

# Sydenham River Watershed

## helping species at risk

September 2018

*The Sydenham River in southwestern Ontario is the only major watershed which lies completely in the Carolinian Life Zone and is relatively undisturbed by industrial and urban development. This has made the river a biological treasure. The Sydenham River supports an incredible variety of aquatic life, or what we call biodiversity. A great diversity of freshwater species, including 34 species of mussels and 80 species of fishes reside in the Sydenham River (Fisheries and Oceans Canada 2016a), making it one of the most species-rich watersheds in Canada. Several species in the Sydenham River are found nowhere else in Canada, and some remain at only a few locations globally. Nineteen species of fish and mussels which live in and around the Sydenham River are nationally or provincially Species at Risk.*

## Homeward Bound: Tales of the Spiny Softshell Turtle

Have you ever seen an olive coloured, four-legged, leathery pancake relaxing by the riverside? If you have, you have spotted one of the Sydenham River's Species at Risk reptiles, the Spiny Softshell turtle – and you are one of a lucky few! The endangered Spiny Softshell, also referred to as the “pancake turtle,” is a shy and skittish species with a remarkable ability - these turtles can hide under water for up to five hours by breathing through their skin! However, like many reptile species, habitat fragmentation from infrastructure, increased recreational and agricultural use of nesting areas, alteration of water regimes by dams, changing weather patterns, growing populations of mammalian egg predators and other factors are putting pressure on populations resulting in their decline.



Knowing this, the St. Clair Region Conservation Authority (SCRCa) has implemented recovery efforts focused on the Spiny Softshell turtle through the Authority's Reptiles at Risk Program. These efforts include the creation of suitable nesting habitat for gravid (pregnant) females along with the collection of eggs in immediate danger. Throughout the season, staff visit potential nesting sites to prevent vegetation encroaching on nests and eggs. Any eggs found to be under imminent threat are collected. The collected eggs are then transported to Salthaven Wildlife Rehabilitation and Education Centre where they are incubated, hatched, and kept for a few days of observation to ensure the health of the hatchlings. As soon as the brand new baby Softshells are given the go ahead, SCRCa staff release the hatchlings back into the wild at a sheltered, slow moving section of the river near the original nesting site.

The success of the Authority's Reptiles at Risk Program has been growing with each nesting season. “In 2017 we released 217 Spiny Softshells and 192 Northern Map turtle hatchlings,” announced Kelli Smith, Watershed Biologist with the SCRCa, “So far in 2018, we have rescued more eggs than ever. By getting these turtles past their first hurdle in life we are working to help recover the population of this awesome species.”



## The Marvelous Mussels of the North Sydenham

Flowing through our own backyard, the Sydenham River supports the greatest diversity of freshwater mussels in all of Canada with at least 34 of the 41 species found in Ontario residing here. For many years, mussel surveys along the East Branch have taken place where prime mussel habitat exists. In comparison, the North Sydenham has very few historic mussel records – in order to fill these data gaps and to gain a better understanding of what species may reside in these areas, the St. Clair Region Conservation Authority has taken on a 2-year project inventorying mussels in the North Sydenham including both Bear and Black Creek.



How is this study completed, you may ask? Groups of three or more SCRCA staff and volunteers crawl through 500m segments of river searching by hand for mussels within the top 5-10cm of sediment until they have reached a total of 4.5 person-search-hours. Both live and old mussels found during this time are collected, identified, recorded and returned to the system where they were originally found.

What did we find? The North Sydenham did not disappoint. In total 28 searches were completed covering a span of 14km and adding over 8,000 new data points! Close to 5,000 live mussels and another 3,500 old shells were captured and processed. Black Creek surveys produced 10 different species including two Species at Risk (SAR). SAR collected included Mapleleaf and Lilliput. This was significant as the last recorded Lilliput on the North Sydenham was in 1967! Bear Creek produced 14 species with three being SAR. These species included Round Pigtoe, Rainbow and Salamander Mussels.



## A Second Chance for the Eastern Foxsnake

The local population of Eastern Foxsnake is in need of help! The Eastern Foxsnake is an endangered and globally rare species with Ontario populations mainly residing throughout the Carolinian Life Zone and the shorelines of Georgian Bay. For the past six years, the Authority has been using various methods to enhance and create suitable habitat for snakes – the Foxsnake being a target species – by installing hibernacula, cover boards, and artificial nesting boxes.

This year's snake nesting boxes proved to be a great success as 175 eggs were found in just two boxes. This high density of eggs was the result of communal nesting, which demonstrates the need for suitable habitat not only for the Foxsnake but for all snake species. The highlight of the year was when biology staff found an unhatched clutch of 10 eggs in one of the boxes. The eggs were taken to Salthaven Wildlife Rehabilitation and Education Centre, incubated, and a few days later the young Foxsnakes hatched and were released at the site where they were originally found!



### NEWS

Critical Habitat Orders have recently been established under the federal Species at Risk

Act to further protect three of our unique resident fish species – the Eastern Sand Darter, Spotted Gar, and Northern Madtom. Full details are set out in federal Recovery Strategies for these species posted on the Species At Risk Public Registry. If you are planning to carry out a project in or near water, you should first determine if there are any aquatic species at risk or critical habitat near your project location by referring to Fisheries and Oceans Canada maps at:

<http://www.dfo-mpo.gc.ca/species-especes/fpp-ppp/index-eng.htm>

# Aquatic Species at Risk in the Sydenham River \*\*\*

## Mussels

Eastern Pondmussel – Endangered \*\*  
Fawnsfoot – Endangered  
Kidneyshell – Endangered  
Lilliput – Endangered  
Mapleleaf Mussel – Threatened  
Northern Riffleshell – Endangered  
Rainbow Mussel – Endangered  
Rayed Bean – Endangered  
Round Hickorynut – Endangered  
Round Pigtoe – Endangered  
Salamander Mussel – Endangered  
Snuffbox – Endangered  
Wavy-rayed Lampmussel – Threatened \*

**Endangered:** A species facing imminent extirpation or extinction.

**Threatened:** A species that is likely to become endangered if limiting factors are not reversed.

**Special Concern:** A species with characteristics that make it particularly sensitive to human activities or natural events.

\* The wavy-rayed lampmussel is no longer found in the Sydenham River

\*\* Very few historical records

\*\*\* The species listed are designated under the Species at Risk in Ontario O.Reg 230/08. Federal designations under the Species at Risk Act Schedule 1 can be accessed at <http://www.registrelep-sararegistry.gc.ca>.

## Fish

Blackstripe Topminnow – Special Concern  
Eastern Sand Darter – Endangered  
Grass Pickerel – Special Concern  
Northern Madtom – Endangered \*\*  
Pugnose Minnow – Threatened  
Spotted Gar – Threatened \*\*  
Spotted Sucker – Special Concern

## Reptiles

Blanding's Turtle – Threatened  
Eastern Musk Turtle – Special Concern  
Northern Map Turtle – Special Concern  
Snapping Turtle – Special Concern  
Spiny Softshell – Endangered  
Eastern Foxsnake – Endangered

## Highlight:

During the 2017 field season our biologists sampled fish communities at 15 sites along the Sydenham River. They captured, identified and released almost 6000 fish representing 50 different species. Species at Risk including the Blackstripe Topminnow and Spotted Sucker (pictured) were found at six of the 15 sampling sites.



*Did you know the Spotted Sucker is a picky species that prefers clear lakes and small rivers with sandy, gravel, or hard clay bottoms? Although they have been found in turbid waters, deteriorating water quality due to siltation and pollution is one of the main threats to their populations.*

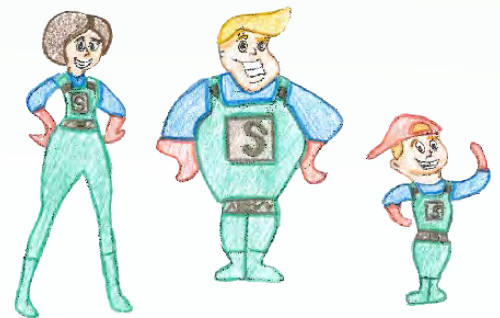
## Surprise!!! It's a Lilliput!

2017 brought exciting new discoveries from the depths of the North Sydenham with the first Lilliput mussel sighting since 1967! This small, rare mussel typically grows to approximately 25mm and can be found in a variety of soft bottom rivers. They were added to the Species at Risk list in 2014.



### ID Features

- Thick shell that is oval or egg-shaped
- Juveniles are pale yellow, green or gray in colour; adults are blackish-brown and may have green rays
- Inside of shell is shiny and silvery-white or bluish-white



LET'S BE

STEWARDS OF THE  
SYDENHAM!



## Species at Risk Contest



### Species at Risk of the Sydenham River

Spiny Softshell  
Lilliput  
Eastern Foxsnake  
Fawnsfoot  
Blackstripe Topminnow  
Spotted Sucker  
Blandings Turtle  
Snapping Turtle

**First Prize:** SCRCA Weekend Camping Pass and Reptile Field Guide

**Second Prize:** "A Blanding's Turtle Story" (children's picture book) and a SCRCA Weekend Camping Pass

**Third Prize:** SCRCA Gift Bag

Submit your answers by e-mail to [contests@scrc.ca](mailto:contests@scrc.ca)

or mail your answers to:

St. Clair Region Conservation Authority  
205 Millpond Cres  
Strathroy ON N7G 3P9

**Be sure to include your contact information so we can notify the winners.**

**Draw will be held October 31, 2018**

#### For more information

St. Clair Region Conservation Authority  
205 Mill Pond Cr. Strathroy, ON N7G 3P9  
519 245-3710 [stclair@scrc.ca](mailto:stclair@scrc.ca)  
[www.scrc.ca](http://www.scrc.ca)

## Can landowners help to improve water quality and protect aquatic Species at Risk? Presenting the Healthy Watershed Program.

Water is a precious resource. The SCRCA encourages the conservation and restoration efforts of landowners along the Sydenham River. The Authority's Healthy Watershed Program provides technical and financial support for a number of projects including wildlife habitat creation, planting riparian buffers (native grasses, shrubs and/or trees), reducing erosion on farmland, creating wetlands, fencing livestock from watercourses and more! These projects aim to improve and protect rural water quality while improving aquatic and wildlife habitat. The goal is to retire marginal land or unproductive farmland into naturalized habitat that reduces wind and water erosion that causes nutrient and sediment runoff into nearby watercourses. In the past year, 24.7 ha of land has been retired and returned to a natural landscape of windbreaks, buffers, and wetlands. Staff meet with landowners on-site, offer advice, and assist with project design and the coordination of contractors and materials. The SCRCA is able to obtain grant funding or direct landowners to funding opportunities to offset the cost of implementing stewardship projects that benefit Species at Risk and improve water quality.

Want to learn more about projects that may qualify for funding and how to become a steward of the Sydenham? Contact Jessica Van Zwol, Healthy Watershed Specialist at the St Clair Region Conservation Authority (519-245-3710 ext. 241).

### Partners in Conservation

Environment and Climate Change Canada  
Department of Fisheries and Oceans Canada  
Ontario Ministry of Natural Resources and Forestry  
Ontario Ministry of the Environment, Conservation and Parks  
Ontario Ministry of Agriculture, Food and Rural Affairs  
Ontario Trillium Foundation  
St. Clair Region Conservation Authority  
St. Clair Region Conservation Foundation  
Ducks Unlimited Canada  
Wildlife Habitat Canada  
Carolinian Canada Coalition  
Forests Ontario  
TD Friends of the Environment  
Union Gas  
Enbridge