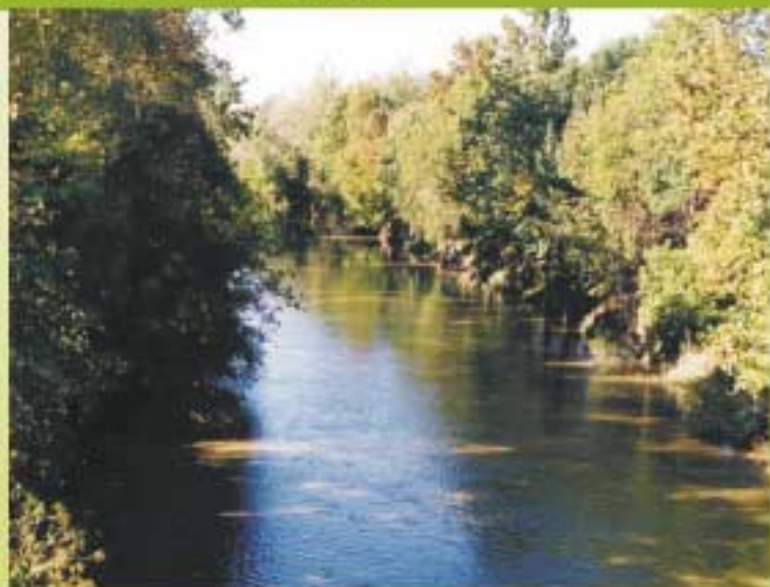


Aquatic Species at Risk

in the Sydenham River Watershed

The Sydenham River in southwestern Ontario is the only major watershed which lies completely within the Carolinian Life Zone and is relatively undisturbed by industrial development. This has made the river a biological treasure. The Sydenham River supports an incredible variety of aquatic life, or what we call biodiversity. At least 82 species of fish and 34 species of freshwater mussels have been found here, making it one of the most species rich watersheds in all of Canada. Several species in the Sydenham River are found nowhere else in Canada, and some remain at only a few locations globally. Many of these species at risk have been nationally listed as endangered, threatened, or of special concern by the Committee on the Status of Endangered Wildlife in Canada.



The team completed four background reports on the river and its species at risk before developing the Recovery Strategy. The Recovery Team recognizes that the development of a successful Recovery Strategy can only take place with the full involvement and support from stakeholders in the watershed. Partnerships, awareness and stewardship are important components of the Recovery Strategy. Protecting and rehabilitating habitat, monitoring and research are also integral to the Recovery Strategy.

Recovery Action Groups

Four Recovery Action Groups (RAG's) were established in the spring of 2002 (Stewardship RAG, Management RAG, Research and Monitoring RAG and the Community Awareness and Outreach RAG). These groups were formed based on an extensive series of public and stakeholder meetings held throughout the Sydenham River watershed. The Recovery Action Groups are charged with overseeing the implementation of the Action Plans. Many interested volunteers have helped make these committees effective and have brought many excellent ideas forward.

Anyone interested in more information or becoming involved in one of the groups is encouraged to call Muriel Andreae at (519) 245-3710 E-Mail mandreae@scrc.on.ca.

The Recovery Planning Process

The purpose of recovery plans is to help rehabilitate and protect populations of threatened and endangered species. Recovery plans identify priority actions that can be implemented to help species on their path to recovery. Successful recovery plans may result in species being removed from endangered and threatened lists. In Canada, the Peregrine Falcon Recovery Plan is perhaps one of the best known recovery efforts, but recovery plans have been developed for over 100 species. Few recovery plans have been developed for fishes and other aquatic animals even though there are relatively large numbers of species at risk in freshwater aquatic environments. In fact, this is the first strategy that looks at the shared habitat of all the aquatic species at risk. Recovery planning in Canada is a two-step process - first a recovery strategy that identifies broad approaches is prepared, followed by recovery action plans which provide implementation details.

The Sydenham River Recovery Strategy

The Sydenham River Recovery Team was formed in 1999 and includes representatives from Environment Canada, the Department of Fisheries and Oceans, the Ontario Ministry of Natural Resources, the St. Clair Region Conservation Authority, the University of Guelph, the Royal Ontario Museum, Rural Lambton Stewardship Network, Middlesex Stewardship Committee and Stewardship Kent.



Did you know?

if laid end to end, the total length of the East Sydenham River and its tributaries would stretch from Wallaceburg to Baffin Island.



Aquatic Species at Risk

Fish

Northern Madtom



Status - **Endangered**
The northern madtom is a member of the catfish family. It is considered globally rare and disappearing from the edge of its range. This species was last detected in the Sydenham in 1975 in the lower reaches of the east branch.

Eastern Sand Darter



Status - **Threatened**
This small member of the perch family has recently been collected from the lower reaches of the east branch. This globally rare species is found on the river bottom burrowing under the sand.

Spotted Gar



Status - **Threatened**
The spotted gar is one of only two members of the gar family in Canada and can grow to over 1 metre in length. This species is extremely rare in southern Ontario and was last detected in the Sydenham River in 1975.

Blackstripe Topminnow



Status - **Special Concern**
In Canada, the blackstripe topminnow is only known from the Sydenham River drainage basin. It is found in the north Sydenham watershed and lower reaches of the east branch.

Pugnose Minnow



Status - **Special Concern**
The pugnose minnow is known from the lower north Sydenham from Wallaceburg, upstream into Bear Creek as well as in the lower East Sydenham River.

Bigmouth Buffalo



Status - **Special Concern**
The bigmouth buffalo is a large member of the sucker family and can reach up to 1 m in length. It is at home in warm, muddy, highly enriched and poorly oxygenated waters. It is thought to be a recent inhabitant, not detected prior to 1997 in the lower reaches of both branches.

Spotted Sucker



Status - **Special Concern**
The spotted sucker inhabits long, deep pools of rivers over clay, sand or gravel bottoms. It is apparently intolerant of muddy waters, but has been taken recently from the lower east branch as well as from Bear and Black Creeks.

Greenside Darter



Status - **Special Concern**
The greenside darter is one of the Sydenham's most colourful fish. It inhabits rocky riffles and spends most of its time on the bottom. It is widespread in the Sydenham watershed.

Mussels



S. Stobov, MWRP

Northern Riffleshell

Status - **Endangered**
The northern riffleshell is globally rare. The Sydenham population is thought to be one of only three reproducing populations left.



S. Stobov, MWRP

Wavy-rayed Lampmussel

Status - **Endangered**
The wavy-rayed lampmussel seems to be disappearing from the waters of the Sydenham.



S. Stobov, MWRP

Rayed Bean

Status - **Endangered**
The rayed bean is one of our smallest mussels. Although it was once more widespread in Southern Ontario, it is now only found in the East Sydenham River.



S. Stobov, MWRP

Snuffbox

Status - **Endangered**
The Snuffbox was once known to inhabit several southern Ontario rivers. It is now restricted to the middle and lower reaches of the East Sydenham River.



D. Zanada, University of Guelph

Mudpuppy Mussel

Status - **Endangered**
The mudpuppy mussel is seldom seen and was thought to have disappeared from Canadian waters until it was found in the East Sydenham River.



Did you know?

The Sydenham River has more mussel species than any other river in Canada.

Reptiles

Eastern Spiny Softshell Turtle



M. O'Brien, MWRP

Status - Threatened

Softshells inhabit soft-bottomed water bodies with aquatic vegetation and may be seen basking on sunny riverbanks, sandbars, logs and rocks. A recent survey of the Sydenham River basin revealed that eastern spiny softshells occur in a continuous stretch of the East Sydenham River upstream of Croton.

Did you know? The Eastern Sand Darter is well named. It often buries itself completely in the sandy bottom of rivers.

The Sydenham River is the only place in Canada where the Blackstripe Topminnow can be found.

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 of special concern because of characteristics that make it particularly sensitive to human activities or natural events.

Research and Monitoring

In 2002, the focus of work in the Sydenham River watershed was research and monitoring with a number of stewardship projects undertaken.

Benthic Sampling

Bottom dwelling aquatic organisms, such as crayfish, mayfly larva and dragonfly nymphs are being surveyed to determine the health of the river waters. Polluted streams generally have a low diversity and high abundance of certain species. Healthy streams generally have a higher diversity but lower abundance of organisms. In the last four years, over 130 sites have been sampled.

Water Quality Monitoring

The Sydenham River is under stress because of high nutrient and sediment loads. Water quality monitoring has indicated significant differences between the east and north branches of the Sydenham River. Generally, the east branch has better water quality. Nutrient levels, turbidity and chlorides (salt) are all higher in the north branch. Turbidity measures the clarity of the water. The more suspended particles in the water the higher the turbidity. The east branch is twice as clear as the north branch. Nutrients come from both rural and urban sources such as manure, fertilizers, sewage treatment plants and faulty septic systems. Turbidity (caused by suspended particles in the river) comes from runoff from roads, parking lots, farm fields and other unprotected surfaces.

Species Research

A great deal of research is being done on species at risk in the Sydenham River. The river has been surveyed very carefully for mussels by wading and hand collecting by mollusc experts. The mussels are identified, measured and counted and then placed back into the river. Most species are found in riffle areas - shallow, fast moving water. Fish are sampled using seine nets, traps and a technique called electrofishing. This involves temporarily stunning the fish with an electric charge. The fish float to the surface, are identified and released unharmed.

Sydenham River Habitat Stewardship Program

Grants are available to farmers and rural landowners in the Sydenham River watershed to undertake a number of best management practices (BMPs). Priority is given to projects on properties upstream of Dawn Mills as there are a greater number of target species in this stretch of the river. Grants are for up to 50% of the total eligible costs, subject to project maximums. This project is funded by the Government of Canada's Habitat Stewardship Program for Species at Risk.

From 2000 to 2002, a total grant of \$260,000 available for Best Management Practices was allocated to landowners. Additional funds are expected for 2003 and 2004. Projects included such BMPs as septic upgrades, fencing cattle from streams, stream buffers, tree planting and upgrading manure storage. Contact Darren Bertrand or Steve Shaw at the St. Clair Region Conservation Authority for more information.



Mollusc experts search for mussels in the Sydenham River.

Projects can include:

- tree planting
- stream stabilization
- wetland creation
- buffer strips
- grassed waterways
- repair or replacement of faulty septic systems
- manure storage facilities
- clean water diversions
- runoff collection systems
- fencing cattle from watercourses
- sediment traps



Researchers identify fish species in the Sydenham River.



Many improvements to manure storage facilities, such as a roof to be added to this structure, are eligible for funding.



Tree planting projects provide more stable soil conditions, reducing sedimentation of streams.

The River Meets the Public

The Sydenham River Recovery Team has been working to bring the story of the river and its species at risk to the public. Through newspaper articles, inserts in local papers such as this newsletter and other initiatives, we hope to create greater interest in this exceptional river.

Website

The best way to keep up to date on the ecosystem recovery plan for the Sydenham River is to visit our website at www.sydenhamriver.on.ca. The website includes background on the recovery planning process; detailed information on the species at risk; downloads of reports; links; and FAQs. Plans are underway to make the site more usable for students and children.

Species at Risk Education Program

The St. Clair Region Conservation Authority offers curriculum based in-class and outdoor education programs on endangered species. Call Sharon Nethercott or Kim Gledhill at (519) 882-2280 for more information.

Poster

This poster is great for a classroom or for your family. It includes colour pictures and descriptions of all 14 aquatic species at risk as well as a detailed map of the Sydenham River watershed. Posters are available by contacting the Conservation Authority office.

Coming Events

Over the next year, look for our new video, produced by a student at Lambton Central Collegiate and Vocational Institute; tours and river clean-ups and much more. Give us a call if you have other ideas.

Did you know?

Before settlement, the Great Enniskillen Swamp covered 60,000 hectares or 22% of the entire Sydenham watershed. Now, less than 1% of the watershed is wetland.

The mudpuppy mussel is unique among mussels in that it uses an amphibian - the mudpuppy - as its host instead of a fish.

Mussels disperse by attaching developing larvae, known as glochidia, on passing fish.

The female wavy-rayed lampmussel uses a minnow-shaped lure to attract its host fish, the smallmouth bass.



Partners in Conservation

Environment Canada
Fisheries and Oceans Canada
Government of Canada's Species at Risk Program
Middlesex Stewardship Committee
Natural Heritage Information Centre
Ontario Great Lake Renewal Foundation
Ontario Ministry of Natural Resources
Royal Ontario Museum
Rural Lambton Stewardship Network
St. Clair Region Conservation Authority
Stewardship Kent
University of Guelph
World Wildlife Fund



Students plant trees and shrubs along Alexandra Creek in the community of Strathroy.

For more information contact:
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Authority
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Strathroy, ON
N7G 3P9
Phone: (519) 245-3710
E-Mail: stclair@scrca.on.ca



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