

Erosion: What you need to know

Living on the edge. What you need to know about erosion in your community.

Erosion is an ongoing occurrence in nature. It happens every day along shorelines of lakes, rivers and streams where the constant movement of water slowly wears away the existing beaches, embankments and even rock formations. It also happens on any land surface when runoff from heavy rain carries away the top layers of soil. Erosion is intensified when human habitation and industrial development locate in vulnerable areas, such as lakefronts, river lots and ravines.

A backgrounder on erosion

- Erosion is a naturally occurring process affecting all land features.
- Slope failure is a direct result of erosion on any sloped or inclined surface of land.
- Heavy rainfall carries topsoil down embankments, slopes and valley walls, contributing to slope instability.
- Erosion is classified as a hazard only when it poses a threat to people, property or the environment.
- Human activity, such as building, digging and removing vegetation from the soil can increase the potential for erosion.
- Erosion can come about slowly, as in receding shorelines, or can happen suddenly, as in a sudden slope failure.

- Millions of dollars are spent annually in Ontario, primarily by private shoreline and valley land owners in attempts to remedy erosion problems thereby protecting life and property.
- Under Ontario's Provincial Policy Statement municipalities are now required to incorporate policies into their planning documents which direct development away from hazardous areas. This results in stronger, healthier communities.
- When considering Ontario rivers and streams for erosion hazards, it should be understood that they are constantly changing, eroding and depositing materials along their course. Development must be directed away from such dynamic areas of the river shoreline.

Roles and responsibilities

- Ministry of Natural Resources (MNR) is the lead ministry with respect to matters of erosion hazards.
- In 2004, Ontario revised the Provincial Policy Statement (PPS) to formally recognize the unacceptable health and safety risks associated with development in erosion hazard areas.
- In areas of the province where Conservation Authorities exist, they have been delegated the responsibility for implementing Natural Hazards Policies of the PPS on behalf of the MNR.
- In areas where Conservation Authorities have not been established, MNR is the lead agent.

What you can do about erosion

If you are considering buying property:

- Be mindful before you buy a house or cottage. The appealing headlines on builders' signs, "Ravine Lots!" or "Waterfront Properties!" can mean that some day, you and your family could be "living on the edge" in more ways than one. As desirable as these properties may be for their proximity to a waterfront, or for the view into a ravine, a measure of sound research should precede an emotional purchase.
 - Check with your municipality to ensure that the property you are interested in is not designated a "hazard area."
 - Ensure that structures located on your property are located well back from the edge of a ravine, a valley wall, embankment or shoreline.
 - Even if the property is situated well back from a slope, ensure that sufficient erosion protection (i.e. grass, shrubs, etc.) are in place along the slope, valley or watercourse. In addition to sufficiently strong vegetation, look for structural improvements such as retaining walls which may indicate significant regrading of the area.
 - Remember that slope failures can occur wherever slopes exist.

If you are a current homeowner on or near a ravine

- Treat your environment with respect. Do not build additions or install pools that can weaken the roots of existing vegetation and place new loads on the slope.
- Discourage children and pets from sliding down or climbing on the slope.
- Do not throw compost, leaves, gardening debris or garbage into the ravine. This material plugs the natural drainage outlets on the face of the slope so that groundwater cannot properly drain. A build-up of water in the soil can weaken the slope, causing it to fail.

For more information on MNR emergency management roles and information on this and other hazards go to MNR, Conservation Authority and Emergency Management Ontario websites.

Go to: ontario.ca/emergencymanagement