

Caring for Your Land and Water

BUFFER STRIPS AND SWALES

FACTSHEET 1



What are buffer strips?

Buffer strips are areas of land where there is permanent vegetation adjacent to a watercourse. This can take the forms of borders along streams, or a border surrounding a pond or wetland, often referred to as the “riparian zone”.

How are buffer strips useful?

Vegetated buffers can help improve surface and water quality by filtering fertilizers, sediment, pesticides and herbicides from lawns or farm fields. They can also provide immediate habitat for wildlife using the watercourse.

What is the optimal width of a buffer strip?

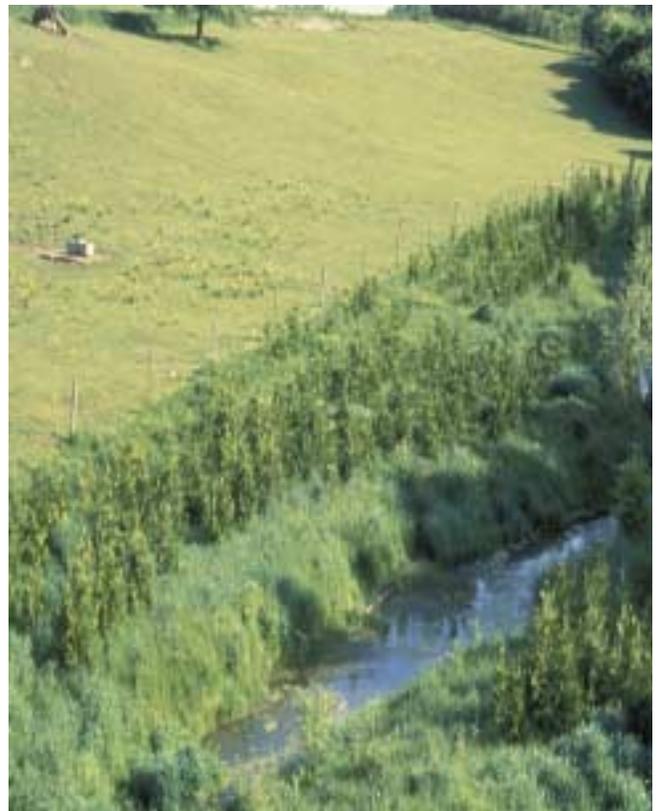
The design of the buffer depends on the slope surrounding the watercourse. In fairly flat surfaces a buffer strip should be between 15 - 30 feet wide on both sides of the watercourse. If there is a slope surrounding the watercourse both of the valley slopes should be in natural buffer. Ideally, a buffer strip 100m wide is best to accommodate wildlife functions.

How do you create a buffer?

In a disturbed area you can use a grass or hay mixture and spread it on the land adjacent to the watercourse. Tall grasses are better than short grasses because they have a deeper root system. The easiest way to create a buffer is to allow natural succession of herbs and shrubs to occur in open fields. Thirdly, natural seed sources of native trees and shrubs can be planted. Alternatively you can plant trees and shrubs.

Action Steps

- ◆ Establish or maintain riparian buffer simply by stopping mowing or cropping
- ◆ Fence out cattle if necessary
- ◆ Seed grass or hay mixture if necessary
- ◆ Allow natural succession to take over
- ◆ Plant native shrubs and trees



Aerial photo of a buffer strip between a watercourse and an agricultural field.

What trees and shrubs work best for buffer strips?

Trees that have a deeper root structure work best. The species selected is dependent on where it will be planted. Balsam fir, for example, works best in Orangeville, while Bur Oak is more suited for Mississauga. Other suitable buffer trees include Cedar, Silver Maple, Ash, Tamarack, Basswood, Bur Oak and Yellow or White Birch. Buffers should include a variety of native herbaceous plants as well as shrubs like Willows, Red Osier Dogwood, Elderberry, Native Highbush Cranberry and Nannyberry.

What are swales?

Swales are areas where intermittent or seasonal water flows in an irregular way. They typically have undefined channels that fill with water in the springtime after a heavy rain. They act as natural drainage courses.

Why is it important to keep existing swales?

Swales attract wildlife for drinking and living and provide a unique vegetation community. They are an excellent source of habitat for frogs and insects in the spring; even though seasonal, they provide the required habitat for successful reproduction of frogs such as spring peepers and wood frogs. It is best to leave swales in their natural state; neither filling them in nor clearing out naturally deposited sediment. If numerous swales are present they can help to feed a nearby stream and also help with sediment transport. The quality of the swale directly influences the quality of the watercourses downstream.



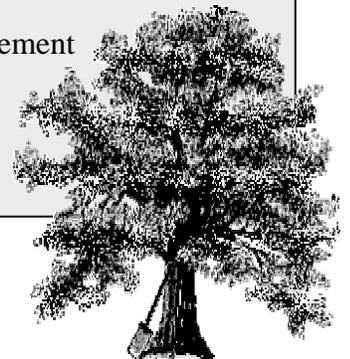
Diagram of a swale

Who can you contact for assistance?

- ◆ Conservation Authority Forester or Biologist
- ◆ Ministry of Natural Resources
- ◆ Ontario Ministry of Agriculture and Food
- ◆ Ontario Soil and Crop Improvement Association
- ◆ Landowner Resource Centre
<http://lrconline.com>

Other relevant factsheets in this series include:

- ◆ Wildlife Pond Management
- ◆ Wetland Protection
- ◆ Improving Wildlife Habitat



Scientific references available upon request



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