

# What You Should Know as a Ravine or Bluff Property Owner

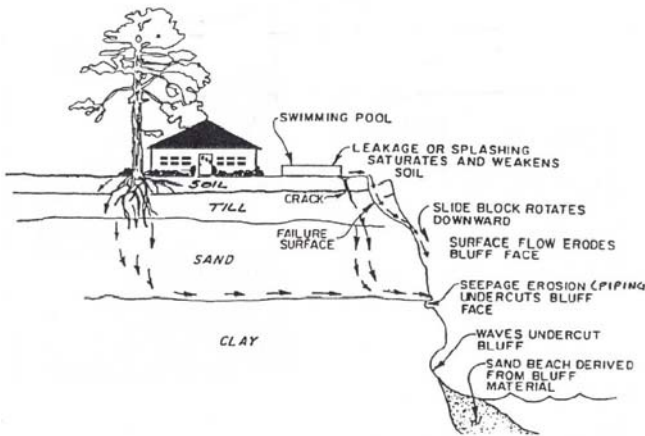
Ravine and lakefront properties are desirable locations for homes because of the unique scenery that can be experienced off one's backyard. But ravine and lakefront properties are fragile lands which require special care if they are to be preserved for current and future property owners.

## Erosion

Erosion is the process of gradual washing away of soil by water movement or seepage.

There are many factors which can cause erosion and slope instability such as soil type, stratigraphy, topography, steepness of slope, erosive action from waves and rivers, groundwater, surface water, and weathering. The main threat to ravine and bluff property is water erosion.

Erosion is a natural force that can be slowed, but cannot be stopped entirely and can be accelerated by human activity.



## How Your Actions May Impact Bluff or Ravine Slope Erosion

Property owners often unknowingly exacerbate bluff and ravine erosion. Some of the things that home owners can do to minimize erosion are:

### •Keep Yard Waste Off the Bluffs and Ravine Slopes

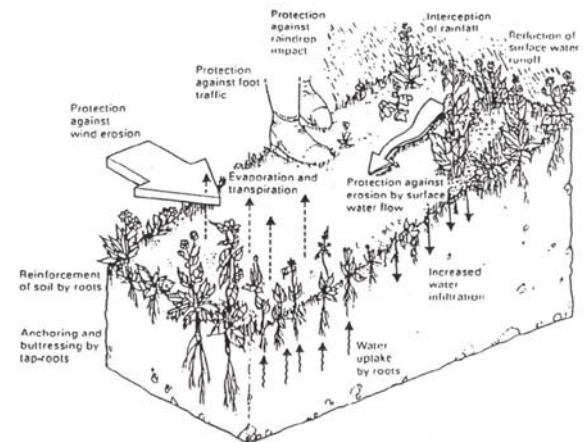
Yard waste and household garbage kills underlying vegetation and adds weight to the upper portion of a slope, which can cause a potential slide thereby damaging established vegetation down below. Besides causing



erosion, **dumping of fill material or refuse on the bluffs or ravine areas without an Authority permit may result in a fine and prosecution under the Conservation Authorities Act.** Alternatives to dumping include composting yard waste, leave lawn clippings on the lawn, or put out yard waste to the curb for garbage pick up.

### •Encourage Growth of Vegetation on Edge of Slopes

The root systems from vegetation tends to hold the soil together. A native vegetative buffer along the top of the bluff or valley slope is encouraged. Disturbance of soils such as modifications to the bluff for access can lead to land sliding and accelerated erosion.



### •Leave Stumps in Place

It is best to avoid removal of tree stumps near a shoreline bluff or slope because their root systems help to bind and stabilize the soil. If a tree dies or requires removal, cut the trunk of the tree above the base, leaving the roots intact.



### •Divert Water Runoff Away from the Bluff Face

Excessive groundwater and surface water runoff are leading causes of ravine and bluff erosion. Automatic lawn sprinklers can aggravate over-saturation of the ground, which can contribute to erosion caused by overland flow. Turn on sprinklers only when the soil is dry. Swimming pools should be drained via a hose leading to the street. Also, a leaking pool can create damage to the underlying soil, so repair leaks as soon as possible.

### •**Drain Runoff from Roof of Buildings Away from the Ravine or Bluff**

Runoff from roofs that is allowed to drain over the edge of the ravine or bluff will create gullies. If possible, runoff should be directed toward the street or directed down all the way to the bottom of the slope by a hose. At the bottom, the outflow should be directed to a layer of large stones so that the energy of the flow is dissipated and the flow does not wash away soil.



### •**Hire a Professional to Stabilize or Terrace your Slope**

It is recommended that a geotechnical engineer be hired to design any form of slope stabilization or terracing. Be aware that permits would be required from the Toronto and Region Conservation Authority prior to undertaking any work.



### •**Consult the City of Toronto or Local Municipality Prior to Removing Trees Along the Bluff or Ravine Area**

If your property is located partially or within a ravine protection area you are required to apply to the City for a permit for removing or undertaking any work that may injure a tree. It is recommended that native species be used when planting new trees. Non-native species tend to develop dense canopies which block the sun and kill underlying vegetation thereby increasing the risk of soil erosion. Urban Forestry Services staff or a landscape architect can assist you to improve the natural habitat on your property.

## How Do TRCA Policies and Regulations Affect the Property Owner?

Ontario Regulation 166/06, established under the Conservation Authorities Act and administered by the Toronto and Region Conservation Authority, may affect you if your land is in a regulated area. Your land may be regulated if it meets any of the following criteria:

- There is a stream flowing through or adjacent to your property
- Your property backs onto a river valley or ravine; or
- Your property backs onto the Lake Ontario Shoreline or a waterfront marsh area.

Ontario Regulation 166/06 restricts, and may prohibit, the placement of fill within a regulated area, the construction and renovation of structures within a floodplain (an area vulnerable to flooding),

and the alteration of a watercourse. The intent of the Regulation is to prevent development that could be damaged by floods or erosion and, most importantly, protect the public.

If your property falls within a regulated area, you must apply for a **Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit** from the Conservation Authority to do any of the following:

- Construction and reconstruction
- Erection or placing of a building
- Any change to a building or structure that has the effect of:
  - Changing its use
  - Increasing its size
  - Increasing the number of dwelling units
- Site grading
- Placing of or removal of fill

For further information on TRCA Policies and Regulations visit the TRCA web site at [www.trca.on.ca](http://www.trca.on.ca) or call 416-661-6600

## How Does the City of Toronto Ravine and Natural Feature Protection By-Law Affect a Property Owner?

In order to protect and preserve shoreline features, the City of Toronto in co-operation with the Toronto and Region Conservation Authority enforce the Ravine and Natural Feature Protection By-Law which limits development proposals in and adjacent to ravine and shoreline areas. On designated ravine and shoreline properties a **permit must be obtained** before you:

- Injure or destroy a tree
- Change the natural land elevation, by excavation or adding soil or other materials on slopes;
- Dump or place any type of debris including garden waste, leaves and branches; and
- Construct new structures or retaining walls

For further information on The Ravine By-law visit The City of Toronto's web site at: [www.toronto.ca/trees](http://www.toronto.ca/trees) or contact the Urban Forestry Services at 416-392-1888.

### Sources:

Ontario Ministry of Natural Resources.

Geotechnical Principles For Stable Slopes:

Great Lakes — St. Lawrence River Shoreline Policy, 2004.

All photos taken by the Toronto and Region Conservation Authority (TRCA).