

Watercourse Buffers - An Overview

Background

Water resources are the building block of our natural environment. Each year streams, lakes, rivers and other water bodies receive more polluted runoff from human activity in their watersheds. This runoff can cause a range of problems adversely affecting the quality of water and aquatic and terrestrial habitats. Additionally, heavy use of shoreline areas tramples vegetation and compacts the earth until it is hard and impenetrable. To curb this trend, it is important to preserve and re-establish buffers in many areas where they may be extremely beneficial but are minimal or non-existent.

Buffers are vital to the protection of our water resources and are a long-term, low maintenance form of treatment for the non-point source pollution that we create everyday. The desire for a “view” to the water from housing and business developments has reduced the extent and number of buffer areas surrounding our watercourses.

Benefits

Buffers are areas of vegetation adjacent to watercourses. By definition, a **watercourse** is a lake, river, stream, ocean or other natural body of water.

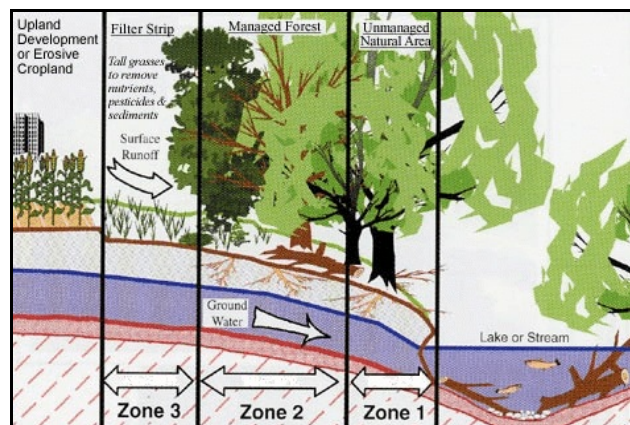
Once established, buffers are complex ecosystems which provide many benefits:

- Silt and nutrients from overland flow are filtered and absorbed.
- The rate of runoff is reduced and pollutants are removed.
- Shade from vegetation maintains cool water temperatures, critical for fish and fish habitat.
- Provide insects, leaves and other foods for aquatic organisms.
- Shoreline erosion is reduced and protection against storm surges is provided.
- Wildlife habitat and travel corridors for species that use water and land, is provided.

How Buffers Work

Buffers protect water quality by preventing sediment and nutrient-laden runoff from getting into water bodies. This is accomplished on several different levels within the buffer:

- The buffer canopy deflects raindrops and reduces their erosive impact on soils.
- Plant roots act like webbing that holds the soil in place reducing erosion.
- Plants absorb excess nutrients.
- Irregularities in the land reduce the rate of runoff.
- These land irregularities in the form of small pockets provide storage and allow for infiltration. They also serve a valuable role in providing habitat such as vernal pools.
- The dead vegetation (forest duff) from years past serves as a sponge to further absorb precipitation and runoff.
- The roots absorb some of the excess water.



Watercourse Buffer Requirements

The Regional Plan includes new requirements for watercourse buffers in relation to adjacent development. The general requirements which follow apply.

Buffer Width

Buffers must be wide enough to filter sediment from surface runoff. The appropriate width of the buffer depends upon the average slope of the area.

A buffer **20 metres** in width is the **minimum** but this width can increase for steep slopes.

Where the **average slopes** within the 20 metre buffer exceed 20%, then the width of the buffer is increased one additional metre for every 2% increase in slope, to a maximum width of 60 metres.

The calculation for slope is:

$$\% \text{ slope} = \frac{\text{vertical distance}}{\text{horizontal distance}} \times 100$$

Vegetation Management

To maintain the health of the buffer, the managed harvest of vegetation, on the advice of an arborist, landscape architect, forester or forestry technician may be necessary. However, the removal of windblown, diseased or dead trees, which are hazardous or unsafe does not require the advice of a professional.

Activity Within Buffers

Ideally, buffers should be areas of non-disturbance and excavation, infilling, tree, stump or other vegetation removal are not permitted. However, some limited activity within the buffer is permitted. Permitted activities are as follows:

- one accessory structure or one attached deck (or a combination of both) not exceeding a footprint of 20 m²
- fences
- boardwalks, walkways and trails not exceeding 3 m in width
- wharfs, boat ramps, fisheries uses, marine dependant uses
- parks on public lands, historic sites and monuments, conservation uses
- driveway crossings, public road crossings, central sewer, storm and water infrastructure