

Corporation of the Township of McKellar

Proposed bylaw 2023 - xx

Being a By-law to adopt a TREE CANOPY AND NATURAL VEGETATION
POLICY

WHEREAS Subsection 270 (1.7) of the Municipal Act 2001 S.O. 2001, c.25 requires municipalities to adopt and maintain a policy for the protection and enhancement of the tree canopy and natural vegetation (see McKellar Township By-Law 2019-12),

AND WHEREAS a tree canopy and natural vegetation are important in a rural setting to protect wildlife habitat and the environmental quality of surface water in an era of climate warming,

AND WHEREAS healthy lakes and rivers in McKellar Township are of immeasurable benefit to everyone,

AND WHEREAS shorelines are highly productive habitats and highly attractive to human settlement,

AND WHEREAS, during settlement along a shoreline, the buffer zone between the land and water is often changed and the health of the waterway is degraded as a result,

AND WHEREAS preservation, replacement and maintenance of a vegetated shoreline buffer promotes better water quality, control of erosion and flooding, removal of sediment and pollutants and provision of insect and animal habitat,

AND WHEREAS, according to the Ontario Provincial government's Lake Capacity Assessment Handbook, a vegetated buffer is a best management practice for lake health,

AND WHEREAS A healthy Riparian Zone significantly mitigates the impact of human activity in the Upland Zone, bolstering the health of the Littoral Zone (see Figure 1),

AND WHEREAS development on the shoreline has been shown to change the number and variety of plant life and the number of species and quantity of fish in the littoral zone and the amount of nutrients entering the lake through runoff, and a healthy littoral zone is vital to the overall health of Manitouwabing Lake and other lakes in McKellar Township,

AND WHEREAS A healthy tree canopy in the upland zone provides cooling of the land, oxygen production in the atmosphere, and retention of rainwater in the ground and nutrient uptake from the rain runoff,

AND WHEREAS the Township of McKellar wishes to create performance measures designed to enhance McKellar

AND WHEREAS the presence and population of the Common Loon (*Gavia immer*) is an indicator of lake health and of value to the residents of McKellar; a count of the loon population may be used as an indicator of lake health in addition to standard measurements of lake profile data, including periodic E. coli, phosphorus and calcium measurements,

NOW THEREFORE the Council of the Corporation of the Township of McKellar enacts as follows:

1. THAT the Township of McKellar Tree Canopy and Natural Vegetation Policy is hereby adopted as set out in Schedule "A" attached hereto and forming part of this by-law;
2. THAT this By-law shall come into force and effect on the date of final passing thereof. READ a FIRST and SECOND time this Xth day of MONTH, YEAR.

Sixth Revision of Tree Canopy and Natural Vegetation By-Law for McKellar Township

Original signed by _____ Mayor

David Moore, Mayor

Original signed by _____ Clerk

Ina Watkinson, Clerk

READ a THIRD time and PASSED in OPEN Council this ____ th day of

_____, _____.

month year

TOWNSHIP OF MCKELLAR.

TREE CANOPY AND NATURAL VEGETATION POLICY

POLICY STATEMENT:

The Township of McKellar recommends the preservation, renewal and replacement of the tree canopy in the whole of McKellar Township. The Township of McKellar further recommends the maintenance and renewal of a vegetative zone of natural vegetation at the shoreline and wherever possible in the upland areas of the township. This policy applies to all properties and development, on public and private lands, in the Township of McKellar. It is a resource which can be referred to and utilized as a guiding principle for residential, commercial, and municipal purposes.

BACKGROUND AND PURPOSE

The purpose of this policy is to offer a summary understanding of local vegetation, conservation considerations and promote best practices for the creation and preservation of a healthy tree canopy and naturalized vegetative buffers in the Township's settlement areas as well as on its shorelines and rural residential properties in compliance with section 270(1)(7) of the Act.

WHO IS IT FOR?

This policy applies to all properties and development, on public and private lands, in the Township of McKellar. It is a resource which should be referred to and utilized as guiding principles for residential, commercial and Township properties, reflecting the significance of tree canopies and natural vegetation to provincial interests and the need for a co-ordinated cultural shift away from manicured, carpet-like grass lawns which became popular in the middle of the 20th century.

WHAT IS A TREE CANOPY?

A tree canopy is the dense gathering of closely spaced trees and their branches.

In a rural setting, the greater the percentage of the ground that is covered by a tree canopy, the better the trees can

- mitigate ground, air and water temperature
- create shade for buildings as well as surface water
- reduce air pollution
- provide habitat
- improve the aesthetics and value of property
- assist in stormwater management
- improve retention of moisture in the soil
- prevent erosion
- sequester carbon, thereby decreasing air pollution
- absorb nutrients before they are washed into the surface water with rain run off
- help maintain a healthy lake as indicated by its trophic status (the Lakeshore capacity model (Ontario MOE) established a quantitative linkage between the level of shoreline development and the level of phosphorus in a lake.)
- create oxygen for the atmosphere

WHAT IS A VEGETATIVE BUFFER?

A vegetative buffer is a living zone of plants and can be made up of any combination of trees, shrubs and herbaceous or grassy vegetation. A naturalized vegetative buffer contains a combination of ***indigenous*** vegetation as opposed to turf and introduced plant species. A buffer differs from a setback, which is the minimum distance required between a structure or infrastructure and a natural feature, although a

buffer may be included within a setback. Since setbacks are mandatory, vegetative buffers almost always make up at least a portion of the setback. Intuitively, the greater the setback, the greater the potential for a naturalized vegetative buffer. However, the maintenance of a vegetative buffer of any size maintained in an existing setback should be encouraged to provide greater protection of water quality and to decrease erosion at the shoreline.

Several qualities affect the effectiveness of vegetative buffers in the role of protecting the littoral zone from upland human activity. Buffer size, condition of buffer (i.e. density of vegetation, suitability of vegetation, soil status (disturbed / undisturbed)) and intensity of upland use are key factors that determine the effectiveness of a vegetative buffer.

Where the vegetative buffer is less than 10 m, factors such as the density of vegetation and substrate quality increase disproportionately in importance. The current view is that the vegetative buffers are effective when they are 15 m or greater.

Shoreline development is inescapable – development allows access for enjoyment. However, currently it often happens that for that developed portion of the shoreline, there is no vegetative buffer or if there is, it is mowed grass turf which is unsuitable as a rain water filter. In unsettled lake shorelines, the natural vegetation at the shore filters the rain water, removing and storing nutrients in the plants which would otherwise be excess in the lake water. Developed shoreline zones can be viewed as the weak links in a shoreline chain. Current development standards (Lake Protection Workbook, Watersheds Canada) allow for the development of 25% of a property's shoreline.

In addition to providing inadequate filtration of rainwater run-off into lakes and rivers, a mowed grass turf is favoured by Canada Geese and their excrement further adds to the excess nutrients flowing into the lake water.

Developed shoreline increases the importance of maintaining and creating effective vegetative buffers in the undeveloped zones and finding alternatives to turf in the developed zones that contribute to the health of McKellar Township's lakes as opposed to presenting threats to the health of our township's lakes and rivers and creeks.

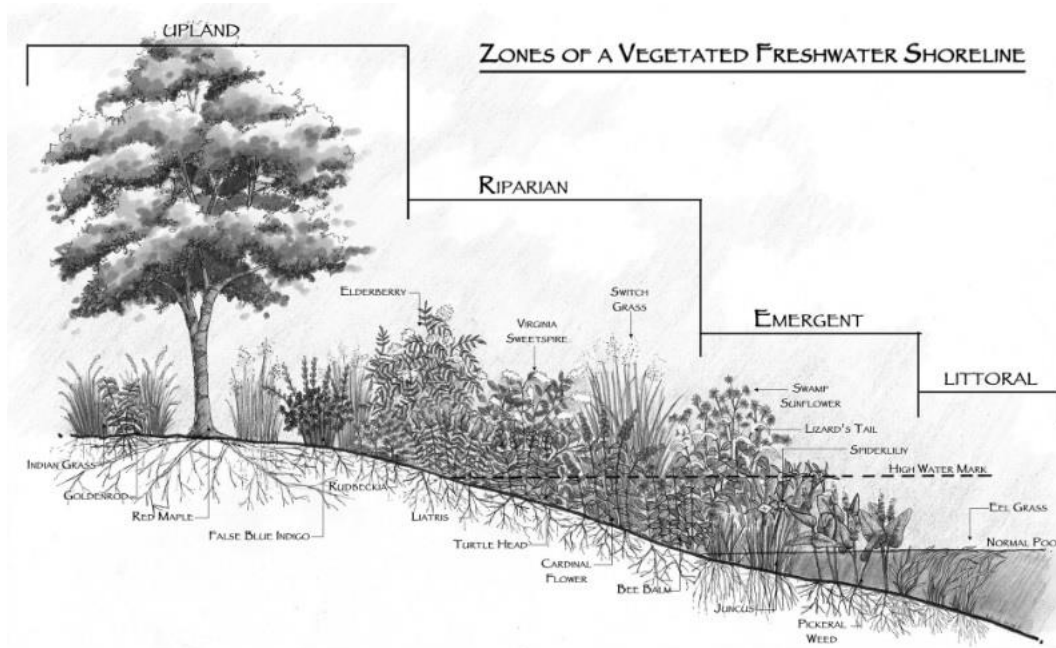


Figure 1

Riparian buffers shield the ground, prevent erosion, restrain runoff flows, and get the water underground where much of its excess nutrient load (such as substances that breed aquatic algae) can adhere to soil particles or be absorbed by living roots. Sediment is trapped up on the land, where it belongs, and runoff water, is guided into the soil, where nutrients can feed land plants and contaminants are filtered out. ("Shoreline buffers and water quality", www.scnps.org 2020)

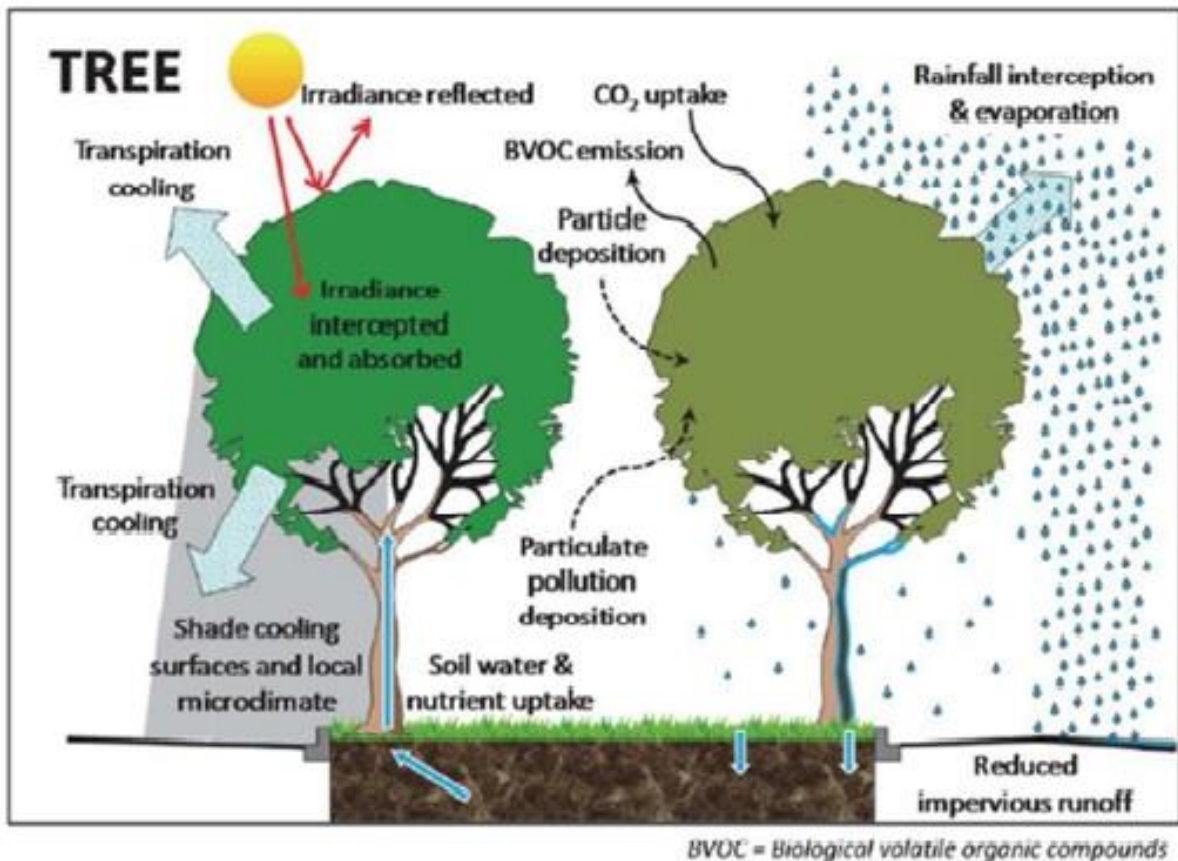


Figure 2 The above diagram from Water: The Journal of Environmental Quality illustrates the benefits of a tree canopy.

SHORELINE VEGETATION

Vegetation in the riparian zone serves as a buffer between the Upland area and the surface water (lakes, rivers etc). Vegetative buffers may be a combination of trees, shrubs, and grassy or herbaceous vegetation. In general, maintenance and restoration of native plants in the shoreline buffer is preferred to use of non-native species, since native species are adapted to local conditions, support local biodiversity, and do not require the use of fertilizers, herbicides, and pesticides, which can degrade water quality (Muskoka Watershed Council 2013).

The littoral zone, the land in the water from the shoreline to the deepest penetration of light to the bottom of the lake or river, is called the “ribbon of life” where 90% of the species in the lakes and rivers spend part of their life cycle, and is therefore extremely important to the health of the water body and the habitat of its fauna.

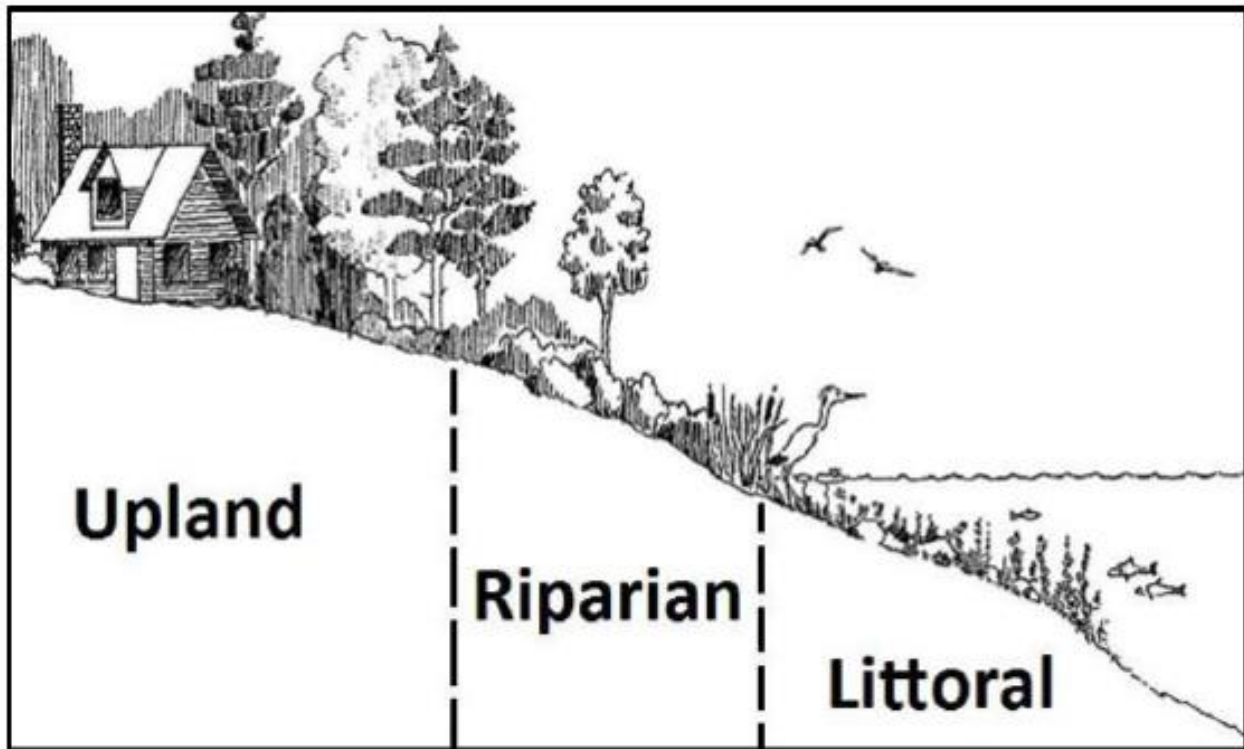
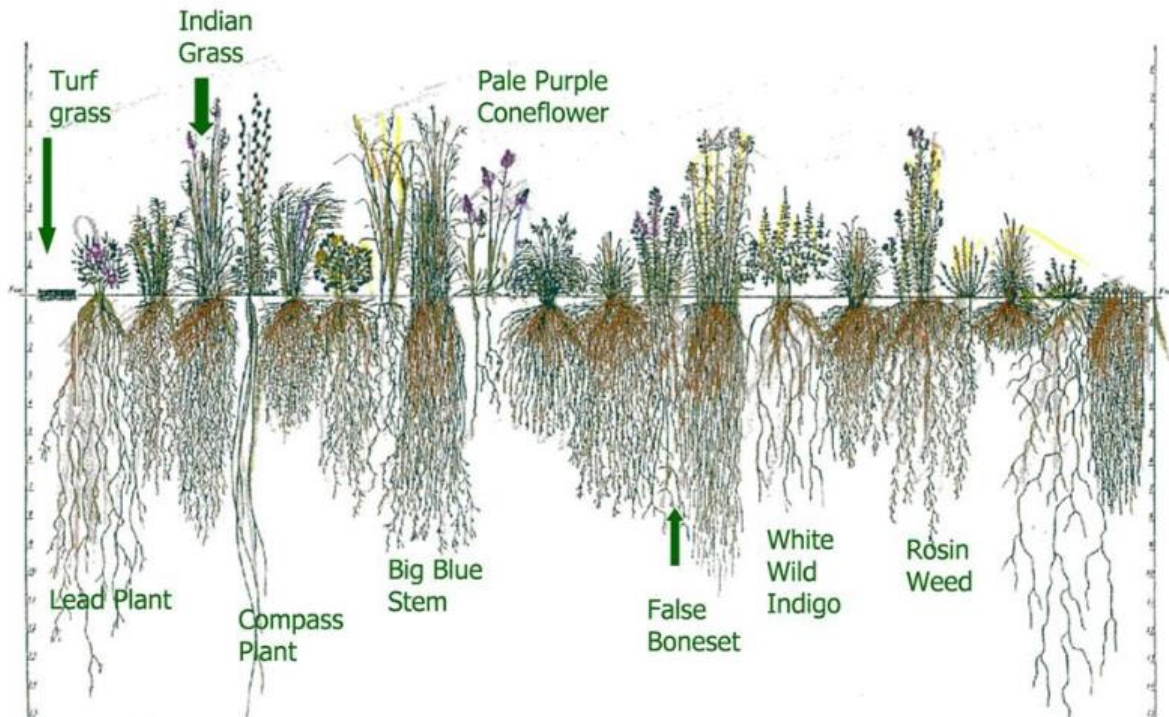


Figure 3 (Courtesy of Muskoka Watershed Council 2013)

In summary, shoreline buffers should be:

- At least 20 meters or more upland from the high water mark as recommended by the MNR
- Be composed of natural vegetation indigenous to the area with a broad corridor of undisturbed vegetation. Native vegetation does not require the use of fertilizers, herbicides and pesticides, provides improved habitat for terrestrial and aquatic species

- Be composed of plants with deep roots, not a grass lawn
- Shoreline hardening, or armouring could be avoided and/or replaced with naturalized shoreline
- The removal of shoreline vegetation on the land and water at the shore and the covering of the land immediately adjacent to the lake with sand, precludes any filtration of rainwater before it enters the lake and smothers the benthic organisms essential for a healthy food chain in the water body
- 75% of the shoreline, and 75% of the area of the property (including buildings) should be maintained in a naturalized state
- Pathways should be curved, and made of pervious material such as gravel, in order to impede the flow of rainwater run off into the lake (water movement below the surface tends to be slower than surface flow, thus creating more time for plants to take up the nutrient. (Hutchinson, p 17)



(naturenearby.org)

Figure 4. Plants with long roots capture nutrients before they get into the surface water of a lake or river, help prevent erosion and do not need fertilization or tending. Please note that plants with short roots, including grass, should be planted over a septic bed.

Beneficial compromises should be considered, namely:

- A buffer of any size is better than no buffer of naturalized vegetation, and
- Taking off the lower branches of a tree to open a view is preferable to removing the tree.

Types of Plants that can be maintained or replaced in the riparian zone include:

Schedule "A" 2023

Trees	Shrubs	Partial Shade	Full Sun	Shoreline
Riparian Zone	Black Chokecherry	Bearberry	Black-eyed Susan	Blue Flag Iris
Balsam Fir	Nannyberry	Bloodroot	Big Bluestem Grass	Blue Vervain
Red Maple	Northern Bush	Bunchberry	Canada Goldenrod	Boneset
Tamarack / Larch	Honeysuckle	False Solomon's	Butterfly weed	Cardinal Flower
Black Spruce	Pagoda Dogwood	Seal	Flat-topped Aster	Swamp Milkweed
Eastern Hemlock	Red Osier Dogwood	Jack in the	New England Aster	Joe Pye Weed
	Smooth Wild Rose	Pulpit	Pearly Everlasting	White Turtlehead
Medium Sized	Swamp Rose	Wild Columbine		
Chokecherry	Sweet Gale	Foamflower		
Pin Cherry	Winterberry Holly	Ostrich Fern		
Service Berry	Common Elderberry			
Striped Maple	Lowbush Blueberry			
Ironwood	Meadowsweet			
Eastern White Cedar	Serviceberry			
	Steeplebush			
Large Sized				
Bur Oak				
Red Oak				
Silver Maple				
Trembling Aspen				
White Birch				
Red Spruce				
Eastern White Pine				
Butternut				
Sugar Maple				

Figure 5 Plants indigenous to the McKellar area.

A note about prevention of fire damage due to encroachment of forest fires on settled lands:
Notwithstanding the information provided above, residents whose properties are adjacent to forested areas are encouraged to consult the information at Firesmart Canada for guidelines on mitigating the possibility of their dwelling being involved in an adjacent forest fire by carefully choosing the plants that are immediately adjacent to the house. Notably plants in these areas should be those that show more fire resistance, such as: deciduous trees and shrubs, plants that retain water well, have low fuel volume, are low growing and non-resinous ground cover of succulents. Pathways and driveways should be composed of permeable gravel, rather than bark or wood chips in these areas.

