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ACRONYMS, UNITS AND GLOSSARY

AES	Atmospheric Environment's
AMC	Antecedent moisture content
ANSI	Area of Natural or Scientific Interest
AVI	Aquifer Vulnerability Index
CEQG	Canadian Environmental Quality Guidelines
CGCM	Canadian Global Climate Model
CN	Curve Number
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CWQG	Canadian Water Quality Guidelines
DA	Dissemination Area
DEM	Digital Elevation Model
DNAPL	Dense Nonaqueous Phase Liquid
ELC	Ecological Land Classification
EPT	Ephemeroptera, Trichoptera and Plecoptera
GCM	Global Climate Models
GIS	Global Information System
GRCA	Ganaraska Region Conservation Authority
GRWQMN	Ganaraska Water Quality Monitoring Network
LiDAR	Light detecting and Ranging
ISI	Intrinsic Susceptibility Index
NASHHYD	NASH rural unit hydrograph
NHIC	Natural Heritage Information Center
OFAT	Ontario Flow Assessment Technique
ODWS	Ontario Drinking Water Standard
OMAFRA	Ontario Ministry of Agriculture, Food and Rural Affairs
(O)MNR	Ontario Ministry of Natural Resources
(O)MOE	Ontario Ministry of the Environment
OSAP	Ontario Stream Assessment Protocol
PCA	Principal Component Analysis
PGMN	Provincial Groundwater Monitoring Network
PPS	Provincial Policy Statement
PTTW	Permit to Take Water
PWQMN	Provincial Water Quality Monitoring Network
PWQO	Provincial Water Quality Objective
RAM	Rapid Assessment Method
SOLRIS	Southern Ontario Land Resource Information System
STANDHYD	Standard Unit Hydrograph
SWM	Storm Water Management
TCC SPR	Trent Conservation Coalition Source Protection Region
TSS	Total Suspended Solids
WHPA	Well head Protection Area
WWRD	Water Well Record Database
YPDT-CAMC	York, Peel, Durham, Toronto, Conservation Authorities Moraine Coalition

Units

cfu/100ml	colony forming units per 100 milliliters
cms	cubic metres per second
g/L	grams per litre
L/D	litres per day
masl	metres above sea level
mg/L	milligrams/litre
µs/cm	micro siemens per centimetre
µg/L	micrograms per litre

Glossary

A, B, C, D

Anthropogenic: human induced or caused. ⁷

Aquifer: A water bearing formation that is capable of transmitting water in sufficient quantities to serve as a source of water supply. ⁴

Aquitard: A low-permeability unit that contains water but does not readily yield water to pumping wells. Aquitards can restrict contaminant movement. ⁴

Artesian aquifer: An aquifer that contains water under pressure resulting in a hydrostatic head above ground level. ⁴

Baseflow: Streamflow that results from groundwater seeping into a stream. ⁴

Baseflow represents the discharge of groundwater to streams, supports flow in dry weather. The flow of streams composed solely of groundwater discharge. ⁵

Bedrock: A general term for any consolidated rock. ⁴

Capture Zone: The area surrounding a well that will supply groundwater to that well when pumped at a specified rate for a specified period of time. ²

Cold Water Species/Habitat: Species with narrow thermal tolerance levels that is usually restricted to cold, highly oxygenated water. The temperature range for these species is from 10°C to 18°C. ⁹

Community: An assemblage of interacting populations living in a particular locale. ⁵

Confined aquifer: An aquifer that is bound above and below by deposits with significantly lower hydraulic conductivity. ⁴

Confluence: The location where one stream flows into another. ⁵

Contaminant: An undesirable chemical or biological substance that is not normally present in water, or a naturally occurring substance present in unusually high concentrations. Common contaminants include bacteria and viruses, petroleum products, chlorinated substances, pesticides, nitrates and salt. ²

Discharge: The volume of water that passes a given location within a given period of time. ¹

Drainage basin: The land area which contributes runoff to streams, rivers and lakes. Also called a watershed or catchment area. ⁴

Drawdown: A lowering of groundwater levels caused by pumping. The difference between the static water level and the pumped water level. ⁴

Drumlin: Oval hills of glacial till with smooth convex contours. In any areas the drumlins all point in the same direction, which is considered to be the direction of movement of the glacier, which formed them.³

E, F, G

Evapo-transpiration: The combined loss of water to the atmosphere from land and water surfaces by evaporation and from plants by transpiration.⁴

Floodlines: Lines on a watershed map depicting regional flow conditions based on a specific historical event (i.e. Hurricane Hazel).¹²

Flooplain: The area, usually low lands adjoining a watercourse, which has been or may be subject to flooding hazards.¹²

Fluvial: Of or belonging to rivers.¹²

Gauging station: The site on a stream, lake or canal where surface water data is collected.⁴

GIS (Geographic Information System): A map database management system, which uses spatial reference system for analysis and mapping purposes.⁴

Glaciofluvial: Pertaining to glacial meltwater streams and their sedimentary deposits.⁴

Glaciolacustrine: Pertaining to lakes adjacent to glaciers and fed by glacial meltwater.⁴

Gravel: Rock particles between 4 mm and 76 mm in diameter.⁴

Groundwater flow: The movement of water through the pore spaces of overburden material or through faults and fractures in bedrock.⁴

Groundwater model: A computer model in which groundwater flow is characterized by numerical equations.

Groundwater recharge: The inflow to a groundwater reservoir.⁴

Groundwater reservoir: An aquifer or aquifer system in which groundwater is stored.⁴

Groundwater storage: Groundwater stored in aquifers.⁴

Groundwater: Water occurring in the zone of saturation in an aquifer or soil.⁴

H

Hardness: A measure of the concentration of divalent cations in water, (mainly calcium and magnesium).⁴

Headwaters: The origins of streams and rivers.¹²

Hummocky Topography: Pertaining to an area where the topography is undulatory with a predominance of closed depressions that minimize surface water runoff and enhance groundwater infiltration.⁴

Hydraulic Conductivity: A measure of the ability of groundwater to flow through (the subsurface environment) or (a soil or rock formation).²

Hydraulic gradient: The rate of change in total head per unit of distance in the direction of flow. The slope on a water surface such as the water table or potentiometric surface.⁴

Hydrogeology: The study of water below the ground surface.¹²

Hydrology: The study of surface water flow systems.¹²

Hydrograph: A graph that shows water level as a function of time.⁴

Hydrologic cycle: The circulation of water in and on the earth and through the atmosphere through evaporation, condensation, precipitation, runoff, groundwater storage and seepage, and re-evaporation into the atmosphere.⁴

Hydrostrati-graphic unit: A formation, part of a formation, or group of formations with similar hydrologic characteristics that allow for grouping into aquifers and confining layers.⁴

I, J, K, L, M

Infiltration: The flow of water from the land surface into the subsurface.⁴

Irrigation: The controlled application of water through man-made systems to supply water requirements not satisfied by rainfall.⁴

Macroinvertebrates: organisms with no backbone that are greater than 2mm in size. Generally refers to Benthic organisms such as insects and mollusks.⁶

Manure: The fecal and urinary matter produced by livestock and poultry.⁴

N, O, P, Q, R

Nitrate (NO₃): An important plant nutrient and inorganic fertilizer. In water, the major sources of nitrates are septic tanks, feed lots and fertilizers.⁴

Non-point source contaminant: Contamination, which originates over large areas.⁴

Oak Ridges Moraine: A knobby ridge of sand deposited at the edge of a glacier by escaping meltwater; the Oak Ridges Moraine was formed by the Simcoe and Lake Ontario Ice Lobes meeting.³

Ontario Drinking Water Objectives: (ODWO): A set of regulations and guidelines developed by the Ontario government to help protect drinking water sources.⁵

Piezometre: A pipe installed in the ground and used to measure water levels and collect water.⁴

Pool: A section of a stream where the water has a reduced velocity, often with water deeper than the surrounding areas.⁶

Pore space: The open space between mineral grains in a porous material.⁴

Provincial Groundwater Monitoring Network (PGMN): A groundwater monitoring program operated with the Ontario Ministry of the Environment to record groundwater level changes over time, record groundwater quality and quantifies groundwater-surface water interactions.⁵

Provincial Water Quality Monitoring Program (PWQMN): A water chemistry monitoring program operated by the Ontario Ministry of the Environment in cooperation with municipal governments and agencies.⁵

Provincial Water Quality Objectives (PWQO): numerical criteria that act as chemical and physical indicators for a satisfactory level of surface water quality to protect all forms of aquatic life.⁸

Potable water: Water that is fit to drink.⁴

Precambrian: The period of geologic time that precedes the Cambrian Period (2,500 to 4,500 million years ago).⁴

Quaternary: Geologic period spanning the last 1.8 million years and characterized by alternating glacial and interglacial climates. It is divided into the Pleistocene and Holocene epochs.¹¹

Recharge area: Areas where the water is absorbed into the ground and added to the zone of saturation.⁴

Redd: Trout and salmon nest

Riffle: A section of the stream with turbulent, fast flow, usually with gravel, cobble or boulder bed material. Riffle sections are found between pools.⁶

Riparian Area: the land adjacent to a watercourse that is normally not submerged, and provides for a vegetated buffer to the land use alongside to the stream. It acts as a transitional area between aquatic and terrestrial environments, and is directly affected by that body of water.⁶

River basin: The area drained by a river and its tributaries.⁴

Runoff: Water that reaches surface watercourses via overland flow.⁴

S, T

Sand: Sedimentary particles ranging from 0.074 mm to 4 mm in diameter.⁴

Saturated zone: A subsurface zone in which openings in a soil or rock formation are filled with water.⁴

Settlement Areas: Urban and rural settlement areas within municipalities where development is concentrated and a mix of land uses are present and have been designated in an official plan for development. Where there are no lands that have been designated, the settlement areas may be no larger than the area where the development is concentrated.¹⁰

Silt: Sedimentary particles ranging from 0.054 mm to 0.002 mm in diameter.⁴

Specific capacity: The amount of water pumped from a well divided by the drawdown in the well. It is a measure of productivity of the well.⁴

Streamflow: The surface water discharge that occurs in a natural channel.⁴

Subwatershed: A geographical area defining a single drainage zone within the watershed.⁵

Surface runoff: Water flowing over the land surfaces.⁴

Surface Water: Includes water bodies (lakes, wetlands, ponds, etc.), watercourses (rivers and streams), infiltration trenches and temporary ponds.²

Till: unsorted or very poorly sorted sediment deposited directly from glacial ice. Tills usually have a fine fraction with particles ranging from sand to clay size, and a coarse or clast fraction with pebble to boulder-sized material.⁴

Time of Travel: The length of time it takes groundwater to travel a specified horizontal distance.²

Topography: The relief and contours of the land surface.^{4, 2}

Transpiration: The process by which water vapour escapes from living plants, principally the leaves, and enters the atmosphere.⁴

Turbidity: The amount of solid particles that are suspended in water and produce a cloudy appearance.⁴

U, V, W, X, Y, Z

Unconfined aquifer: An aquifer whose upper boundary is the water table.⁴

Unsaturated zone: A soil or rock zone above the water table, extending to the ground surface, in which the pore spaces are only partially filled with water.⁴

Warm Water Species/Habitat: Warm water habitat is classified as waters with temperatures above 25°C. Warm water species are tolerant to these water conditions.⁹

Water balance: The accounting of water input and output and changes in storage of the various components of the hydrologic cycle.⁴

Water budget: A summation of input, output, and net changes to a particular water resources system over a fixed period of time.⁴

Water table: The top of the saturated zone in an unconfined aquifer.⁴

Watershed: The land within the confines of drainage divides.⁴

Wellfield: An area containing more than one pumping well that provides water to a public water supply system or single owner (i.e., Municipality).²

Well head Protection Area: The area surrounding a well through which contaminants are reasonably likely to move toward and eventually reach the water well.²

Zone of saturation: The space below the water table in which the pore spaces are filled with water.⁴

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