

Creating Surrogate Habitat for Snakes in Agricultural Settings

Public opinion of snakes has been changing in recent years. Our past aversion to snakes has changed as many people now realize that snakes are important. Snakes play a complex role of both predator and prey in the natural environment. In an agricultural setting they can be beneficial for growers as they consume large numbers of rodents that impact crops. For example, the Gopher Snake is a specialist at going down burrows and preying on the elusive pocket gopher that feeds on plant roots. Rattlesnakes and other snakes often stay above ground, preying on mice and voles that girdle the stems of plants.



*Gopher Snake.
Photo by J. Hobbs*



The Montane Vole, an important prey species for snakes and is one of many small mammals that can be encountered in agricultural areas.

Integrated pest management is being successfully applied to many agricultural pests and snakes can be key components of these programs. However, a concern with some growers is the unexpected encounter with a snake. In turn, conservation biologists are concerned about the adverse impact that mowing and other agricultural practices may have on the snakes. One possible solution to this dilemma is to construct artificial snake habitat by providing cover objects for snakes to use, especially during the hot summers. During this time, most of their foraging is done at night, when rodents are most active. During the day, they will conceal themselves where there is shade and security. Many agricultural areas have few cover objects and therefore snakes tend to be more visible and vulnerable, and therefore encountered more often.

Some agricultural areas have rock piles from field clearing. These are great habitats for snakes as they provide an apartment-style living and many different thermal regimes to help regulate their body temperatures. Another option is to use slightly elevated wooden structures. As a simple design, use a piece of plywood with 1x2" runners to provide headroom under the board. These can be situated in the corners of the property where there is no traffic, or between plants along a row. It is essential to place the cover object into the ground and remove vegetation from the area where the board will sit. Snakes typically avoid cover objects that have vegetation or residual plant material in the void underneath.



A piece of plywood slightly elevated from the ground by 1x2" runners in a fence corner provides a good retreat for snakes in vineyards and other agricultural settings.

Providing these structures in agricultural areas should:

- reduce the chances of unexpected encounters;
- provide habitat for snakes and thereby reduce rodent populations; and
- provide a safer environment for snakes and, in the case of rattlesnakes, for humans.



Cover objects can be placed in rows between plantings.

Workers should be aware of these surrogate habitat features and exercise caution so as to not disturb them or step beside them in case they harbour a rattlesnake.

Other South Okanagan-Similkameen Stewardship (SOS) Publications About Snakes:

- *Snake Smart*: overall guide to snakes and snake management.
- *How to Snake-proof Your House and Yard*: snakes near residential areas.
- *Snake Barrier Fencing and How to Snake-proof Your House and Yard*: snake-proofing your agricultural operation or yard.
- *Working in Snake Country*: awareness of snakes in agricultural areas.

Further Readings:

Reptiles of British Columbia. Royal BC Museum Handbook, 1984
Reptiles of Washington and Oregon. Seattle Audubon Society, The Trailside Series, 1995
Wildlife in British Columbia at Risk: Western Rattlesnake (brochure). BC Environment, 1993
British Columbia's Wildlife at Risk: Gopher Snake (brochure). BC Environment, 1997
Habitat Atlas for Wildlife at Risk: South Okanagan and Lower Similkameen. BC Environment, 1998.

The SOS Stewardship Program was established 1994 to help private landowners protect and enhance natural areas on their lands. Partnerships between landowners and SOS Stewardship, as well as other conservation organizations, have resulted in a variety of projects which serve to demonstrate good conservation stewardship.

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