

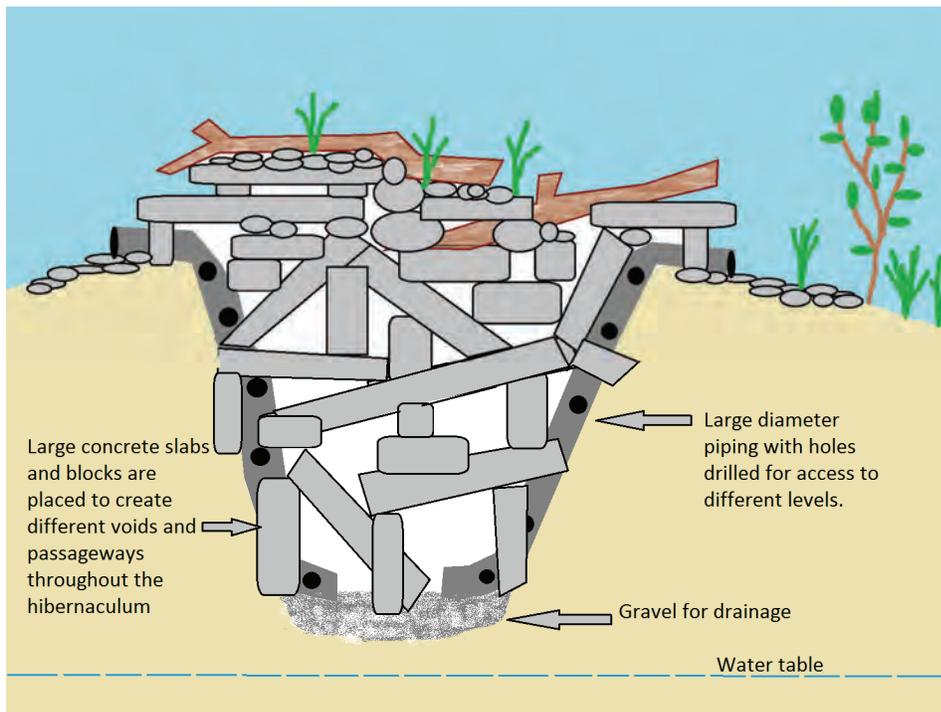
HOW TO CREATE A SNAKE HIBERNACULUM

The Carolinian Region of southern Ontario is home to 23 native reptile species, including 7 turtles, 15 snakes, and one lizard. Unfortunately, these reptiles are under pressure from centuries of settlement, agriculture, development and urbanization. Creating safe habitat away from these threats is one way we can help conserve reptile populations.



What is a snake hibernaculum and why build one?

A snake hibernaculum (plural = hibernacula) is an underground chamber where snakes can safely spend the winter protected from the cold. A hibernaculum can be a built structure, such as an old well or building foundation, or it can be naturally occurring, such as an animal



burrow, rotten tree stump, or fissure in the bedrock. A good hibernaculum should be below the frost line to prevent snakes from freezing to death, be relatively humid to prevent snakes from drying out, but be above the water table to prevent snakes from drowning.

A lack of natural hibernacula can be a major factor limiting snake populations. Building a snake hibernaculum can help replace hibernacula which have been lost due to urban expansion, intensive agriculture, deforestation and other forms of habitat loss. Adding hibernacula to the landscape also means that snakes may travel shorter distances to find a suitable wintering site, lowering the chances a snake may have to cross a road or encounter other threats.

How to build a Hibernaculum

1. **Site Selection** – Select a south-facing site which receives sunlight and is protected from cold winter winds. Both surface water and ground water should flow away from the site to prevent flooding. Choose a site with well-drained, sandy or sandy loam soils. The location should be far from roads, buildings and other hazards, and close to natural areas such as woodlands and meadows. Avoid heavy, poorly-drained soil types such as clay.

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2 Dig a Hole – A hole can be dug of varying size and scale to suit the location, but it should extend below the frost line and be close to the water table (~2 metres). It should be moist, but should not hold water or flood. Add a layer of gravel to the bottom to guard against flooding and allow the air to remain humid.



3. Fill with Rubble – Place rocks, concrete rubble, logs, timber, blocks and/or bricks to create chambers at different depths with connecting passageways. The snakes should be able to move throughout the structure to find their preferred wintering microhabitat. Do not use railway ties or pressure-treated lumber.

4. Ensure Access – Carefully place concrete blocks or PVC pipe with large holes (~6cm) cut along its length to make sure the snakes can enter and exit the structure at various locations and move to the different chambers and passageways easily.



5. Insulate with Smaller Rocks – After creating chambers and passageways with the larger rocks, add smaller rocks and stones (or a small amount of soil) to help insulate the structure. Rocks at the surface also make a great sunning location for the snakes to warm themselves on throughout the seasons. Make sure entrances remain accessible. It is important that the hibernaculum has fairly open, interconnected passageways, but not so many openings that cold winter air reaches the lower depths.

6. Protect the Snakes – Adding logs, rocks, brush piles and other debris to the site can help protect the emerging snakes from predators. The presence of plants, vines or shrubs near the hibernaculum also provides important shelter.

7. Monitor – Check your hibernaculum in early spring and in fall to see if any snakes are using the site. It may take some time for snakes to find your hibernaculum, and even if they are using it, it will take some luck to spot them!



Long Point Basin Land Trust protects important natural habitats in the central Carolinian Region in southern Ontario. It promotes conservation through outreach, research, habitat restoration, and species at risk recovery projects. For more information about this charitable conservation organization, please visit our website or sign up for our newsletter (print or e-news). Please report reptile sightings from the Long Point Basin to: longpointlandtrust.ca

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