

## 12 GLOSSARY OF TERMS

### **Abandoned Well**

A well that is deserted because it is dry, contains unpotable water, discontinued before completion, not being properly maintained, constructed poorly, or determined that natural gas may pose a hazard.

### **Activity**

One or a series of related processes, natural or anthropogenic that occurs within a geographical area and may be related to a particular land use.

### **Aquifer**

An underground saturated permeable geological formation that is capable of transmitting water in sufficient quantities under ordinary hydraulic gradients to serve as a source of groundwater supply.

### **Chemical**

A substance used in conjunction with, or associated with, a land use activity or a particular entity, and with the potential to adversely affect water quality.

### **Condition**

A drinking water condition refers to contamination that exists already and is associated with past activities.

### **Consumptive Water Demand**

The net amount of water that is taken from a source and not returned locally to the same source in a reasonable time.

### **Contaminant of Concern**

A chemical or pathogen that is, or may be, discharged from a drinking water threat activity that could contaminate a drinking water source.

### **Designated System**

A drinking water system that is included in a Terms of Reference for developing source protection plans, pursuant to resolution passed by a municipal council under subsection 8(3) of the *Clean Water Act, 2006* or added by the Minister.

**Development (as defined by the Provincial Policy Statement, 2014)**

Means the creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the *Planning Act*, but does not include:

- a) activities that create or maintain *infrastructure* authorized under an environmental assessment process;
- b) works subject to the *Drainage Act*; or
- c) underground or surface mining of *minerals* or advanced exploration on mining lands in *significant areas of mineral potential* in Ecoregion 5E, where advanced exploration has the same meaning as under the *Mining Act*.

**Drinking Water Issue**

A substantiated (through scientific means) condition relating to the quality of water that interferes or is anticipated to soon interfere with the use of a drinking water source by a municipal residential system or designated system.

**Drinking Water Threat**

An existing activity, possible future activity or existing condition that results from a past activity that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water.

**Environmental Compliance Approval (ECA)**

A new approval that has replaced the Certificate of Approval (C of A) and the section 53 Ontario Water Resources Act (OWRA) approvals. This change came into effect October 31, 2011.

**Event**

The occurrence of an incident (isolated or frequent) with the potential to promote the introduction of a threat into the environment. An event can be intentional as in the case of licensed discharge or accidental as in the case of a spill.

**Event Based Area (EBA)**

See Chapters 7.1.3 and 10.12 for more information.

### **Existing Drinking Water Source**

The aquifer or surface water body from which municipal residential systems or other designated systems currently obtain their drinking water. This includes the aquifer or surface water body from which back-up wells or intakes for municipal residential systems or other designated systems obtain their drinking water when their current source is unavailable or in the event of an emergency.

### **Groundwater**

Subsurface water that occurs beneath the water table in soils and geological formations that are fully saturated.

### **Groundwater Recharge Area**

The area where an aquifer is replenished from (a) natural processes, such as the infiltration of rainfall and snowmelt and the seepage of surface water from lakes, streams and wetlands, (b) from human interventions, such as the use of storm water management systems, and (c) whose recharge rate exceeds a threshold specified in the regulations. The Director's rules will specify the acceptable methodologies to determine groundwater recharge rates i.e., what qualifies as significant.

### **Hazard**

In the context of this guidance, a hazard is equivalent to a contaminant and pathogen threat.

### **Hazard Rating**

The numeric value which represents the relative potential for a contaminant of concern to impact drinking water sources at concentrations significant enough to cause human illness. This numeric value is determined for each contaminant of concern in the Threats Inventory and Issues Evaluation of the Assessment Report.

### **Highly Vulnerable Aquifer (HVA)**

An aquifer that can be easily changed or affected by contamination from both human activities and natural processes as a result of (a) its intrinsic susceptibility, as a function of the thickness and permeability of overlaying layers, or (b) by preferential pathways to the aquifer. The Director's rules will permit the use of various methods, such as the Intrinsic Susceptibility Index (ISI), to determine those aquifers that are highly vulnerable. Ontario's ISI defines a highly vulnerable aquifer as having a value of less than 30. An ISI is a numerical indicator that helps to indicate where contamination of groundwater

is more or less likely to occur as a result of surface contamination due to natural hydrogeological features. The ISI is the most commonly used method of index mapping and was the prescribed method set out in the provincial 2001/2002 Groundwater Studies.

### **Hydrogeology**

Hydrogeology is the study of the movement and interactions of groundwater in geological materials.

### **Hydrologic Integrity**

The condition of ecosystems in which hydrological features and hydrological functions are unimpaired by stresses from human activity.

### **Impervious**

Not allowing something to pass through or penetrate. Impervious surfaces are mainly artificial structures such as paved roads, sidewalks, driveways and parking lots.

### **Incidental Quantities for Personal Use**

Means standard size containers that are used for personal or domestic activities. This will exclude larger quantities used in activities, such as hobbies, businesses/home businesses.

### **Intake Protection Zone (IPZ)**

The contiguous area of land and water immediately surrounding a surface water intake, which includes:

- the distance from the intake;
- a minimum travel time of the water associated with the intake of a municipal residential system or other designated system, based on the minimum response time for the water treatment plant operator to respond to adverse conditions or an emergency;
- the remaining watershed area upstream of the minimum travel time area (also referred to as the Total Water Contributing Area) – applicable to inland water courses and inland lakes only.

### **Intrinsic Vulnerability**

The potential for the movement of a contaminant(s) through the subsurface based on the properties of natural geological materials.

**Issues Contributing Area (ICA)**

The area of land where drinking water threats may contribute to a known drinking water issue. For example, if Trichloroethylene (TCE) is determined to be an Issue, the area from which the source of TCE is determined is called the Issues Contributing Area.

**Land Use**

A particular use of space at or near the earth’s surface with associated activities, substances and events related to a particular land use designation.

**Local Area**

Specific area around a wellhead or surface water intake as determined through analysis. This area must encompass a drinking water system and surrounding potential quantity threats.

**Low Density Residential**

Equivalent to one single family dwelling. Municipalities will be required to determine what the equivalent terminology is in their respective Official Plans and Zoning By-Laws.

**Major Development**

Means development consisting of,

- a. the creation of four or more lots,
- b. the construction of a building or buildings with a ground floor area of 500 m<sup>2</sup> or more, or
- c. the establishment of a major recreational use as described in section 38 of the Oak Ridges Moraine Conservation Plan

**Model**

An assembly of concepts in the form of mathematical equations or statistical terms that portrays a behaviour of an object, process or natural phenomenon

**Municipal Residential System**

All municipal drinking-water systems that serve or are planned to serve a major residential development (i.e., six or more private residences).

### **Municipality**

Refers to the appropriate municipality responsible for the actions described in the policies. Pursuant to the *Municipal Act, 2001*, in a two-tier municipal structure, different municipalities are assigned responsibilities for a number of municipal services. Likewise the *Planning Act*, and *Building Code Act* assign responsibilities to the upper and lower-tier municipality, which will provide guidance as to which municipality is responsible for the actions. In some cases, both tiers will take complementary actions, for example, the upper-tier may amend the Official Plan to include vulnerable areas and policies and the lower-tier will pass zoning by-laws to implement the Official Plan policies. While the municipality responsible for water treatment will typically be the lead implementing body, it is expected that upper and lower-tier regional municipalities will work together to develop their implementation roles and expectations. Note that under the *Clean Water Act, 2006*, only the municipality responsible for passing by-laws respecting water production, treatment and storage under the *Municipal Act, 2001* is responsible for establishing the Risk Management Office and the powers under Part IV as well as enforcement. It is possible to enter into agreement with another municipality to jointly enforce or to transfer enforcement responsibilities.

### **Nutrient Unit**

Nutrient units are calculated based on the number of livestock housed on a farm unit. One (1) nutrient unit is the equivalent of 43 kilograms of nitrogen or 55 kilograms of phosphorus fertilizer. Please consult the local source protection authority to obtain information on the above calculations for a specific property.

### **Parcel Level**

A parcel is a conveyable property, in accordance with the provisions of the *Land Titles Act*. The parcel is the smallest geographic scale at which risk assessment and risk management are conducted.

### **Pathogen**

A disease causing organism.

### **Provincial Tables of Circumstances**

Were developed by the province to determine if an activity is or would be a significant, moderate or low drinking water threat in a specific area to ensure consistency across the province. The tables list the

various scores for which there are provincially prescribed threats and circumstances within the *Tables of Drinking Water Threats*.

**Raw Water**

Water that is in a drinking-water system or in plumbing that has not been treated in accordance with, (a) the prescribed standards and requirements that apply to the system, or (b) such additional treatment requirements that are imposed by the license or approval for the system.

**Recharge**

Recharge is the process by which water moves from the ground surface, through the unsaturated zone, to arrive at the water table.

**Reserve Amounts**

Minimum flows in streams that are required for the maintenance of the ecology of the ecosystem.

**Risk**

The likelihood of a drinking water threat (a) rendering an existing or planned drinking water source impaired, unusable or unsustainable, or (b) compromising the effectiveness of a drinking water treatment process, resulting in the potential for adverse human health effects.

**Risk Management Inspector (RMI)**

The Risk Management Inspector is responsible for enforcing Part IV powers, similar to the way in which a building inspector enforces the provisions of the Building Code Act. An individual cannot be appointed as a Risk Management Inspector unless they have the qualifications prescribed by the regulation, which state that the individual completes a ministry-approved training course.

**Risk Management Official (RMO)**

The Risk Management Official is responsible for preparing, negotiating and establishing risk management plans and evaluating risk assessments under Part IV of the Clean Water Act, 2006, similar to the way in which building officials make decisions on building permits. An individual cannot be appointed as a Risk Management Official unless they have the qualifications prescribed by the regulations, which state that the individual completes a ministry-approved training course.

**Sensitivity Area**

That portion of a defined vulnerable area that has been assigned a vulnerability score.

**Sub-Watershed**

An area that is drained by an individual tributary into the main watercourse of a watershed.

**Surface Water**

Water that is present on the earth’s surface and may occur as rivers, lakes, wetlands, ponds, etc.

**Tier 1, 2, and 3 Water Budgets**

Numerical analysis at the watershed/subwatershed (Tier 1 and 2) or local area (Tier 3) level considering existing and anticipated amounts or water use within the watershed, as well as quantitative flow between the groundwater and surface water systems.

**Time of Travel (TOT)**

An estimate of the time required for a particle of water to move in the saturated zone from a specific point in an aquifer into the well intake.

**Transport Pathway**

Transport pathways are features or activities occurring at the surface that disturb the surface above the aquifer, or which artificially enhances flow to an aquifer. The presence of a transport pathway can increase the vulnerability rate of an area.

**Unassumed**

Publicly accessible road allowances owned by the municipality which usually do not meet the minimum standards that the municipality considers acceptable for assumption, thus the municipality absolves itself of liability in connection to these roads.

**Vulnerable Area**

An area referring to a groundwater recharge area, a highly vulnerable aquifer, and a surface water intake protection zone or wellhead protection area.

**Water Intake Reliability**

The probability that a wellhead or surface water intake can meet demand.

**Water Reserve**

A proportion of surface water flow that must be sustained to support anthropogenic or ecological requirements.

**Water Source**

An aquifer or surface water body being used to supply drinking water.

**Water Source Supply**

The total amount of water flowing through a surface water or groundwater system.

**Water Supply System**

The group of surface water intakes and/or groundwater wells that pump water to supply a municipal water distribution system.

**Watershed**

A watershed is the area of land where all of the water that is under it or drains off of it goes into the same place. Its boundaries are defined by ridges of high land.

**Wellhead Protection Area (WHPA)**

The surface and subsurface area surrounding a water well or well field that supplies a municipal residential system or other designated system through which contaminants are reasonably likely to move so as to eventually reach the water well or well.

**Wellhead Protection Area-Q1 (WHPA-Q1)**

An area delineated through a Tier 3 Water Budget and Water Quantity Risk Assessment as being the combined area that is the cone of influence of the well and the whole of the cones of influence of all other wells that interest that area.

**Wellhead Protection Area-Q2 (WHPA-Q2)**

An area delineated through a Tier 3 Water Budget and Water Quantity Risk Assessment as being the area that includes the WHPA-Q1 and any area where a future reduction in recharge would significantly impact that area.