

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 imminent 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 Fact Sheets

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

Best Management Practices

helping aquatic species at risk

Tree Planting

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.

Why Plant Trees?

Trees are beneficial for many reasons:

- Growing trees clean the air by taking in carbon dioxide and outputting oxygen.
- Trees improve the soil and water by providing erosion protection.
- Trees filter water making it cleaner.
- Trees create wildlife habitat.
- Trees increase the value of your property.
- Trees provide shelter to your home and reduce energy costs.
- Trees reduces the need for snow removal.

Planting trees benefits the landowner and the environment. Water quality of streams and rivers are significantly improved by planting trees. Less soil loss occurs and less soil is deposited in the river. This results in a cleaner water and better aquatic habitat.

This fact sheet describes some of the ways in which you can improve your land and water by planting trees. It also looks at species selection, planting locations and the proper way to plant and maintain your tree planting project.

- 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.



6,000 trees were planted on 10 acres of low lying floodplain as part of a land retirement tree planting project



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"Working Towards Healthy Watersheds"

Tree Location

Trees can be planted in many areas where they will result in benefit. Consider places such as:

- a windbreak around a crop field or around a property
- as a buffer along side a watercourse or around a wetland
- on a side slope that is too steep for planting and harvesting crops
- in an odd corner of the field where crop planting is awkward and will not be profitable.

Windbreaks and Shelterbelts

Windbreaks and shelterbelts are rows of trees that are planted to slow wind speeds and offer protection to soil, crops, livestock and people. A windbreak is defined as having 5 or less rows of trees and a shelterbelt has 6 or more rows of trees.

Windbreaks and shelterbelts are a great advantage to a farmer and his/her crop. The crop benefits from reduced exposure to wind and storms. Crop yields are known to increase from the shelter of a band of trees providing better growing conditions by lowering day time temperatures and warming night temperatures. Trees also help to retain soil moisture. Increases in yields have been recorded to a distance of 10 to 15 times the height of the windbreak.



Tree buffer surrounding a constructed wetland at the Dow Wetlands.

Where should a windbreak be located?

For protection of crops in the summer, locating windbreaks along the south and west boundaries of your fields reduces the damaging effects of drying summer winds. For winter crop protection, windbreaks on the north and west boundaries of fields will help retain snow which will reduce winter burn and frost heaving on the fields.

The windbreak should extend past the area that it is protecting and should be continuous to avoid the creation of wind tunnels.

Species used for planting a windbreak/shelterbelt

Tree species recommended for planting a windbreak or shelterbelt around houses, buildings or crop fields include species such as:

- Eastern White Cedar
- Norway Spruce
- White Spruce
- Carolina Poplar
- Silver Maple
- White Ash

Generally, deciduous species grow faster and taller than evergreens. In addition, they grow better on heavier clay soils. Under power lines, it is recommended you plant shrubs instead of trees.

Site Preparation

Before you plant the trees, the site should be prepared to ensure a good start for your trees.

Checklist for site preparation:

- Site preparation should begin in the summer or fall one year before planting.
- Avoid planting on very wet land unless you are planting seedlings such as willow, soft maple, dogwood, green ash and poplar, which will survive in such soil conditions.
- Mound the earth in areas where water is present in the spring.
- Grasses and other weeds on the site have to be killed before planting. This can be done by cultivating the site or by using a herbicide.
- Trees that are already present on the site can be left as they provide good protection for the new seedlings.

How to Plant your Trees

When planting your trees take care in handling them in order to give them the best chance of survival.

- Plant in the spring or fall (deciduous after Oct. 25, evergreen after mid September)
- Keep the trees in moist cold storage (1- 4° C) until ready for planting
- Carry the seedlings in a bucket with a wet rag in the bottom so that the roots will be kept moist and protected
- Take one seedling at a time from the bucket
- Ensure that the hole is deep enough for the seedling and plant it with the roots spread out and not jammed into the ground
- Fill the hole back in taking care to keep organic matter such as leaves, and twigs out of the hole because they can leave air space around the roots that will cause drying
- The tree should be planted so that the root collar (the place of swelling on the stem between the branches and the roots) is level with the ground. Pack the ground around the stem with your heel making sure that the tree is straight. A light pull on the stem should not remove it from the ground.



After Planting

After the trees have been properly planted, water each tree. Vegetation control around the trees is necessary after planting. A mulch can be applied around the base of the tree to prevent competition from weeds or other vegetation. Cultivating the area and using herbicides work best to control the competing weeds. Another option is to mow between the rows and use herbicides around the trees. You may also wish to place a guard around the stems of deciduous trees to protect them from rodents and deer until it is 4-6 inches in diameter.



Controlling weeds between rows of trees greatly increases their growth and rate of survival.