



Riparian Buffers

Riparian buffers are the permanent strips of trees, shrubs and plants that grow along watercourses and water bodies. They are important because, when fully intact, they help to maintain good water quality and healthy stream function.

The Values of Riparian Buffers

Riparian buffers filter rain water and snowmelt as it flows overland into the creeks. The overland flow may carry sediment from bare soils, pollutants from road surfaces and fertilizers and pesticides from lawns and fields. All are intercepted by the vegetation allowing significantly cleaner water to enter our creeks. The deeply rooted plants along the creek take up phosphorus and nitrates that are dissolved in surface water and further prevent our creeks from being polluted with excess nutrients. These extensive roots systems also help to hold soil in place, helping to stabilize the stream banks and prevent erosion.

The vegetation within a buffer also serve to slow floodwaters, which also helps to maintain stable creek banks. Furthermore, slowing of floodwaters and interception of overland flow allows water to soak into the ground, providing storage; these reserved waters in turn prevent the creek from drying during drought conditions by slowly releasing water and maintaining flowing creeks.

This will become increasingly important as we experience a changing climate in Southern Ontario with the potential increase in extreme weather events.

Riparian buffers also provide food and habitat for fish, birds, mammals and aquatic insects. In small headwater creeks the majority of energy inputs are from decomposing woody debris and leaf litter that falls into the creek. The overhanging vegetation also offer places for fish to hide and provides shade which maintains cooler water temperatures, critical for some fish species. The shading of the creek also helps to prevent the overgrowth of algae.

Riparian buffers also provide services for mammals. The riparian buffers act as transportation corridors for mammals as they travel between natural areas. Without these important linkages between sanctuaries many animals would be unable to search for food or mates, resulting in declining health and a decrease in their populations.





Erosion

Restoring Riparian Buffers

There are areas where riparian buffers have been removed for aesthetic reasons, for improved access to the creek or for maximizing agricultural lands. The loss of the natural riparian buffers leads to reduced water quality, increased erosion and generally a decrease of fish abundance and diversity. Restoring riparian buffers in these areas is one of the most effective ways to improve overall creek function and health.

Restoring riparian buffers can be as simple as creating a “no mow zone” along the edge of the creek, allowing grasses and herbaceous plants to grow. For added creek bank protection and to create shading, native tree and shrub plantings can be incorporated within the no mow zone. The species selected should be native to the area and will need to be tolerant of high moisture levels.

To create a riparian buffer which is most effective at stabilizing creek banks, reducing floodwater and intercepting surface water runoff, a riparian buffer of 5 to 30 m should be created using a combination of native trees, shrubs and herbaceous plant material. Herbaceous plants will be most effective at intercepting

Five Benefits of Having Riparian Buffers

1. Buffers filter sediment and pollution from surface water as it flows overland into our creeks.
2. The extensive root systems of native plants help to hold soil in place, reducing creek bank erosion.
3. Buffers reduce flooding by providing storage for rain water which can be slowly released over time.
4. Buffers provide food and habitat for fish, birds, mammals and insects.
5. Buffers are transportation corridors for land mammals as they travel between larger natural areas.

sediment, while the trees and shrubs will encourage more groundwater recharge and provide deep roots for creek bank stabilization.

Have a creek on your property? Want to learn more about creating or enhancing a riparian buffer? Please contact our Cootes to Escarpment stewardship technician. Assistance is always free and we can help you develop a planting plan and source materials. We can also let you know if you are eligible for financial assistance.

Contact

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