

Glossary of Terms and Acronyms

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| 407 East Mainline | The portion of the transportation corridor that runs west to east between Brock Road and Highway 35/115. |
| Advantage | A relative term used to indicate that a particular condition is deemed to offer a benefit when compared to another condition. |
| Aerial Photography | Aerial photography is the taking of photographs from the air with a camera mounted, or hand held, on an aircraft, helicopter, balloon, rocket, kite, skydiver or similar vehicle. |
| Alluvial Deposits | Soil or sediments deposited by a river or other running water. Alluvium is typically made up of a variety of materials, including fine particles of silt and clay and larger particles of sand and gravel. |
| Alternative | A well-defined and distinct course of action. |
| Alternative Methods of Carrying out the Undertaking | Feasible alternative ways of implementing or carrying out the preferred solution to the identified problem or opportunity. |
| Alternatives to the Undertaking | Functionally different ways of solving an identified problem or addressing an opportunity that is considered feasible, from which a preferred solution is identified. |
| Anthropogenic Disturbance | Disturbance caused by human activity |
| Anticipated Effect | An effect that is deemed possible to result from the implementation of a particular alternative. |
| Aquatic | Refers to an environment that consists of, relates to, or is in water; or to animals and plants living or growing in, on, or near the water. |
| Aquifer | Rock or soil in a formation which is saturated and sufficiently permeable to transmit economic quantities of water to wells or springs. |
| Aquitard | Rock or soil in a formation, which is saturated but is not sufficiently permeable to transmit economic quantities of water to wells or springs. |
| Area of Influence | The area surrounding a pumping or recharging well within which the water table or potentiometric surface has been changed due to the well's pumping or recharge. |
| Area of Natural and Scientific Interest (ANSI) | Areas of land and water containing natural landscapes or features which have been identified as having values related to natural heritage protection, scientific study, or education. Depending on the features of particular areas, they may be referred to as life science or earth science sites. These areas vary in their level of significance and their vulnerability to environmental impacts. (NEC, 2003) |
| Artesian | Where the groundwater pressure (level) is above ground surface due to upgradient water pressure. "Flowing Artesian" is the correct terminology to describe this situation, but for simplicity, "artesian" is used. |
| Avoidance Measure | Taking actions that aim to prevent the occurrence of negative effects associated with the implementation of an alternative. |
| Best Management Practices (BMP) | A technique or methodology that, through experience or research, has been proven to reliably lead to a desired result. After researching all known management methods, the selection and adaptation of the most suitable practices for achieving the desired outcome. |
| Buffer | Something that serves as a protective barrier; any of various devices or pieces of material for reducing shock or damage due to contact. |

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| C of A | The acronym for Certificate of Approval. |
| CAG | The acronym for Community Advisory Group. |
| Canadian Environmental Assessment Act | The purpose of the Act is to ensure that projects are considered in a careful manner before federal authorities take action in connection with them, in order that such projects do not cause significant adverse environmental effects. In addition, the Act encourages the promotion of sustainable development in federal decision making, and public participation in the environmental assessment process. |
| Canker | In relation to Butternut, canker is the reason for Butternut decline and current Endangered status. Butternut canker is widespread, hypervirulent, and fatal. Canker vectors are rain, wind and insects. Typical symptoms are crown dieback, long linear fissure/cracks often with black discharge, epicormic branching, and loose/sunken areas of bark |
| CEAA | The acronym for the Canadian Environmental Assessment Act. |
| CEA Agency | The acronym for the Canadian Environmental Assessment Agency. |
| CEAR | The acronym for the Canadian Environmental Assessment Registry. |
| CEPA | The acronym for the Canadian Environmental Protection Act. |
| CLOCA | Central Lake Ontario Conservation Authority |
| CNR | The acronym for Canadian National Railways. |
| Compensation | “The replacement of natural habitat, increase in the productivity of existing habitat or maintenance of fish production by artificial means in circumstances dictated by social and economic conditions, where mitigation techniques and other measures are not adequate to maintain habitats for Canada’s fisheries resources (DFO Policy for the Management of Fish Habitat (1986)). |
| Compensation Measure | To counterbalance a negative environmental effect through replacement in kind, or provision of a substitute or reimbursement in order to offset or neutralize the negative effect. |
| Conceptual Design | An early stage in the project that involves the preparation of a document containing the operational details, sketches and outline drawings and a set of design standards. |
| Confined Aquifer | An aquifer that is overlain by deposits that have significantly lower permeability (i.e., confining bed or aquitard). |
| Confined Wells | Wells that are sunk through an impermeable stratum down into an aquifer which is sandwiched between 2 impermeable strata (aquitards or aquicludes). These are generally not susceptible to surficial land use activities. These wells are usually drilled. |
| Conservation (of habitats) | The planned management of human activities that might affect fish habitats to prevent destruction and subsequent loss of fisheries benefits. |
| Conservation Authority | A community-based environmental organization dedicated to restoring, developing and managing natural resources using the watershed as a management unit (Conservation Ontario, 2005) |
| Corridor | The naturally vegetated or potential revegetated areas that link or border natural areas and provide ecological functions such as habitat, passage, hydrological flow, connection or buffering from adjacent impacts |
| COSEWIC | COSEWIC (Committee on the Status of Endangered Wildlife in Canada) is a committee of experts that assesses and designates which wildlife species are in some danger of disappearing from Canada. |

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| COSEWIC status | <p>Status assigned by the Committee on the Status of Endangered Wildlife in Canada:</p> <p><i>Extinct</i>..... A species that no longer exists.</p> <p><i>Extirpated</i> A species no longer existing in the wild in Canada, but occurring elsewhere.</p> <p><i>Endangered</i> A species facing imminent extirpation or extinction.</p> <p><i>Threatened</i> A species likely to become endangered if limiting factors are not reversed.</p> <p><i>Special Concern</i>..... (formerly <i>vulnerable</i>) A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.</p> <p><i>Not At Risk</i> A species that has been evaluated and found to be not at risk of extinction given the current circumstances.</p> |
| CPR | The acronym for Canadian Pacific Railways. |
| Criteria / Criterion | A set of principles or standards used to compare and judge alternatives. (plural = “criteria”, singular = “criterion”) |
| Critical Habitat (SARA) | “Critical habitat” means the habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species’ critical habitat in the recovery strategy or in an action plan for the species. |
| CTA | The acronym for the Canadian Transportation Agency. |
| Cultural Communities | In terms of vegetation, a vegetation community originating from, or maintained by, anthropogenic (human modified) influences and culturally based disturbances; often containing a large proportion of non-native species (Ecological Land Classification for Southern Ontario [MNR, 1998]). |
| Deep Cut | A deep highway cut is defined as any excavation lower than 4.5 m below original grade. |
| Deep Wells | See Confined Wells. |
| Deer Wintering Areas | Deer wintering areas are described by MNR as consisting of a “core area of mainly coniferous trees (pines, hemlock, cedar, spruce) with a canopy cover of more than 60% (MNR Significant Wildlife Habitat Technical Guide [SWHTG], MNR 2000). White-tailed deer congregate in these areas during severe winters when snow is deep. In milder winters deer may not congregate as densely but are still often found in loose congregations around core winter areas (mapped by MNR as low density deer wintering areas). |
| Detail Design | The process of refining and expanding the conceptual design of the project to the extent that the design is sufficiently complete to be implemented. |
| Dewatering | See Water Taking. |
| DFO | The acronym for the Federal Canadian Department of Fisheries and Oceans, more formally known as Fisheries and Oceans Canada. Fisheries and Oceans Canada is the lead federal government department responsible for developing and implementing policies and programs in support of Canada’s economic, ecological and scientific interests in oceans and inland waters. |
| Disadvantage | A relative term used to indicate that a particular condition is deemed to be unfavourable or of an inferior condition when compared to another condition. |
| Discharge | The removal of water from the saturated zone across the water table surface and the associated flow towards the water table within the saturated zone. |
| Disruption | An action that results in a negative change in the way people undertake activities, stopping the activity or negatively changing the schedule. |
| Disturbance | An action that negatively influences people’s activities or enjoyment of those activities. |

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| DOE Act | The acronym for the Department of the Environment Act. |
| Drawdown | A lowering of the water table of an unconfined aquifer or the potentiometric surface of a confined aquifer caused by pumping of groundwater from wells. |
| Easement | A privilege held by a person or a group to make use of the land of a property owner or within a right-of-way for a limited purpose, such as construction. |
| East Durham Link | Often referred to as the East Link. The East Durham Link is the portion of the transportation corridor that runs north to south between the 407 Mainline and Highway 401 between Oshawa and Bowmanville. |
| EC | The acronym for Environment Canada. |
| Ecological Land Classification (ELC) | The system for the consistent description, identification, classification and mapping of ecological land units in Southern Ontario. |
| Edge Habitat | The interface between a habitat patch and its surroundings - particularly forest. Edge habitats tend to be inhabited by both generalist species that can use many kinds of habitat and species that specialize in edges. |
| Enhancement Measure | Taking actions that augment or increase to some degree the positive environmental effects associated with the implementation of an alternative. |
| Environment | The Environmental Assessment Act defines environment broadly to include: <ul style="list-style-type: none">i. air, land or water;ii. plant or animal life, including man;iii. social, economic, and cultural conditions influencing the life of man or community;iv. any building, structure, machine or other device or thing made by man;v. any solid, liquid, gas, odour, heat, sound, vibration, or radiation resulting directly or indirectly from the activities of man;vi. any part or combination of the foregoing and the interrelationships between any two or more of them, in or of Ontario. |
| Environmental Assessment (EA) | The purpose of environmental assessment (EA) is to ensure that the environmental effects of a project receive due consideration before the proponent and responsible authorities take actions in connection with the project. It is a planning process that predicts, interprets and evaluates environmental effects, and identifies mitigation and environmental protection measures to reduce, eliminate or compensate for the environmental effects associated with a proposed undertaking. |
| Environmental Assessment Act (EAA) | Legislation that defines a decision-making process used to promote good environmental planning by assessing the potential effects of certain activities on the environment. The purpose of the EA Act is to provide for the: <ul style="list-style-type: none">a) protection;b) conservation; and,c) wise management of Ontario's environment. |
| Environmental Effect | Any change, whether positive or negative, that an undertaking (project) may cause in the environment. |
| Environmental Management Plan (EMP) | An Environmental Management Plan (EMP) can be defined as “an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced”. EMPs are tools for ensuring that the management actions arising from Environmental Impact Assessment (EIA) processes are clearly defined and implemented through all phases of the project life-cycle. |

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| Environmental Reference for Highway Design (ERD) | A Ministry of MTO document provides guidance to managing environmental impacts of transportation projects in transportation project design. Full citation: Environmental Reference for Highway Design, Section 1: Introduction, October 2006. Ministry of Transportation Ontario. |
| Environmentally Significant/Sensitive Area (ESA) | An Environmentally Significant/Sensitive Area is a natural area identified by a municipality or Conservation Authority as fulfilling certain criteria for ecological significance or sensitivity. |
| EPA | The acronym for Environmental Protection Act. |
| Ephemeral Flow | A stream that flows for short periods of time in the spring or in response to runoff events, and usually of insufficient duration to create a defined channel (e.g., field swale or gully). |
| ETR | Highway 407 Express Toll Route |
| Evaluation | The process that appraises the advantages and disadvantages of alternatives (see 'evaluation method'). |
| Evaluation Method | A formal procedure for establishing an order of preference among alternatives. |
| Extirpated Species | An extirpated species is one that no longer exists in the wild in Canada, but occurs elsewhere. |
| Factor | A broader category, group or element of the environment used for classifying a given set of criteria. |
| Fish | "includes (a) parts of fish: (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals: and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals." (<i>Fisheries Act</i> , Sec. 2). |
| Fish Habitat | "Spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes." (<i>Fisheries Act</i> , sec. 34(1)). |
| Fish Habitat Management Plan | A plan prepared for a region or a specific geographic area of a region which includes an outline of the Department's requirements for conserving, restoring and developing fish habitat to meet fisheries stock production objectives and for use as the basis for consultation in integrated resource planning. |
| Fish Habitat Management Program | Those activities, legislative responsibilities and policies administered by Fisheries and Oceans Canada for the purpose of conserving, restoring and developing the productive capacity of habitats for the fisheries resources. |
| Fisheries Assessment Specialist | The person who undertakes the Comprehensive Fisheries Assessment as outlined in Section 4.0 of the Fisheries Protocol User Field Guide. |
| Fisheries Contract Specialist | The person who works on projects where there is a HADD to ensure the proper implementation of the terms and conditions of the <i>Fisheries Act</i> Authorization including the Compensation Plan, as included in the construction contract. The Fisheries Contracts Specialist may work for either the Contract Administrator or the Contractor. |
| Fisheries Resources | Fish stocks or populations that sustain commercial, recreational or Native fishing activities of benefit to Canadians. |
| Flat | Low flowing water with a smooth unagitated surface (not as deep as a pool). |
| Fluvial geomorphology | A science that deals with the forms of natural water bodies such as rivers, lakes, estuaries, lagoons, coastal zones and seas, as well as with the processes that create and modify these forms. These processes are the erosion, transport and deposition of sediment (cobbles, gravel, sand, silt, clay). |
| Forest area-sensitive | Area-sensitive breeding birds that require a relatively extensive forest habitat patch in which to successfully reproduce, or occur in higher densities in such patches. |

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| Generalist species | With reference to birds, “generalist” bird species occur in many different habitats, while habitat specialists will occur in only one or a few habitats. |
| Geographic Information System (GIS) | A system for creating, storing, analyzing and managing spatial data and associated attributes. |
| GGH | The acronym for Greater Golden Horseshoe. |
| GIS Layer | A spatial dataset containing a common feature type. |
| Glaciolacustrine Deposits | Sediments deposited into lakes that have come from glaciers. These can be both coarse textured (silt, sand and gravel) or fine textured (clay and silt). |
| GRCA | Ganaraska Region Conservation Authority |
| Groundwater | Subsurface water, or water stored in the pores, cracks, and crevices in the ground below the water table; water passing through, or standing in, soil and underlying strata and free to move by gravity. |
| Groundwater Discharge | Discharge areas are the opposite of recharge areas. They are the locations at which groundwater leaves the aquifer and flows to the surface. Groundwater discharge occurs where the water table or potentiometric surface intersects the land surface. Where this happens, springs or seeps are found. Springs and seeps may flow into fresh water bodies, such as lakes or streams, or they may flow into saltwater bodies |
| Groundwater Monitor | A small groundwater well designed for environmental monitoring purposes. Typically constructed using 2-inch (5.08 cm) PVC pipe. At the bottom of the well a slotted section of pipe (screen) is placed and surrounded by a coarse textured filter pack to allow natural groundwater from the surrounding geological formation of enter the well and remove fine particles. |
| Groundwater Recharge | Recharge is the process by which groundwater is replenished. A recharge area is where water from precipitation is transmitted downward to an aquifer |
| Habitat | The physical location or type of environment in which an organism or biological population occurs or lives, grows and carries out life processes. |
| Habitat Quality Categories | <p>Qualitative habitat quality categories were assigned as follows, based on the factors described above and professional judgement. All ratings were applied relative to others features within the Study Area:</p> <p><i>Very High:</i>exceptional quality; highly diverse habitat and species composition; many rare and/or sensitive habitats and species; large size; relatively undisturbed / less disturbed;</p> <p><i>High:</i>.....good species and habitat diversity; moderate to high numbers of rare species; typically low levels of anthropogenic disturbance; may have uncommon and /or specialized habitat elements.</p> <p><i>Moderate:</i>.....lower relative habitat and species diversity; lower relative numbers of rare species; typically smaller, more disturbed woodlands and / or cultural mosaics;</p> <p><i>Low:</i>.....common / tolerant habitats with limited species diversity and few or no rare / specialized species; small, isolated, highly disturbed features.</p> |
| HADD | The acronym for the Harmful Alteration, Destruction or Disruption of Fish Habitat. According to Section 35(1) of the <i>Fisheries Act</i> , no one is allowed to cause a HADD unless an authorization, according to Section 35(2) of the <i>Fisheries Act</i> , has been obtained. ‘No net loss of the productive capacity of existing fish habitat’ is the conservation goal guiding an authorization to cause a HADD. |
| HC | The acronym for Health Canada. |
| Herpetofauna | The name for reptiles and amphibian species when they are put together in one group. This group includes frogs, toads, turtles, salamanders, snakes and lizards. |

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| High Fill | A high fill is defined as any placement of construction fill materials greater than 4.5 m above original grade. |
| Impact | A change brought about by a cause or agent and reflects a change in fish and/or fish habitat that has the potential to influence the productive capacity of fish habitat (see “effect” in <i>RMF Guide</i>). |
| Indicator | An aspect of a criterion that characterizes the potential effects on the environment. |
| Interior Forest Habitat | The habitat found deep within woodlands, away from the influence of edge effects. The interior sections of forest, generally 100 m or more in from the forest edge, are darker, cooler and moister, and less prone to disturbances from outside of the forest (both human and environmental). |
| Intermittent Flow | A stream that flows for less than 9 consecutive months per year under average annual precipitation conditions, and are normally dry in May/June. It has a poorly defined channel. |
| Lake Iroquois Shoreline | The Glacial Lake Iroquois Shoreline Sediments are characterized by gravelly beach sediments along the former shoreline of the glacial lake. Nearshore glaciolacustrine deposits of sand and gravel overly the Newmarket Till and grade to the south into laminated silts and clays. The high permeability of the sandy Iroquois Shoreline deposits provides a pathway for local groundwater discharge that coincides with numerous wetlands and lowland stream headwaters. |
| Landscape Connectivity | The degree to which the landscape facilitates or impedes movement [of species, individuals and genetic material] among habitat patches. (Taylor et al. 1993). The degree to which key natural heritage features are connected to one another by links such as plant and animal movement corridors, hydrological and nutrient cycling, genetic transfer, and energy flows through food webs.” (ORMCP, 2002) |
| Level of Sensitivity | A term used to characterize the degree or extent of sensitivity of a particular environmental feature or group of features to potential adverse effects. (See also <i>Sensitive/Sensitivity</i> below). |
| L-rank | A rank assigned to a species, vegetation community, or habitat patch which describes its status in the TRCA Region |
| LSA | The acronym for Local Study Area. |
| mags | Metres above ground surface. |
| mASL | Metres above sea level. |
| mbgs | Metres below ground surface. |
| MBCA | The acronym for the Migratory Birds Convention Act. |
| MBS | The acronym for Management Board Secretariat. |
| MCL | The acronym for the Ministry of Culture. |
| Measure | A basis or standard for comparison. An expression of the potential effects associated with an indicator for a criterion in qualitative and/or quantitative terms. |
| Mini-piezometer | A small groundwater monitor (see groundwater monitor) that is manually driven in a stream bed or a wetland to determine the groundwater pressure (level) below. This helps determine if groundwater is flowing into or out of the stream or wetland. |
| Mitigation | Actions taken during the planning, design, construction and operation of works or undertakings to alleviate potential adverse effects on the productive capacity of fish habitats (DFO’s [1986] <i>Policy for the Management of Fish Habitat</i>). |
| Mitigation Measure | Action(s) that remove or alleviate to some degree the negative effects associated with the implementation of an alternative. |

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| MOE | The acronym for the Ontario Ministry of the Environment. The Ministry of the Environment has a broad mandate to provide for the protection and conservation of the natural environment of Ontario. |
| Monitoring | To keep track of systematically, usually for the purpose of collecting information; or to test or sample according to a schedule, typically using a system including measuring devices and standard observations. |
| Monitoring Well Nest | A group of 2 or more groundwater monitor installed side-by-side but screened at different depths, typically in difference aquifer or aquitard units. This helps determine the vertical groundwater flow direction and helps distinguish groundwater recharge and groundwater discharge areas. |
| Morphology | The channel's planform and bed topography as well as bed sediment composition. |
| MP | Mini-piezometer. See Mini-piezometer. |
| MTO | The acronym for the Ministry of Transportation. |
| Municipal Well | These are typically deep, drilled wells that obtain water from an aquifer unit at a rate suitable for municipal use. |
| NEB | The acronym for the National Energy Board. |
| Net Effect | The remaining negative or positive effect of an alternative after the application of avoidance/mitigation/compensation/enhancement measures. |
| Net Effects Analysis | The process of determining and documenting the net effects associated with each indicator for each alternative being considered. |
| Net Gain | An increase in the productive capacity of habitats for selected fisheries brought about by determined government and public efforts to conserve, restore and develop habitats. |
| No Net Loss | A working principle by which Fisheries and Oceans Canada strives to balance unavoidable habitat losses with habitat replacement on a project-by-project basis so that further reductions to Canada's fisheries resources due to habitat loss or damage may be prevented. |
| Non-native | A species, subspecies, or lower taxon introduced outside its normal past or present distribution; includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce |
| NRCan | The acronym for the Ministry of Natural Resources Canada. |
| NWPA | The acronym for the Navigable Waters Protection Act. |
| Oak Ridges Moraine | The Oak Ridges Moraine is an irregular ridge of sandy hills stretching 160 kilometres from the Trent River in the east to the Niagara Escarpment in the west and it generally found to the north of the proposed 407 transportation corridor. |
| Observation Well | Sometimes referred to as a monitoring well is a non-pumping well used to observe the elevation of the water table or the potentiometric surface. |
| OEAA | The acronym for the Ontario Environmental Assessment Act. |
| OG | Original grade. |
| OMNR | The acronym for the Ontario Ministry of Natural Resources. |
| Opennes Ratio | A measure of the "tunnel effect" or "see- throughness" of a wildlife structure that may influence use by some species. OR is the cross-sectional area of the structure opening divided by the travel distance through (or under) the structure. |

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| Operation and Maintenance | Refers to the operation and maintenance of the transportation corridor. |
| ORC | The acronym for the Ontario Realty Corporation. |
| ORM | Oak Ridges Moraine. See Oak Ridges Moraine. |
| OWRA | The acronym for the Ontario Water Resources Act. |
| Pathways of Effect (PoEs): | A process of identifying and focusing on adverse effects via the physical and biophysical environment. The pathways of effect also provide a focus for the information about the existing environment that need to be collected. |
| Perennial Flow | Continuous surface and/or subsurface flows most years - baseflow conditions are supported by year round groundwater discharge and/or wetland/surface storage areas – channel form has been defined by flows, there is defined bed and banks, and may be characterized by sorted substrate material |
| Permanent Barrier | Barrier to fish passage that is present under all flow conditions and during all times of the year. |
| Permeability | Pertaining to the relative ease with which a porous medium can transmit a liquid under a hydraulic or potential gradient. For example, sand and gravel deposits have a high permeability and silt and clay deposits have a low permeability. |
| Permit To Take Water | From the Ontario Water Resources Act (s.34). A Permit-To-Take-Water from the Ministry of the Environment (MOE) shall be obtained for the taking of water over 50,000 L/day from any given source, whether temporary or permanent for any purpose including but not limited to: diversion, potable water supply, cleaning, flushing and dewatering during highway construction, operation and maintenance). |
| PFP | The acronym for Project Footprint. |
| PIC | The acronym for Public Information Centre. |
| PIP | The acronym for Proactive Involvement Plan. |
| Pool | Areas of a stream that are deep with a relatively low velocity and a smooth unagitated surface. |
| Potential Effect | An effect that is deemed possible to result from the implementation of a particular alternative. |
| Potentiometric Surface | The surface that represents the level to which water will rise in a well. |
| Private / Domestic Well | These can be either shallow dug wells or deep drilled wells. These are groundwater wells used for potable water supply for residential use. Typically only productive enough to support a single family. |
| Productive Capacity: | The maximum natural capability of habitats to produce healthy fish, safe for human consumption, or to support or produce aquatic organisms upon which fish depend. |
| Protection (of habitats) | Prescribing guidelines and conditions, and enforcing laws for the purpose of preventing the harmful alteration, destruction or disruption of fish habitat. |
| Provincial Ranks (S-ranks) | <p>Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.</p> <p><i>S1 Critically Imperiled</i>Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.</p> <p><i>S2 Imperiled</i>.....Imperiled in the nation or state/province because of rarity due to very</p> |

restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 VulnerableVulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently SecureUncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 SecureCommon, widespread, and abundant in the nation or state/province.

Provincially Significant Wetlands These are wetlands evaluated as provincially significant using the Ontario Wetlands Evaluation system (OWES).

PTTW The acronym for Permit To Take Water. The Permit to Take Water program is the principal means by which the Ontario Ministry of the Environment (MOE) regulates the taking of water in the province.

Pumping Test A test conducted to determine aquifer or well characteristics.

RA The acronym for Responsible Authority.

Radius of Drawdown The distance from the central of a deep highway cut within which the water table or potentiometric surface has been changed due to the establishment of a new water table equilibrium.

RAG The acronym for Regulatory Advisory Group.

Rank Of a specified order or position in relation to others in a series.

Ranking To arrange (alternatives) according to their rank.

RD Recommended Design

Reasonable Alternative Defined for 'Alternatives to the Undertaking' to be those alternatives that can address the purpose of the undertaking. Defined for 'Alternative Methods of Carrying out the Undertaking' to be those alternative methods that can implement the preferred alternative.

Reasoned Argument / Trade-off Method A comparative evaluation method based on net effects / advantages and disadvantages and explained in narrative terms (rationale). The process of examining the net effects and key trade-offs of each alternative in order to provide a clear rationale for the preferred alternative.

Receptor An ecological or a man-made entity exposed to a stressor.

Recharge The entry of water from the surface to the groundwater table and the associated flow away from the water table within the saturated zone.

Residence Place of dwelling

Residual effect The remaining negative or positive effect of an alternative after the application of avoidance/ mitigation/ compensation/ enhancement measures.

Restoration (of habitats) The treatment or clean-up of fish habitat that has been altered, disrupted or degraded for the purpose of increasing its capability to sustain a productive fisheries resource.

Riffle Areas of relatively shallow fast, turbulent flow where the water's surface is typically broken.

Right of Way (ROW) Publicly owned land occupied by facilities such as roadways or public utilities.

Rill A narrow and shallow incision into soil resulting from erosion by overland flow that has been focused into a thin thread by soil surface roughness.

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| Riparian | Relating to, living, or located on the bank of a natural watercourse (such as a river) or sometimes of a lake or a tidewater. In the ELC, refers to aquatic communities adjacent to, or associated with, a river or stream as opposed to a lake or pond (cf. lacustrine) |
| Riparian Vegetation | Plant communities along the river margins characterized by hydrophilic plants |
| Riparian Zone/Area | The interface between land and a stream. |
| Risk Assessment | The process of determining the level of risk the negative residual effects pose to fish and fish habitat. Risk assessment involves consideration of the scale of negative residual effects and the sensitivity of fish and fish habitat, to categorize the overall level of risk of the project. The magnitude of the risk to fish habitat along with degree of certainty determines the requirement for an authorization. |
| Risk Management | The systematic application of management policies, procedures and practices to the tasks of identifying, analyzing, evaluating, treating and monitoring risk. |
| Road Ecology Group | Championed by the Toronto Zoo, the ONTARIO ROAD ECOLOGY GROUP is comprised of government and non-government scientists, educators, and transportation planners. The Group's goal is to raise awareness about the threat of roads to biodiversity in Ontario, and to research and apply solutions. |
| 'Road Map' | A visual representation used to simplify and clarify the whole or a part of a complex concept or process (e.g., evaluation of the route alternatives). |
| Route Portion | A distinct part or piece of the entire transportation corridor. |
| ROW | Right-of-way. |
| RTP | The acronym for Regional Transportation Plan. |
| Run | Areas typically found at the head of a pool with rapidly flowing water. Similar to a riffle but greater depth. The water's surface is typically not agitated by bed material, but may be turbulent. |
| Saltation | Specific type of particle transport related to flowing water. It occurs when loose material is removed from a bed and carried by the fluid, before being transported back to the surface (i.e., bouncing in the direction of water flow). |
| SARA | The acronym for the Species At Risk Act. |
| Saturated Zone | The area below the water table where all available pore space is full of water |
| Screening | A process of applying screening criteria/criterion to alternatives and eliminating those that do not meet minimum conditions or categorical requirements from further consideration. |
| Seasonal Barrier | Barrier to fish passage that is only present during lower water levels (i.e., insufficient depth) or high flow periods (i.e., extreme velocities). |
| Sensitive/Sensitivity | The quality or state of being sensitive. The state of being responsive or susceptible to external effects or agents |
| Sensitivity of fish and fish habitat | <ul style="list-style-type: none"> a) Encompasses 'functional' aspects of habitat, or the dependencies of a particular type of habitat on underlying functional processes and characteristics such as groundwater discharge, flow and sediment transport, and water quality. b) Integrates habitat type with species use, that is, the level of dependence of a species on specific habitat functions. c) Integrates both site specific and broader ecosystem and socio-economic considerations, in considering rarity/representation and importance. |
| Shallow Wells | See Unconfined Wells. |

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| Specialized and Sensitive Wildlife Habitat (SSWH) | The identification of areas of Specialized and Sensitive Wildlife Habitat (SSWH) was based on a qualitative assessment based on the consideration of a number of factors including: breeding bird species richness/diversity, area-sensitive species, habitat diversity, species of conservation concern, amphibian breeding habitat and habitat continuity. |
| Specialized habitat | Habitat features that are required/critical to the fish for carrying out all of the life cycle functions. |
| Species at Risk | Means an extirpated, endangered or threatened species or a species of special concern (Species at Risk Act (2002) / Species at Risk Act Registry Glossary (2003). |
| Species Diversity | Refers to the number of different species within an assemblage, ecological community, area or sample; also known as species richness. |
| Species Richness | Is the number of different species in a given area. |
| SSA | The acronym for Site Study Area. |
| Stormwater Management | Stormwater management is the management of stormwater runoff, often using water retention facilities, to provide controlled release into receiving streams. |
| Surface Water | Water that exists above the substrate or soil surface, including runoff from precipitation events and snow melt, typically occurring in streams, creeks, rivers, lakes, ponds and wetlands. |
| SWM | Stormwater management |
| SWM Pond | Stormwater management pond. |
| Tableland | A relatively flat upland area outside of valley land |
| TC | The acronym for Transport Canada. |
| TDM | The acronym for Travel Demand Management. |
| Terms of Reference (ToR) | The first step in an application for approval to proceed with a project or undertaking under the Environmental Assessment Act (EAA) is the submission of a Terms of Reference (ToR) for the Environmental Assessment (EA). Public and agency consultation is required on the preparation and submission of the ToR to the Ministry of the Environment. Approval is required by the Minister of the Environment. If approved, the ToR provides a framework / work plan for the EA. |
| Terrestrial | Refers to an environment that is of, or on the ground, or to animals and plants living or growing on the ground (land). Specifically referring to habitats where the water table is rarely or briefly above the substrate surface and hydric soils have not developed. |
| The Protocol | The MTO/DFO/OMNR Protocol for protecting Fish and Fish Habitat on Provincial Transportation Undertakings, 2006. |
| Till | Glacial drift composed of an unconsolidated, heterogeneous mixture of clay, sand, pebbles, cobbles, and boulders. |
| TMP | The acronym for Transportation Master Plan. |
| TPR | The acronym for Technically Preferred Route. |
| Traceability | The characteristic of an evaluation process that enables its implementation to be followed with ease. |
| Trade-offs | A balancing of attributes, all of which are not attainable at the same time. Giving up of one thing in return for another. |

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| Transportation Corridor | The 407 East transportation corridor is made up of the 170 m right-of-way that hosts: the 407 East Mainline and Links, the transitway, ditching, SWM ponds, maintenance yards, grading limits, etc. |
| TRCA | The acronym for the Toronto and Region Conservation Authority. |
| TRR | Technically Recommended Route |
| TSM | The acronym for Transportation System Management. |
| Unconfined Aquifer | An aquifer in which there are no confining beds between the zone of saturation and the surface (commonly referred to a water table aquifer). |
| Unconfined Wells | Wells that are completed in the uppermost saturated aquifer at that location (the upper unconfined aquifer) and are not overlain by aquitard deposits. These are susceptible to surficial land use activities and are most often dug. |
| Undertaking | An enterprise or activity, or a proposal, plan or program in respect of a commercial or business enterprise or activity of a person or persons that has potential environmental effects and is carried out in accordance with the requirements of the EA Act. |
| Upland | A general term for an area that is higher in elevation than the surrounding landscape (Ecological Land Classification for Southern Ontario (Ecological Land Classification for Southern Ontario [MNR, 1998])). |
| Valleylands | A natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year (Provincial Policy Statement [MMAH, 2005]). |
| Vernal Pool | A shallow natural or man-made depression in level ground where no permanent above ground outlet is present. These pools hold water seasonally and serve as nurseries for species such as frogs and salamanders. |
| Water Taking | The withdrawal of water from a groundwater (or surface water) source. |
| Watercourse | A body of water having defined bed and banks with permanent or intermittent flow that may include rivers, creeks, streams, and springs. |
| Watercourse | A stream, river or channel in which a flow of water occurs, either continuously or intermittently, with some degree of regularity (Glossary of Drainage Terms [MTO, 1999]). |
| Watercourse Crossing | A culvert or bridge structure used to cross a water body (MTO/DFO/OMNR Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings [2006]). |
| West Durham Link | Often referred to as the West Link. The West Durham Link is the portion of the transportation corridor that runs north to south between the 407 Mainline and Highway 401 between Pickering and Ajax. |
| Wetlands | Lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens. Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit wetland characteristics are not considered to be wetlands for the purposes of this definition (Provincial Policy Statement [MMAH, 2005]). |