrips</td>
</tr>
<tr>
<td>Pheromones (on glue traps)</td>
<td>Flour moths</td>
</tr>
<tr>
<td>Boric acid</td>
<td>Ants, cockroaches</td>
</tr>
<tr>
<td>Borax</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other products</th>
<th>Target species</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEET, Icaridin (topical repellents)</td>
<td>Mosquitoes and other biting insects</td>
</tr>
<tr>
<td>Pyrethrin (insecticide)</td>
<td>Ants, cockroaches</td>
</tr>
<tr>
<td>Permethrin (insecticide)</td>
<td>Spiders</td>
</tr>
</tbody>
</table>

---

6. A pesticide is generally composed of formulants ("non-active" ingredients, e.g., oil, paste) plus one or more active ingredients. An active ingredient is a compound that acts on the target pest or pests. To find out what the active ingredient of a particular product is, look on the label under the heading "Guarantee."


QUESTIONS? CALL CAA-QUEBEC RESIDENTIAL ADVISORY SERVICES! 1 888 627-6666

41
How to choose an exterminator

Need to call in a pest management professional? As with any service provider contract, to make an informed decision, you should shop around: get at least three estimates and compare them.

Contractors who visit should take the time to identify the invasive species, locate the areas to be treated, and propose a comprehensive extermination program. For example, to rid your home of mice, it isn’t enough to set traps; a good exterminator will also locate and seal off the openings where the invaders made their way in to your home.

Conditions and criteria for selection
The person offering extermination services must hold a pest control contractor permit issued by the Ministry of Sustainable Development, Environment and the Fight against Climate Change.

Make sure the contractor will be assigning the work to certified technicians: whoever performs the actual extermination work or, failing that, the person supervising them on site, must have a certificate from the same ministry.

Note that certified technicians have passed the Ministry’s exam, but have not necessarily taken training, because it isn’t mandatory. **Tip:** choose a company with trained employees.

Also check that all pesticides to be used on your property are products registered for use by the Pest Management Regulatory Agency (PMRA) and—this is very important—that they will be used for their intended purposes.

Prefer a company that:
- belongs to a recognized association, such as the *Association québécoise de la gestion parasitaire (AQGP)* (page in French), a group of entrepreneurs that works to promote adherence to standards and a code of professional practice in the pest control industry; and
- has sufficient liability insurance in case of an accident.

AQGP members, as well as all pest management companies approved by CAA-Quebec, are required to have such insurance.

To ensure a job well done
For your safety as well as to ensure the success of the operation, the contractor must provide you with recommendations for before and after the treatment (e.g., whether you have to be absent from the property and for how long).

Note also that many extermination treatments require a follow-up visit (for example, eggs and larvae of certain insects may survive an initial pesticide application).

The contract should also include a warranty, whereby the exterminator makes a commitment (with a time limit) to return for follow-up action or, in the event that the pest returns, emergency treatments. The warranty, however, cannot contain a guarantee that the problem will not recur, because other unwanted visitors could always show up in the future.
Choosing an approved supplier. Just one more key to zero stress.

For all your home-repair needs, trust our Approved Residential Suppliers, selected based on rigorous criteria!

- Professionals from a variety of fields, including pest management
- Member-exclusive discounts of up to 5%*
- Mediation service in case of a disagreement**

HIRE A COMPANY YOU CAN TRUST 1 888 627-6666 caaquebec.com/as
Your opinion about this handbook really matters to us!

Please take a few minutes to complete the survey at caaquebec.com/survey.