



RODENT PROBLEM?

Protect your Home from Rats and Mice without Harming Wildlife



Integrated Pest Management for Rodents: **A Guide for Residents**

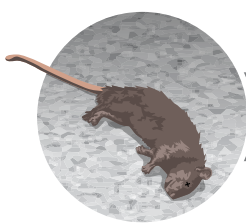
Rodents are wild animals that will naturally seek food and shelter. When they move into places that people live, rats and mice can cause property damage, contaminate food and pose risks to human health. There are many methods to get rid of rodent problems, or better yet – prevent them from occurring in the first place. However, certain methods of rodent control can have unintended effects on pets or wildlife.

Know the risks of rodenticides

- **Direct (primary) poisoning:** pets, children and wildlife can die or be seriously hurt if they eat the poison bait
- **Indirect (secondary) poisoning:** natural predators like hawks and owls can die or suffer long-term effects from eating poisoned rodents. Losing these natural rodent predators can make the pest problem even worse. Other wildlife like fishers, wolves and coyotes can also be affected



**TARGETED RAT
OR MOUSE EATS
RODENTICIDE**



**RAT OR MOUSE
BECOMES LETHARGIC
OR DIES, BUT POISON
STAYS IN THE BODY**



**PREDATORS FEED
ON POISONED
RATS OR MICE**



**NON-TARGETED
ANIMALS
BECOME SICK
OR DIE**

The most effective and economical long-term solution to get rid of a rodent problem (and prevent it from happening again) is to use an **Integrated Pest Management (IPM)** program. IPM is a decision-making process that includes six steps: Prevention, Identification, Monitoring, Thresholds, Treatment and Evaluation. This document explains how people can use these steps to manage rodent pests in and around their own home without harming pets or wildlife.

PREVENTION

PREVENTION IS KEY!

Simple rodent prevention methods, like rodent-proofing buildings and cleaning up rodent attractants, are by far the best way to manage rodents and prevent them from becoming a problem in the first place. This will also save money and help preserve property values in the long run. These methods can be done on your own with basic hardware supplies, or you can contact a pest management professional to help you rodent-proof your home.

10 TIPS | To prevent rodents around your home



KEEP RODENTS FROM GETTING INTO BUILDINGS

- » Seal all openings that are bigger than 6 mm (¼ in). A mixture of steel wool and caulking may be used for smaller holes.
- » Regularly inspect and repair entry points by covering with heavy gauge screening or 5 mm hardware cloth or metal mesh, ideally woven and galvanized to prevent edges from being gnawed and to prevent rust.
- » Use elastomeric sealants to seal long gaps, such as those between walls and floors.
- » Seal gaps anywhere pipes meet walls with escutcheon plates, securing to the wall with screws or sealant.
- » Install sheet metal kick plates on door exteriors.
- » Consider industrial door sweeps designed for exclusion (not just weather stripping).
- » Build outbuildings like sheds on concrete pads, **not** bare ground.
- » Native plants like wild mint are used by some Indigenous peoples to discourage rodents.
- » Prune back branches at least 2 meters from balconies, eaves and roofs.
- » Inspect and seal all structural lines that connect with or enter buildings at any level, such as utility lines and vents, pipes, electrical lines, sewer lines and drains, cable lines, dryer vents and exhaust vents.
- » Consider hiring a professional to identify problem areas and design a long-term IPM strategy.

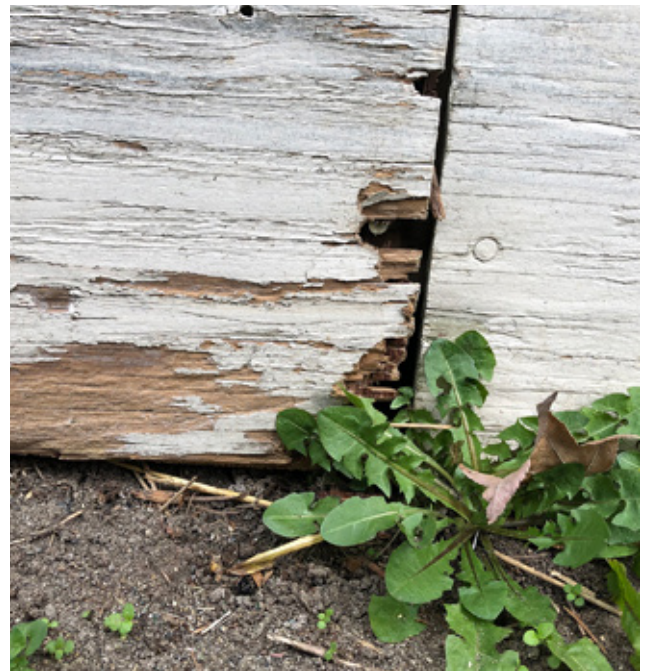


Tip: Rodent entry points

Mice can gain access through a dime-sized opening, while rats only need a quarter-sized hole.



Gaps under doors may allow rodent entry. Photo credit: Erin A. Ryan



Inspect and repair any holes or gaps around your home that may create rodent entry points. Photo credit: Erin A. Ryan

GET RID OF FOOD AND WATER SOURCES

- » Keep all garbage in solid containers with tight-fitting lids.
- » Keep rodents out of your backyard composter: keep it above ground or install mesh between the soil and the composter, use a tight-fitting lid, and avoid putting meat, dairy products or eggs in the bin.
- » Remove any food outside, such as fallen fruit or nuts, birdseed or leftover pet food.
- » Harvest gardens promptly. Don't leave produce over the winter.
- » Keep food prep and storage areas clean.
- » Choose hard-walled, sealable food containers and avoid leaving any unsecured foods out.
- » Eliminate water sources. Fix leaky taps and cover pools and hot tubs when not in use.
- » At the end of summer, clean the grease trap of your grill. Rodents will move into a grill since it provides shelter and food.



*Cluttered areas create prime rodent harbourage locations.
Photo credit: Erin A. Ryan.*

Residential Chicken Coops

Chicken coops are very attractive to rodents for food, water, and a warm home. Keeping rodents out is important to prevent disease spread and potential infestation to other nearby areas, especially in denser urban neighbourhoods.

To reduce the appeal of your chicken coop to rodents:

- Build the chicken run with strong gauge hardware cloth material, with mesh openings less than 1 cm (1/2 inch)
- Elevate 45 cm off the ground or, if elevation is not an option, lay a concrete foundation for easier cleaning and to prevent rodents from burrowing under it
- Hammer sheet metal flashing into the ground around the perimeter to create a barrier
- Remove potential attractants like feed, water, eggs, and chicken droppings, especially overnight. Sweep up after feeding and clean up droppings before nightfall
- Keep grass and vegetation cut low around the coop
- Regularly inspect and repair holes and rodent entry points.



GET RID OF PLACES WHERE THEY CAN HIDE OR LIVE

- » Remove unused clutter in and around buildings.
- » Demolish old or unused structures.
- » Clean up interiors, especially cluttered areas like garages, attics and basements. Move items off the floor at least 15 cm (6 inches) and away from the walls at least 30 cm (1 ft).
- » Keep building perimeters clear of vegetation and junk/debris.
- » Clear debris out from underneath porches.
- » Cut tall grass and weeds back from buildings.
- » Keep bushes and trees around buildings trimmed so that 15 to 20 cm (6 to 8 inches) above ground is clear.
- » Avoid vines or low-lying cover plants near homes.
- » Store firewood and lumber away from buildings in single file rows and at least 30 cm (1 ft) off the ground.
- » Place bagged items (such as grass seed, pet food, or hay) in hard-walled storage containers raised off the ground.



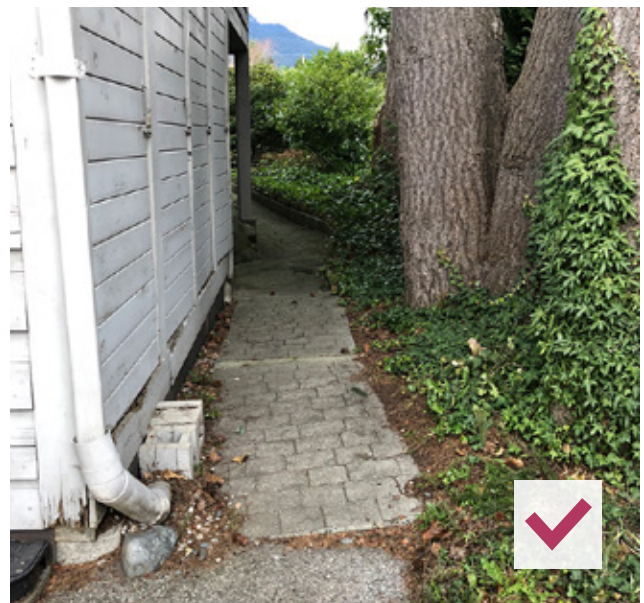
Avoid landscaping with dense bushes next to buildings and climbing vines, which create rodent harbourage and provide opportunities for rodents to climb and enter structures. Photo credit: Erin A. Ryan.

SAFELY CLEAN UP AREAS WHERE RODENTS HAVE BEEN

- » Wear gloves and a mask to clean up safely.
- » Rodents are attracted to the smells left behind by other rodents. Prevent rodents from coming by cleaning areas where they've previously been with pressure-washing or spot treating with bleach solution.
- » Get rid of droppings, nesting material and damaged food.
- » Clean urine stains, rub marks, or tracks with a mild bleach solution.

WORK WITH YOUR COMMUNITY TO PREVENT RODENT PROBLEMS

- » Share rodent prevention techniques.
- » Help neighbours who need assistance.
- » Organize community efforts to prevent rodent problems. Work together to prevent rodents in public spaces, or in shared or communal spaces such as apartments and townhouses.



Design landscapes that have less dense vegetation set away from buildings. Photo credit: Erin A. Ryan.

Protect Vehicles from Rodents

Rodents can enter vehicles parked around your home, causing damage by chewing on wiring, cables, hoses, plastic, or other car parts. They may even clog up filters or engine intakes with food or nesting materials. If left unchecked, damage can be serious to the extent that the vehicle is unsafe to drive and expensive to repair.

Rodents are attracted to the warmth of vehicle engines and certain materials used to make car parts. To keep your vehicle rodent-free, use many of the same methods you use to prevent rodents from your home:

- Ideally, park in a sealed garage with the doors closed, especially in cooler seasons.
- Pop the hood open after parking to dissipate engine heat faster.
- Park away from places known to attract rodents (such as waste bins, stored food, food gardens, leaf piles or thick vegetation). If possible, don't always park in the same spot.
- Remove downed leaves or other potential rodent nesting materials away from the vehicle.
- Don't keep food or food waste, such as wrappers, in the vehicle.
- Make noise to discourage nesting. Knock a few times on the hood or honk the horn before driving.
- Start up and move the vehicle regularly.
- If vehicles are parked outside for long periods of time, such as work camp vehicles, they should be checked for rodent activity.
- Monitor for signs of rodents to catch problems early. Check under the hood for nesting materials (such as bits of leaves, sticks, or fabric), droppings, chew marks, or odd scents through venting systems (heat/AC).

- Pets may show heightened interest under vehicles if rodents are present.
- Consider installing metal mesh around wiring harnesses, hoses, or openings that rodents could enter.
- Capsaicin-infused tape is available. Wrapping it like electrical tape around wiring or cables may deter rodent chewing.



Mouse nest on a car battery. Photo credit: Miles Homer.



Vehicle air filter nesting material.

IDENTIFICATION

There are many native rodent species that have important ecological value. They play a role in seed and spore dispersal, pollination, maintaining plant and species composition, and are an important food source for many predators in the ecosystem.

Of the many kinds of rodents in B.C. only three introduced species typically cause problems for people: Norway rats, roof rats and house mice. Norway rats usually live at ground level, while roof rats are agile climbers and prefer to live higher up. House mice nest in hidden, enclosed spaces using shredded, soft materials. Different control methods will be required for rats compared to mice.

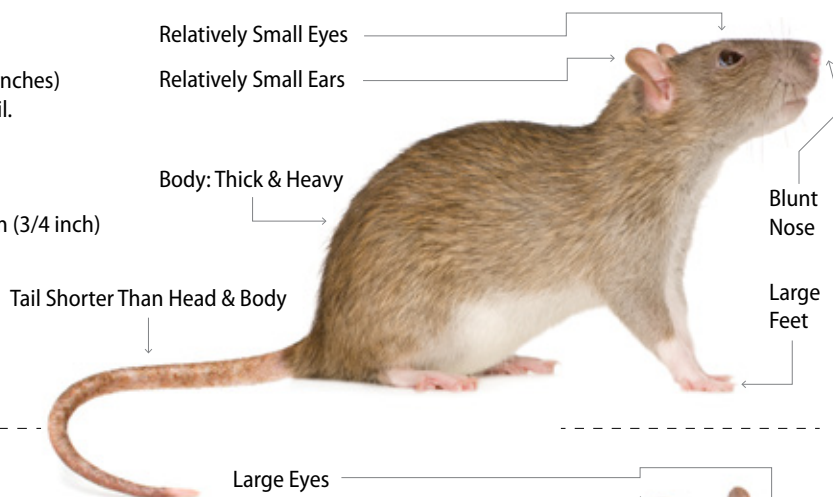
IDENTIFY THE TYPE OF RODENT

Norway Rat

Size: 30-45 cm (12-18 inches)
from nose to end of tail.

DROPPINGS:

Long, Rounded Ends
Avg. Length: 15-20 mm (3/4 inch)

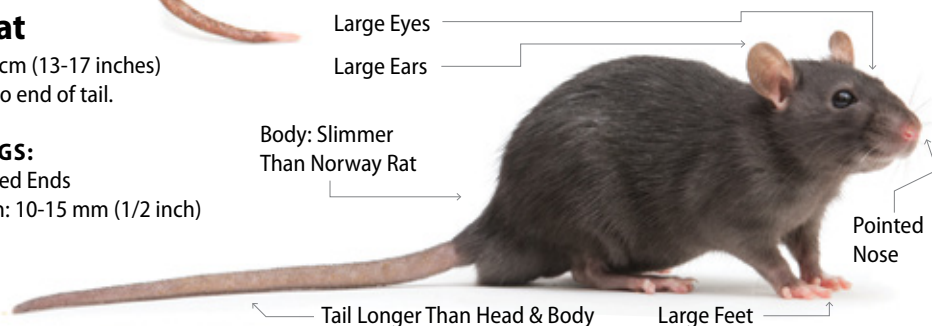


Roof Rat

Size: 33-43 cm (13-17 inches)
from nose to end of tail.

DROPPINGS:

Long, Pointed Ends
Avg. Length: 10-15 mm (1/2 inch)

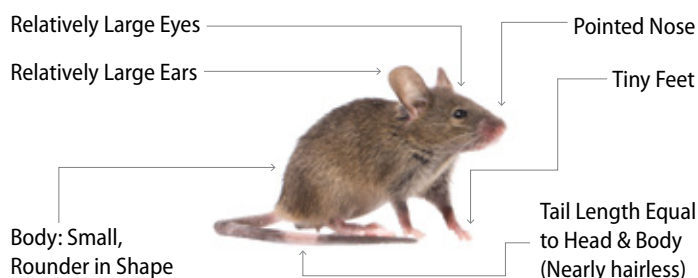


House Mouse

Size: 15-17 cm (6-7 inches)
from nose to end of tail.

DROPPINGS:

Small with Pointed Ends
Avg. Length: 4-7 mm (1/4 inch)



MONITORING

CHECK YOUR PROPERTY FOR PROBLEM AREAS

Regularly monitor for entry points, food or water sources that may lead to rodent problems. Complete inspections at least twice annually – ideally in the spring and fall to align with the seasonality of rodent problems. Watch out for signs of rats and mice to figure out where they may be.

Older buildings, outbuildings, sheds, or other structures that are vacant for a long period of time are particularly susceptible to rodents seeking harbourage. They should be checked frequently, especially if there are signs of rodents in newer buildings nearby. Log buildings with many small openings in the corners are also prone to mice.

LOOK FOR SIGNS OF RODENTS

- » Droppings and urine stains.
- » Burrows, holes or nests.
- » Runs, tracks and rub marks.
- » Chew marks and chewed food packages.
- » Noises, especially at night when rodents are most active.



*Rodent droppings are a sure sign of infestation.
Photo credit: Sofi Hindmarch.*



*Shredded, soft materials are typical for rodent nests.
Photo credit: Robert Horne.*



*Look for holes that may be entry points to structures or rodent burrows.
Photo credit: Sofi Hindmarch.*

THRESHOLD

KNOW WHEN TO ACT

It's time to act **as soon as you notice signs** of rats or mice from your monitoring. Rats and mice reproduce quickly. Ignoring an occasional invader can result in a much more damaging infestation.

RATS AND MICE CAN:

- » Damage property by chewing on materials like insulation, siding and wallboard.
- » Start electrical fires by gnawing on wiring.
- » Eat and contaminate stored food.
- » Transmit diseases.



Wiring chewed by rodents.

Health Risks from Rodents

Hantavirus Pulmonary Syndrome, while rare, is a serious illness caused by a virus that may be transmitted by rodents. In Canada, the virus is only found in one type of wild mouse – the deer mouse – that can spread the virus in their urine, droppings or saliva. House mice, Norway rats and roof rats are not known to transmit the virus.

People can be infected when they breathe in contaminated air or, rarely, if they are bitten by a deer mouse with the virus. To protect yourself, avoid contact with deer mice and take extra care if living, working, or playing in areas near deer mouse habitats. If cleaning up rodent infestations that may be deer mice, additional precautions should be taken to avoid potential exposure. Get more information about how to protect yourself from Hantavirus Pulmonary Syndrome from [Health Link BC¹](#) or the [BC Centre for Disease Control²](#)

¹ www.healthlinkbc.ca/healthlinkbc-files/hantavirus-pulmonary-syndrome

² www.bccdc.ca/health-info/diseases-conditions/hantavirus-pulmonary-syndrome-hps

TREATMENT

Revisit Prevention Principles First

The basic principles outlined in the Prevention section also work to treat existing rodent issues. To get rid of a rodent problem, it's essential to undertake exclusion and sanitation measures so rodents don't simply come back. Trapping or baiting alone will **not** work in the long term.

First, complete rodent-proofing structures with basic exclusion measures and clean up potential rodent attractants. Then you can remove any remaining rodents with traps or other techniques outlined below. You may also consider hiring a professional to assess and effectively seal structures, while avoiding locking animals inside.

SELECT THE BEST METHOD

- » Consider the rodent type, population numbers and location.
- » Choose options that will avoid harming people, pets, birds and other wildlife.

SNAP TRAPS

Snap traps are the best treatment option. They are effective and kill rodents quickly and humanely. When using snap traps, follow these best practices:

- » Choose the right one. Rat traps and mouse traps are different sizes. Select traps with the most spring power available – these are the most reliable and humane. Captive bolt traps are also available.
- » Protect children, pets and wildlife from getting injured by traps. Enclose them in tamper-proof stations, especially when set outside, or put them in inaccessible areas.

- » Set traps along walls where rodents travel, placing traps about one meter apart with the trigger plate closest to the wall.
- » Use bait like dried fruit, peanut butter (mixed with oats), cheese or any other food they've already been eating.
- » Leave the baited traps out for several nights before setting them, so the rodents get used to them.
- » Check traps daily.
- » Wear gloves to handle the trap and all dead rodents. Bury, burn or wrap the dead animal in plastic and put it in the garbage.
- » Re-use traps. They will be more attractive to other rodents than new traps, as the remaining scents are attractive.
- » Reset traps in 2 to 3 weeks to catch maturing rodents. You won't get long-term control if you don't catch them all!



*Snap traps are the best choice when control methods are necessary.
Photo credit: Conrad Berube.*

RODENTICIDES (RODENT POISONS)



Caution

Rodenticides are highly toxic and can pose a risk to people, pets and wildlife. Only consider using as a last resort, for a limited time to initially knock down a high population and in conjunction with other IPM measures.

Many rodenticides have restricted uses in B.C. Certain commercial formulations are prohibited for use by anyone around residential properties. Visit www.gov.bc.ca/RodentIPM to learn more.

When using rodenticides, follow these best practices:

- » Use only domestic class rodenticides for personal use in and around the home.
- » Only use rodenticides as a targeted short-term treatment. Never use as a permanent or preventative control method.
- » Choose least-toxic formulations first, like corn cellulose.
- » Always read and follow the label directions. Talk to the pesticide vendor if you have questions.
- » Use tamper-proof bait stations.
- » Never place or store poison bait in areas where children, pets or other animals can access the bait.
- » Never scatter poison baits over the ground or inside a building.
- » Wear gloves when handling rodenticides.

- » Properly dispose of any leftover bait and dead rodents. Be aware rodenticides can cause rodents to die and decompose in hard-to-reach places which leads to a terrible smell and insect infestations. See the “Disposal of Rodenticides” fact sheet at www.gov.bc.ca/RodentIPM.
- » If hiring a professional, discuss non-poison options. Avoid pest control companies that offer recurring rodenticide baiting programs without addressing rodent exclusion and prevention measures for your home.

OTHER TREATMENT METHODS

Birds of prey (raptors), like owls and hawks, are natural predators of rats and mice. Encourage raptors in your area by protecting natural habitat. Consider installing an owl box if the area permits it.



Natural predators like this barn owl help keep rodent populations in check.

One-way doors and live cage traps are available to remove animals from inside buildings. Traps must be checked frequently and captured rodents should be immediately released outside or humanely destroyed. Make sure all rodent-proofing has been completed first so rodents don't just return inside!



Tip:

Rats will venture further and may exit structures through installed one-way doors, but mice tend to nest and stay indoors. Mice are more likely to require other methods to remove them from buildings.

NOT RECOMMENDED FOR RESIDENTS

- » Multiple-catch traps catch rodents alive, but if not checked and emptied frequently will cause significant stress, suffering and eventual death for caught animals.
- » Glue boards or glue traps are widely considered to be inhumane and may also catch birds, small wildlife or even pets.
- » Repellents (e.g., odour-based sprays, ultrasonic devices) may initially work, but eventually rodents get used to them. Rodents will continue to cause issues without preventative measures, such as removing attractants and maintaining structures.
- » Some cats will kill mice or rats but are not an effective way of controlling an infestation, and may be harmed by eating poisoned rodents. Outdoor cats will also kill significant numbers of birds and can have devastating impacts on local wildlife



Protect people, pets and wildlife by placing snap traps in contained stations or inaccessible places. Photo credit: Conrad Berube

EVALUATE

HOW WELL IS YOUR RODENT INTEGRATED PEST MANAGEMENT (IPM) PROGRAM GOING?

- » Consider if any improvements can be made, such as different baits, moving trap placements or using more preventative measures.
- » If using rodenticides, have a goal and an end date for when they will be removed. Rodenticides should never be used as a rodent prevention strategy or as a replacement for an ongoing IPM program.
- » Make sure you get them all. Rodents take 2 to 3 weeks to mature, so reset traps every 2 to 3 weeks until you don't catch any more.
- » Once your rodent problem is under control, re-visit prevention methods to stop it from happening again.
- » Consider hiring a professional if your program isn't working. Ask questions in advance about what their IPM plan is, and what recommendations they can provide to rodent-proof your home.

For More Information

For more information about the regulation and appropriate use of pesticides in British Columbia, please visit www.gov.bc.ca/PestManagement or email BC.IPM@gov.bc.ca.

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Ministry of
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