

# Living with Wildlife in BC

## RODENTS #4

“Living with Wildlife” is a series of nine wildlife management guides for the agricultural and natural resource sectors, as well as rural land owners. Options for wildlife management, worker safety, and animal deterrents are provided for each species. Many guides suggest completing wildlife conflict management plans. Web links to the guides and other resources are on the back page. Consult the “Conflict Reduction Guide” for wildlife deterrent management options.



*Black Rat*

Many rodents have no impact on crops while others cause from minimal to significant damage. Proper identification and assessment of damage is important for rodent management. Trapping is effective for small populations and is the preferred method over the use of poisoned bait, which can harm non-target animals such as dogs, hawks, owls and snakes.

### **Northern Pocket Gopher, *Thomomys talpoides* and Coast Mole, *Scapanus orarius***

Pocket gophers and moles are small burrowing mammals that are not related, but are often confused, because of their similar habits. Pocket gophers are found in the interior, whereas the mole is restricted to the south coast and Fraser Valley. Pocket gophers spend most of their time underground eating roots but will also eat stems above ground. Moles eat insects and worms so are not considered plant pests. The underground burrowing activities and earth mounds of both species can have from little to significant impact on crops. Small earth mounds are visible where new tunnels are being made.

#### **Management:**

If only a few individuals are present, round tunnel traps may be placed in an active tunnel, which kills the animal instantly with a cinch wire. Having dogs on the property can also be a deterrent to moles and pocket gophers. An effective strategy is to methodically use several traps in one area before moving to another site. Use at least two traps facing in opposite directions in a tunnel. Flag traps to find them and monitor often since traps can get filled with dirt. Trap can be left throughout the year to make sure the population is in check.

When crop damage is significant, the use of poisoned bait may be necessary but must be placed inside the tunnel. Use a hand-probe to locate the tunnel and create a hole for inserting poisoned bait. Strychnine, zinc phosphide and chlorophacinone are registered for use with for mechanical “burrow builder” equipment when used by a pesticide applicator. Applicators are required to place pesticides in underground tunnels, and then close the tunnels so the poison is not eaten by other wildlife. Check labels to make sure that products are used and stored safely.



*Pocket Gopher*

These baits are poisonous to humans, domestic animals and non-target wildlife so use as a last resort. Follow manufacturers' instructions and refer to MSDS sheets. Keep children, pets, and domestic animals away from treated areas. Where possible, remove rodent bodies and bury or dispose of them in a safe manner. If bringing to a landfill, double bag and notify staff when dropping off.

# On the Farm

## **Yellow-bellied Marmot, *Marmota flaviventris***

Common to southern interior valleys, the Yellow-bellied marmot is about .5 meter/20 inches long and weighs about 2.5 kilos/5 pounds. Marmots dig a system of tunnels, often with rocks or tree roots at the entrance for support. A male will defend a territory with one or more females. Marmots are not usually attracted to agricultural produce but become a problem when they burrow under rocks, logs and buildings. Marmots have been known to live under and in stored apple bins causing fecal contamination to storage areas.



*Yellow-bellied Marmot*

## **Columbian Ground squirrels, *Spermophilus columbianus***

Averaging 34 cm/14 inches including a bushy tail, ground squirrels are active from May to August. They have been exterminated from agricultural areas in much of their interior range. Ground squirrels live in colonies excavating burrows and tunnels with several entrances. They favor grasses and flowering plants, especially clover. Coyotes, badgers, hawks, and bears are natural predators.



*Columbian Ground Squirrel*

### **Management of marmots and ground squirrels:**

- Assess whether animal activity or damage to crops requires control.
- Many breeds of dog will keep out ground squirrels and marmots.
- If using live traps or kill traps, ensure that they are the right size for the target rodent.
- Consider hiring an experienced trapper if rodent populations are very high.
- Use traps inside PVC tubes or on top of a wood platform to prevent getting clogged with dirt and place near active tunnel entrances.
- If using rodenticides, place bait in tamper-proof covered boxes (bait stations).
- Flooding or fumigating tunnels is considered less effective than trapping.
- Use protective clothing when removing carcasses and either bury or bag for disposal in landfills.
- Controlled experiments with poison gas and propane-oxygen pressure “bombs” ignited in the burrows show less success than other methods. The concussive force may also kill non-target animals and can cause property damage and fires.

## **Mice and rats**

Several species of native and non-native rodents are primarily attracted to farm buildings and non-crop foods. Management for species such as House Mice, Black Rats and Deer Mice requires limiting their access to food and nesting areas. Based on field tests, ultrasonic devices have insufficient repellency to merit use. Since animal feed and shelters are a major attractant, keep corrals and pens clean and keep feed and supplies well secured.

- Seal or screen spaces under doors, in walls, vents and other access points.
- Place traps under lumber, pallets and debris which are common nest spots.
- Regularly mow ground cover near buildings.
- Keep garbage and edibles in containers with tight-fitting lids.
- Plow under or flail left-over fruit.
- Wear gloves when handling and burying carcasses.
- Snap traps are a safer and a better choice than using poisoned bait. Rats require use of larger snap traps.
- Use several traps in areas frequented by rodents. Use peanut butter on bait wired to the trap trigger.
- Place in corners along inside walls. Check the traps daily and leave them in place as a preventative measure even after rodents are trapped out.

### Poisoned bait and bait stations

If preventive control measures and trapping are not adequate, poison baits may be necessary.

- Treated baits should be placed in covered, tamper-resistant bait stations or in locations not accessible to children, pets, wildlife or domestic animals.
- Bait stations can be built (from pieces of plastic pipe etc.) or may be purchased commercially.
- Entry holes should be sized for target animal, no larger.
- Anchor bait stations to the ground and flag.
- Interior baffles or small openings should prevent people from touching bait.
- Check regularly and dispose of dead animals daily to prevent other animals from eating carcasses.
- DO NOT SCATTER BAIT OUTSIDE RODENT BURROWS.
- To reduce exposure of non-target birds and other wildlife to poisoned carcasses, dead rodents should be securely wrapped and placed in closed containers for disposal or buried to a depth that will make them inaccessible to scavengers. If bringing carcasses to a landfill, bag and notify staff when dropping off.



*Meadow Vole*

### Voles, *Microtus*

Voles are brown-grey, stout rodents with short tails and small ears. They live above ground making surface runways in dried vegetation. Voles eat grass and seeds and although common, may only be a concern in winter when they can eat stems and trunks at ground level. Restrict vole habitat by keeping grass and cover crops short around crop areas - especially as winter approaches. Coyotes, owls, hawks and snakes are natural predators.

- Mow brush around crop areas and remove brush piles and debris where voles nest.
- If needed, use snap traps in fall and winter to avert winter damage to trees and vines.
- Protect the base of young trees and vines with mesh or rodent-proof envelopes
- If using rodenticides, covered bait stations are safer than scattering bait. Be aware that secondary poisoning of hawks and owls is a concern.

### Worker safety

#### Handling rodenticides

Follow manufacturer's directions in using, storing and disposing of chemicals used in rodent control.



*Deer Mouse*

#### Hantavirus

Hantavirus, a disease spread by native deer mice, is spread through tiny particles of infected droppings, urine or saliva. When cleaning up any area with mouse or rat droppings, don't sweep or vacuum the mess. Wear gloves and first wet down the area with a mild bleach and water solution, then clean up with towels or rags that are disposed of in a sealed container.

Always wear rubber gloves, a HEPA filter mask, protective goggles, and clothing and footwear that can be disinfected (rubber boots and coveralls). Disinfect mouse traps, dead rodents, floors and surroundings with household bleach and water mixed to a ratio of 1:10. (e.g. 250 ml. bleach to 2.5 litres of water).

# Contacts & Resources

## “Living with Wildlife in BC” management guide series:

- # 1 Bear
  - #2 Cougar
  - #3 Coyote & Wolf
  - #4 Rodents
  - #5 Snakes
  - #6 Starlings
  - #7 Ungulates
  - #8 Conflict Reduction: mitigation options for wildlife safety and control
- Mitigation Decision Matrix: calendar of wildlife occurrences and recommended controls

The wildlife guides are built on the work of government ministries and wildlife and conservation organizations who generously shared information, reviewed and contributed to this series. Authors: © 2013 Margaret Holm and Zoe Kirk. Project Sponsor: Okanagan Similkameen Conservation Alliance (OSCA), contact outreach@osca.org.

The “Living with Wildlife” series is available for downloading and distribution (personal, noncommercial use) on the following websites:

[www.osca.org](http://www.osca.org) “Living With Wildlife” pages  
<http://www.rdos.bc.ca/departments/public-works/wildsafe-bc-bear-aware/>  
[www.bcwgc.org](http://www.bcwgc.org) Health and Safety Section

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### Resources:

Rodent and bird control in farm buildings by Canada Plan Service  
<http://www.cps.gov.on.ca/english/be9000/be9451.htm>

Rodent Control on Agricultural Land in B.C.: Central and Southern Interior Districts  
[http://bit.ly/BCAg\\_rodent\\_control](http://bit.ly/BCAg_rodent_control)

The Design and Use of a Home-Made Hand Probe (pocket gophers)  
<http://www.agf.gov.bc.ca/cropprot/handprobe.pdf>

Trapping wildlife. Washington Department of Fish & Wildlife, <http://wdfw.wa.gov/living/nuisance/trapping.html>

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