



## MITIGATION MEASURES

### Eastern Fox Snake and Massasauga Rattlesnake Gereaux Island

Remediation of impacted soils are planned to be conducted at Gereaux Island, Georgian Bay, Ontario. The project involves lead-based paint abatement of buildings and the removal of impacted soils from areas within the vicinity of a lighthouse and associated boathouse. Potentially, suitable habitat for both the Eastern Fox Snake (*Pantherophis gloydi*) and Massasauga Rattlesnake (*Sistrurus catenatus*) may exist on-site hence there is a possibility for one or more individuals of these species to occur within the area (or the vicinity thereof) to be remediated.

The following mitigation measures are recommended in the event that these snake species are detected prior to commencement of and during remediation.

<b>Mitigation Measures</b> <b>Eastern Fox Snake and Massasauga Rattlesnake at Gereaux Island</b>
<p>The arrival and mere presence of workers on-site as well as the ignition and movement of equipment should alarm any wildlife (including snakes) and cause them to disperse from the work area prior to commencement of work. This is a desired effect as this will clear the area of all mobile wildlife and this should avoid any need for work stoppage.</p> <p>Before commencement of work on each day, a trained biologist will visually search and sweep the areas to be remediated to ensure that no snakes or other wildlife are present. As well, color photos of both snake species will be circulated to the workers prior to remediation. This will familiarize them with the physical characteristics of the snakes. Workers will be instructed to alert other colleagues and the Departmental Representative (DR) of any detected snakes' presence and location.</p> <p>In the event any snake is detected within or in close proximity to the work area, the following steps are recommended:</p> <ul style="list-style-type: none"> <li>• The snake's presence should simply be acknowledged and the DR notified;</li> <li>• It should be allowed to retreat or move away from the work area and vicinity on its own;</li> <li>• If it is in close proximity to the work area such that there may be risk of inadvertently harming the snake, work can continue in another section of the work area; or,</li> <li>• Work can stop temporarily and the workers can wait for a short duration (approximately 1/2 hour) and then re-commence work after the snake is a safe distance away from the work area;</li> <li>• The biologist can casually observe its movements as it retreats and update the workers accordingly;</li> <li>• The snake (or any wildlife) must <b>never</b> be touched or picked up. <b>All</b> wildlife species will potentially bite when cornered and/or picked up. The Massasauga Rattlesnake is venomous.</li> </ul> <p>Upon completion of remediation, the area will be re-seeded and a few trees and shrubs planted and vegetation will be allowed to regenerate naturally. The site will be left in the same physical condition as it currently now except that impacted soil will be replaced with clean soil. The rocks will remain in place. There would be no reduction of suitable habitat for both snake species as a result of this project.</p>

**Figure 1:** Eastern Fox Snake



Source: Nature Conservancy

**Figure 2:** Massasauga Rattlesnake



Source: Species-at-Risk Public Registry, Government of Canada

**Figure 3:** Northern Water Snake



Source: Michigan Society of Herpetologists

### Key distinguishing Characteristics

#### **Eastern Fox Snake**

Length: large 91 – 137 cm. Patterned with bold dark brown or black blotches on a yellowish background with alternating smaller blotches on the sides. Adults lack any distinct patterns or conspicuous markings on the head. Can be mistaken for the Massasauga, however the Massasauga has darker coloration and lighter brown blotches and vertical eye pupil.

#### **Massasauga Rattlesnake**

Length: medium 50 – 70 cm long. Stout-bodied snake. Triangular head. Tail ends in a rattle. Sides and back is typically grey to dark brown with a row of dark brown blotches down the centre of the back alternating with rows of smaller lateral spots. Eye pupil is vertical.

#### **Northern Water Snake**

Length: large 61 – 140 cm. Color may be brown, tan or gray. Back and sides have a variable pattern of black, dark brown, or reddish brown cross bands and blotches that alternate and may merge. The blotched pattern may become obscured by dark pigment over time and older adults can appear solid brown or black, especially when their skin is dry.

Note: this species is not an at-risk species but is included since individuals can be mistaken for a Massasauga.