Sydenham River Watershed

helping species at risk

March 2022

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. The Sydenham is a biological treasure – it supports an incredible variety of aquatic life, or what we call biodiversity. An array of freshwater species, including at least 34 mussel species and 80 fish species reside in the Sydenham River, making it one of the most species-rich watersheds in Canada. Several species are found nowhere else in the country, and some remain at only a few locations globally. More than 20 species of fish and mussels that live in and around the Sydenham River are nationally or provincially Species at Risk.

Discovery on Your Doorstep – St. Clair's 2021 Field Season

Mussel Monitoring in the Sydenham

When picturing a frontier of exploration, few would look to the meandering waters of the Sydenham River, but when that exploration involves mapping the distribution of freshwater mussels, the Sydenham is rife with discovery. But what discoveries lay beneath the surface?

During the 2021 field season, biologists at the St. Clair Region Conservation Authority (SCRCA) set out to tackle this question over a 2.5 km stretch of the river where no mussel records existed. Through the study, biologists recorded 1,436 live mussels consisting of 23 different species. Included in this diverse community were 237 mussels representing eight Species at Risk (SAR). The East Sydenham River supports the largest remaining reproducing population of Northern Riffleshell in Canada and is one of only four reproducing populations left on the planet – 106 of these globally imperilled mussels were encountered during sampling. These discoveries are not just exciting, but also helpful in increasing our understanding of freshwater mussel communities to aid in the protection and conservation of these remarkable animals.

As the summer sun intensified, SCRCA biologists retreated from the frontier of exploration and turned their attention to the fish monitoring program. The invasive Round Goby arrived in the Great Lakes from the Caspian Sea through the ballast water of large shipping vessels. These fish can negatively affect native fish populations by outcompeting them for food sources and devouring their eggs and young. Building on the work conducted in 2020, SCRCA biologists revisited 10 long-term index sites along the Sydenham River to document the spread and density of the invasive Round Goby. A total of 2,235 fish of 38 species were detected at the index sites including 161 Round Goby. Although this number is less than the 196 recorded in 2020, 2021 marked the first time Round Goby was detected at all 10 index sites in a single sampling year. These findings will be used to help map changes in the distribution of invading and native fish communities, which is essential for conserving native fish biodiversity in the St. Clair Region.

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Blanding's Turtle

The 2021 field season also marked the 6th year of SCRCA's Captive Hatch and Release program for turtles at risk and was the most successful year on record. As part of this program, from early June to July, turtle nesting locations within the watershed are monitored by SCRCA biologists and sites reported by the public are investigated. Staff carefully assess and collect eggs from nests that are at risk of predation or destruction and safely incubate them in a laboratory setting until the hatchlings emerge and are ready to be released back into the wild at their original nest location. Although the program focuses on the endangered Eastern Spiny Softshell Turtle, eggs from five native turtle Species at Risk were rescued and hatchlings released including 1,187 Eastern Spiny Softshell Turtles, 590 Northern Map Turtles (special concern), 343 Snapping Turtles (special concern), 56 Midland Painted Turtles (special concern), and 12 Blanding's Turtles (threatened). In total, a record-breaking 2,188 hatchlings were released back into their wild and watery home this summer. Eliminating these threats during one of the most challenging stages of a young turtle's life is vital to increase hatchling survivorship and ensure these species remain in our watershed.

Back at the office, the SCRCA began a three-year project to catalogue threats that are experienced by 22 aquatic Species at Risk that are found in the Sydenham River, including five globally threatened species. The threat inventory will help scientists, land managers, policymakers, and communities better understand and reduce the local threats experienced by these animals as well as the aquatic environment overall. This project is being undertaken by the SCRCA with funding from the Habitat Stewardship Program for Aquatic Species at Risk.

For more information on why monitoring is essential for a healthy watershed check out the new and updated Sydenham River website at www.sydenhamriver.on.ca.

Do you know what aquatic Species at Risk (SAR) fishes and mussels are near you?

Find your property and the SAR nearby by searching online for DFO's national "Aquatic Species at Risk Map". Expand the 'information and legend' to search and get access to FREE downloadable SAR datasets on the Open Government website. Use this information with the guidance available on DFO's "Projects Near Water" website when planning work or activities in or near water.

Already extirpated from its historical distribution in the Detroit River and Lake Erie, what does the future hold for the Purple Wartyback?

Purple Wartyback has joined the growing list of imperilled freshwater mussels in Canada. Following an assessment by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the long-lived and heavy-shelled Purple Wartyback was designated as a Threatened species in May 2021. Restricted to just three rivers in southwestern Ontario (Sydenham, Thames, and Ausable), the habitat in which this species relies on is expected to continue to decline in quality. Threats to Purple Wartyback habitat include pollution (agricultural and urban run-off), climate change (droughts), invasive species (Zebra Mussels and Round Goby), and dredging. This new designation takes the total number of freshwater mussel Species at Risk detected by SCRCA in 2021 from 237 individuals to 500!

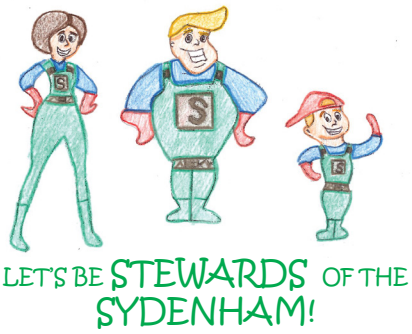
Purple Wartyback

Species at Risk in the Sydenham River ¥

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

Fish
Blackstripe Topminnow – Special Concern
Eastern Sand Darter – Endangered
Grass Pickerel – Special Concern
Northern Madtom – Endangered *
Northern Sunfish – Special Concern
Pugnose Minnow – Threatened
Pugnose Shiner – Threatened
River Darter – Endangered
Silver Lamprey – Special Concern
Spotted Gar – Endangered *
Spotted Sucker – Special Concern

Reptiles
Blanding's Turtle – Threatened
Eastern Musk Turtle – Special Concern
Northern Map Turtle – Special Concern
Snapping Turtle – Special Concern
Eastern Spiny Softshell – Endangered
Eastern Foxsnake – Endangered
Eastern Hog-nosed Snake – 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.

¥ *Provincial status*
* *Very few historical records*


Livingstone Tree Planting

A photo from Spring 2021 shows the growth of trees (pine, spruce, larch, and poplar) planted in 2014 at the Livingstone farm. Beyond these trees lies Gold Creek. A recent species inventory of the property revealed the site contains a variety of forest types and is home to various terrestrial Species at Risk.

Landowner Spotlight: Livingstone Tree Planting and Wetland Projects

In 2013, the SCRCA sent out postcards advertising stewardship grants that were available to landowners in the Sydenham Headwaters region of our watershed. Little did we know that one postcard sent to one individual would result in so many projects in subsequent years! Since that time, David Livingstone has worked with the SCRCA to plant 27,260 trees comprised of 23 different species on 35 acres (14 ha) of his property, in addition to the creation of a 0.9-acre wetland.

The 100-acre farm property has been in the family since 1833. Before David reached out to us, roughly 45 acres were older forests. This included some relatively old growth as well as more recent plantings, such as white pine and black walnut trees that his father had planted before him.

While not all landowners can retire this much farmland to create habitat, it is David's goal to return the farm to Carolinian forest and keep the land as natural habitat in perpetuity. As nearby towns and cities continue to expand and develop, it is his personal commitment to see his land be permanently set aside as a nature preserve, a place visitors can experience and enjoy in its natural state, and a legacy for future generations.

Interested in completing a Wetland or Stewardship Project on your property? We might have a grant for that!

Landowners living on or around the Sydenham River and its tributaries can help improve aquatic species at risk habitat (and wildlife habitat in general) by restoring and/or conserving marginal land. Implementing stewardship projects such as vegetative buffers, grassed waterways, and erosion control berms can help reduce soil erosion and reduce nutrient runoff into local watercourses. Allowing vegetation and trees to grow along watercourses can provide shade to keep water temperatures cool and provide a buffer from adjacent land use. And restoring wetlands in low areas of a property can mitigate flooding and allow water to return to the watercourse at a slower rate.

Partners in Conservation

ALUS
Department of Fisheries and Oceans Canada
Ducks Unlimited Canada
Enbridge
Environment and Climate Change Canada
FishCAST
Forests Ontario
Ontario Ministry of Northern Development, Mines, Natural Resources, and Forestry
Ontario Ministry of the Environment, Conservation, and Parks
Ontario Ministry of Agriculture, Food, and Rural Affairs
Ontario Nature
Rural Lambton Stewardship Network
Salthaven Wildlife Rehabilitation and Education
St. Clair Region Conservation Foundation
TD Friends of the Environment
University of Windsor Healthy Headwaters Lab
Upper Thames River Conservation Authority
Wildlife Habitat Canada

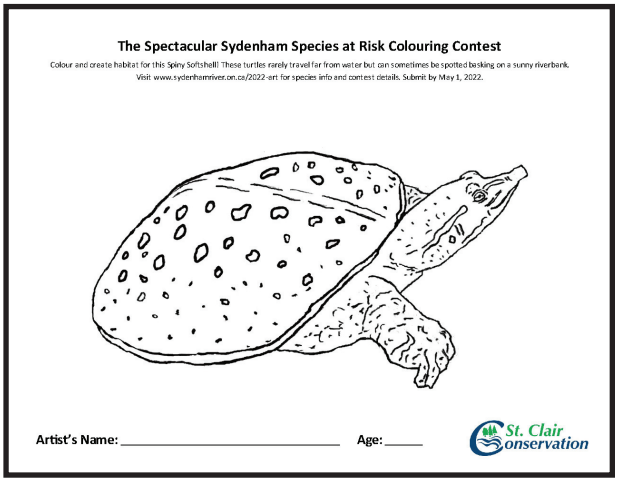
The SCRCA's Healthy Watershed Program provides technical and financial support for a number of projects including wildlife habitat creation, planting riparian buffers (native grasses, shrubs, and/or trees), reducing erosion on farmland, creating wetlands, fencing livestock from watercourses, and more! These projects aim to improve and protect rural water quality while improving aquatic and wildlife habitat.

Staff are available to meet with landowners on-site, offer advice, and assist with project design and the coordination of contractors and materials. The SCRCA is able to secure grant funding or direct landowners to funding opportunities to help offset the cost of implementing stewardship projects that benefit Species at Risk and improve water quality. In the past year, over 60,000 trees were planted and 78 acres (32 ha) of land has been retired and returned to a natural landscape of windbreaks, buffers, and wetlands!

Want to learn more about projects that may qualify for funding and how to become a steward of the Sydenham? Contact Jeff Sharp, Conservation Services Specialist (519-245-3710 x 217; jsharp@scrca.on.ca) or Emily Febrey, Stewardship Communications Technician (519-245-3710 x 241; efebrey@scrca.on.ca).

Spectacular Sydenham Species at Risk Colouring Contest

SCRCA invites you to delve a little deeper into the world of our Species at Risk. We want you to create your own masterpiece inspired by one of the Species at Risk in this newsletter. The art contest is open to participants of all ages and will be judged in two categories – the colouring contest (recommended for ages 12 and under) and the open art contest (all ages). Open art contest entries may include paintings, drawings, sculptures, or any other media you can think of.


The Spectacular Sydenham Species at Risk Colouring Contest

Colour and create habitat for this Spiny Softshell! These turtles rarely travel far from water but can sometimes be spotted basking on a sunny riverbank.
Visit www.sydenhamriver.on.ca/2022-art for species info and contest details. Submit by May 1, 2022.

Artist's Name: _____ Age: ____ St. Clair Conservation

Click on the thumbnail of our colouring page or visit our website at www.sydenhamriver.on.ca/2022-art to print out one of two colouring pages and a contest entry form. To enter, submit a photo of your creation and a copy of your entry form to contests@scrca.on.ca by May 1, 2022 for a chance to win one of four great prizes!