South Okanagan-Similkameen
Stewardship Program

Living in Nature Series

Snake Barrier Fencing

Unwanted Snakes

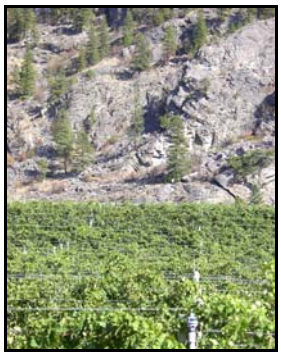
Most snake species in British Columbia are harmless. Even the venomous Northern Pacific Rattlesnake is a timid creature unless threatened. Nonetheless, many people feel uncomfortable about sharing their workspace or yards with snakes. Furthermore, snakes can be at risk from human activities, as they are often killed by traffic, agricultural activities, and domestic pets.

The Northern Pacific (Western) Rattlesnake is the only venomous snake in the area. It is similar in appearance to the non-venomous Gopher (Bull) Snake.

Snake barrier fencing is one management tool for improving public and worker safety, as well as reducing risks that snakes face in agricultural properties. This factsheet provides basic information about planning and installing snake barrier fencing, as well as associated safety and environmental concerns.

Fence Layout

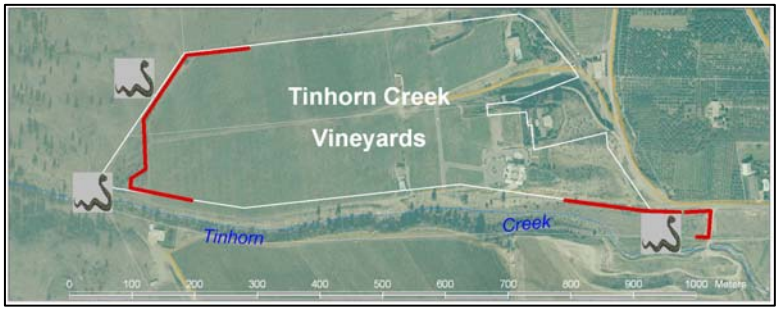
The layout of the fence needs to be carefully thought out to ensure that the fencing is effective and cost-efficient. Fences can either deflect snakes away from a property (drift fences) or enclose a property or workspace (exclosure fencing). Care should be taken not to block the main migration corridors for other small animals.



Vineyard with adjacent snake habitat

Drift fencing can be effective if one knows the migration patterns of snakes as they move to and from the dens where they hibernate in the winter (hibernacula). A snake biologist can help identify likely movement patterns.

The best fence layout should be determined based on terrain, erosion potential, soil types, migration corridors, and the needs of the landowner. The prototype fencing at Tinhorn Creek Vineyards was designed to deflect snakes away from the vineyard and onto adjacent natural lands. It is also intended to prevent snakes from entering public roads and the irrigation canal.



The snake fence, depicted in red, deflects snakes as they travel downslope to the vineyards on the west, and contains them on the east from entering other agricultural areas and roadways.

Excavating the Fenceline

The bottom of the wire mesh, used as a barrier to snakes, must be buried to prevent snakes from slithering underneath. A 6-10″ deep trench should to be dug along the fence line, and then the wire mesh buried into this trough.

A small extension was bolted to the bucket to provide the desired width and depth of the trench.

Installing Posts and Braces

It is possible to install snake fencing on existing fencelines but often it is easier to construct a new fence. Posts can be installed as in standard livestock fencing. Thinner and shorter posts can be used (e.g. 2-3″ by 6′). Installation requirements depend on soil types. In very rocky soils, a vibrating pounder works better than hand pounding or a recoil pounder. A 10′ separation between posts works well to provide adequate support for the wire mesh. All corners should be braced.

Installing posts along one side of the trench.

Attaching the Wire Mesh

The wire mesh has a ¼″ mesh size and is 36″ wide. Rolls come in 50′ and 100′ lengths. The top edge of the mesh should extend at least 25″ above ground. The wire mesh is eventually buried into this trough, folded at an outside right angle to create a 3″ lip to hamper efforts of burrowing rodents. The mesh can be attached to posts using a compressor and staple gun, after it has been tightened using a clamping device and a winch to make the mesh taught. The clamp is made of two 2x4s clamped together with carpet tack strips attached to the insides to hook the mesh.

A clamp for pulling the mesh and the lip at the base of the mesh to deter burrowing rodents.

Using Smooth Wire or Top Rails

People and large wildlife crossing over the fence and branches falling on the fence can easily tear the upper edge. Smooth wire can be attached along the top of the wire mesh to carry the weight of animals and branches.

Top rails can also be used to secure the upper edge of the wire mesh in sections where aesthetics are a concern.

The top edge of the mesh must be strengthened to prevent tearing.

Gates

It is preferable to design the fence so that it does not cut off access for agricultural workers, but gates can be used if necessary. This gate was required for access to the irrigation feed sources. It consists of two metal frames with a section of wire mesh attached between them. The sides of the panel slide in channels cut into the posts, and the bottom slides in a matching channel in a pressure treated post that is partially buried. Cattleguards with a 2′ drop underneath may be required, instead of gates, where traffic is frequent. Steps can be installed to accommodate foot traffic.

A gate fashioned from mesh and metal frame that slides into channels cut into the posts and a bottom rail.

Escape Funnels

Drift fences are not expected to be 100% effective, so the occasional snake may find its way around the fence. Escape funnels are needed to allow snakes to move back into natural areas. These funnels can be made by rolling a piece of mesh into an open-ended cone. The edge is then flared at the wider end to form a flange that can be secured to the fence. The wire mesh fence can be cut to fit the flange and then secured with wire.

The bottom of the funnel should be elevated to allow animals to pass underneath as they travel along the outside of the fence. Covers can be placed over the funnels to prevent collapse from wildlife or livestock. Short sections of fencing should be installed to divert snakes into the funnel as they travel along the fenceline.

An escape funnel for snakes with a wing fence to direct snakes into the funnel.

Cover Objects

Snakes can be vulnerable to predators and harsh weather as they travel along barrier fences. Cover objects can give protection from these hazards. They can be created from excess rock or constructed from this simple wooden design using 2x4s and a 2′x2′ piece of plywood.

Wooden Cover Object

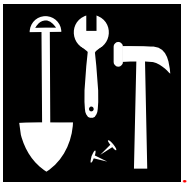
Monitoring Stations using Sand

An inexpensive way to determine whether snakes are entering the property is to put sand patches at strategic locations, such as the end of a drift fence, by escape funnels, and under cover objects. If snakes move over the sand, their traces can be easily seen. Close examination can even discern which direction the snake was travelling.

Fence Maintenance

Maintaining the fence in good repair is essential to keeping snakes out of the area and ensuring that the fence has not become a hazard to wildlife. Carry out the following inspections and repairs at the start of spring and periodically throughout the growing season:

- ensure that the fence is still secured to the posts;
- check that the bottom of the mesh is still anchored in the soil;
- clear any plant material or other debris that has blown up against the fence;
- ensure that the exit funnels are still functional; and
- use wire stitching to close any tears or holes in the fence.



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