Aquatic Species at Risk in the Sydenham River

Mussels
northern riffleshell - Endangered
wavy-rayed lampmussel - Endangered
rayed bean - Endangered
snuffbox - Endangered
mudpuppy mussel - Endangered
kidneyshell - Endangered
round hickorynut - Endangered

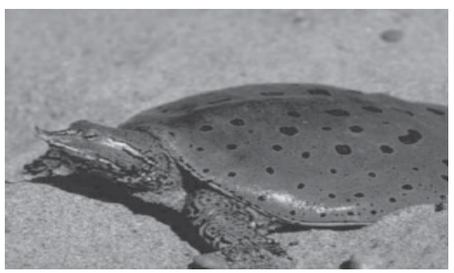
Fish
northern madtom - Endangered
eastern sand darter - Threatened
spotted gar - Threatened
blackstripe topminnow - Special Concern
pugnose minnow - Special Concern
bigmouth buffalo - Special Concern
spotted sucker - Special Concern
greenside darter - Special Concern

Reptiles
Eastern Spiny Softshell Turtle - Threatened

Endangered: A species facing immenent extirpation or extinction.

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

Special Concern: A species is of special concern because of characteristics that make it particularly sensitive to human activities or natural events.



eastern spiny softshell turtle

Best Management Practices
helping species at risk series

- Restricted Livestock Access
- Manure Application
- Manure Storage
- Well Repair and Decommissioning
- Tree Planting
- Fuel & Pesticide Storage
- Wetlands
- Bioengineering for Streambank Stabilization
- Septic Systems
- Clean Water Diversion
- Milkhouse Waste Water
- Conservation Tillage
- Exotic Species
- Riparian Buffers

Partners in Conservation

Environment Canada
Department of Fisheries and Oceans
Government of Canada's Species at Risk Program
Middlesex Stewardship Committee
Natural Heritage Information Centre
Ontario Great Lakes 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

St. Clair Region Conservation Authority
205 Mill Pond Cr., Strathroy, ON, N7G 3P9
(519) 245-3710 E-Mail stclair@scrca.on.ca
www.scrca.on.ca

This brochure funded with support of the Government of Canada's Habitat Stewardship Program for Species at Risk
Canada

Best Management Practices

helping aquatic species at risk

Riparian Buffers

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. You can help too. By adopting Best Management Practices (BMPs), you can help protect the Sydenham River and its tributaries. This series of fact sheets will assist you in deciding which BMPs are right for your property.

The use of buffer strips on your farm has many benefits. Riparian buffers should be a minimum of 3 metres wide, parallel to ditch, streambanks or surrounding a wetland area. They are composed of a permanent vegetative cover which can include trees, shrubs, and grasses.

The Sydenham River is well known for its biological diversity and for its rare mussels and fish. A riparian buffer is an important component of any water system. The vegetative cover provides protection for the water body and the life that inhabits the water body. It improves water quality of the stream and the water that is subsequently used by humans for themselves, to feed cattle, and to water crops.

This fact sheet provides information on improving watershed health through the use of a riparian buffer. It includes information on how to manage and maintain a riparian buffer and it details the benefits of installing a riparian buffer.

- Technical advice and grants may be available to assist in implementing Best Management Practices on your property.
- If your project involves work in or near a watercourse, you may require permits including a Fill, Construction or Alteration to watercourse permit from the Conservation Authority.
- Call before you begin your project.

A buffer strip helps to reduce sedimentation and reduce the frequency of drain cleanouts.

"Working Towards Healthy Watersheds"

Benefits of a Riparian Buffer:

Economic Benefits:

- A buffer strip along the banks of streams and drainage ditches increases bank stability and decreases costly maintenance. The root system of the vegetative cover of trees, shrubs, and grasses reduces erosion of the bank and by this process, reduces the need for frequent ditch cleaning.

- In crop land areas, a treed buffer provides a windbreak and can increase yields by 6 to >30%

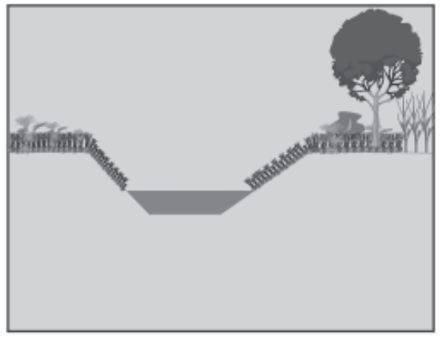
Environmental Benefits:

- A buffer strip acts as a filter for nutrient and sediment runoff produced from farmland adjacent to a stream or watercourse. Capturing the nutrient runoff not only improves water quality, but also the trees, shrubs, and grasses use these captured nutrients to improve growth.

- Buffers provide habitat for wildlife. The trees and shrubs provide habitat for many species of wildlife and the grassed strips can provide good habitat for ground-nesting birds.

- Buffers improve water quality and habitat for aquatic life. Trees planted alongside a stream provide shade to the watercourse which lowers the water temperature, reducing algae growth.

- Infiltration from wetlands help to recharge groundwater. A buffer around a wetland filters the runoff into the wetland, improving the water that eventually reaches water wells.



- vegetated side slopes help maintain stable banks
- setback from top of bank should be at least 3 metres but, preferably, up to 30 metres
- revegetate at least one side of the drain with herbacious plants to allow for drain clean-out access

Trees planted along one side of the drain helps to provide shade for the stream, improving water quality.

Management:

Your planting plan should take into account which plants will grow best and provide the most environmental benefits as well as the need to maintain access to the drain for clean outs and maintenance. While you may use a commercial seed mix, there are more environmental benefits to using native plants. The following plants would be suitable for buffer strips for streambanks, drains, and shorelines:

Grasses/Legumes

Dry Sites
timothy, tall fescues, big and little bluestem*,switchgrass*

Wet Sites
switchgrass*, prairie cordgrass*, Canada wild rye*, blue-joint, clovers, orchard grass

Shrubs

dogwood species, willow, cranberry, nannyberry

Trees

black walnut (suitable for on a floodplain), ash, soft maple, larch, cedar, spruce, willow (not suitable for a ditch)

If you are planning a buffer for a wetland, the following native plants are suitable for planting:

Grasses/Legumes

Dry Sites
timothy, fescues, big and little bluestem*, Indian grass*, switchgrass*

Wet Sites
switchgrass*, prairie cordgrass*, Canada wild rye*, blue-joint, clovers, orchard grass

Shrubs
dogwood, willow, cranberry, nannyberry, chokeberry, sumac

Trees

Wet Sites
green ash, silver maple, tamarack

Dry Sites
ash, red oak and red and white pine, European larch

* Warm-season native grasses shouldn't be planted in a mix with cool-season grasses

While a forested buffer is ideal along a major watercourse, buffers along a municipal drain should allow for access for maintenance.

Maintenance

A buffer strip also requires some maintenance after planting. Keeping the buffer strip in good shape will maximize its effectiveness in protecting the stream or water body.

Here are some tips to keep your buffer in top form:

- inspect annually and after major storms or snowmelt

- limit farm vehicles, livestock, or excessive pedestrian traffic

- minimize use of fertilizers, pesticides, and other chemicals

- remove trees that may offer future problems such as a blockage

- trim grass to control weeds, try to delay mowing until July to consider the needs of nesting wildlife

- re-establish disturbed grass, trees, and shrubs if necessary

- reduce or eliminate noxious weeds

- When establishing a buffer zone in areas susceptible to ice scour and damage, it is suggested that you use plants that can tolerate ice damage. Deciduous trees and shrubs, as well as grasses, can tolerate ice damage and once these become established, you can plant less tolerant species.

- Before planting a buffer strip of trees or shrubs along a municipal drain, contact the Municipal Drainage Superintendent to ensure that planting will not interfere with the maintenance of the drain.