

## **GLOSSARY OF TERMS**

**Aggradation:** Refers to increased creek bed elevation caused by deposition of sediment by rivers and wave action.

**Analyte:** A substance whose chemical constituents are being identified and measured.

**Armourstone:** Large irregular hard rock or coarse aggregate used in hydraulic structures such as sea defences and river bank protection.

**Backwash:** The return flow of water down a beach, after a breaking wave has sent swash up the beach.

**Biodiversity:** A term describing the variety of species, both flora and/or fauna, contained within an ecosystem.

**Blue Flag Beach Status:** A certification indicating that a beach meets high environmental and quality standards (see <http://www.blueflag.org/>).

**Chart Datum:** A vertical reference system that has been standardized to a reference point to which depths on nautical charts, tidal height predictions and water level measurements are referenced. The referenced chart datum on the Great Lakes is the International Great Lakes Datum (1985). It is generally set at a level below which the water level rarely falls.

**Conservation Concern:** Ecologists assess the quality of each habitat patch through an evaluation of size, shape and matrix influence. These criteria are weighted together to determine an average measure of habitat quality that corresponds to a 'local rank' or L-Rank ranging from L1 (the highest quality) to L5 (the poorest quality).

**Cultural Woodlands:** Treed communities with lower tree canopy cover than natural forests due to disturbance, management or being in an early state of succession.

**Dynamic Beach:** Beach material is moved over time by shoreline erosional and depositional processes.

**Ecology / Shoreline Ecology:** The biological processes at work within the (shoreline) ecosystem.

**Ecosystem:** An organic community of plants and animals viewed within its physical environment or habitat, e.g. a freshwater pond, a mixed woodland, or a hedge. An ecosystem can be described as a ‘complex of interacting phenomena’, within which there are many complicated and often subtle relationships (between climate and vegetation, vegetation and soils, animals and vegetation, and so on).

**Ecotone:** A region of transition between two biological communities.

**Fill:** In the context of the LWC Project, fill refers to excess soils, glacial deposits (such as gravel, sand, silt and clay), and bedrock materials produced through the excavation of other infrastructure and development projects that are delivered to the LWC Project Study Area and will be reused locally to create a new land base from which the LWC Project will be created. Fill materials must meet specific Provincial quality conditions in order to be considered acceptable for the LWC Project. .

**Fluvial:** A term applied in the field of earth sciences to refer to features (morphology) and processes related to flowing water, specifically relating to the rivers, streams, and creeks as it relates to the LWC EA. Fluvial processes, include the movement of sediment due to erosion, transportation and deposition, and the formation of river channel features (morphology) such as (but not inclusive of), sediment bars, banks, channel sinuosity, floodplains, pools, riffles, and islands. The fluvial morphology produced by a river is influenced by the interaction of such fluvial processes as sediment transport, stream volume, stream depth, and stream power. In turn, the fluvial processes are also influenced by the interaction with fluvial morphological features.

**Footprint:** The size and shape of the land creation area.

**Glaciolacustrine Sands:** Sediments deposited by glacial meltwater in lakes. These lakes include ice margin lakes or other types formed from glacial erosion or deposition. Sediments in the bedload and suspended load of meltwater streams are carried into lakes and deposited.

**Groyne Structure:** A cross-shore structure designed to reduce longshore transport on open beaches or to deflect nearshore currents within an estuary.

**HAAT Model:** Habitat Alteration Assessment Tool (HAAT) is a model that seeks to identify whether there is a net benefit or impairment to the existing ecological function of a project area for a suite of fish species. The HAAT is used by DFO to assess the change in habitat amount and function (from a fisheries perspective) from an existing condition to the proposed modified condition based on the following four variables: area, depth, substrate, and cover.

**Habitat:** A term used in ecology to describe the specific environment of plants and animals, in which they are able to live, feed, and reproduce.

**Herpetofauna:** The reptiles and amphibians of a particular region, habitat, or geological period.

**Hummocky Topography:** A topography that is undulatory with a predominance of closed depressions that minimize surface water runoff and enhance groundwater infiltration.

**Littoral Zone:** The shallow marginal zone of a body of water where light penetrates to the bottom; usually colonized by rooted vegetation.

**Macrophytes:** Aquatic plants that grow in or near water. These plants can be emergent, submergent, or floating and can provide cover for fish and substrate for aquatic invertebrates, produce oxygen, and act as food for some fish and wildlife.

**Metres above sea level:** masl – a standard metric measurement of the elevation of a location in reference to historic mean sea level.

**Minimum design requirements:** Represent recommended minimum values for the various ecological components of the LWC Project (e.g. minimum wetland area). Wherever possible these values will be maximized through the detailed design, the individual project components can be smaller than these minimum recommendations.

**Performance indicators:** Relate to the functional ecological attributes of the naturalized system. Performance indicators will be developed based on the monitoring of reference wetlands, baseline monitoring and ecological models.

**Random stone placement:** Where each stone is placed individually and keyed in with adjacent stones so that it touches adjacent stones on at least three sides.

**Revetment:** Large interlocking quarried blocks forming a steep wall from the lake bed to the top of the landform.

**Rapid Geomorphological Assessment (RGA):** Developed by Ontario Ministry of the Environment (1999), the RGA utilizes a qualitative presence/absence approach to assess the instability of urban river channels. Visual signs of channel instability are grouped into four categories: degradation (channel bed downcutting), aggradation (excessive sediment deposition within a channel), channel widening, and planform adjustment (changes in the meander pattern of the channel).

**Riparian:** The interface between land and a river or stream.

**Riprap:** A layer of broken stone on the earth surface for protection against erosion by water; extensively used on irrigation channels and river improvement works.

**Rapid Stream Assessment Technique (RSAT):** Developed by John Galli at the Metropolitan Washington Council of Governments (1996), the RSAT utilizes a more quantitative assessment approach to assess overall channel ecosystem health and functions. The RSAT uses a combination of visual estimates and a numerical scoring system of stream parameters categorized as follows: channel stability; erosion/deposition; instream habitat; water quality; riparian conditions; and biological indicators.

**Semi-natural Communities:** are those that are, or have been, disturbed by human activities or development and are in various states of succession.

**Special stone placement:** Refers to installation where each stone is individually placed and keyed very tightly against adjacent stones so that it touches adjacent stones on all four sides. Special placement is generally used on revetments with a single layer primary protection layer.

**Stone-hooking:** Mining of aggregate and sheets of bedrock from the lakebed for construction purposes conducted in the nearshore areas of Lake Ontario in the 1800s and early 1900s.

**Successional Communities:** Represents the progression of different types of vegetation communities within an area following past disturbances or initial colonization.

**Swash:** The turbulent mass of water that flows up a beach, following the breaking of a wave. The swash is most powerful when long surging waves strike the shore.

**Till:** A deposit laid down by a glacier or ice sheet on a land surface. Till is highly variable in character, depending on the precise manner of deposition, but it is generally highly mixed (with particle sizes ranging from clay to boulders) and poorly stratified.

**Tombolo:** A narrow spit of beach material that connects the main beach with the headland.

**Waterlot:** Shoreline and submerged land lot.