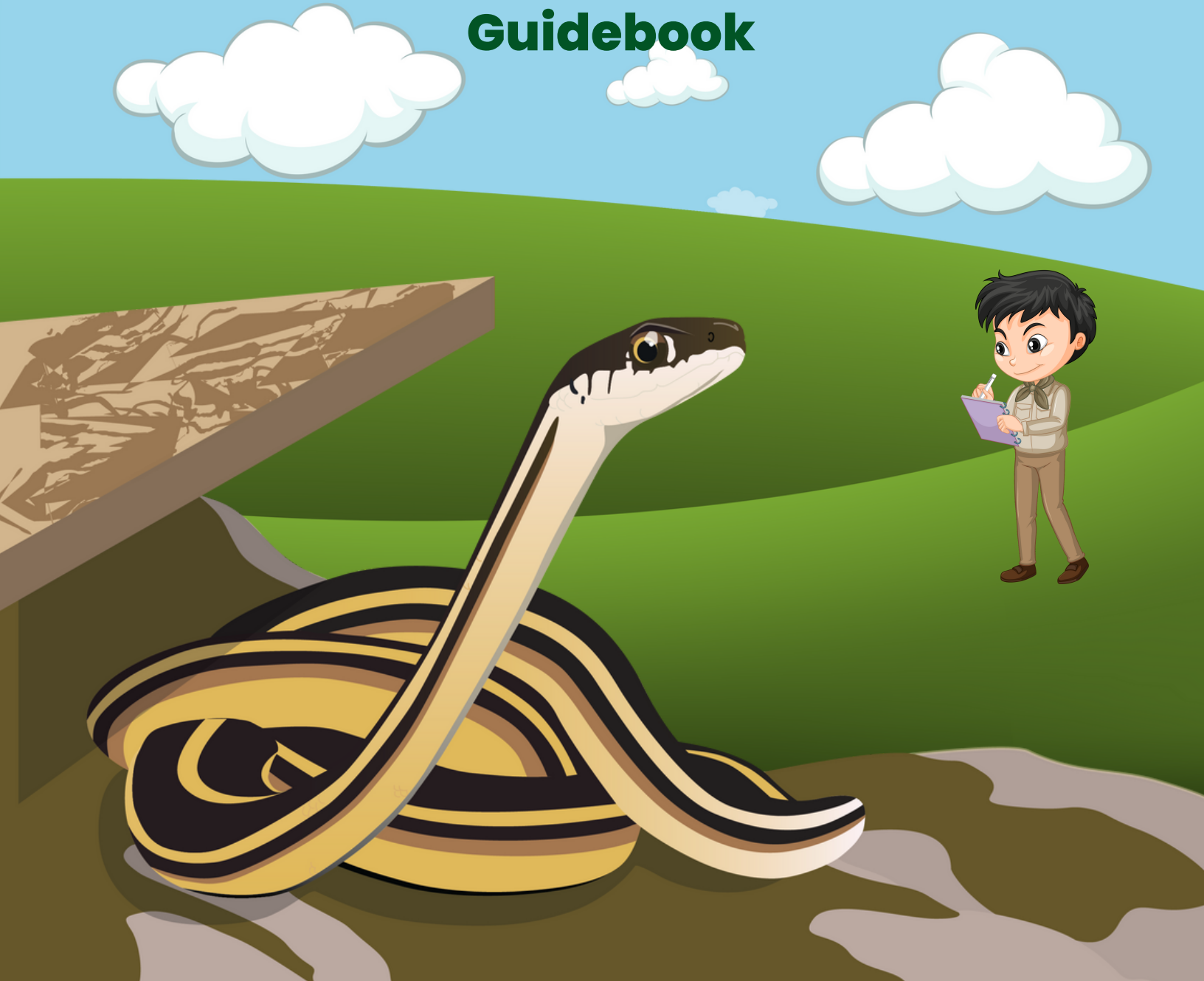


Snake Supervisors

Backyard Surveying Guidebook



Everything you need to know while
volunteering as a Snake Supervisor with
The Land Between!

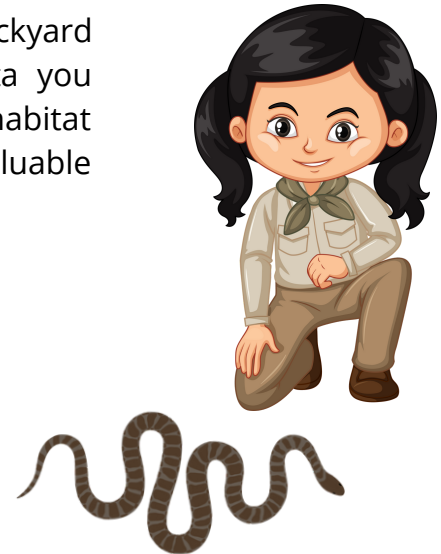


Welcome to Snake Supervisors Backyard Surveying!

Thank you for participating in the Snake Supervisors, Backyard Surveying program with The Land Between! The data you collect will help scientists understand snake behaviour, habitat requirements and population health, and is a valuable contribution to the field of conservation.

Snake Supervisors Backyard Surveys are conducted by placing cover boards on your property and searching for snakes underneath them, under natural cover and in the surrounding areas. Backyard Surveying can be completed at your convenience but we recommend checking cover objects at least once a week.

If you have questions regarding any aspect of this program, or if you would like to share some of your findings, please do not hesitate to contact us. We can be reached by email at **CitizenScienceTLB@gmail.com** or by phone at **705-457-1222**.





Safety

General

- Wear proper clothing when conducting surveys, including closed toed shoes, gloves and long pants.
- Wasps may build nests under cover boards; look for signs of wasps before moving objects.
- Do not perform surveys at night.
- Use two hands and proper lifting techniques when lifting cover objects.
- When lifting a cover object, pull the object towards your body to maintain a barrier between you and whatever may be underneath.



Massasauga Rattlesnakes

Massasauga rattlesnakes are the only venomous snakes found in Ontario. They are shy, timid snakes that may shake their rattle if they feel threatened. These snakes will only strike as a last resort.

In The Land Between, the Massasauga rattlesnake is only found in the eastern Georgian Bay Area and occasionally further into the Muskokas. If you live near Massasauga rattlesnake habitat, take the necessary precautions when surveying. Wear closed-toed shoes and long pants, pay attention to where you are walking and do not reach your hands into places where you can not see into or under.



***Only two people in Ontario have ever died as a result of a Massasauga rattlesnake bite, both of which occurred over 50 years ago and were the result of not seeking proper medical attention.**

If you think you've encountered a Massasauga rattlesnake, keep a respectful distance and do not attempt to touch it or pick it up. If you feel comfortable, at a safe distance, take the coordinates and a photo. If you are bitten by a Massasauga rattlesnake, do not panic or engage in strenuous activity, call 911 and seek immediate medical attention.

Snakes General

Snakes are shy creatures with very poor eyesight and only strike or bite in defense. While only the Massasauga rattlesnake is venomous in Ontario, some snakes will mimic other species to appear more threatening, such as the Eastern milksnake and Eastern foxsnake. These snakes sometimes vibrate the tip of their tails to mimic rattlesnakes and confuse predators. The Eastern hog-nosed snake, or as we like to call it, The Drama Queen of The Land Between, flattens its head and neck to imitate a cobra and will “strike” with a closed mouth. If harassed continually, it will roll over and play dead.



While some of these species can resemble the Massasauga rattlesnake, none of them are venomous and they pose no threat to human health. Use the Snake ID Decision Tree and Snake ID Sheet to ensure a proper identification and remember the Massasauga rattlesnake is only found in the eastern Georgian Bay area. Make sure you give ALL snakes space so they don't feel threatened.

Animal Well-being

- Do not attempt to catch or harm any snakes or animals
- Do not step on cover boards or natural cover objects as this could squish and kill animals underneath
- When replacing cover objects, make sure there are no animals underneath to avoid any potential harm to them

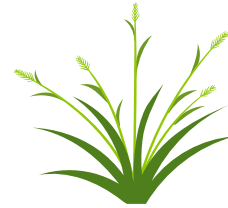


Where to Look for Snakes



Specific habitat preferences may vary between snake species but the best place to look for Ontario's snakes are in semi-open habitats, such as:

- Rock outcroppings
- Forest clearings and edges
- Fields, meadows, savannahs and prairies
- Wetland edges and the shorelines of lakes and rivers



Semi-open habitats receive direct sunlight throughout the day for basking and have areas of cover where snakes can seek shelter from predators and the sun. Basking sites do not need to be large and small clearings in the forest are often sufficient.

Objects used for cover can be both natural and artificial. Natural cover objects are any natural features in the habitat that provide shelter including rock piles, logs and vegetation. Artificial cover objects are man-made and can include scrap wood or metal, old building foundations and tires. For the purpose of this program, artificial cover objects that were present on your property prior to the start of the season are considered natural cover. I.e. only the boards you've placed this year should be considered artificial cover.



Survey Materials

Cover boards can be created with any wood-based material but plywood is ideal. Do not use thin pieces of metal as cover boards as the temperature underneath can become deadly to snakes and their eggs.

- A piece of plywood $\frac{1}{4}$ to $\frac{3}{4}$ inches thick and ~ 2 x 2 ft wide
- Field Data Sheet & clipboard
- Snake ID Decision Tree
- Snake ID Sheet
- Pencil & permanent marker
- Camera or camera phone
- Phone with GPS/hand-held GPS
- Probe thermometer or infrared thermometer (optional)



Surveying

Species of Interest

If you think you have come across any of the species listed below, please call The Land Between for further instruction as these are considered species at risk.

- Eastern Foxsnake
- Eastern Hog-nosed Snake
- Massasauga Rattlesnake
- Eastern Ribbonsnake

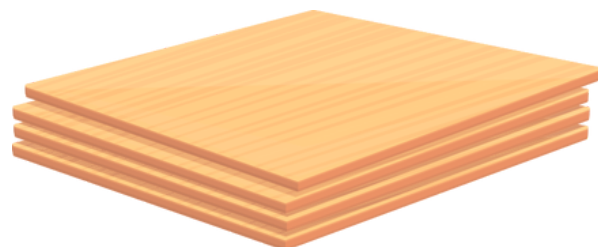


Cover Board Placement

Cover boards should be placed between April and May as soon as the ground is moderately dry. Place cover boards in dry, open or semi-open habitats on relatively flat ground with sun exposure and away from any natural cover. If you have any bodies of water on your property, place cover boards within 10 meters of the shoreline to survey for semi-aquatic snakes. If you are placing more than one cover board on your property, number each board with a permanent marker to help keep track of your findings.

Fill out the "Cover Board Placement" data sheet with your name, the cover board number, the date each board was placed and the coordinates of each cover board. Take coordinates in decimal degrees (e.g. 44.3765, -78.9957) and record as many digits as possible to increase the accuracy of the location. You can survey as much of your property as you'd like but the more you look, the more likely you are to find a snake. It may be useful to draw yourself a quick diagram or add location notes to help yourself find the cover boards later on.

*Cover boards must be placed at least two weeks before surveys begin to allow for snakes to discover them.





Timing

Surveys begin in early May, at least 2 weeks after placing cover boards, and continue to the end of the snake active season in October. The likelihood of finding snakes will be highest throughout the spring and early summer (from April to early July), but you should continue to check your cover boards throughout the season.

Each time you look under your cover boards will serve as a new survey. Please fill out a new data sheet for each survey you conduct.

Conduct your surveys in the morning or early evening when the air temperature is above 10 °C and below 30 °C. This is when the temperature underneath your cover boards is likely higher than the air temperature and most favourable to snakes. Do not survey in the rain or after dark.

Backyard Surveying can be completed at your convenience but we recommend checking cover boards at least once a week but no more than every other day to reduce excessive disturbances that may cause snakes to vacate.



Procedure

*Do not step on any cover boards that have not been checked; this can squish and kill any animals that may be underneath.

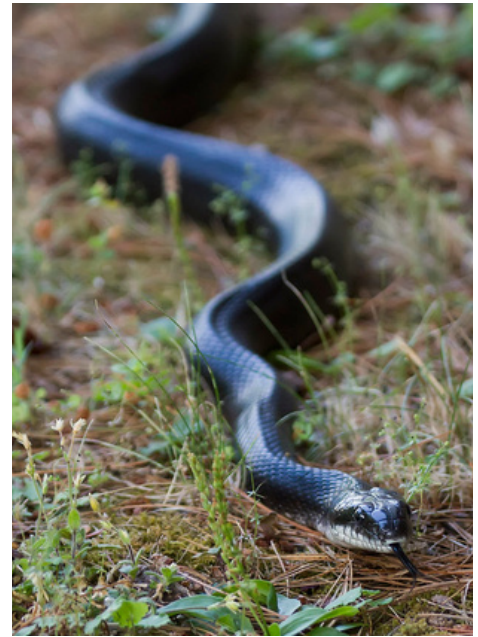
1. Record the date and time of your survey, as well as the weather conditions on the "Field Survey" data sheet.
2. Listen for the sound of snakes moving along the ground, and look for snakes basking in open areas as you walk towards your cover board(s).
3. OPTIONAL - insert the probe thermometer under the edge of the board to check the temperature underneath, or check with an infrared thermometer after it has been flipped and record the temperature.
4. When you come to a cover board, carefully lift the board towards yourself to check underneath it.
5. If the underside of the cover board is wet, flip it over to allow it to dry and note this on your data sheet. Flip the board back to its original position during your next survey.

No Animals Present

- If there is nothing underneath the cover board, replace it gently.

Snakes Present

- Take a photo of the snake(s) for ID purposes and try to ID the species.
- If you think you have come across any of the snakes listed in 5.I. call The Land Between for further instructions
- Replace the cover board once all animals have moved from underneath it to avoid squishing them.



Other Wildlife/Snake Skins

- Do your best to identify any other wildlife under the cover boards.
- Take a picture of any snake skins you might find and try to identify the species (optional).
- Replace the cover board once all animals have moved from underneath it to avoid squishing them.

6. Fill out the "Cover Board Observations" data sheet accordingly.

7. Continue to the next cover board.

8. Once you have checked all your cover boards you can complete your survey and record the end time.



Any snakes or wildlife you encounter during your surveys that aren't underneath a cover board should be recorded on the "Other Snakes and Wildlife Observations" data sheet. If you come across any dead snakes or other animals while surveying, mark this on the appropriate data sheet and remove them from the survey area to prevent double counting in later surveys.



You can also choose to look for snakes under areas of natural cover, such as rocks, logs and low shrubs. Record any observations on the “Other Snakes and Wildlife Observations” data sheet with the coordinates. And remember, any artificial cover objects that were present on your property before the start of this year’s surveying are considered natural cover.

Finishing Your Survey

Once you have completed your survey and have double checked that there is nothing missing, you can enter your data in the online reporting form provided to you by a staff member from The Land Between.

You may also choose to use your photos and the Snake ID Decision Trees to try and ID the snake species you found. If you are unsure of the identification, record the species as “unknown”.

Sources

Casper, G.S and Hecnar, S.J. 2011. Standard Operating Procedure for: Cover Board Surveys for Snakes in the Lake Superior Basin. Version 1.0. Retrieved from https://shecnar.lakeheadu.ca/uploads/docs/LS_Cover_Object_SOP.pdf

OMNRF. 2016. Survey Protocol for Ontario’s Species at Risk Snakes. Ontario Ministry of Natural Resources and Forestry, Species Conservation Policy Branch. Peterborough, Ontario. ii + 17 pp.